

Bridge Inventory Challenges & Successes

September 10, 2024

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Hillsborough County, Florida

- 1,048 square miles
 - 84% Unincorporated
 - 3 municipalities, including Tampa
- Population of 1.5 million
 - o 3rd most populous county in Florida
 - o 26.7 million visited in 2023
- 3,463 centerline miles of road (Unincorporated)
- Port Tampa Bay is the largest tonnage port in Florida





Vision Statement



Manage the Hillsborough County's bridge inventory to reduce risk and improve public safety so that every member of the Community can connect with others and pursue a high quality of life.

Bridge Inventory Overview

- Largest local bridge inventory in Florida (291 bridges)
 - 270 vehicular Bridges
 - 21 pedestrian Bridges
- 25 no-detour bridges
- 5 posted bridges
- The median bridge age is 44; the oldest bridge is 99 years old
 - >90% are concrete
 - 44% exceed their 50-year design life





Current Bridge Inventory

Bridge Type	Deck Area (SF)	NBI Qualified Bridges	NBI Non- Qualified Bridges	Total
Vehicular	1,222,309	260	10	270
Pedestrian 📌 😚	67,958	0	21	21
Total	1,290,268	260	31	291







Bridge Culvert (> 20 ft.)

Hillsborough County Owned & Maintained Bridge Locations



... also have 5 Truss bridges & 5 Arch bridges



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Current Inventory Condition

NBI Rating	HC Description	Count	%	Median Age~
8 or 9	Excellent	6	2.0	3.5
7	Good	167	57.4	32.0
5 or 6	Fair	114	39.2	50.0
3 or 4	Poor	4^	1.4	54.0
0,1, or 2	Failed	0	0.0	
	Total	291	100.0	44

Current Condition*

~ Median Age is based on the last rehabilitation date, if applicable; bridges with an unknown build date were excluded.

Note: Hillsborough County has adopted the Governmental Accounting Standards Board (GASB) "modified approach" for accounting.

Deck Area By Bridge Condition (SF)



Average NBI Network Rating = 6.54

Consequences of No Repair or Delayed Maintenance

Structural Deficiency – December 2015

Special underwater inspection determined existing steel H-Piles had experienced significant section loss. Early warning signs like loss of cathodic protections over piles should have been addressed at that time. The decision was made to immediately close.

Primary Reason for Failure

Pile section loss caused by severe corrosion



Structural Deficiency – January 2024

Bridge has been on replacement list since 2019 due to multiple deficiencies. Full rehabilitation cost was too expensive. To extend the life an emergency repair was performed to ensure continued service of the bridge.

Primary Reason for Failure Multiple deficiencies in the super- and substructures



Consequences of No Repair or Delayed Maintenance

Approach Roadway Failure – May 2017

Left rear wheel of a truck fell through the pavement just south of the bridge. The bridge approach roadway had been under-mined due to corrosion holes in the steel sheet pile walls. These holes allowed the soil behind the walls to wash out and undermine the approach roadways.

Primary Reason for Failure

Corroded Sheet Pile Walls



Sidewalk Failure – March 2020

A sidewalk failed due substantial backfill loss underneath the east approach slab. This was caused by scouring along the northeast wing walls over time. The top picture shows the void created under the sidewalk. The bottom picture shows the depth of the collapse. The collapse occurred as a pedestrian was crossing the bridge.

Primary Reason for Failure Lack of Scour Mitigation and Sediment Removal



Bridge Team Core Services



<u>Manage</u>

- Investigations
- o Repair & Rehabilitation Design
- o Repair & Rehabilitation Construction
- Bridge Damage Assessment Activities (Emergency Management)

Plan

- Regular maintenance activities
- Prioritization and scoping for replacement bridges
- Annual and 5-year Work Management Plans
- **<u>Review</u>** (as it relates to bridges)
 - Review & approve Heavy Haul Permit applications
 - ROW Permit application process

<u>Coordinate</u>

- With State/Local Transportation & Permitting Agencies
- With County Inspection Teams to monitor the construction of developer-contributed bridges
- Report
 - Bridge inventory & condition
 - Work Plan status and financials







Example Repair & Preservation Treatments Performed

Spall Repair





Stephens Rd over Wildcat Creek #104329

Slope Repair & Scour Mitigation



Lightfoot Rd over Little Manatee River #104309



Sheet Pile Repair /Stub Wall Installation



McMullen Loop over Rice Creek #104312

Pile Jacket Installation



McMullen Loop over Rice Creek #104312



Example Repair & Preservation Treatments Performed



Innovation for Infrastructure Resiliency ———

Maintenance Program Challenges





Challenge – Multiple Permitting Agencies



During Construction, CSX Transportation (Railroad) and Local Jurisdiction Right of Way Traffic Permits



Challenge – Budget Uncertainty



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Innovation for Infrastructure Resiliency

Typical Project Timelines

Permitting

Design

Inspection

Deficiency

Identified

Report /

Repair

Factors That Can Affect Timelines:

- Permitting
- Requires Specialty Contractor
- Risk associated with Bridge Construction
- Weather / Rainy Season
- Community Involvement
- Funding Volatility
- Easement/Land Requirements



Construct

Completion

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Challenge – Environmental Factors





- Tampa Bay has been affected by 7 tropical systems in the last 5 years
- 39 Bridges are tidally influenced
- Hurricane season (June 1st to Nov 30th) can cause construction delays, cost escalations



Challenge - Repair vs Replace

As the bridge ages, its overall condition becomes more difficult and costly to maintain



Age/Service Life Ratio (Older →)

ADT and Truck Traffic %



Functionally Obsolete/Safety



Considerations:

- Overall Condition
- Frequency of Repair Costs vs Replacement Cost
- Age of Structure
- Functional Obsolescence
- Future Development
- Structural Deficiency/ Posting
- Problematic Bridge Elements
 - Small Channel Beams
 - Steel H-Piles
 - Metal Pipe Culverts
 - Wood/Timber Piles



Challenge – Right of Way & Easements

Lengthy negotiations and multiple departments' involvement can delay needed repairs.



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Challenges - Cost Escalations

- Material price fluctuations
- Supply chain issues
- No as built available
- Unknown foundation
- Labor shortages and costs



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Maintenance Program Successes

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Success - Teamwork



Jay Bhatt, PE

Team Lead, Program Manager



Karl King Bridge Inspection



Cliff Griffiths Bridge Inspection



Rodney Phillips

Reporting, Analysis & Program Support



Leah Peak

Work Plans, Analysis & Program Support





Success – Management Support

Management actively supports Bridge staff and markets **Program needs** to Elected Officials.





Success - Mission Statement

The <u>Mission</u> of the Bridge Program is to achieve the goals set forth in the County's Bridge Condition Policy. The Program performs inspections, executes repairs and plans for bridge replacements to rectify deficiencies within the available budget.

Engineering and Operations Department Bridge Condition Policy:

50% of County bridge inventory in Good or better condition (NBI Rating >6)
 Not more than 10% of County bridge inventory in Poor or worse condition (NBI Rating <=4)
 Not more than 2% of County bridge inventory in Failed condition (NBI Rating <=2)



Success - Defined Workflow



Success – One-Stop Shop

- Manage Design Consultants
- Directly manage
 Contractors & CEI
- On-staff Certified Bridge Inspectors augment State Inspections and can monitor bridge conditions frequently

Benefits

- Constructability issues can be identified proactively.
- Technical issues can be resolved efficiently

Success – Work Planning

Bridge Program	Manager, Infrastructure Services , TSD																			200				
Dana Markey I	ar and a second s																Adon	ted CIP Funding	FY24	522 200 000	5200.000	5200.000	5200.000	5200.00
Section Manage	r, Infrastructure Services, TSD																Addition	I Funding Need		50	\$327,000	\$4,461,000	\$5,213,000	\$5,500.00
																	Recomment	sed CIP Funding		50	\$527,000	\$4,661,000	\$5,413,000	\$5,700,000
Leland Dicus, Pi															Or	acle Availab	le Balance (69677 - 8/1/24)	4,560,000					
Director, Techni	ical Services Division, E&O Department															F		Fiscal Closeouts		2 001 000	7.457.000	1 000	1 000	1 000
Inchus Ballotti	PE															Expected U	inencumber	Total Eugline		3,881,000	7,157,000	1,000	1,000	1,000
Director Engine	erine & Operations Department													-			Te	tal Project Cost	5	\$18,924,000	\$7,683,000	\$4,661,000	\$5,413,000	\$5,700,000
Director, trigen	ering a operations department.																	Maint & Repair	679,000	7,728,000	6,358,000	3,619,000	4,538,400	4,825,000
FY25 Funding De	tail																	Scour Repair	-	2,380,000	825,000	542,000	375,000	375,000
			Oracle Balance	Expected	FY25		-			FY26	-							Bank Rehab			150,000	150,000	150,000	150,000
Award Descriptio	TRANSP TRUST ED DROJECTS, 6 CENT EUEL TX 10013003	Award	(8/1/24)	Carryforward	Additional	Available for FY25	FY25 Utilized	1725 Remaining	FY26 Utilized	Remaining	FY27 Unliged	FT27 Remaining					E.	der Benjar ernent		600,000	350,000	350,000	350,000	350,000
CNST FUEL	CONSTITUTIONAL FUEL TAX FUND-10013989	01030700	242,467	12,467	200.000	212.467	107.000	105.467	295.750	9,717	200.000	9,717						Special Project	-	2.175.000				
CW AD VAL	CW AD VALOREM TAX TRANSP FD-10013995	01032000	3,842,304	3,842,304	7,000,000	10,842,304	10,431,000	411,304	250,000	161,304	-	161,304				Availab	e Funding Ba	lance at Year End	3,881,000	7,157,000	\$1,000	\$1,000	\$1,000	\$1,000
UNINC AD VAL	UNINC AD VALOREM TAX TRANSP FD-10013992	01032100	242,368	23,368	5,000,000	5,023,368	1,270,000	3,753,368	3,700,000	53,368	\$0,000	3,368						All but	40K of this is CW Ad	Valarien				
CIT IV	CIT Project Fund (Phase IV November 2021 - November 20	01050700	-		10,000,000	10,000,000	7,116,000	2,884,000	2,877,570	6,430	+	6,430												
UNP	Unfunded/Undetermined	Totals	4.541.053	1 003 053	11,200,000	-	18.034.000	7 158 053	559,680	714 717	4,411,000	184 733												
		Totals	4,961,033	3,084,033	\$2,000,000	20,082,033	10,029,000	7,438,423	7,083,004	2.34,733	4,001,000	204,733												
Note: only Project	cts that have some type of ETC expected during the current F	Y or beyond	are listed here																					
								EY25-30		FY25-FY30														
Project #	Project Name	Bridge ID	Project Type	Funded %	Known or Expected	Contract	FY25-30 Assigned	Assigned	Comm	PD&E Estimate	FY25-FY30 Design	FY25-FY30 Land	FY25-FY30	Design Complete Month/Year	PD&E Fiscal	Design Fiscal Year	Land Fiscal	Construction	24	25	26	27	28	29
					Copiesae			Funding 2		(ETC)			Control account of the				1000							
C69677723	Twin Branch Acres over Double Creek	104246	Maint & Repair	100%	Known	WORCS - Proshot	UNINC AD VAL			N/A	Complete		\$ 219,000					24	219,000				2	
C69677T8D	Anderson Rd over Henry St Canal	104211	Maint & Repair	100%	Known	WORCS - Proshot	CNST FUEL	6c FUEL		N/A	Complete		\$ \$78,000					24	450,000	128,000		2		
C69677601	Columbus Drive over Hillsborough River Fender Replacem	105504	Fender Replacemen	100%	Known	Bid	CW AD VAL			N/A	Complete	-	\$ 1,500,000	bi/a		24	_	25		1,500,000				
C69677101	Bayshore Sea Wall Repair - W Hawthorne to Platt (~22,83) Harney Rid over Harney Canal	N/A 100336	Special Project	100%	Known	WORCS - New	CW AD VAL			N/A N/A	S 75,000		\$ 2,100,000 \$ 864,000	N/A N/A		23	-	25		2,175,000				
C69677TBD2	N Manhattan Ave over Channel H	104235	Maint & Repair	100%	Known	WORCS - New	CIT IV			N/A	Complete		\$ 616,000	N/A	1			25		616,000				
C69677317	Mcintosh Rd over Hollowmans Branch	104406	Maint & Repair	100%	Known	WORCS - New	UNINC AD VAL		2	N/A	\$.		\$ 193,000	Sep-24	1	23		25	÷	193,000		- E	-	
C69677TBD3	Platt Street Bridge over Hillsborough River Sidewalk Repa	105500	Maint & Repair	100%	Known	Bid	CW AD VAL			N/A	5 .		5 300,000	5ep-24		24		25		300,000				
C69677318	Ike Smith Rd over Hollomans Branch Construction	104323	Maint & Repair	100%	Known	WORCS - New	CITIV		-	N/A	5 .		\$ 407.000	5ep-24		23		25		407,000				
C69677312	Hanna Rd Over Sherry's Brook Construction	104201	Maint & Repair	100%	Known	WORCS - New	CIT IV			N/A	5		\$ 444,000	Aug-24		23		25		444,000			-	
C69677319	Durant Rd over over Turkey Creek Construction	104422	Maint & Repair	100%	Known	WORCS - New	UNINC AD VAL			N/A	\$.		\$ 252,000	Aug-24		23		25		252,000		4		
C69677313	Hudson Ln Over Sweetwater Crk Construction	104209	Maint & Repair	100%	Known	WORCS - New	CIT IV			N/A	5 -		\$ 466,000	Aug-24		23		25		455,000		-	-	
C69677315	Carlton Lake Rd over Carlton Branch Construction	104313	Maint & Repair	100%	Known	WORCS - New	CITIV		-	N/A	5 .		\$ 256,000	Aug-24	-	23		25		256,000				
C69677727	Morris Bridge over Hillsborough River - Land & Constr	100026	Scour Repair	100%	Known	Bid	CIT IV			N/A	s -	s -	\$ 815,000	Jun-25		24	24	25		815,000				
C69677709	Fletcher Ave over Hillsborough River - Land & Constr	100276	Scour Repair	100%	Known	Bid	CITIN			N/A	5 -	5 -	\$ 1,565,000	Jun-25		24	24	25		1,565,000			-	
C69677602	Platt Street Bridge over Hillsborough River Fender Replace Carraway Spice Bd over Twin Creek Construction	105500	Fender Replacemen	100%	Known	Bid WORCS - New	CW AD VAL		-	N/A N/A	\$ 25,000		5 4,541,000	Needs Proc		23		25		4,541,000				
C69677TBD5	Columbus Dr Over Hillsborough River Bridge Painting	105504	Maint & Repair	100%	Known	Bid	CW AD VAL			N/A	\$ 50,000		\$ 750,000	Aug-25		25	_	25		800,000				
C69677TBD6	Platt St Over Hillsborough River Bridge Painting	105500	Maint & Repair	100%	Known	Bid	CW AD VAL	2	8	N/A	\$ 50,000		\$ 1,000,000	Aug-25		25	5	25		1,050,000		÷		
C69677322	Gunn Hwy (EB/WB) over Rocky Creek Construction	4285 & 104	2 Maint & Repair	100%	Known	WORCS - New	UNINC AD VAL			N/A	\$.		\$ 1,101,000	Sep-24		23		26	-		1,101,000			
C69677321	Sparkman Rd over Howele Creek Construction	104446	Maint & Repair	100%	Known	WORCS - New WORCS - New	UNING AD VAL		-	N/A N/A	5 -		5 527,000	Aug-24		23		20			527,000	-		
C69677326	Colding Loop Over Scotts Creek Construction	104315	Maint & Repair	100%	Known	WORCS - New	CIT IV			N/A	\$.	2	\$ 180,000	Aug-24		24		26			180,000			
C69677327	5 78th St Over Archie Creek Construction	104324	Maint & Repair	100%	Known	WORCS - New	CIT IV			N/A	\$.		\$ 270,000	Nov-24		24		26			270,000			
C69677328	Jim Johnson Rd Over Howell Creek Construction	104401	Maint & Repair	100%	Known	WORCS - New	UNINC AD VAL			N/A N/A	5		\$ 250,000	Aug-24		24	-	26	*		250,000			
C69677330	Mcintosh Rd Over Campbell Creek - Construction	104409	Maint & Repair	100%	Known	WORCS - New	UNINC AD VAL		2	N/A	3		\$ 215,000	Aug-24		24	-	26		-	215,000			
C69677331	Dorman Rd Over Little Fishhawk Creek - Construction	104433	Maint & Repair	100%	Known	WORCS - New	UNINC AD VAL			N/A	5 -	1	\$ 660,000	Nov-24		24		26	5		660,000	÷	÷	-
C69677332	E Wheeler Rd Over Sydney Creek - Construction	104444	Maint & Repair	100%	Known	WORCS - New	UNINC AD VAL			N/A	5		\$ 650,000	Nov-24		24		26			650,000			
C696777807	Wemonal over sweetwater Creek	100248	Maint & Repair	100%	Known	WORCS - New WORCS - New	CITIV			N/A N/A	5 50.000		\$ 438,000	Sep-24 Aug-25	-	24		26		50.000	438,000	-		
C69677TBD8	McIntosh Rd over Baker (Pemberton) Creek	104440	Maint & Repair	100%	Known	WORCS - New	UNINC AD VAL		S	N/A	\$ 75,000	1	\$ 372,000	Aug-25		25		26		75,000	372,000		-	
C69677TBD9	Bullard Parkway Tunnels	N001 & 10T	L Maint & Repair	100%	Known	WORCS - New	CW AD VAL			N/A	\$ 65,000		\$ 250,000	Aug-25		25		26		65,000	250,000			
C69677T8D10	Carrolwood Golf Tunnel Repairs	1, NTU112, 1	N Maint & Repair	100%	Known	WORCS - New	UNINC AD VAL	1000		N/A	5 40,000		\$ 212,000	Aug-25		25		25		252,000		163.000		
C69677T8D11	Old Morris Bridge Rd over Cowhouse Creek	104102	Maint & Repair	345	Known	WORCS - New	UNINC AD VAL	UNF		N/A	\$ 50,000		\$ 562,000	Aug-25		26		27	-	93,000	50.000	662,000		
C69677TBD12	Five Acre 8d Over Brahma Creek	104294	Maint & Repair	100%	Known	WORCS - New	CIT IV	UNINC AD VAL	0	N/A	\$ 25,000		\$ \$0,000	Aug-25		25		27	(*.	25,000		50,000		
C69677T8D13	Bishop Rd Over Dug Creek	104308	Maint & Repair	20%	Known	WORCS - New	CIT IV	UNF		N/A	\$ 75,000		\$ 303,000	Aug-25		25		27		75,000		303,000	-	
C69677T8D14	Jameson Rd over 5 Prong Alafia River Ealizenburg 8d over North Archia Creak - ON MOLD FOR LS	104432	Maint & Repair	19%	Known	WORCS - New	CIT IV	UNF	2	N/A	5 60,000		\$ 250,000	Aug-25		25	_	27	*	60,000	12,000	250,000		
C69677800F	Projected Bank Rehab	TBD	Bank Rehab	0%	Expected	AT MINUT - INCOM	CIT IV	UNF	2	N/A	N/A		5 750.000	N/A		N/A		Annual			150,000	150,000	150,000	150,000
C69677999	Annual CEI Services	Multiple	CEI	60%	Expected		CITIN	UNF		N/A	N/A		\$ 2,350,000	N/A				Annual		600,000	350,000	350,000	350,000	350,000
C69677300	Emergency/Unexpected Construction WO	TBD	Maint & Repair	0%	Expected		CIT IV	10.0		N/A	N/A		\$ 100,000	N/A				Annual		100,000	-	-	1 110 10	
C6967718D98 C69672300	Countywide Construction - Maintenance & Resairs	Multiple	Maint & Repair	100%	Expected		CIT IV	UNF		N/A N/A	> 2,768,000		5 16,281,400 \$ 600,000	N/A N/A		Annual		Annual	10,000,00	100.000	721,000	1,972,000	4,338,400	4,625,000
C69677400	Open Misc Eng (Project Reviews, etc)	Multiple	Maint & Repair	100%	Expected		CIT IV	CNST FUEL	2	N/A	\$ 650,000		\$ 650,000	N/A		Annual		Annual	10,000.000	150,000	100,000	100,000	100,000	100,000
N/A	Contingency - Emergency Reserves	N/A	Maint & Repair	100%	Expected		CNST FUEL			N/A	N/A		\$ 7,000	N/A				Annual		7,000	-	*		-
C6967718D99	Projected scour Repair Total	TBD	Scour Repair	3%	Expected		CNST FUEL	UNF		N/A	5 318,750		5 1,875,000	N/A		Annual		Annual	679 ~~~	18 934 000	375,000	375,000	375,000	375,000
	1000	-	-						-		a,463,/30		40,003,400		-				479,000	10,724,000	1/063/000	4,001,000	3/413/400	3,700,000

- Detailed 5 Year Work Plans – frequently updated
- Signed by Department Directors and communicated with Project Controls
- Allows for projected, but currently unknown projects
- Documents what the additional funding requests are for

NATIONAL BRIDGE PRESERVATION CONFERENCE 2024 Innovation for Infrastructure Resiliency

Success – Developer Contributed Assets

- County has found that improper storage and poor construction methodology have caused issues to develop shortly after bridge acceptance.
- Bridge Team now shares its specialized knowledge by participating in design reviews and construction inspections.









Success – Outside Collaboration

- Blanket agreement Environmental Protection Commission
 - Non-Construction Miscellaneous Activities Authorization
 - Construction Maintenance for HC Bridge and Culvert Projects
- Heavy Haul Permit Requests
- Follow FDOT Inspection standards/formats for NQ bridges
- Form provided for Private Developers to request a NQ Bridge number
- County Staff versed in Grant Opportunities/Applications pursue Grants on Bridge Team's behalf (FDOT & FHWA/USDOT awards)

Success - Special Inspections

Performing Special Inspections when an issue is suspected is crucial to identifying deficiencies early and repairing them before they become big problems.





Snooping Inspection

IONAL BRIDGE PRESERVATION CONFERENCE 2024

Success – Reporting

- Key Performance **Indicators & Initiatives**
 - Reviewed monthly by Directors
- GASB Reporting
 - Quarterly
 - End of Year
- Annual Community Impacts

COMMUNITY IMPACT

The decisions that County leaders make every day about transportation, infrastructure, and investments influence how communities grow, change, and contribute to residents' quality of life.



Smooth and Strong Roadway Improvements

- Middle Lake Dr. is a local road surrounded by retention ponds with outfall/overflow elevations controlled by the community homeowners association.
- The primary factor leading to the pavement section's deteriorated condition was excessive ground water/surface water intrusion and subsequent periods of
- A specific asphalt base mix was designed to minimize water absorption and intrusion into the pavement section. The underlying base and asphalt layers of



Avoiding Community Isolation

- Gran Kaymen Way over Kingston Canal bridge was built in 1986 and serves a community of 150 single-family homes; there is no available detour if this bridge were closed, which would isolate the entire community.
- County Bridge Inspectors identified numerous deficiencies, including seawall
- Once the design process was completed and construction began, multiple voids were discovered and filled immediately, and a potential catastrophe was avoided.

- Hurricane Idalia Damages a Key Bridge
- Part Sutton Rd. over TECO Discharge Flume 2 bridge serves facilities in the Port
- Immediately after Hurricane Idalia, it was discovered that two large washout holes extending underneath the roadway had opened behind the east end seawall of the bridge, which created an unsafe condition for heavy traffic. Within one week
- This bridge is currently under design for replacement.





Success – Bridge Management System Implementation

- Provides the ability to analyze the impact of different treatment scenarios on overall system condition
- Maintains bridge documentation
- Generates work plans that optimize treatment options and schedules

Trimble AgileAssets Structures Analyst Implementation



Success – Leveraging Technology



Bridge Damage Assessment Team Tracking (Storm Related only - CURRENT STORM = TS DEBBIE) East - % of 20 West - % of 26 Bridges South- % of 19 Bridges Primary Observed Bridge Zephyrhill Damage Other (Describe in Notes) Approach Debris 38% 100% Deck Damage Tarpon St Approach Flooding Attached Utility Damage Palm Harbo **Closed Bridge** 🝈 Guardrail Damage Lakeland Overtopping Rip Rap/Bank
 Destabilization Lakeland Clearwate Shoulder Erosion Highlands Substructure Damage Largo Other Pinellas Park Inspected Bridge **Operational Status** O Open ally Closed Bridge St. Petersbur O Closed O Other Partial Closure Florida O Other Fort Green **High Risk Bridges To Inspect**

- Bridge Damage Assessment Team uses Mobile Survey123 Form to collect data & photos in field.
- Successfully used during Hurricanes Idalia and Debbie damage assessment.
- Management can access bridge status & photos from anywhere with an internet connection.



Success – FY 21-24 Project Completions

Phase		Project Types	# Projects	Total Cost
PD&E	Gran Kaymen over Kingston Canal Bridge Feasibility Study October 05, 2022	Special Inspections Feasibility Studies, Load Ratings, Geotech, Surveys	141	\$1.4 M
Design	<section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header><section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header></section-header>	Scour Mitigation, Maintenance & Repair	35	\$1.5 M
Construction		Scour Mitigation, Maintenance & Repair, Sediment Removal	142	\$9.7 M
		Totals	318	\$12.6 M

Thank you!

<u>Contact Information</u> Email: bhattj@hcfl.gov Phone: 813-307-1918 Cell: 813-460-6501

Bridge # 105500 – Platt St over Hillsborough River

