



SPECIAL MEETING AGENDA

Planning and Zoning Board City of St. Augustine, Florida

Alcazar Room

Tuesday, February 21, 2023, 1:00 pm

Agenda

- 1. Roll Call**
- 2. General Public Comments for Items Not on the Agenda**
- 3. Consideration and Discussion Related to Updating the City's Parking Code Regulations**
 - a. Discussion with city Mobility Consultant Jonathan B. Paul, AICP, MA2 NUE Urban Concepts to begin the discussion related to potential updates to the City's Parking Code to incorporate mobility concepts adopted in the City's Mobility Plan and the Comprehensive Plan
 - b. Planning and Zoning Board discussion
- 4. Information and Discussion Related to City Initiatives Regarding Resiliency and Sustainability including the Federal Back Bay Study, updates to the Vulnerability Assessment data, Resilient Shoreline concepts and other projects**
- 5. Adjournment**

Notices: In accordance with Florida Statute 286.0105: "If any person decides to appeal any decision made by the Planning and Zoning Board with respect to any matter considered at this scheduled meeting or hearing, the person will need a record of the proceedings, and for such purpose the person may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based." In accordance with the Americans with Disabilities Act, persons needing a special accommodation to participate in this proceeding should contact the individual or agency sending notice not later than seven days prior to the proceeding at the address given on the notice. Telephone: (904) 825-1007; 1-800-955-8771 (TDD) or 1-800-955-8770 (V), via Florida Relay Service.

Please note that one or more members of the City Commission or its appointed boards or committees may attend this meeting and participate, however they may not engage in a discussion or debate amongst themselves on any issue that will likely come before their respective elected or appointed body.

The materials prepared and presented are part of the City's ongoing Florida Public Records and Government in the Sunshine compliance and are not intended to be relied upon or to reach investors or the trading markets.

CITY OF ST. AUGUSTINE

MEMORANDUM

TO: Planning and Zoning Board

DATE: February 21, 2023

RE: **Item 3**

Consideration and Discussion Related to Updating the City's Parking Code

This Special Meeting of the PZB provides an opportunity for the Board to discuss and eventually recommend the adoption of an Ordinance to update the city's existing parking code to be more consistent with the city's recently adopted Mobility Plan.

This is an important next step to set the tone and direction for trying to keep the downtown livable and functional related to parking cars and traffic for all interests including residents, businesses, and resiliency into the future. These concepts come out of the 2014 Vision Plan, the 2040 Comprehensive Plan, and the Mobility Plan adopted in 2020.

They are difficult and complex issues that require thoughtfulness and consideration of balance between land use and preservation and livability, mobility and the transportation system, a balance of culture and economic resources, and protection of the city's built and natural resources. It also includes the consideration of creating a sustainable, safe, successful, and efficient land use pattern.

The city's Mobility Consultant Jonathan Paul created the attached presentation to help walk the PZB and the public through the discussion, outline the concepts involved and discuss potential implications of revisions to the city's Parking Code. Also attached please find a summary of the 2014 Vision Plan, excerpts from the 2040 Comprehensive Plan, the adopted 2020 Mobility Plan, the current Parking Code, and information regarding the city's shuttling program and parking garage usage. The Board may also want to refer to the 2040 Comprehensive Plan in its entirety.

This item is for the PZB to discuss and eventually set the direction moving forward, but also to garner public comment, and provide an opportunity for staff to respond to any questions and concerns.

Thank you for your attention to this matter. If you have any questions, please call me at (904) 209-4320 or email at askinner@citystaug.com.



Amy McClure Skinner, AICP
Director
Planning and Building Department

Presentation Prepared by NUE Urban Concepts



City of St. Augustine Parking Regulations

Planning & Zoning Board

February 21st, 2023

Presented by:
Jonathan B. Paul, AICP, MA²



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ST. AUGUSTINE PARKING REGULATION UPDATE

BALANCING:

ACCESSIBILITY, MOBILITY, & RESILIENCY



WALKING



CYCLING

MOVING



TRANSIT

PEOPLE



MICRO MOBILITY &
LOW SPEED VEHICLE

PROVIDING CHOICES



SHARED
MOBILITY


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THE
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MOTOR VEHICLE

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TRANSPORTATION MOBILITY ELEMENT GOAL TWO

To enhance the quality of life for City residents and reduce congestion by

(1) making it safer and more convenient for people to walk and bicycle,

(2) creating a park once environment within the multimodal district for unincorporated County residents, visitors, students, and employees, and

(3) developing innovative parking management strategies that improve access to local businesses and reduce the impact of non-city resident traffic on residential streets.



**2040 ST. AUGUSTINE MOBILITY PLAN:
STREETS PLAN**



COMPLETE STREETS
WALKING, SKATING, SEGWAY, BICYCLE, SCOOTER,
GOLF CART, CAR

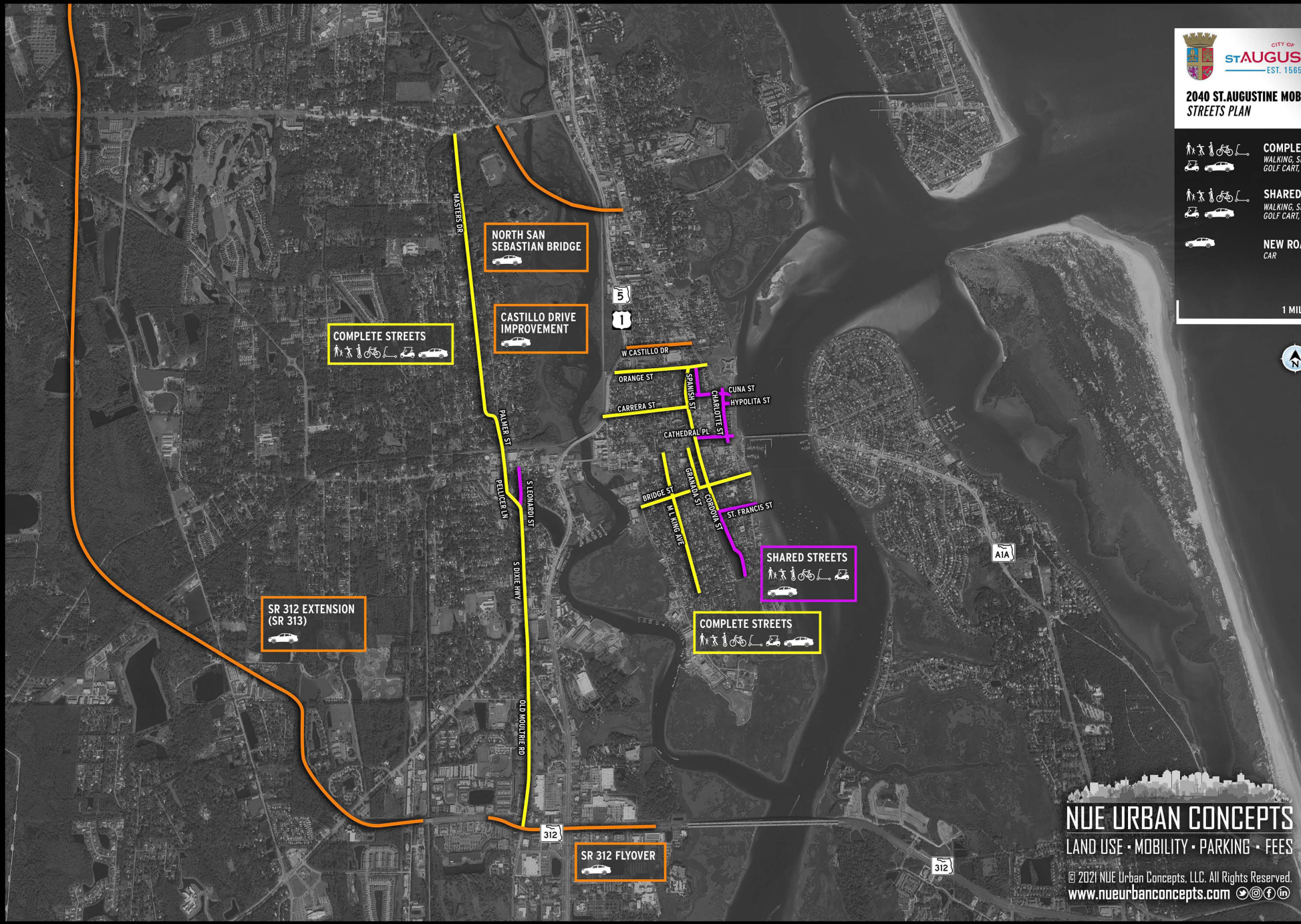


SHARED STREETS
WALKING, SKATING, SEGWAY, BICYCLE, SCOOTER,
GOLF CART, CAR



NEW ROAD / ROAD WIDENING
CAR

1 MILE



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**2040 ST. AUGUSTINE MOBILITY PLAN:
WALKING AND BICYCLING PLAN**



PROTECTED BIKE LANE (6'- 8' WIDE)
SKATING, SEGWAY, BICYCLE, SCOOTER, E-BICYCLE,
E-SCOOTER, MICROMOBILITY DEVICES



TRAIL (8'- 12' WIDE)
WALKING, SKATING, BICYCLE, SCOOTER
(ELECTRIC-POWERED DEVICES PROHIBITED,
MOTORIZED/ELECTRIC DEVICES FOR MOBILITY-
IMPAIRED ALLOWED)

1 MILE



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**2040 ST.AUGUSTINE MOBILITY PLAN:
MULTIMODAL WAYS PLAN**

**FUTURE AREAS FOR
PARKING GARAGES**

- 1 NORTH GARAGE
- 2 WEST GARAGE
- 3 EAST GARAGE
- 4 SOUTH GARAGE
- 5 CENTRAL GARAGE

**EXISTING
PARKING GARAGES**

- 6 HISTORIC DOWNTOWN GARAGE
- 7 FLAGLER COLLEGE PARKING GARAGE

**TRANSIT ORIENTED
DEVELOPMENT (TOD)**

- 8 FLORIDA EAST COAST
RAILROAD (FEC)
- 9 BROUDY PROPERTY

PARK & RIDE

- 10 PARK AND RIDE FACILITY



MULTIMODAL WAY (8' - 9' WIDE)
SEGWAY, E-BICYCLE, E-SCOOTER, GOLF CARTS,
ELECTRIC MICROMOBILITY DEVICES, AUTONOMOUS
TRANSIT SHUTTLES, LOW SPEED VEHICLES



AERIAL TRAM



WATER TAXI STOP



REGIONAL RAIL



FUTURE RAIL STATION

1 MILE



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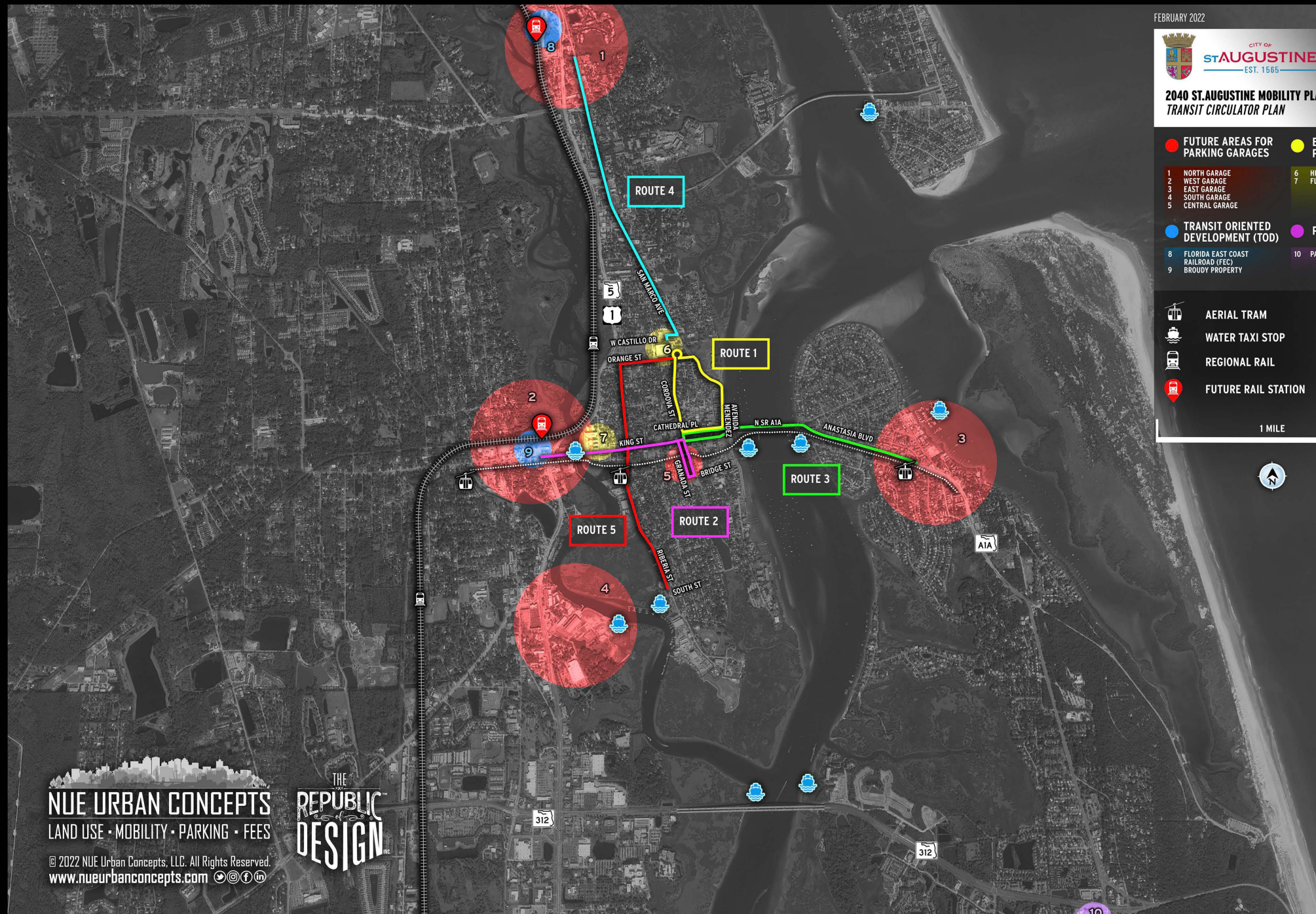


2040 ST.AUGUSTINE MOBILITY PLAN:
TRANSIT CIRCULATOR PLAN

- FUTURE AREAS FOR PARKING GARAGES
- EXISTING PARKING GARAGES
- 1 NORTH GARAGE
- 2 WEST GARAGE
- 3 EAST GARAGE
- 4 SOUTH GARAGE
- 5 CENTRAL GARAGE
- 6 HISTORIC DOWNTOWN GARAGE
- 7 FLAGLER COLLEGE PARKING GARAGE
- TRANSIT ORIENTED DEVELOPMENT (TOD)
- PARK & RIDE
- 8 FLORIDA EAST COAST RAILROAD (FEC) BROUDY PROPERTY
- 10 PARK AND RIDE FACILITY

- AERIAL TRAM
- WATER TAXI STOP
- REGIONAL RAIL
- FUTURE RAIL STATION

1 MILE



CURRENT PARKING REGULATIONS

Within Historic Preservation District

- No Required Off-Street Parking & Loading
- Maximum 20 Spaces
- 25' separation from other off-street parking
- Meet Historic District Standards

Outside Historic Preservation District

- Minimum Parking & Loading Standards
- Typical Suburban Standards
- Minimal opportunities for innovation or alternative

CONSIDERATIONS TO EXPLORE

Approach: Provide PZB with options for consideration

- **Expand locations for NO required off-street parking & loading**
- **Allow Flexible Parking Design inside & outside historic district**
- **Establish Parking Maximum Tiers with off-set requirements**
- **Allow Parking Alternatives outside historic district**
- **Revisit parking minimums outside historic district**
- **Integrate Parking & Mobility**

EXTREME WEATHER

| Published August 18, 2022 7:22am EDT

Oldest city in America finds itself battling Mother Nature

Known for being the oldest city in America, St. Augustine, Florida, works to preserve its history after the coastal town is often inundated with flooding.

By Heather Brinkmann , Robert Ray

Source FOX Weather



LOCAL NEWS

Residents in St. Augustine neighborhood facing big cost after Hurricane Ian

LOCAL NEWS

Downtown St. Augustine hit with deluge of rain and strong winds from Ian

Erik Avancier, Reporter

Anne Maxwell, I-TEAM and general assignment reporter

Ashley Harding, Reporter

Travis Gibson, Digital reporter/editor

Published: September 29, 2022, 1:13 PM

Updated: September 29, 2022, 10:32 PM

Tags: St. Augustine, St. Johns County

Full Screen

1 / 19



LOCAL NEWS

Flooding reported in low-lying parts of St. Augustine ahead of Nicole

Voluntary evacuations began Wednesday for coastal areas of St. Johns County

Amanda DeVoe, The Morning Show News and Traffic Anchor, Jacksonville, FL

Renee Beninate, Reporter

Erik Avancier, Reporter

Published: November 9, 2022, 8:34 AM

Updated: November 9, 2022, 10:31 PM

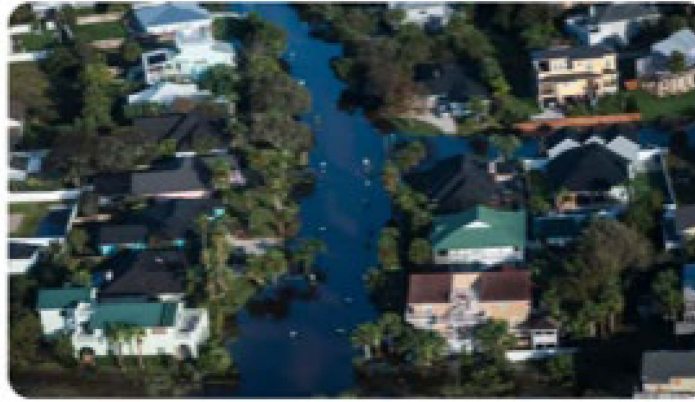
Tags: St. Johns County, St. Augustine, Nicole, Sandbags



As Nicole on Wednesday evening gained hurricane strength w...



A man puts up caution tape as people walk by and take photos of the Casablanca Inn the day after Hurricane Matthew hit St. Augustine, FL on Saturday October 08, 2016. ((Photo by Jabin Botsford/The Washington Post via Getty Images) / Getty Images)



ST. AUGUSTINE, FL - SEPTEMBER 12: Homes are left surrounded by flood water in the aftermath of Hurricane Irma in St. Augustine, Fla. on Tuesday, Sept 12, 2017. ((Photo by Jabin Botsford/The Washington Post via Getty Images))



*Photo from Flagler College parking garage on Sept. 29, 2022.
(News4JAX.com)*



ST AUGUSTINE, FL - OCTOBER 07: Paul (last name not given) walks through a flooded street as Hurricane Matthew passes through the area on October 7, 2016 in St. Augustine, Florida. ((Photo by Joe Raedle/Getty Images) / Getty Images)



Flooding causing headaches for Downtown St. Augustine drivers ahead of Nicole. (WJXT)



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A1A in downtown St. Augustine flooded during Tropical Storm Ian.



News4JAX.com

Photo from Davis Shores neighborhood on Sept. 29, 2022.



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Water rises in downtown St. Augustine due to Ian effects.



News4JAX.com

Photo from Flagler College parking garage on Sept. 29, 2022.



LOCAL NEWS

Businesses learn how to bounce back in St. Augustine after Nicole floods Downtown

"Unfortunately, I am just thinking ahead for next year. We know it's coming," one restaurant co-owner said.

HOMEEXPERTS

WATCH SATURDAYS
AT 8:45 AM
HIRE AN EXPERT

St. Augustine welcomes guests back following Hurricane Ian



access
TRAVEL

CONSIDERATIONS TO EXPLORE: RESILIENCY

- **Prohibit new off-street parking in Historic District (flooding)**
- **Stormwater requirements for off-street parking (stricter)**
- **Mandate pervious surfaces (recharge, flooding)**
- **Allow for innovation in design (subject to PW approval)**
- **Promote parking in common / shared garages (structures)**
- **Design structures to handle 1st floor flooding**
- **Reduce citywide impervious (repurpose ROW for resiliency)**

HISTORIC DISTRICT RECAP

- **No Required Off-Street Parking & Loading**
- **Maximum 20 Spaces**
- **25' separation from other off-street parking**
- **Meet Historic District Standards for structures**
- **Not required to treat or retain stormwater on-site**
- **No requirements for pervious parking surface**
- **Basic landscape & screening requirements**
- **No guidance on alternative surface treatments**

HISTORIC DISTRICT CHANGES TO CONSIDER

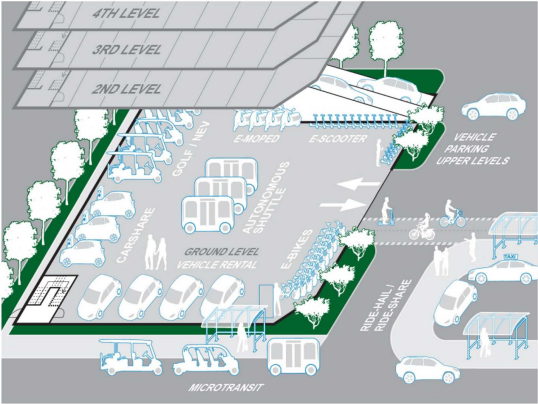
- **Reduce Maximum Allowance below 20 spaces**
- **Tier # of Spaces & require off-sets (mobility hubs)**
- **Prohibit New Off-Street Parking**
- **Require redevelopment to remove off-street parking**
- **Require new or redevelopment to provide pervious surface**
- **Require new or redevelopment to store & treat stormwater**
- **Allow off-street if podium (under building on stilts)**
- **Allow off-street if mechanical lifts (partial enclosed structure)**
- **Allow off-street if valet & tandem parking**

TIERED PARKING EXAMPLES

- (I) 5 or Less Spaces (no off-set, pervious only)**
- (II) 6 to 10 Spaces (pervious, treatment, curb-pull off on street)**
- (III) 11 to 15 Spaces (pervious, treatment, small mobility hub)**
- (IV) 16 to 20 Spaces (pervious, treatment, storage, mobility hub)**
- (V) 20 to 100 (IV plus off-site parking, podium, or structured)**
- (VI) 100 or more (IV (green vs pervious) plus structured only)**

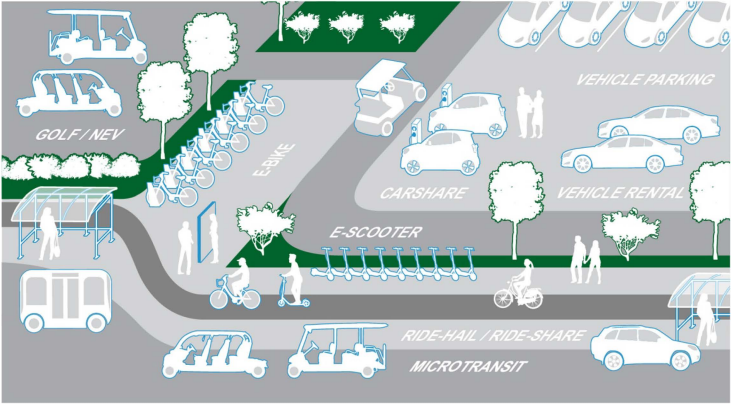
PROHIBITION CONSIDERATIONS

- **Outright prohibit new off-street parking (reduce impervious)**
- **Require removal of off-street parking for redevelopment**
- **Alternatives for off-street parking:**
 - ✓ **Curb-side pick-up & drop-off**
 - ✓ **Multimodal Access (bike, scooter, golf cart)**
 - ✓ **Valet with parking off-site**
 - ✓ **Additional storm event recovery or capacity**
 - ✓ **Active or passive green spaces, additional landscape & trees**
 - ✓ **Additional multimodal accessible development**



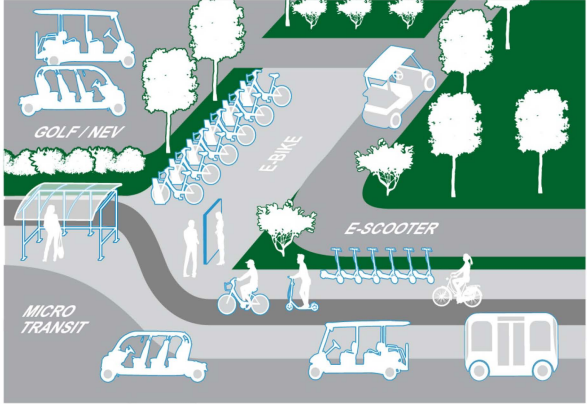
**PARK ONCE
MOBILITY HUB** GARAGE / SURFACE PARKING

- AMENITIES**
- P** PARKING FOR MICROMOBILITY DEVICES
 - P** PARKING FOR VEHICLES & MICROTRANSIT
 - COVERED PICK-UP/DROP-OFF AREAS
 - SERVED BY MICROTRANSIT CIRCULATORS, RIDESHARE, & DROP-OFFS
 - PROVIDE MICROMOBILITY RENTALS, CARSHARE, RIDESHARE, & VEHICLE RENTALS



**COMMUNITY
MOBILITY HUB** SURFACE PARKING

- AMENITIES**
- P** PARKING FOR MICROMOBILITY DEVICES
 - P** PARKING FOR VEHICLES & MICROTRANSIT
 - COVERED PICK-UP/DROP-OFF AREAS
 - SERVED BY MICROTRANSIT CIRCULATORS, RIDESHARE, & DROP-OFFS
 - PROVIDE MICROMOBILITY RENTALS
 - PROVIDE CARSHARE, RIDESHARE, & VEHICLE RENTALS

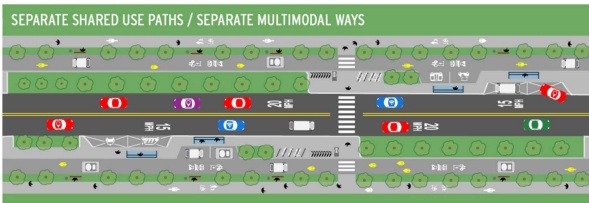


**LOCAL / POCKET
MOBILITY HUB** NO PARKING

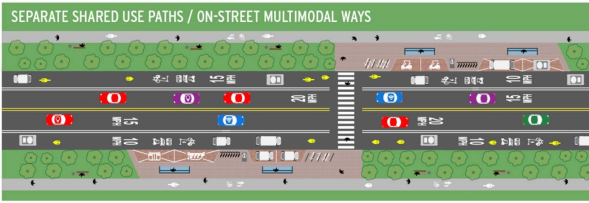
- AMENITIES**
- PARKING FOR MICROMOBILITY DEVICES (GOLF CART OPTIONAL)
 - PROVIDE MICROMOBILITY RENTALS
 - COVERED PICK-UP/DROP-OFF AREAS
 - SERVED BY MICROTRANSIT CIRCULATORS, RIDESHARE, & DROP-OFFS

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CURBSIDE MOBILITY HUBS NEV: NEIGHBORHOOD ELECTRIC VEHICLE
ATS: AUTONOMOUS TRANSIT SHUTTLE

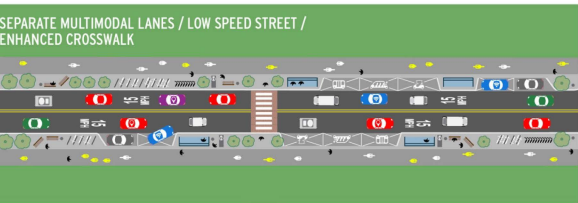


- AMENITIES**
- P** PARKING FOR MICROMOBILITY DEVICES & MICROTRANSIT
 - COVERED PICK-UP/DROP-OFF AREAS FOR RIDE SHARE & HAIL, NEV, & MICROTRANSIT
 - FROM WAYS: DROP-OFF & PICK-UP FOR MICROTRANSIT
 - FROM STREET: DROP-OFF & PICK-UP FOR NEV, RIDE SHARE & HAIL

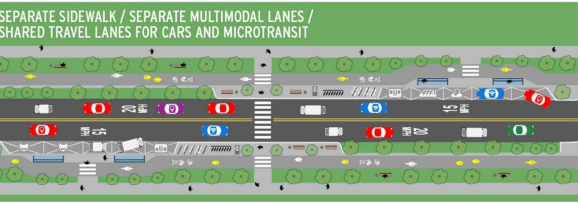


- AMENITIES**
- P** PARKING FOR MICROMOBILITY DEVICES & GOLF CART
 - COVERED PICK-UP/DROP-OFF AREAS FOR NEV & MICROTRANSIT
 - FROM STREET: DROP-OFF & PICK-UP FOR NEV & MICROTRANSIT

MICROMOBILITY DEVICES: BIKE / SCOOT / E-BIKE / E-SCOOT
MICROTRANSIT: GOLF CARTS / ATS / NEV
SIDEWALK: WALK / SKATE
SHARED USE PATH: WALK / SKATE / BIKE
FLEX LANES 5' - 7': WALK / SKATE / BIKE / SCOOT / E-BIKE / E-SCOOT
FLEX LANES 8' - 12': E-BIKE / E-SCOOTER / GOLF CART / ATS / NEV (OPTIONAL)



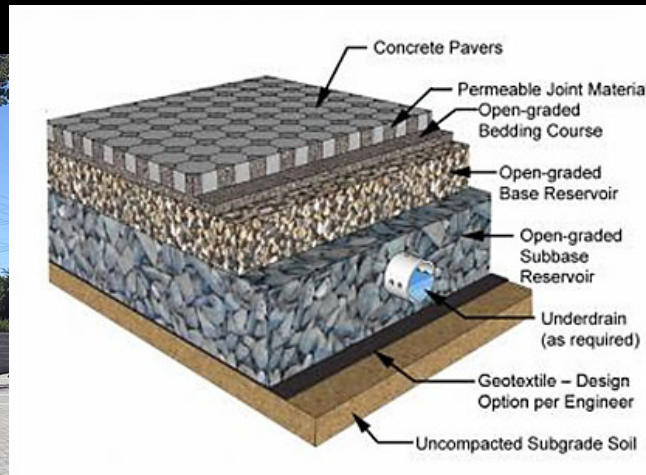
- AMENITIES**
- P** PARKING FOR MICROMOBILITY DEVICES
 - COVERED PICK-UP/DROP-OFF AREAS FOR RIDE SHARE & HAIL, NEV, & MICROTRANSIT
 - FROM STREET: DROP-OFF & PICK-UP FOR RIDE SHARE & HAIL, NEV, & MICROTRANSIT



- AMENITIES**
- P** PARKING FOR MICROMOBILITY DEVICES
 - COVERED PICK-UP/DROP-OFF AREAS FOR RIDE SHARE & HAIL, NEV, & MICROTRANSIT
 - FROM STREET: DROP-OFF & PICK-UP FOR RIDE SHARE & HAIL, NEV, & MICROTRANSIT

ALTERNATIVE CONSIDERATIONS

- Only Allow Pervious Surface Treatments (i.e. pavers or bricks)
- Process to Allow City to consider alternative treatments



ALTERNATIVE DESIGNS

- Podium Parking (under building)
- Mechanical Lifts

WHAT IS PODIUM PARKING

Podium Parking means a **Parking** grouped between buildings in a podium arrangement with private open spaces or common plot above it

WHAT DOES THE NEW PODIUM PARKING PROVISIONS IN GDCR 2017 SAY

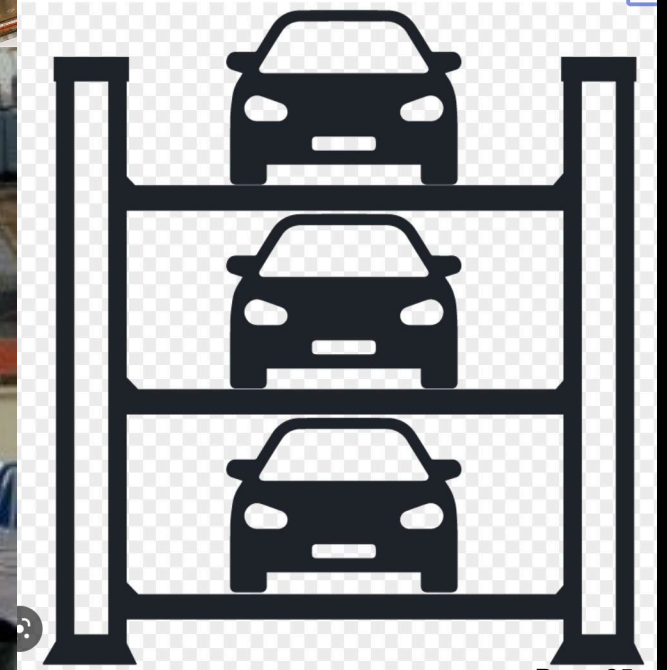
- Podium parking may be allowed for plots having area more than 4,000 sq metres
- Podium will not be allowed in the building's front or within margin limits
- Podium to be allowed at 6 metres from plot boundary on all side
- Structural design and strength should be able to bear the load of fire engines and vehicles
- Consent of chief fire officer required before permission for podium

WHAT AFTER PARKING PODIUMS COMES UP

- Aim is to free streets of on-street parking in residential zones. Visitors will compulsorily asked to park in podium parking space
- Large commercial complexes can have common parking space
- As parking podiums provide little or no access to natural ground or soil depth, it gives scope to mature tree planting and landscape amenity

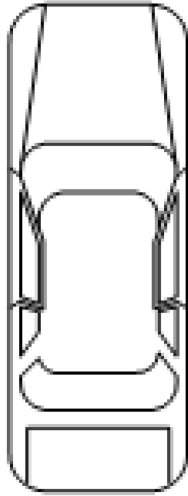
ADAPTIVE USE OF COMMON PLOTS: Common plot can be raised up to a height of 10 metres, below which swimming pool, banquet hall, parking may be permitted

Illustrations: Mervyn D'souza

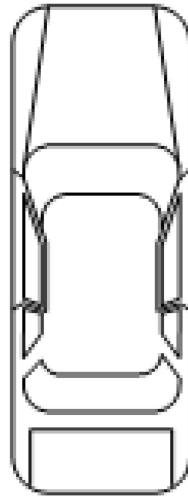
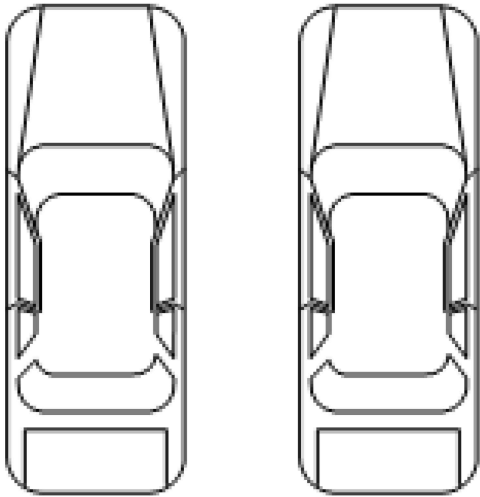


TANDEM PARKING & VALET PARKING

Two-Car
Tandem



Two-Car Traditional



SHARED PARKING STUDY

Share spaces
between
land uses
based on
peak use of
parking

	Weekday			Weekend	
Use	Night Midnight to 6:00 a.m.	Day 6:00 a.m. to 6:00 p.m.	Evening 6:00 p.m. to Midnight	Day 9:00 a.m. to 4:00 p.m.	Evening 6:00 p.m. to Midnight
Residential	90%	50%	90%	70%	90%
Office	5%	90%	10%	5%	5%
Commercial/Retail	5%	50%	80%	80%	70%
Hotel	80%	60%	90%	80%	90%
Restaurant	10%	50%	80%	50%	90%
Entertainment/Recreational (theatres, bowling alleys, etc.)	10%	40%	80%	80%	90%
Other	80%	90%	50%	70%	70%

OFF-SITE PARKING

- **Multiple developments share off-site parking lot (private)**
- **Multiple developments share off-site parking lot (public)**
- **Allows City to Land Bank for future structure or development**
- **Development can lease reserved parking spots**
- **Allow parking through valet only**
- **Saves on landscape, drive aisles, stormwater, lighting, etc.**
- **Reduces traffic to and from specific development**
- **Tool for redevelopment**
- **Flexible**

STRUCTURED PARKING

- ❖ Multiple developments share structured parking (private)
- ❖ Multiple developments share parking lot (public access)
- ❖ Public Private Partnership (Mobility Plan encourage)
- ❖ Stormwater underground
- ❖ Green roof or solar panels or other green treatments
- ❖ Design 1st floor to flood during storm events
- ❖ Provides residents place to park during storm events
- ❖ Can integrate with surrounding development
- ❖ More Accessible & natural location for Mobility Hub

HISTORIC DISTRICT WRAP-UP & DIRECTION REQUESTED

- **Option 1: Leave parking regulations alone**
- **Option 2: Establish Tiers with various off-sets (if provided)**
- **Option 3: Outright Prohibit**
- **Option 4: Prohibit, unless alternative provided**
- **Option 5: Stormwater & Pervious design requirements**
- **Option 6: Other considerations from PZB**

OUTSIDE HISTORIC DISTRICT RECAP

- **Minimum Parking & Loading Standards Required**
- **No maximum parking requirements in place**
- **Typical Suburban Standards (Design & Number of Spaces)**
- **Minimal opportunities for innovation or alternative**
- **No allowance for parking reduction or shared parking**
- **No allowance for providing zero off-street parking**
- **No allowance for off-site, structured, or payment in-lieu**
- **Limited resiliency and stormwater requirements**

OUTSIDE HISTORIC DISTRICT CONSIDERATIONS

- ✓ **Eliminate Minimum Parking in Designate Areas (West King St)**
- ✓ **Reduce Minimum Number of Spaces Required**
- ✓ **Allow studies to reduce parking or illustrate shared parking**
- ✓ **Establish Maximum Parking**
- ✓ **Establish Parking Tiers & Off-Sets**
- ✓ **Allow for Innovative Design (Podium, Lifts, Tandem)**
- ✓ **Allow for off-site off-street parking spaces**
- ✓ **Allow payment in-lieu of parking (fund garage or off-site spaces)**

ELIMINATE PARKING IN DESIGNATED AREAS

- ✓ **Encourage Redevelopment**
- ✓ **Reduce Cost to Development**
- ✓ **Reduce Impervious Surface**
- ✓ **West King Street Primary Location**
- ✓ **Other Areas to be Considered**
- ✓ **National Trend to Eliminate required off-street parking spaces**
- ✓ **Would allow for a pilot project for possible expansion elsewhere**

REDUCE NUMBER OF REQUIRED SPACES

- ✓ **Current requirements based on older industry standards**
- ✓ **Institute of Transportation Engineers (ITE) Parking Manual 5th edition included lower minimum requirements**
- ✓ **Certain retail, office, and residential uses are lower**
- ✓ **Could update to be consistent with new industry standards**
- ✓ **Could allow for studies to illustrate lower number of spaces required for proposed development or shared parking**

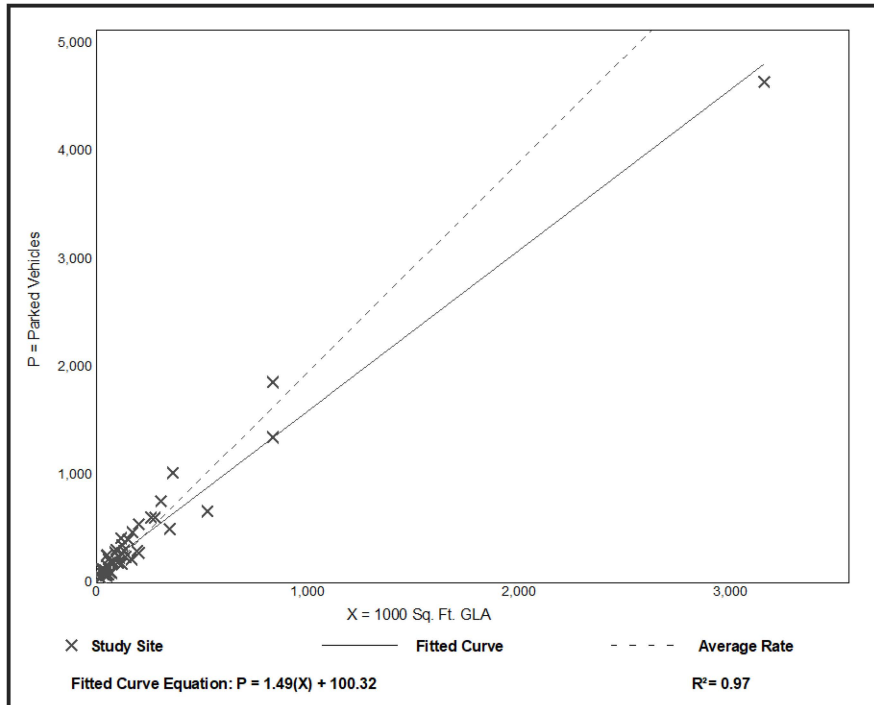
Shopping Center - Non-December (820)

Peak Period Parking Demand vs: 1000 Sq. Ft. GLA
 On a: Weekday (Monday - Thursday)
 Setting/Location: General Urban/Suburban
 Peak Period of Parking Demand: 12:00 - 6:00 p.m.
 Number of Studies: 46
 Avg. 1000 Sq. Ft. GLA: 218

Peak Period Parking Demand per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
1.95	1.27 - 7.98	1.99 / 3.68	1.73 - 2.17	0.75 (38%)

Data Plot and Equation



Welcome to the *ITEParkGen* Web-based App

The Modern Way to Estimate Site Parking Generation!



New Land Uses



New Urban Data



Filter by Date and Location

ALLOW OFFSETS FOR ALTERNATIVE MODES & DESIGN

- ✓ **Allow percent reduction for curbside pick-up / drop-off**
- ✓ **Allow percent reduction for multimodal access & parking**
- ✓ **Allow percentage of spaces to be used by golf carts**
- ✓ **Allow percent reduction for mobility hubs**
- ✓ **Allow podium or mechanical lifts to count as spaces**
- ✓ **Allow for tandem parking or valet parking to count as spaces**
- ✓ **Allow for shared parking analysis and reduction**



MOBILITY HUB AMENITIES		REQUIRED: ●	OPTIONAL: ■	RECOMMENDED: ○	NONE: ✕
		PARK ONCE	COMMUNITY	LOCAL / POCKET	CURBSIDE
VEHICLES / PARKING	Car / Vehicle Parking	●	●	✕	✕
	Golf Cart / NEV Parking	●	●	■	■
	EV Charging Stations	●	○	■	■
	Parking Garage	○	■	✕	✕
	Valet Stand	■	■	✕	✕
MULTIMODAL MOBILITY	Bicycle & Scooter Racks	●	●	●	●
	Bicycle Air / Repair Kiosk	●	●	○	○
	Drop-Off / Pick-Up Lane	●	●	○	○
	Ride Share Idle Zone	●	○	■	■
	Bicycle Rental / Share	○	○	○	○
	Golf Cart / NEV Rental	■	■	✕	✕
	E-Scooter Rental / Share	■	■	■	■
	Car / Vehicle Share	○	■	✕	✕
	Car / Vehicle Rental	○	■	✕	✕
WAITING AREAS / SUPPORT SERVICES	Covered Waiting Area	●	●	●	●
	Real-time Information	●	○	■	■
	Wifi/Smartphone Connectivity	●	○	■	■
	Security Patrol	●	○	■	✕
	Restroom Facilities	●	○	■	✕
	Vending Machines	●	○	■	✕
	Recycling & Trash Cans	●	●	●	●
	Convenience Store / Kiosk	●	○	■	■
	Lighting	●	●	●	●
	Package Delivery / Lockers	■	■	■	✕
	Benches / Sitting Areas	●	●	●	●
	ADA Accessibility & Routes	●	●	●	●
	Connectivity to Adjacent Uses	●	●	●	●

OFF-SITE & STRUCTURED PARKING

- ✓ **Allow for development of shared off-street parking**
- ✓ **Encourage Public & Private Parking Structures**
- ✓ **Facilitate redevelopment by acquiring sites to allow for off-site off-street parking and land banking (City initiated)**
- ✓ **Allow development to lease or purchase spaces off-site**
- ✓ **Allow development to pay fee in-lieu of parking to City for off-site City lots, structures or public / private partnerships**

OUTSIDE HISTORIC DISTRICT WRAP-UP & DIRECTION REQUESTED

- **Option 1: Leave parking regulations alone**
- **Option 2: Eliminate Minimum Parking in Designated Areas**
- **Option 3: Establish Tiers with various off-sets**
- **Option 4: Update requirements based on current ITE standards**
- **Option 5: Allow for parking reduction or shared parking studies**
- **Option 6: Allow for multimodal & design offsets**
- **Option 7: Allow for offsite & shared parking & payment in-lieu**
- **Option 8: Other considerations from PZB**

PARKING REGULATIONS DIRECTION HISTORIC DISTRICTS

6 Options

- **Status Quo**
- **Establish Tiers**
- **Outright Prohibit**
- **Outright Prohibit , unless alternative provided**
- **Update Stormwater & Require Pervious Surfaces**
- **PZB Alternative Direction**

NEXT STEPS DEPENDS ON
QUESTIONS, COMMENTS, DIRECTION

Jonathan B. Paul, AICP



NUE URBAN CONCEPTS

LAND USE - MOBILITY - PARKING - FEES

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Vision Plan 2014 Summary

City of St. Augustine

Vision Plan – 2014 and Beyond

The Vision Statement (Summary)

St. Augustine will be a livable, authentic, waterfront city that builds upon rich history and environment to create a distinctive community character founded on a healthy vibrant economy, a diverse mix of people and experiences, and a valuing of its natural assets.

Guiding Principle: Balance

The development and execution of the Vision Plan will consistently seek to develop and use a set of governing principles, practices, and processes that balance the interests of residents, businesses, institutions, and visitors which contribute to a livable, authentic, character based, and vital community.

The first priority identified is livability. Residents, businesses, and visitors all want a City that is livable, a City that retains those important quality of life aspects critical for resident and visitors alike. This first priority also includes mobility which means developing and implementing a holistic solution that encompasses parking solutions, alternative means of transport, creative uses of existing assets, and accessibility.

The need for balance is a value recognized throughout the community as a living community and the need to manage the tensions and pressures that all living communities, such as, St. Augustine have as they seek choices about their future.

St. Augustine experiences the natural tension present in communities with an extensive tourism industry, the pressures of large numbers of visitors vs. the daily experience of residential life in such a community.

Tourism undergirds much of our economy, bringing both benefits and costs, and while tourism generates much of the tension mentioned before, we also recognize that the industry brings economic benefits and is the source of the many quality of life features that would not otherwise exist in a similar sized city.

Therefore we stress as our core principle the practice of balance where the values and needs of all community members be heard, understood and considered as decisions are made and policies established.

Strategic Results

The Vision Plan is intended to produce four results:

LIVABILITY

The City of St. Augustine is a safe and pleasant place to live where the experiences and services that make life enjoyable and rewarding are accessible. It is a welcoming and compassionate community that embraces diversity in all senses of that term. The intent of this theme is that St. Augustine be an even more desirable place to live by offering the full range of experiences that make a city highly livable.

AUTHENTICITY

The City of St. Augustine has protected its rich layers of history while adding to those layers as a living and dynamic community which is fully engaged in today's world. The intent of this theme is that St. Augustine remain a work, live, play city that is multi-generational and culturally diverse and that it will manage change while also protecting its distinctive features.

CHARACTER

The City of St. Augustine has protected its historic physical character by maintaining its built scale, its architecture, its intensity and density of uses, and its natural environment. It has also maintained and strengthened its social and cultural character through continued development as an arts and culture hub, a culinary destination, and a small town of both historical and architectural depth. It is the intent of the Vision Plan to protect, retain, or enhance those features of the city (be they natural, built or human) which make St. Augustine a historic and distinctive community.

VITALITY

It is the Vision Plan's intent to enhance the level of economic activity in the City so as to encourage the development of diverse existing and new entrepreneurial economic drivers, maintain and restore a rich and healthy physical eco-system, and support a diverse group of people who find St. Augustine home.

2040 Adopted Comprehensive Plan excerpts

Future Land Use Element

FLUE Goal 8 Preserving Sense of Place

The City will promote its historic urban character, preserve its unique residential neighborhoods, and support adjacent, compact commercial areas, as well as, protect its natural, environmentally sensitive marsh and riverine environs, and significant tree canopy to preserve its sense of place that promotes the city's authentic character.

The planning goals related to preserving a sense of place for the City are to:

- Preserve the small town urban character while promoting a balance of economic activity;
- Prevent urban sprawl by encouraging compatible infill and redevelopment within the city limits;
- Provide continued opportunity for diverse forms of residential and commercial projects;
- Create a preservation program that protects the historic Town Plan and promotes responsible tourism;
- Provide protection of natural resources and ecological systems;
- Reduce automobile trips in and through the downtown by promoting the City's mobility plan and alternative forms of transportation that work to protect the environment, reduce congestion, provide residents with a higher quality of life, and, neighborhoods with greater livability, and promote local businesses;
- Provide a variety of housing types to support residents of diverse ages, incomes, family sizes, and lifestyles;
- Create predictability and efficiency in planning and in the provision of infrastructure;
- Recognize and preserve the historic skyline;
- Balance livability and economic pressures; and
- Proactively recognize increasing threats of sea level rise on the City's character and livability.

FLUE Objective 8.1

Protect the small town mixed use urban context to maintain its industrious and charming character.

FLUE Policy 8.1.1

Promote the community vision through adoption of an updated comprehensive plan, and its elements, and subsequent update to the land development code.

FLUE Policy 8.1.2

Continue to support design standards that define authentic characteristics and promote better development for Anastasia Boulevard, San Marco Avenue, King Street including West King Street to the city limits, and potentially West Castillo Drive, US Highway 1, SR 16, SR 207, Masters Drive, South Dixie Highway and May Street.

FLUE Policy 8.1.3

Develop protection mechanisms to protect the historic skyline, view sheds and view corridors, and character defining features that make St. Augustine unique.

FLUE Policy 8.1.4

Develop mitigation measures that protect the city from the impacts of tourism and growth in St. Johns County that threaten to overwhelm the historic nature and charm of the City.

FLUE Policy 8.1.5

Continue to value the existing tree canopy and promote healthy urban forestry practices.

FLUE Policy 8.1.6

Continue to protect environmentally sensitive areas that create a valuable scenic and protective armor against environmental change.

FLUE Policy 8.1.7

Continue to protect archaeologically sensitive areas that creates and demonstrates a valuable educational and historic record against environmental change.

FLUE Goal 9 Economic Development

Promote economic development in an effort to provide a variety of employment opportunities, create a sustainable future, and encourage a positive business climate.

FLUE Objective 9.1

Promote an economic strategy that will address a variety of economic opportunities.

FLUE Policy 9.1.1

The City shall work towards a variety of policies within the Comprehensive Plan and land development code that support and encourage a diverse economy that supports the local market within the City and surrounding area.

- This includes promoting and supporting local business efforts for local, regional, state and national markets.
- This includes the possibility of utilizing new and emerging technologies, and industries particularly suited for urban areas.
- This includes the utilization of necessary preservation techniques, and mobility options to encourage infill and redevelopment beyond tourism.

FLUE Policy 9.1.2

The City shall work towards a variety of policies within the Comprehensive Plan and land development code that support and encourage commercial and industrial development within the City and surrounding area.

- This includes encouraging a mix of uses in the city to promote accessibility to a variety of uses.
- This includes strengthening and diversifying the local economy.
- This includes redevelopment and revitalization efforts, including aesthetic improvements to encourage commercial and industrial investment within the City of St. Augustine.
- This includes the promotion of uses that are commercial or industrial that support, promote or are compatible with the urban character of the city.

FLU Policy 9.1.3

The City shall encourage education (primary and secondary), job-training, technical training and the building trades in an effort to provide a local employable workforce to stay and work within the City and St. Johns County.

Transportation and Mobility Element

Transportation and Mobility Summary

The new Transportation and Mobility Element of the Comprehensive Plan is a required element. The element is the chapter of the Comprehensive Plan that establishes the overall plan and framework for a long-term transportation network, addressing impacts of traffic, and establishing a program to encourage multiple modes of transportation for the City. It is the element that outlines all of the important issues to try to address traffic, livability, tourist volume, and a potential balance of modern transportation needs in an ancient city.

The Mobility Plan for the City of St. Augustine includes a range of options to manage vehicular traffic and congestion, reduce pressure and improve the transportation experience downtown, while simultaneously encouraging the use of multimodal transportation and other associated improvements.

Management strategies include establishing a park once environment, access to short and long-term parking that encourages the use of the existing historic district parking garage, and implementation of variable parking pricing to encourage the efficient use of the existing parking in the downtown area.

Downtown management also includes shared streets, pedestrian, bicycle and accessibility improvements, along with a potential circulator system.

Encouraging multimodal transportation includes developing peripheral parking facilities, which may be surface initially and/or garages, improving regional road, rail and trail connections, providing safe and connected facilities for pedestrian and bicycle usage, and utilizing water taxis on the City's waterways.

Goals, Objectives and Policies

Chapter 163.3177(6)(b) F.S.

Overall Goal

The City will encourage accessible, energy efficient, sustainable and economically viable transportation options that meet the needs of residents, employers, employees and visitors through a variety of innovative methods that are sensitive to the environmental, historical, and cultural resources of the City of St. Augustine.

Transportation

TME Goal 1 Transportation

To maintain a coordinated multimodal transportation system which provides for the safe, efficient, and economical movement of people, goods, and services, which is consistent with the Future Land Use Plan, recognizes the impact resulting from sea level rise and higher, more intense rainfall, conserves energy, and protects the City's natural, cultural, and historical resources.

Mobility

TME Goal 2 Mobility

Establish a coordinated multimodal transportation system that provides mobility for pedestrians, bicyclists, circulator and transit users, motorized vehicle users, rail and trail users, and is sensitive to the City of St. Augustine's natural, cultural, and historical resources.

TME Goal 3 Mobility Planning

To enhance the quality of life for City residents and reduce congestion by (1) making it safer and more convenient for people to walk and bicycle, (2) creating a park once environment within the multimodal district for longer duration visits, and (3) developing innovative parking management strategies that improve access to local businesses and reduce the impact of non-city resident traffic on residential streets.

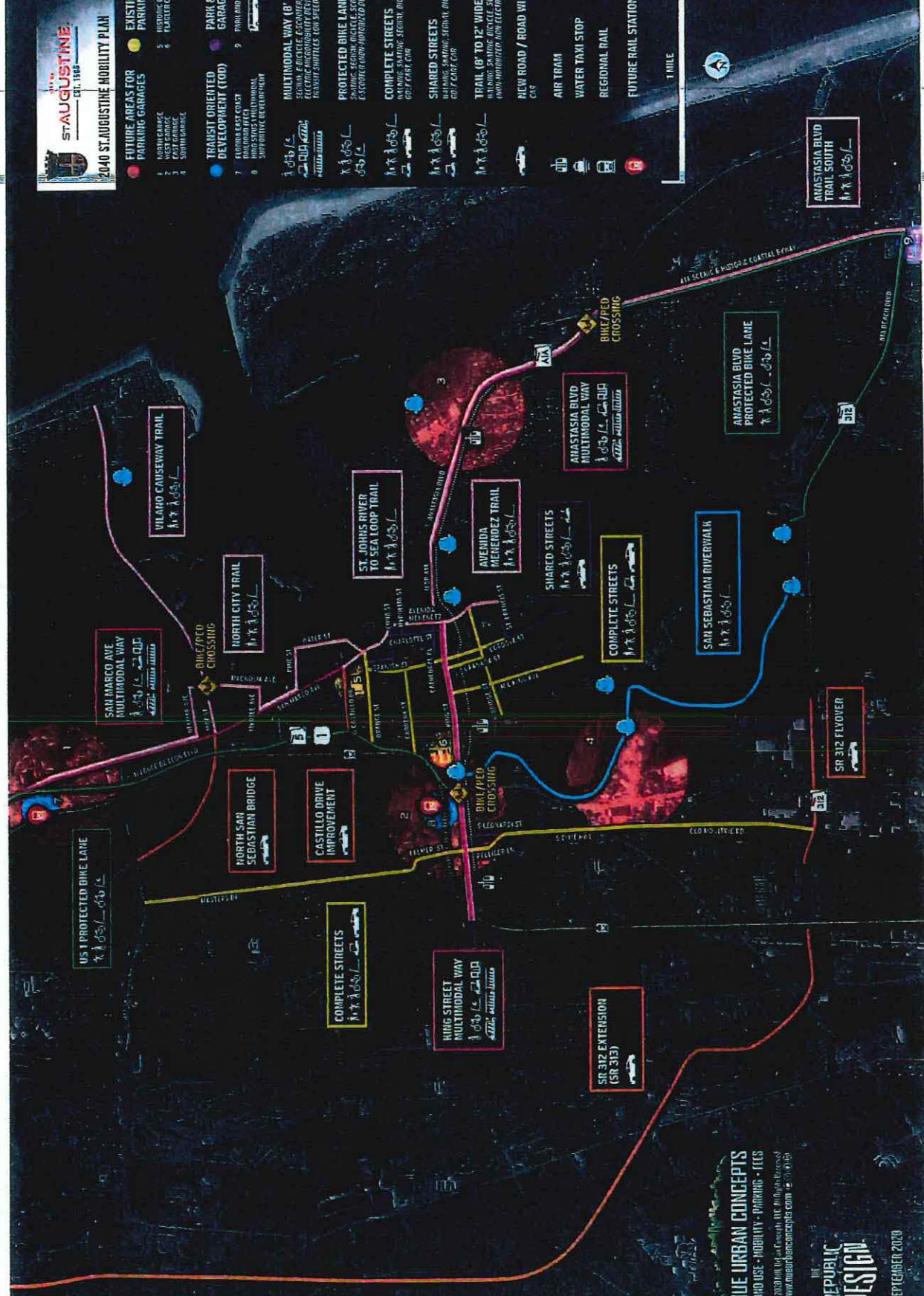
Mobility Plan Adopted in 2020



2040 ST. AUGUSTINE MOBILITY PLAN

- FUTURE AREAS FOR PARKING GARAGES**
 - 1. HISTORIC CENTER
 - 2. WEST GORGE
 - 3. EAST GORGE
 - 4. SOUTH GORGE
- EXISTING PARKING GARAGES**
 - 5. HISTORIC UNIVERSITY PARK
 - 6. FLORIAN COLLEGE PARKING GARAGE
- TRANSIT ORIENTED DEVELOPMENT (TOD)**
 - 7. FLORIAN COLLEGE
 - 8. HISTORIC UNIVERSITY PARK
 - 9. PARK AND RIDE FACILITY
- PARK & RIDE GARAGES**
 - 10. PARK AND RIDE FACILITY
- MULTIMODAL WAY (8' - 9' WIDE)**
 - 11. BICYCLE, SCOOTER, GOLF CART, ELECTRIC MOBILITY DEVICES, AUTOMOBILES
 - 12. TRANSIT SHUTTLES FOR SPEED VEHICLES
- PROTECTED BIKE LANE (6' WIDE)**
 - 13. BICYCLE, SCOOTER, GOLF CART, ELECTRIC MOBILITY DEVICES
- COMPLETE STREETS**
 - 14. BICYCLE, SCOOTER, GOLF CART, ELECTRIC MOBILITY DEVICES, AUTOMOBILES
- SHARED STREETS**
 - 15. BICYCLE, SCOOTER, GOLF CART, ELECTRIC MOBILITY DEVICES, AUTOMOBILES
- TRAIL (8' TO 12' WIDE)**
 - 16. BICYCLE, SCOOTER, GOLF CART, ELECTRIC MOBILITY DEVICES, AUTOMOBILES
- NEW ROAD / ROAD WIDENING**
 - 17. NEW ROAD / ROAD WIDENING
- AIR TRAM**
 - 18. AIR TRAM
- WATER TAXI STOP**
 - 19. WATER TAXI STOP
- REGIONAL RAIL**
 - 20. REGIONAL RAIL
- FUTURE RAIL STATION**
 - 21. FUTURE RAIL STATION

1 INCH = 1 MILE



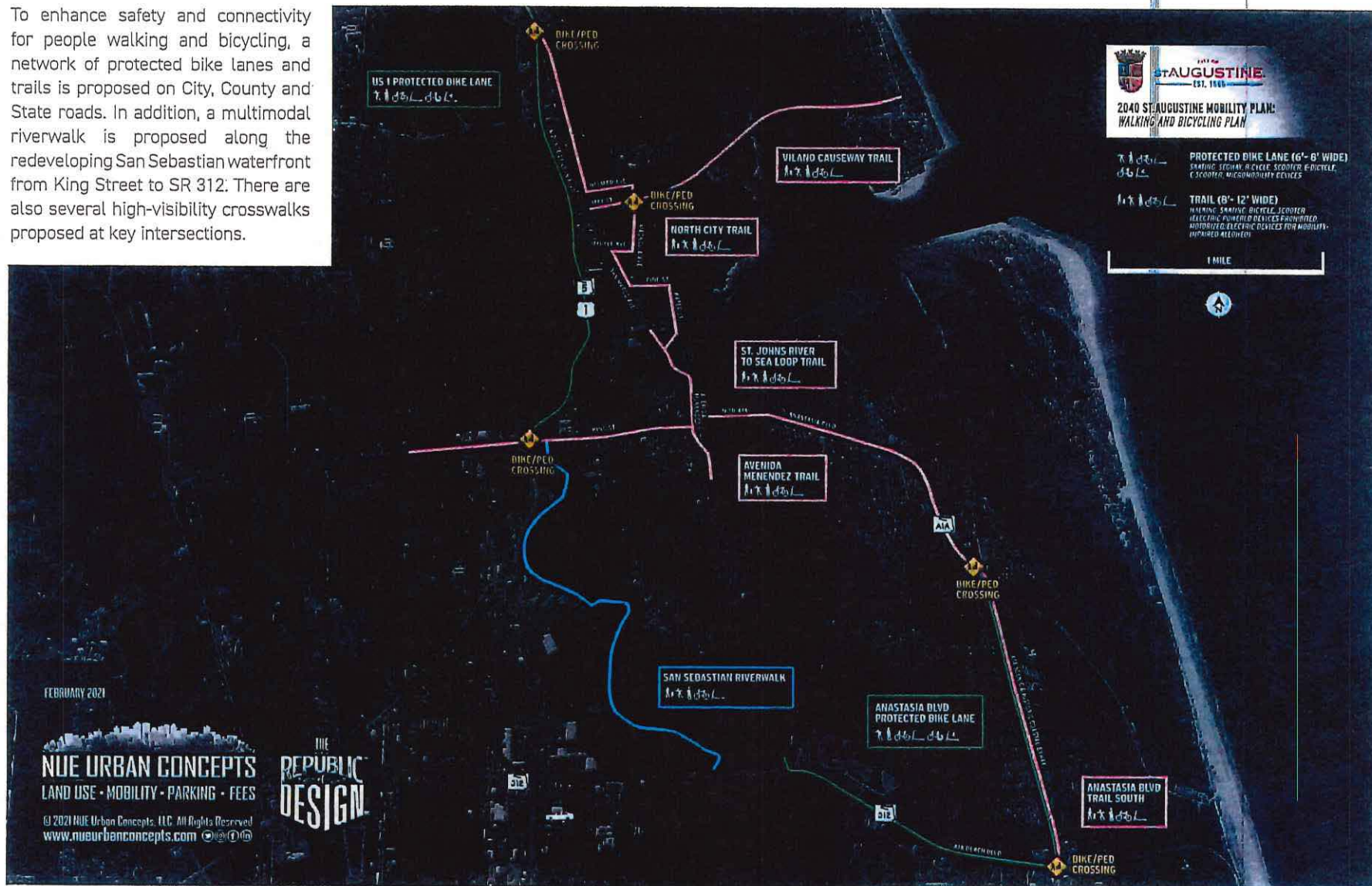
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SEPTEMBER 2020

2040 MOBILITY PLAN: WALKING & BICYCLING PLAN

To enhance safety and connectivity for people walking and bicycling, a network of protected bike lanes and trails is proposed on City, County and State roads. In addition, a multimodal riverwalk is proposed along the redeveloping San Sebastian waterfront from King Street to SR 312. There are also several high-visibility crosswalks proposed at key intersections.



2040 MOBILITY PLAN: TRANSIT CIRCULATOR PLAN

The Mobility Plan proposes to create a park-once environment where on-street parking is converted to shorter duration times to encourage turnover and business access, and visits of two hours or longer are encouraged to park in garages. Existing and future garages could be served by a transit circulator system that provides employees, residents, students, and visitors quick access to the Historic District without spending time driving around looking for a parking spot. The Transit Circulator Plan also proposes several water taxi stops throughout the City and identified two potential transportation-oriented developments (TODs) along future regional rail connections between Jacksonville and St. Augustine. As climate change challenges continue, a longer-term solution may be the consideration of an aerial tram connecting future garages on the east end of Anastasia Blvd and the west end of King Street.



FEBRUARY 2021

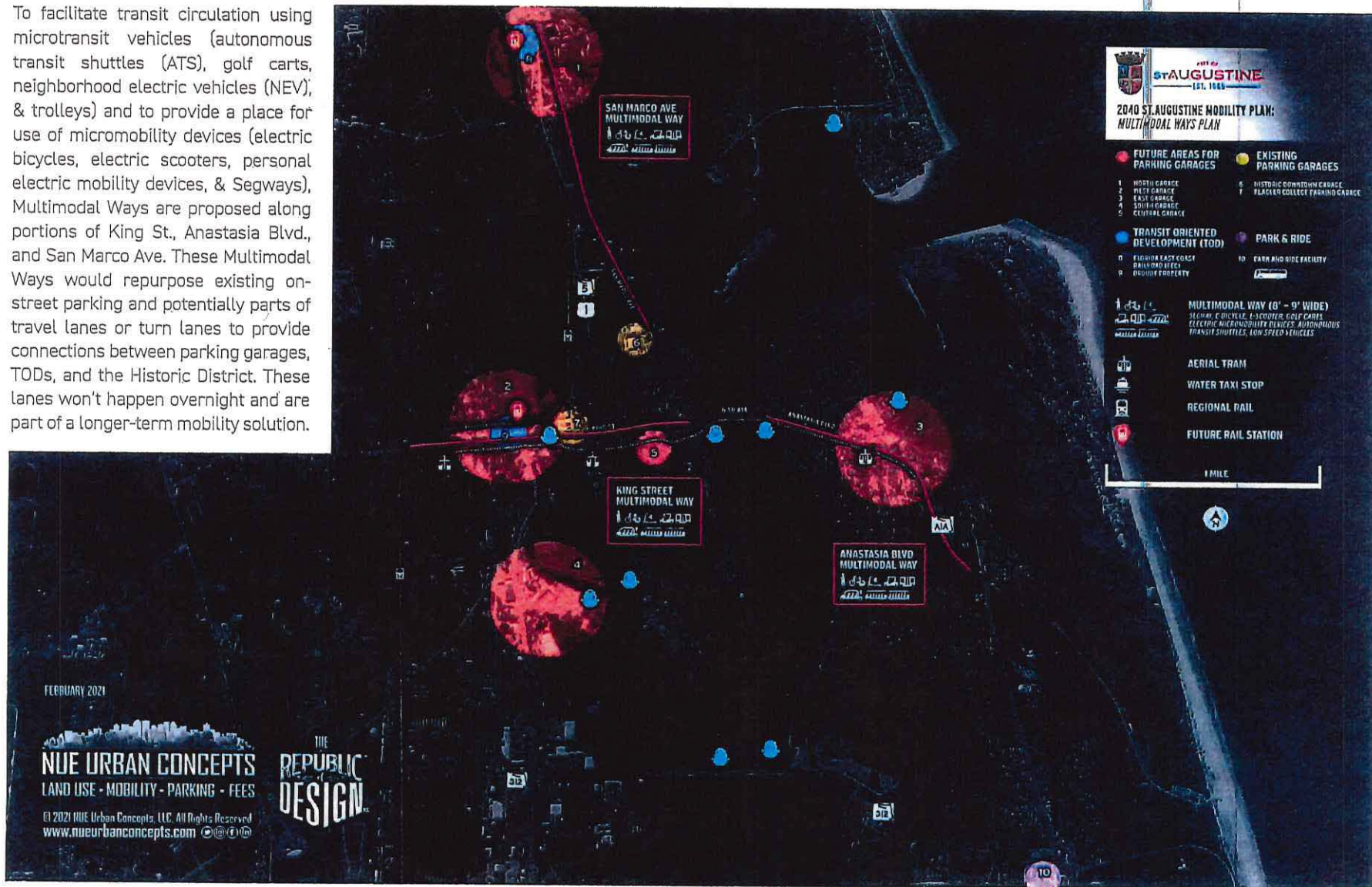
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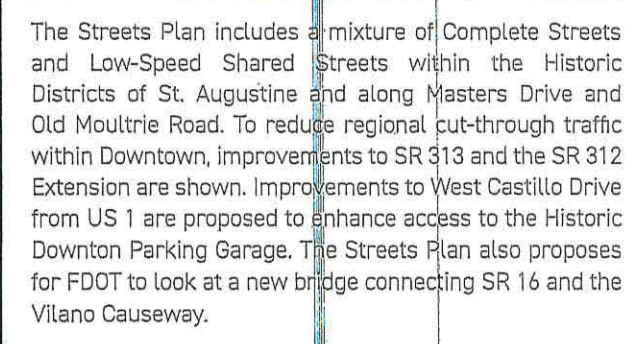
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THE REPUBLIC
DESIGN

2040 MOBILITY PLAN: MULTIMODAL WAYS PLAN

To facilitate transit circulation using microtransit vehicles (autonomous transit shuttles (ATS), golf carts, neighborhood electric vehicles (NEV), & trolleys) and to provide a place for use of micromobility devices (electric bicycles, electric scooters, personal electric mobility devices, & Segways), Multimodal Ways are proposed along portions of King St., Anastasia Blvd., and San Marco Ave. These Multimodal Ways would repurpose existing on-street parking and potentially parts of travel lanes or turn lanes to provide connections between parking garages, TODs, and the Historic District. These lanes won't happen overnight and are part of a longer-term mobility solution.





Existing Parking Land Development Code Requirements

DIVISION 2. - OFF-STREET PARKING AND LOADING

Sec. 28-366. - In general.

All new and expanded uses and structures as well as all changes in use shall meet all requirements contained in this section for off-street parking and loading. Where fractional spaces result from parking space requirement calculations, the parking space required shall be the nearest whole number.
(Code 1964, § 33-116)

Sec. 28-367. - Historic preservation districts requirements.

Uses and structures located in historic preservation districts 1, 2, 3 and 4 are not required to provide off-street parking and loading. Any parking facilities within these districts shall meet the specific requirements contained in this section. Parking facilities within historic preservation districts 1, 2 and 3 shall not exceed a maximum of twenty (20) spaces and shall not be located within twenty-five (25) feet of another facility. All parking facilities shall have a fence or wall around the perimeter of the facility. Parking facilities located on the premises of a structure shall meet the height requirements for fences or walls established by the architectural guidelines for historic preservation as appropriate to the era of the structure. Parking facilities located off the premises shall meet the height requirements for pre-1821 construction. No parking garages shall be approved within historic preservation districts 1, 2 and 3, and any parking facility located on a corner lot shall be by exception only.
(Code 1964, § 33-117)

Sec. 28-368. - Design standards.

(a) *Approval of plans and specifications.* No permits shall be issued for any parking facility until the plans and specifications, including required landscaping, materials and storm drainage, have been submitted to and approved by the planning and building department and the engineering division. These plans and specifications shall include proper drainage and retention, surface materials, curbing and screening as required, clearly marked and dimensioned, with handicap and other special use spaces designated. All entrances, exits and aisles shall be dimensioned, with the traffic pattern indicated.

(b) *Drainage.* Off-street parking and loading facilities shall meet city requirements for stormwater retention and drainage to prevent damage to abutting property, the public right-of-way and the adjacent environment. All such facilities shall be paved with erosion-resistant materials in accordance with city specifications. Drainage from parking facilities into the city drainage system (either overground or direct underground) shall require the approval of the engineering division.

(c) *Lighting.* Adequate lighting shall be provided if an off-street parking or loading facility is to be used at night. Such lighting shall be provided to insure user safety and security. Lighting shall be designed and installed to minimize glare on adjacent property and streets. No source of illumination shall be directed into the windows of any residential building.

(d) *Landscaping.* Landscaping requirements for parking facilities shall be as required by [Chapter 25](#).

(e) *Separation from walkways and streets.* Off-street parking and loading facilities shall be separated from walkways, sidewalks, streets or alleys by a wall, fence, curbing, bollards, landscaping or other approved protective device. Such protective devices shall not impair the visibility of pedestrians or vehicles at entrances and exits.

(f) *Entrances and exits.* The location and design of entrances and exits shall be in accordance with city specifications. The number of curb cuts shall be the minimum required to allow free and safe use of the facility without impairing traffic flow along the street. The use of shared or common curb cuts is encouraged where

practical. Trees and appropriate landscaping may be used to define entrances and exits. Landscaping, curbing or other protective devices may be provided to control access and to separate pedestrian and vehicular traffic.

(g) *Interior driving aisles and maneuverability.* The minimum width of interior driving aisles and maneuverability space within parking facilities shall be related to the angle of the parking spaces and the use of one-way or two-way traffic as follows:

Parking Space Degrees	Angle in Degrees	One-Way Traffic Aisle Width/Maneuverability Space in Feet	Two-Way Traffic Aisle Width/Maneuverability Space in Feet
0 (Parallel)		13	24
30		13	24
45		13	24
60		18	24
90		24	24

(h) *Existing site constraints.* For parking facilities to be used in conjunction with existing structures containing physical constraints, such as trees or buildings, making it impractical to provide entrances, exits and interior aisles in accordance with subsections (f) and (g) hereof, the city planning and building manager may grant a variance from such requirements; provided, however, no variance shall be given by the planning and building manager to the required parking space requirements or required interior maneuverability space.

(Code 1964, § 33-118; Ord. No. 94-15, §§ 1, 2, 6-13-94; Ord. No. 96-30, § 2, 7-8-96)

Sec. 28-369. - Compact space standards.

A compact parking space shall be at least eight (8) feet wide by eighteen (18) feet in length. All compact spaces shall be indicated by signs. A maximum of twenty-five (25) percent of required parking spaces may be compact spaces.

(Code 1964, § 33-119)

Sec. 28-370. - Handicap parking space standards.

Handicap parking spaces shall conform to the standards of the most recently adopted Florida Building Code.

(Code 1964, § 33-120; Ord. No. 03-17, § 11, 6-23-03)

Sec. 28-371. - Location.

(a) A required off-street parking and loading facility shall be located on the same lot or parcel of land it is intended to serve. However, an off-street parking and loading facility within four hundred (400) feet of the premises may be allowed as a permitted use by exception.

(b) The planning and zoning board may grant an exception when practical difficulties prevent the placing of all or part of the facility on the premises they are designated to serve. The board shall review the proposal for impact upon pedestrian and vehicular traffic patterns and user safety, impact upon surrounding properties from noise, glare, visual quality, nuisance and traffic generation.

(Code 1964, § 33-121)

Sec. 28-372. - Joint use of parking facilities.

Nothing in this chapter shall be construed to prevent the joint contractual use of off-street parking facilities by two (2) or more structures or uses when such facilities provide the number of spaces required for all uses or structures.

(Code 1964, § 33-122)

Sec. 28-373. - Required off-street parking.

(a) *Intent.* The purpose of this section is to insure the reasonable provision of off-street, on-site parking facilities. Any use not listed shall provide off-street parking facilities as required of the use listed which is most closely related to it, as determined by the planning and building department.

(b) *Continuation required.* Off-street parking or loading facilities shall be maintained and continued as long as the main use continues.

(1) *Repair.* Conforming buildings and uses existing at the time of adoption of this chapter (June 27, 1988) may be modernized, altered and/or repaired without providing additional facilities, providing there is no increase in area or capacity.

(2) *Enlargement.* When a building or use existing at the time of adoption of this chapter is enlarged or increased in area or capacity by adding floor area, volume or seats, off-street parking and loading as required by this chapter shall be provided for the additional floor area, volume, capacity or seats so created or used.

(3) *Change in use.* When the use of a building or portion thereof changes, the new use shall meet the off-street parking requirements of this section.

(c) *Required parking San Marco Avenue Design Standards.* Developments within the San Marco Avenue Design Standards entranceway corridor area, utilizing the residential typology development option, shall receive a twenty-five (25) percent reduction for the total calculated required parking based on (d) Minimum spaces required in order to maintain the appearance of a residential in nature front yard consistent with the intent of the design standards.

(d) *Minimum spaces required:*

	Use	1 Space Per Gross Floor Area (Sq. Ft.)	1 Space Per Patron Capacity	Units, Seats, Rooms, Spaces	Special Requirements
(1)	Amusement/recreation				
	Skating rink	300			
	Indoor recreation		4 patrons or seats		
	Bowling			3 per lane	
	Miniature golf			2 per hole	
	Outdoor recreation		4 patrons or seats		
	Outdoor pool				1 per 75 ft. water area
	Racquet courts				3 per court
(2)	Art gallery, library and museum	400			
(3)	Auditorium			4 seats	
(4)	Auto, boat, equipment sales, rentals	300 (buildings)			

(5)	Banks and financial institutions	300		3 per automatic teller machine	
(6)	Barber/hair salon				3 spaces per operator or chair
(7)	Bar, lounge, tavern, nightclub		3 patrons or seats		
(8)	Boarding and rooming houses, and hostels			1 per bed	and 2 per resident manager
(9)	Bus/transportation depot	300			
(10)	Church/funeral home			4 seats	(for churches based on largest group assembly room)
(11)	Community center	250			
(12)	Clinic				5 per doctor/ dentist
(13)	Clubs, lodges	250			(includes outside assembly/recreation)
(14)	Convention center	200			
(15)	Daycare, child care facility				1 per employee
(16)	Furniture, clothing, appliance store	500			
(17)	Garage, repair			3 per bay	
(18)	Gym, spa	200			
(19)	Hospital			1.5 per 3 beds	plus as required for accessory uses
(20)	Hotel/motel/inn		3 (for meeting or banquet rooms) and	4 (for meeting or banquet rooms) and 1 per room	75% as required for accessory uses
(21)	Industrial manufacturing	1,000 devoted to manufacturing, shipping or receiving			and 1 per stored company vehicle and as required for office use
(22)	Shopping center	300 (nonstorage area)			
(23)	Marina			1 per 2 newly constructed wet boat slips, excluding those used for charter boats, plus 1 per 10 dry boat storage spaces. Wet slips used for charter boats (including those for fishing, shelling, diving, and sightseeing purposes) are	and as required for accessory uses

				computed at 1 per 3 boat passengers based on the maximum number of passengers, and charter boats used for dining are computed at 1 per 2 boat passengers based on the maximum number of passengers. Each parking space provided to meet the marina's boat slip or dry storage parking requirements may also be credited towards meeting 100 square feet of the parking requirements for the marina or permitted marina-related activities, excluding restaurants, lounges/bars and private clubs. Uses not receiving credit from parking provided for boat slips or dry storage spaces shall provide parking at the normal rate for those uses as required within this Code.	
(24)	Mobile home			2 per unit	
(25)	Multifamily residential/apartments				
	1 bedroom			1.5 per unit	
	2 bedrooms			2 per unit	
	3 or more bedrooms			2.25 per unit	
(26)	Office use medical/dental				3 per doctor
	Veterinary				3 per doctor
	Professional/business office	400			
	Real estate, property rental/management, employment office	300			

(27)	Restaurant	75 patron area (nonfixed seating)	or 4 patrons (fixed seating)		and 1 per 200 sq. ft. nonpatron area
(28)	Restaurant, fast food or drive-through	75 patron area (nonfixed seating)	or 3 patrons (fixed seating)		and 1 per 100 sq. ft. nonpatron area
(29)	Schools				
	Elementary			2 per classroom, office and kitchen	
	Jr. high/high			2 per classroom, office and kitchen	and 1 per 6 auditorium or gym seats
	College/university/technical or vocational school			1 per classroom, and 1 per 4 students at average capacity, class attendance	and 10% as required for accessory uses including libraries, book stores, athletic facilities and cafeterias or restaurants
(30)	Single-family/duplex			2 per unit	
(31)	Recreational vehicle park/campground			1 per space	and as required for office use
(32)	Nursing home			1 per 6 beds	and 1 per employee
(33)	Retirement home/adult congregate living facility		2 patrons	or 1 per bedroom	
(34)	Service station	200 (buildings)			
(35)	Wholesale distribution	1,500			and as required for office
(36)	Warehouse storage	2,000			and as required for office
(37)	Mini-warehouse and self-storage facility			1 per 102 storage units	2 per office plus 2 per caretaker's unit
(38)	Convenience store	100			
(39)	Theatre		4 seats		
(40)	Grocery/supermarket	200			
(41)	Business, commercial, or service establishments	300			
(42)	Outdoor market	100 (sale/display area)			
(43)	Public service				1 per employee plus 1 per stored company vehicle
(44)	Winery	450			
(45)	Winery with restaurant				
	a. Winery area	450			
	b. Restaurant area				

	1. Patron area	75	or patrons or seats	4	
	2. Non-patron area (kitchen, etc.)	100			
(46)	Bed and breakfast			1 per room	2 for owner/resident manager
(47)	College dormitory			1 per bed	and 10% as required for accessory uses provided as part of the dormitory
(48)	Special event venue			One (1) parking space per four (4) seats, except for special event venue space in hotels and motels as below, and If the special event venue is an accessory or ancillary use to a hotel or motel one (1) parking space per two hundred (200) square feet of special event venue space, and One (1) parking space per two hundred (200) square feet for designated special event venue outdoor standing patron areas and if accessory or ancillary to other uses (other than hotel and motel requirements above) 75% of calculated required parking for the special event venue use shall be provided on-site in addition to other required parking.	

(Code 1964, § 33-123; Ord. No. 98-26, § 2, 9-14-98; Ord. No. 98-35, § 1, 2-22-98; Ord. No. 03-17, § 8, 6-23-03; Ord. No. 06-35, § 1, 2-12-07; Ord. No. 15-02, § 1, 12-14-15; Ord. 16-02, § 1, 1-25-16; 16-06, § 4, 2-8-16; Ord. No. 18-09, § 5, 6-25-18)

Sec. 28-374. - Off-street stacking requirements.

(a) Whenever a structure or use requires the off-loading of passengers or allows for use without exiting the vehicle, stacking or off-loading lanes and spaces will be required on-site as follows:

- (1) Drive-through uses. Three (3) stacking spaces per window.
- (2) Child care facilities. One (1) stacking space per eight (8) students up to a minimum of five (5) spaces.
- (3) Schools. One (1) stacking space per fifteen (15) students up to a maximum of ten (10) spaces.
- (4) Hotel/motel office. Two (2) stacking spaces.
- (5) Automatic/mechanical car wash. Three (3) stacking spaces per individual unit.
- (6) Hand car wash/auto detailing. Two (2) stacking spaces per individual unit or work station.
- (7) Dumpsters/trash receptacles. One (1) stacking space per dumpster or receptacle location, oriented to allow loading without requiring access or maneuvering through parking spaces.

(b) A stacking space shall be a minimum of twelve (12) by twenty (20) feet and shall be located so as not to obstruct, endanger or interfere with either on-site or off-site access, maneuvering or traffic patterns. Stacking lanes shall be marked or separated to prevent use as access and to protect users while off-loading or waiting.

(Code 1964, § 33-124)

Sec. 28-375. - Off-street loading requirements.

Whenever a structure or use requires the loading or off-loading of supplies or materials, loading zones or spaces will be required on-site as follows:

(1) Multiple office building, motel, hotel, hospital, auditorium, theatre or similar use. One (1) space if aggregate floor area is over five thousand (5,000) square feet but not greater than forty thousand (40,000) square feet, plus one (1) space for each additional sixty thousand (60,000) square feet or major fraction thereof.

(2) Retail or service establishment, wholesale establishment, mini-warehouse and self-storage facilities, industrial uses and restaurant. One (1) space if the gross floor area is not greater than twenty thousand (20,000) square feet; two (2) spaces if the aggregate floor area is more than twenty thousand (20,000) square feet but not greater than sixty thousand (60,000) square feet; plus one (1) space for each additional sixty thousand (60,000) square feet or major fraction thereof.

(3) In no case shall the required off-street loading space be less than the following:

a. Auditoriums, theatres, hotels, motels, hospitals, industrial uses, warehouse uses, multiple office buildings or individual offices of greater than four thousand (4,000) square feet; retail stores, restaurants and all other commercial buildings shall have at least one (1) space.

b. Shopping centers or shopping plazas shall provide at least one (1) space for every two (2) stores or businesses located so as to service both locations.

(4) In no case shall the required off-street loading space be part of the area used to satisfy the off-street parking requirements of this chapter. The off-street loading space required for the uses mentioned in this section shall in all cases be on the same lot or parcel of land use as the structures or use it is intended to serve.

(5) A loading space shall be located so as to facilitate loading and off-loading and so as not to obstruct, endanger or interfere with either on-site or off-site access, maneuvering or traffic patterns. Loading spaces or loading zones shall be marked or located to prevent use as access or parking and to protect users while loading or off-loading.

(6) A loading space or loading zone may be located adjacent to a building to allow parallel parking when use of such space or zone is limited to fifteen (15) minutes or less, when this time limit is clearly indicated, and when other parking is prohibited.

(7) A loading space or loading zone shall be oriented so as to allow loading and off-loading without requiring access or maneuvering through parking spaces.

(Code 1964, § 33-125; Ord. No. 16-02, § 1, 1-25-16)

Secs. 28-376—28-399. - Reserved.

Shuttling and Parking Information

Summary

2022 Nights of Lights (NOL) – Park and Ride Shuttle

11,764 total passengers, **3,921** total vehicles parked, **3** people on average per vehicle

2016-2022 NOL Average passengers = **12,804** passengers between 6 years (minus 2020)

Parking Garage Daily Car counts

2016-2020 Average **316,892** total cars parked in the garage yearly

The highest number in one (1) day was **3,870** cars parked in the garage, December 7, 2019.

2016-2020 Average number of days that the Parking Garage closed because it is full was **39** days (**11%**) of the year [the lowest number **31** days (**8%**) in 2020, and the highest **46** days (**13%**) in 2017].

2022 Nights of Lights - Park & Ride Shuttle

Passenger Counts (Round Trip)

As of 1/10/2023

Lot Location	Saturday 19-Nov	Friday 25-Nov	Saturday 26-Nov	Saturday 3-Dec	Saturday 10-Dec	Saturday 17-Dec	Monday 26-Dec	Tuesday 27-Dec	Wednesday 28-Dec	Thursday 29-Dec	Friday 30-Dec	Totals
301 San Marco County Health Dept.	415	712	561	380	442	444	n/a	n/a	n/a	n/a	n/a	2,954
	541	282	389	645	510	497	n/a	n/a	n/a	n/a	n/a	2,864
Broudy's	577	486	496	556	618	547	289	299	466	541	461	5,336
Anastasia Baptist Church	610	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	610
Amphitheatre	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0
R. B. Hunt School	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0
2022 Totals	2,143	1,480	1,446	1,581	1,570	1,488	289	299	466	541	461	11,764
2021 Totals	1,929	1,463	1,410	1,784	2,290	1,958	868	793	736	625	768	14,624
2020 Totals (Covid)	0	0	0	0	0	0	0	0	0	0	0	0
2019 Totals	3,637	2,299	2,152	1,701	1,931	1,471	1,205	1,522	2,298	903	n/a	19,119
2018 Totals	2,895	1,006	1,769	1,640	1,436	1,862	n/a	n/a	1,125	n/a	n/a	11,733
2017 Totals	2,566	1,442	1,804	1,613	1,628	1,485	n/a	n/a	1,126	n/a	n/a	11,664
2016 Totals	1,190	784	873	1,184	1,159	588	441	454	530	260	456	7,919

Approximately 3,921 vehicles parked on the periphery for 2022 NoL

Parking Garage Daily Car Counts -- 2016

NOTE: Hurricane Matthew hit St. Augustine on October 7th

10/7/2017 Hurricane Matthew	Closures Total 40 Days	**** Shuttle Operations 14 Days	Yearly Total 378,617
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Year 2016	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2315	599	749	1733	1310	490	1117	664	552	2261	612	807
2	2816	634	714	2566	561	567	2196	724	470	1087	593	1961
3	590	502	887	2036	489	951	2362	632	1733	619	673	**** 3296
4	641	382	1785	860	325	1714	**** 2237	756	2266	629	1147	1939
5	425	989	2954	977	687	1025	1019	1081	1787	610	2005	811
6	264	1187	2220	1125	1099	399	972	2205	649	0	1057	661
7	431	557	1058	929	2439	521	904	1276	623	0	704	956
8	770	619	962	1387	1850	570	1162	633	680	0	688	952
9	1558	557	936	2074	552	718	1804	1123	910	0	583	1699
10	973	528	1125	1661	660	991	1139	547	1913	108	556	**** 2724
11	482	689	1375	675	624	1893	647	646	965	191	1965	2023
12	513	1242	2921	679	620	1214	757	956	657	301	2098	758
13	490	2444	1735	565	879	678	844	2075	504	453	1328	743
14	566	2224	1191	683	2127	661	828	1135	604	799	758	774
15	627	1435	1059	1057	1248	668	1176	455	659	1299	658	912
16	2384	758	1023	2203	543	677	2586	492	1012	929	640	1907
17	1270	782	1335	1788	518	1036	1645	467	2144	662	614	**** 2262
18	1145	860	1660	856	437	1509	936	478	1217	590	1078	2022
19	482	1239	2478	641	512	1506	930	778	640	609	**** 2076	990
20	464	2218	2027	658	935	785	839	1996	615	725	1738	995
21	643	1484	1720	823	2148	845	975	1051	668	941	1104	1394
22	652	916	1565	977	1469	751	1333	479	651	1934	1242	1997
23	901	668	1552	2419	610	870	2453	426	920	992	1288	2362
24	872	454	1652	1463	564	1200	1414	514	2000	748	692	**** 2276
25	505	873	1962	709	580	2112	803	723	1006	638	**** 2939	1746
26	539	1345	2035	691	634	1102	840	980	679	602	**** 3162	**** 2538
27	375	2265	1351	625	922	641	774	1882	615	762	1871	**** 2458
28	368	1713	1194	803	2637	721	857	1009	598	967	774	**** 2267
29	1050	776	1278	1141	2510	664	1125	625	717	1140	717	**** 2403
30	2512		1128	2213	1515	717	2404	506	919	1111	665	**** 2702
31	1308		1323		549		1270	554		711		**** 2585
TOTAL	28,931	30,939	46,954	37,017	32,553	28,196	38,111	27,868	29,373	22,418	27,848	28,409

Parking Garage Daily Car Counts -- 2017

9/11/2017 Hurricane Irma	Closures Total 46 Days	**** Shuttle Operations 14 Days	Yearly Total 371,198
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Year 2017	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2519	471	685	**** 2713	535	592	2371	710	675	244	459	1836
2	1879	498	565	2023	524	760	2206	656	2340	412	491	**** 3335
3	677	1029	1819	898	703	1891	1944	767	2201	389	983	1809
4	849	1506	**** 2595	607	543	1221	**** 2077	1154	1571	420	2082	688
5	714	872	1907	777	1275	593	1155	2300	355	392	1003	816
6	1225	558	975	1130	2428	467	1177	1418	410	800	515	696
7	1286	537	878	1655	1509	399	1442	692	506	2014	483	497
8	690	543	765	**** 2304	673	699	2028	576	639	892	464	906
9	384	641	1056	1904	595	1150	1144	548	352	458	579	**** 1960
10	400	1057	1314	1139	549	2210	651	723	152	402	1324	1884
11	487	2428	**** 2480	1134	654	1246	749	1065	0	490	2391	725
12	590	1662	1904	1113	1000	620	855	2038	0	478	1422	812
13	1157	702	850	1270	2563	606	924	981	0	1038	455	837
14	2649	969	1376	2132	1751	731	1292	419	198	2387	428	909
15	1823	550	1687	**** 1868	573	838	2350	468	373	1268	407	1949
16	1147	994	1649	2018	609	1126	1330	457	815	463	515	**** 2610
17	524	1327	2152	834	533	2234	727	443	577	424	781	2012
18	554	2413	2462	725	606	1471	740	834	331	444	**** 2001	1194
19	590	1975	1798	799	994	610	842	2090	326	538	1740	1178
20	1048	1447	1398	908	2102	761	918	1015	324	975	1130	1474
21	2759	788	1127	1244	1081	833	1417	447	412	2034	899	1998
22	573	460	1228	2311	508	854	2141	441	718	978	1494	2244
23	482	493	1387	1468	522	1264	1332	443	1590	449	252	**** 2494
24	502	773	2066	684	367	2298	750	439	965	512	**** 2911	2509
25	604	1514	2508	569	726	1378	712	728	399	526	**** 3144	1376
26	470	1094	1923	708	1163	713	777	1364	384	560	2109	2155
27	1086	642	908	732	2530	685	850	633	389	1001	588	3036
28	2383	717	812	1108	2259	860	1174	350	427	1838	551	1970
29	1236		876	2315	1459	868	2383	354	688	1227	651	2730
30	495		842	1196	550	1028	737	365	693	509	680	**** 2728
31	555		1710		554		815	364		636		2390
Total	32,337	28,660	40,627	33,401	32,438	31,006	37,933	26,282	18,810	25,148	24,876	40,630

Parking Garage Daily Car Counts -- 2018

Closures Total 38 Days	**** Shuttle Operations 15 Days	Yearly Total 369,130
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Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2018												
1	450	519	688	1448	487	908	1346	711	2494	429	575	***2776
2	682	916	1321	1134	545	1573	1042	810	2261	417	786	1588
3	328	1764	2203	1278	626	1207	1194	1328	1305	405	2197	493
4	824	436	1833	1331	1109	613	**** 2002	2313	418	533	879	798
5	969	510	786	1760	2031	655	1628	1471	402	921	482	738
6	2066	544	703	1972	1216	663	1744	733	416	2522	506	845
7	866	552	909	**** 2081	621	667	2220	740	740	1152	501	2,053
8	403	543	1092	1414	665	1070	1402	696	1517	601	574	***2058
9	359	931	1383	441	584	1910	861	639	799	417	858	1,444
10	346	2081	**** 2358	329	694	1228	765	1099	424	383	2208	713
11	630	1965	1984	710	1059	628	784	1801	427	564	2103	730
12	736	465	1154	745	2250	784	909	1102	458	1143	653	952
13	2130	469	1440	1265	1793	747	1186	501	658	2500	448	1,050
14	1414	788	1283	2213	407	760	2186	522	1057	1480	412	575
15	890	764	1453	722	446	925	1263	544	1673	546	481	***2470
16	482	1163	2051	823	435	1842	758	642	784	456	898	2,177
17	432	2522	**** 2878	680	489	1433	693	881	474	457	***1993	1,135
18	370	1821	**** 1900	572	829	670	811	1834	407	551	1,996	1,215
19	748	1282	861	722	1459	719	867	1007	451	1120	1,313	1,217
20	2431	725	637	1108	587	654	1329	489	463	1856	1,306	743
21	910	741	1424	2361	490	713	2597	483	803	1195	1,699	2,085
22	527	765	1364	1161	499	1153	964	467	1930	530	542	***2628
23	497	1334	1750	379	575	2106	872	446	943	445	***2916	2,656
24	519	2204	**** 2650	545	585	1289	786	835	488	549	***3212	2,635
25	518	1621	1829	545	1014	694	911	1848	446	515	2,037	1,430
26	1040	620	1185	665	2367	725	893	848	445	987	405	2,669
27	2840	736	1396	1182	1259	704	1280	397	517	2161	647	2,666
28	888	645	1249	2369	1231	780	2508	422	825	1562	582	2,687
29	427		1272	1368	535	1222	1366	408	1,912	546	733	***2663
30	444		1558	598	421	1965	663	410	827	541	1,887	2,752
31	518		**** 2218		617		759	879		580		2,965
TOTAL	26,684	29,426	34,808	31,840	27,925	31,007	36,587	27,306	26,764	28,064	27,708	41,011

Parking Garage Daily Car Counts -- 2019

9/4/2019 Hurricane Dorian	Closures Total 40 Days	*** Shuttle Operations ___ Days	Yearly Total 405,108
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Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2019												
1	2638	829	1143	635	654	<u>1926</u>	966	743	680	317	1131	2241
2	1876	<u>1855</u>	<u>1824</u>	1223	606	1106	931	1,174	0	359	2342	797
3	1656	712	1765	1133	1001	709	980	<u>2,269</u>	0	367	1674	729
4	1077	555	873	1069	<u>2636</u>	717	<u>***2284</u>	1,339	0	770	590	794
5	<u>2507</u>	658	654	1756	838	653	<u>2250</u>	767	0	1999	536	922
6	1561	588	920	<u>***2332</u>	785	733	<u>2264</u>	743	409	938	594	2371
7	550	671	1086	1503	655	1186	1453	788	<u>1262</u>	202	612	<u>3870</u>
8	562	1098	1500	651	622	<u>1838</u>	804	844	601	328	891	2124
9	582	<u>1895</u>	<u>***2580</u>	555	719	963	877	1089	279	291	<u>2536</u>	1074
10	522	1007	<u>1954</u>	634	1145	750	806	<u>1946</u>	258	365	2562	1103
11	1045	683	1229	645	<u>2159</u>	717	1019	965	301	1074	1145	818
12	<u>2485</u>	586	1310	889	1520	601	1337	536	357	<u>2201</u>	546	827
13	1165	594	1198	<u>***1855</u>	519	820	<u>2712</u>	500	728	1589	531	1811
14	567	1110	1306	1494	613	1390	1376	483	<u>1841</u>	614	607	<u>2635</u>
15	482	1542	1738	933	663	<u>2573</u>	791	519	829	400	868	<u>2549</u>
16	535	<u>2532</u>	<u>***2343</u>	748	666	1625	821	519	302	371	1803	1342
17	663	<u>1745</u>	1597	776	1101	873	790	<u>1462</u>	237	590	1104	793
18	1203	1336	<u>1596</u>	952	<u>1997</u>	799	957	1007	289	1053	558	1249
19	<u>2699</u>	652	1396	1051	1291	662	1338	498	333	1137	617	1566
20	1561	822	1554	<u>***2472</u>	726	909	<u>2702</u>	466	763	1311	491	1988
21	790	935	1683	1417	582	1348	1485	345	<u>2305</u>	494	584	<u>2102</u>
22	525	1359	<u>2404</u>	731	586	<u>2300</u>	880	317	1228	512	927	835
23	594	<u>2226</u>	<u>***2810</u>	587	718	1430	832	650	308	694	<u>2230</u>	2031
24	605	1601	<u>***2110</u>	632	1216	769	587	<u>1701</u>	298	661	2404	2247
25	1131	912	1174	720	<u>2715</u>	823	1014	1266	322	1097	1566	2089
26	<u>2644</u>	682	1226	1265	2495	862	1410	343	382	2160	1765	<u>2918</u>
27	237	622	1015	<u>2312</u>	1321	955	<u>2651</u>	234	707	1151	1860	2657
28	552	781	1430	1388	2046	1437	1440	362	<u>2160</u>	590	1174	3061
29	564		1575	648	607	<u>2226</u>	918	348	1210	525	<u>3229</u>	2789
30	448	<u>***2403</u>		620	699	1,247	818	225	368	491	<u>3380</u>	2764
31	578		1656		973		833	<u>722</u>		823		<u>2926</u>
Total	34,604	30,588	36,906	26,967	34,974	34,947	39,042	25,170	19,757	25,474	46,857	59,122

Parking Garage Daily Car Counts -- 2020

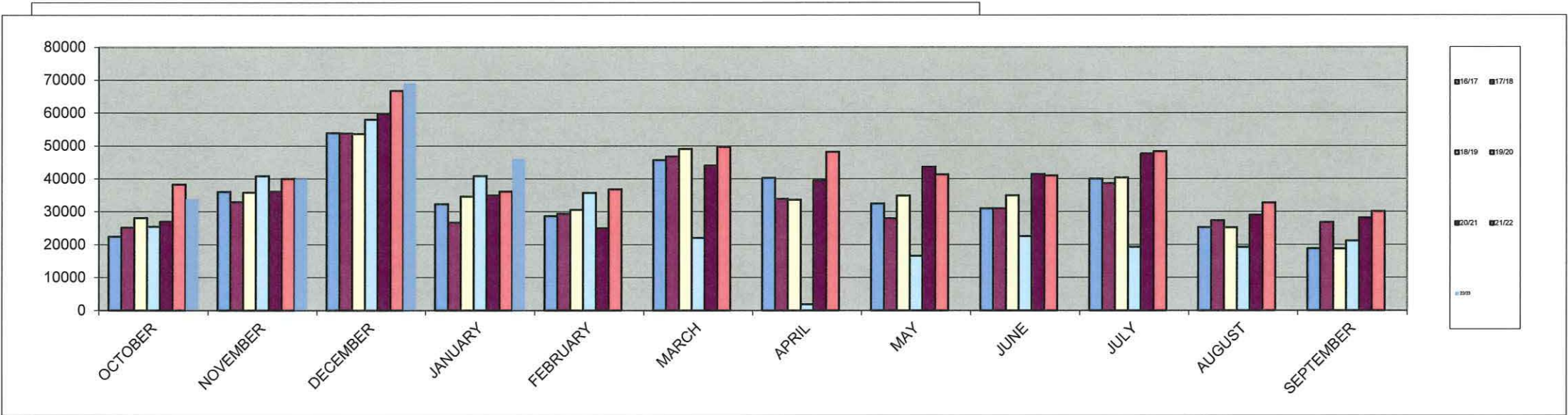
Closures Total 31 Days	**** Shuttle Operations ___ Days	Yearly Total 322,029
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Year 2020	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2559	1897	1800	105	108	461	449	1166	295	453	846	650
2	2737	1107	917	75	167	416	500	392	299	975	520	683
3	2754	640	811	67	141	454	1053	324	345	2018	447	910
4	2465	659	765	33	164	309	1072	348	760	478	347	2075
5	1952	668	714	33	138	780	762	372	2402	419	425	3089
6	682	577	1601	60	147	959	445	423	2181	388	766	2245
7	635	1151	2044	42	209	501	401	617	1048	439	1396	730
8	586	2329	1709	70	303	380	460	1505	352	431	1088	771
9	746	1659	1116	73	756	407	496	809	336	868	331	835
10	1168	769	986	47	361	507	625	384	362	2102	364	1154
11	2370	733	949	44	202	576	1088	396	606	1261	532	2289
12	1540	793	1101	30	225	1023	676	407	1304	583	285	3168
13	643	853	1263	44	216	2034	381	463	573	497	870	2439
14	578	1560	2027	54	279	1249	360	619	352	465	2733	957
15	656	2816	1145	74	438	630	440	1570	320	504	1564	993
16	685	1888	807	52	1117	729	495	853	349	957	612	511
17	1320	1525	525	51	764	686	672	395	371	2243	634	1305
18	3368	896	296	30	256	656	1188	332	766	1284	657	2230
19	1601	858	202	37	319	977	775	325	787	437	631	3317
20	1252	914	168	65	329	1834	410	442	789	406	1409	2314
21	499	841	154	62	400	1235	397	698	458	395	2930	2381
22	414	1971	100	70	704	566	417	1440	455	438	1547	2318
23	611	1785	130	59	1890	583	450	850	416	924	1542	2198
24	1309	1054	128	77	2061	538	746	308	466	1974	1640	1339
25	2597	464	100	75	813	636	1351	315	867	1382	1797	1954
26	1525	548	95	63	284	789	915	320	2033	467	1356	2791
27	589	1092	90	81	364	1085	360	363	659	376	3081	2800

28	689	1246	75	78	384	752	384	559	352	413	3158	2800
29	478	2395	55	101	645	450	422	1285	341	465	1972	2897
30	673		90	76	1360	356	458	665	508	1081	617	2691
31	1118		93		1080		678	285		1892		2822
TOTAL	40,799	35,688	22,056	1,828	16,624	22,558	19,326	19,230	21,152	27,015	36,097	59,656

VISITOR INFORMATION CENTER VEHICLE COUNT

	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23
OCTOBER	7474	8301	8937	4538	20250	23555	25174	24925	29632	23486	23506	27257	30298	29451	22418	25198	28064	25474	27015	38239	33166
NOVEMBER	8734	9600	9546	9519	20068	26007	24207	25908	28792	23648	27936	29285	30665	33725	36025	32932	35829	40857	36097	40003	39999
DECEMBER	10280	9663	10819	5414	17181	28393	28236	26730	28689	32553	36578	43665	43689	49031	53920	53757	53606	58022	59656	66689	69904
JANUARY	6870	9030	8906	7301	21265	18741	21745	20129	23334	20421	25180	23310	31868	28931	32337	26684	34604	40799	34938	36108	46017
FEBRUARY	9333	10911	10562	5906	21023	27206	25242	25501	27529	21757	27658	24337	28589	30939	28660	29426	30588	35688	24978	36842	
MARCH	13849	18038	17575	10163	23813	37438	33766	35225	42302	35612	44728	44437	42138	46954	45702	46812	49052	22056	44038	49698	
APRIL	14460	15889	11993	8007	27990	29357	32519	35908	36713	29321	30285	36474	36049	37017	40286	33921	33626	1828	39515	48191	
MAY	11930	11162	7349	7160	19257	21251	21687	27595	27546	20136	27681	38726	32527	32553	32438	27925	34874	16624	43627	41340	
JUNE	10080	9599	5578	3101	19003	18066	18746	23625	26435	21290	25366	25751	27545	28196	31006	31007	34947	22558	41368	40996	
JULY	13663	14000	7381	25000	22152	22866	25577	33676	35909	27816	32810	34856	34338	40348	40010	38589	40326	19326	47596	48278	
AUGUST	10412	6966	4594	10205	14645	18010	19389	28040	21995	19511	24261	23748	26286	27868	25282	27306	25170	19230	28974	32754	
SEPTEMBER	6261	3344	3232	18550	23017	16527	22081	24416	23859	22264	21865	20938	34466	29373	18810	26764	18757	21152	28196	30084	
TOTAL	123346	126503	106472	114864	249664	287417	298369	331678	352735	297815	347854	372784	398458	414386	406894	400321	419443	323614	455998	509222	191786



CITY OF ST. AUGUSTINE

MEMORANDUM

TO: Planning and Zoning Board

DATE: February 21, 2023

RE: **Item 4**

Information and Discussion Related to City Initiatives Regarding Resiliency and Sustainability including the Federal Back Bay Study, updates to the Vulnerability Assessment data, Resilient Shoreline concepts and other projects.

This Special Meeting of the PZB provides an opportunity for staff to outline and discuss various projects and initiatives that the city is currently working on related to resiliency and sustainability. This is in an effort to keep the PZB informed regarding the status and work descriptions of these projects.

Please find attached summary descriptive sheets regarding these special projects, and a presentation prepared by the city's Chief Resilience Officer. The city's Chief Resilience Officer will be at the Special Meeting to update the PZB.

Thank you for your attention to this matter. If you have any questions, please call me at (904) 209-4320 or email at askinner@citystaug.com or Jessica Beach, P.E., Chief Resilience Officer at (904) 209-4227 or email at jbeach@citystaug.com.



Amy McClure Skinner, AICP
Director
Planning and Building Department



CITY OF
ST AUGUSTINE
EST. 1565



CITY OF ST. AUGUSTINE

Resilience Initiatives

Planning and Zoning Board February 21, 2023

**Jessica Beach
Chief Resilience Officer
Public Works Department**



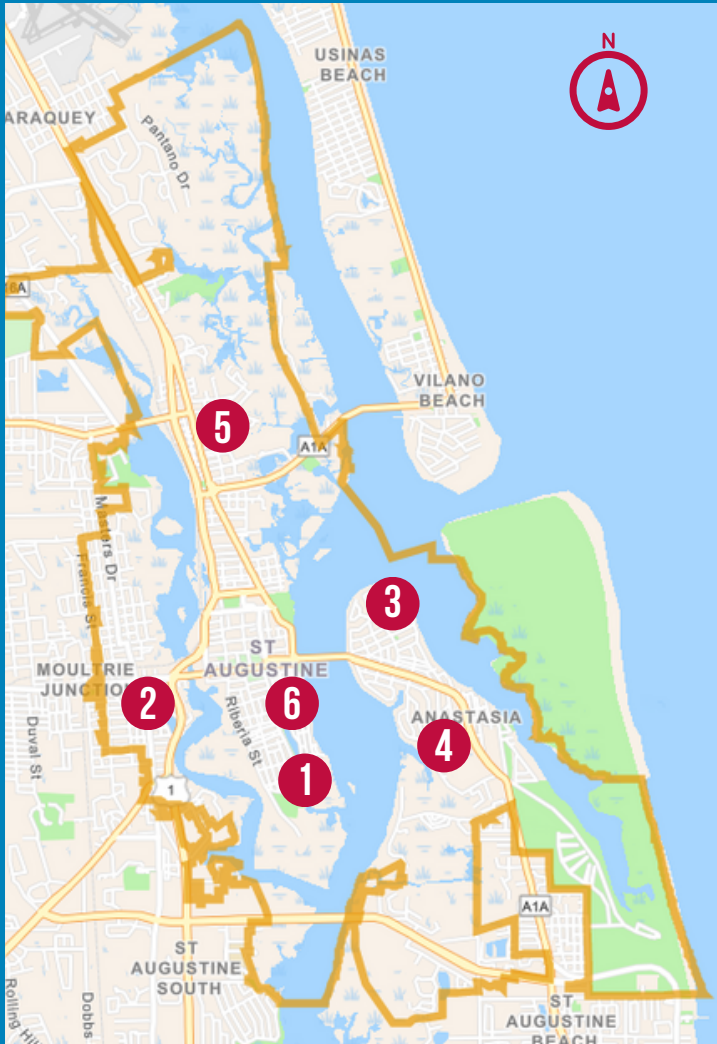


APPENDIX

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CITY OF ST. AUGUSTINE



Project Map Key

1. Lake Maria Sanchez Flood Mitigation
2. South Whitney/West King Street Drainage
3. Inlet Drive Shoreline Stabilization
4. South Davis Shores Drainage
5. Court Theophelia Neighborhood Drainage
6. Avenida Menendez Seawall

City Wide Projects

- Tidal Backflow Prevention Program
- Groundwater Monitoring Network

City Planning Studies

- Back Bay Feasibility Study (Federal)
- Vulnerability Assessment Update (State)

City Programs

- Flood Mitigation Assistance (FMA) Program

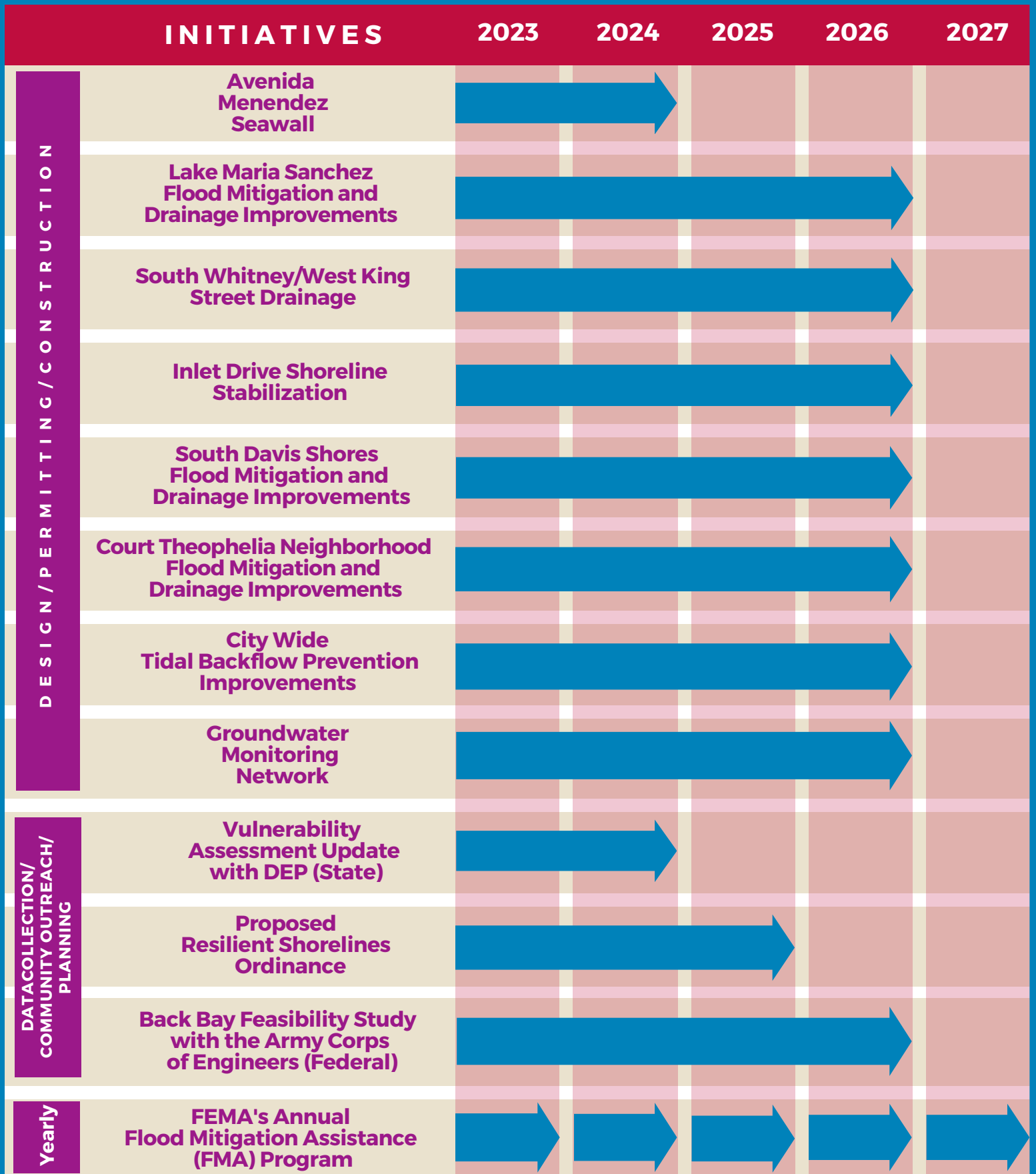
City Ordinances

- Proposed Resilient Shorelines Ordinance

RESILIENCE STRATEGIES



RESILIENCE EFFORTS TIMELINE



www.CityStAug.com/Resiliency | 904-825-1040 | Stormwater@CityStAug.com



LAKE MARIA SANCHEZ

Flood Mitigation & Drainage Improvements

What is this project?

The project will implement a number of resilience strategies to address both rainfall and coastal surge flooding. Strategies include: upgrades to the existing stormwater infrastructure, installation of a stormwater pump station, construction of a flood wall, and installation of tide check valves.

Why is this project needed?

The City has had a long history of enduring flooding, storms, and related events that have adversely impacted its critical infrastructure. Most recently, hurricanes (Matthew, Irma, Hermine, Dorian, Ian and Nicole), other unnamed storms, flash flood events, and nuisance flooding have exacerbated the infrastructure issues specifically related to roadways and drainage. The project will provide an increased level of flood protection from increasing high tide events, storm surge and future sea level rise by incorporating a combination of resilience strategies.

How is this project being funded?

The City of St. Augustine (COSA) has received a grant from the Department of Environmental Protection's (DEP) Resilient Florida Grant Program. The project will be cost-shared between the Resilient Florida Grant and COSA.

How will this project benefit the community?

The project will benefit approximately 200 acres of the historic district in the Nation's Oldest City. The project area includes a number of historic buildings and structures listed on the National Register of Historical Places. By maintaining the integrity of the Nation's Oldest City through the implementation of this project, it will help protect our regionally significant historical and cultural assets benefiting the County and arguably the Northeast Florida region.



**Current
Flooding
without
Project**



**Projected
Flood
Protection
with
Project**



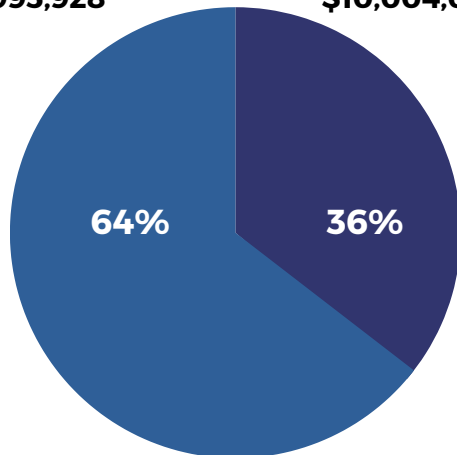
LAKE MARIA SANCHEZ

Flood Mitigation & Drainage Improvements

Estimated Construction Cost:
\$30,000,000

**Resilient
Florida Grant**
\$19,995,928

***City of St. Augustine/
Other Funding Source**
\$10,004,071



* Budget subject to change as other funding sources are explored

Proposed Lake Maria Sanchez Pump Station



PROJECT SCHEDULE 2023-2026

PROJECT PHASE	PROJECT STATUS
PHASE 1	COMPLETE PERMITTING, SECURE EASEMENTS, FINALIZE DESIGN, PREPARE BID DOCUMENTS
PHASE 2	BID PROJECT, SECURE CONSTRUCTION CONTRACT
PHASE 3	CONSTRUCTION

Lake Maria Sanchez on South Street





SOUTH WHITNEY ST. & WEST KING ST.

Roadway & Drainage Improvements

What is this project?

The proposed improvements consist of raising South Whitney Street and West King Street above the FEMA flood elevation of 7.0' NAVD88, replacing the existing box culvert (40-inch by 56 inch) at South Whitney with a single box culvert (48-inch by 96-inch) that doubles the hydraulic capacity. The project also includes reconstruction of the existing storm sewer system and its outfall at the box culvert on South Whitney Street.

Why is this project needed?

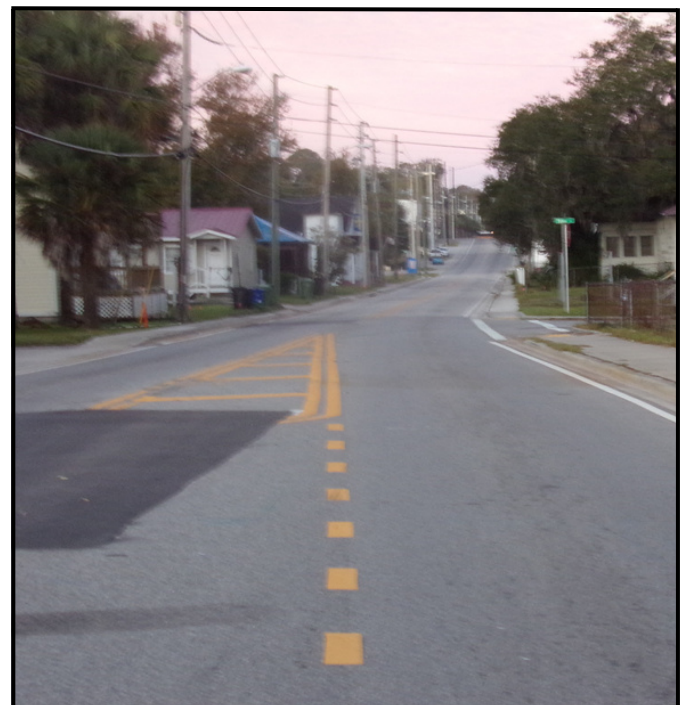
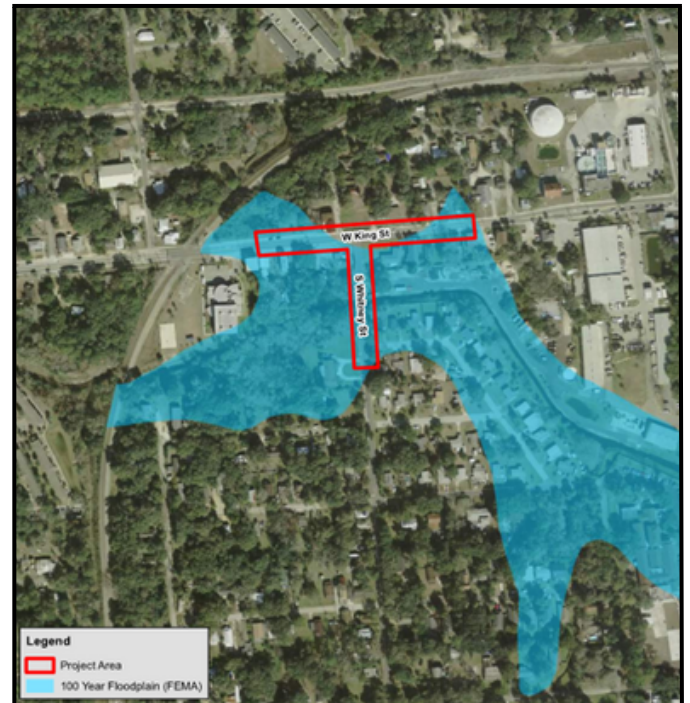
The project goal to eliminate flooding during the 100-year FEMA flood event for West King Street and South Whitney Street by raising both roads at, or above, the 100-year floodplain elevation. In addition to the surge-driven FEMA 100-year flood event, during significant rainfall occurs on South Whitney Street and a portion of West King Street where these streets intersect making these streets impassable.

How is this project being funded?

The City of St. Augustine (COSA) has received a grant from the Federal Emergency Management Agency (FEMA) under the Hazard Mitigation Grant Program (HMGP) in the amount of \$463,198. COSA will cost share the estimated total project amount of \$1,822,600.

How will this project benefit the community?

This is a high traffic area that is used heavily on a daily basis. By completing the drainage improvement project, residents of both the City of St. Augustine and St. Johns County will benefit from the ability to drive through the street during a FEMA 100-Year Floodplain.





SOUTH WHITNEY ST. & WEST KING ST.

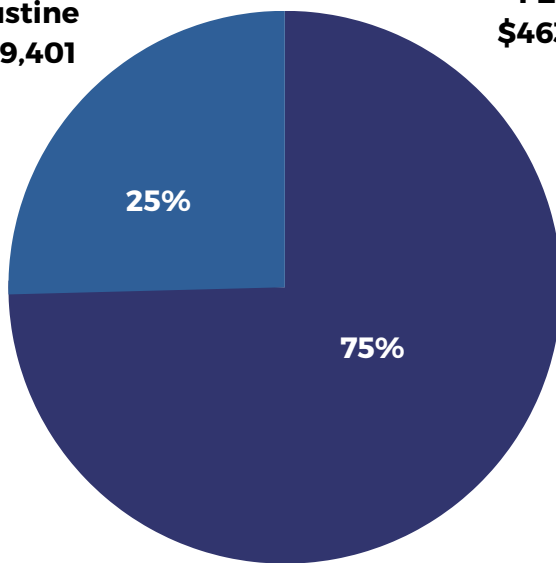
Roadway & Drainage Improvements

Estimated Total Construction

Cost: \$1,822,600

City of St.
Augustine
\$1,359,401

FEMA
\$463,198



*The city will be asking for a budget increase from FEMA, as well as seeking other grant funding to supplement the 75% cost share



PROJECT SCHEDULE 2023-2026

PHASE	PROJECT STATUS
PHASE 1	INTERLOCAL COORDINATION WITH ST. JOHNS COUNTY / FINALIZE PERMITTING
PHASE 2	CONSTRUCTION



INLET DRIVE

Shoreline Stabilization

What is this project?

This project would look to include a combination of structural and non-structural based solutions (living shoreline enhancement, thin layer placement of dredged material, etc.) to elevate and protect a section of shoreline that is subject to coastal erosion that would provide a higher level of flood protection for a critical residential road in the North Davis Shores neighborhood. This would also include upgrading the existing storm infrastructure and installation of a tide check valve.

Why is this project needed?

The existing shoreline has eroded over time, with acceleration of that erosion during Hurricane's Matthew and Irma. It's existing elevation is around 5.0 feet NAVD88, which during the previous hurricanes, the top of bank of the shoreline overtopped, causing flooding throughout this segment of roadway. There are two existing storm inlets and pipe that are in need of replacement and proper sizing to also better collect any rainfall driven flooding. The existing storm outfall pipe is also tidally influenced and can allow for tidal water to back up through the storm pipe, causing road flooding. This project would address the erosion, undersized drainage and tidal flooding issues, taking into account sea level rise with the elevation of the shoreline revetment.

How is this project being funded?

The City of St. Augustine (COSA) has received a grant from the Federal Florida Department of Environmental Protection (DEP) under the Resilient Florida Grant Program for the estimated full project cost of \$711,090



How will this project benefit the community?

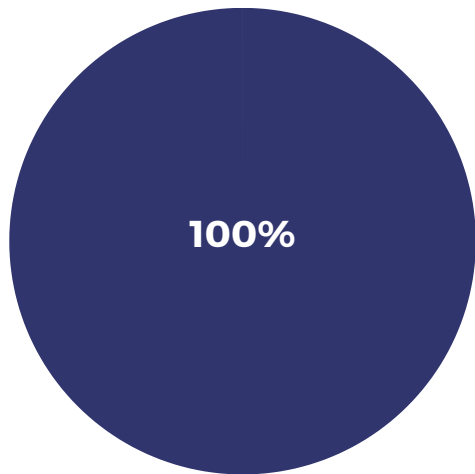
The proposed improvements will help to protect the critical infrastructure for the neighborhood. A vegetated component would be added to the design to enhance the current living shoreline features, this would include supplemental planting of black mangroves and spartina grass. By enhancing the natural features, more critical habitat will be created. Given its existing elevation already being below the current base flood elevation, the vulnerability of this area will continue to increase with sea level rise if no action is taken. The City had an opportunity to evaluate the shoreline for flood mitigation options as a result of the hurricane impacts and also address vulnerable infrastructure that was identified in the Coastal Vulnerability Assessment.



INLET DRIVE

Shoreline Stabilization

**ESTIMATED
CONSTRUCTION COST:
\$711,090**



Resilient Florida Grant



**PROJECT SCHEDULE
2023-2026**

PROJECT PHASE	PROJECT STATUS
PHASE 1	DESIGN AND PERMITTING OF PROJECT
PHASE 2	BIDDING/LOCAL PROCUREMENT
PHASE 3	CONSTRUCTION OF PROJECT



SOUTH DAVIS SHORES

Flood Mitigation & Drainage Improvements

What is this project?

This project will be broken into two phases to include the design, permitting and construction to address the rainfall driven flooding events, with some consideration for tidal surge. This will primarily include major upgrades to the existing undersized and aged drainage infrastructure, reconfiguring a drainage ditch and upsizing an existing culvert. This project would seek to address the rainfall driven flooding through upgrades to existing stormwater infrastructure and installation of smart tide check valves. For the tidal surge, in lieu of the one-way in line tide check valves, a "smart" tide check valve system will be installed into three culverts that are tidally influenced. The smart valves will stay in the open configuration to maintain wetland hydrology of upstream wetland systems, but close temporarily in advance of flooding conditions.

Why is this project needed?

This neighborhood has suffered from repetitive flood impacts and damages from nuisance flooding, rainfall driven flooding and hurricanes. With the implementation of this project, it will help reduce the damages to upland properties and associated costs which primarily includes residential properties. The reconfiguration of the Coquina Ditch, which is tidally influenced, can be better enhanced and restored to provide additional flooding capacity/volume, while better protecting the residential structures that are adjacent to it.

How is this project being funded?

The City of St. Augustine (COSA) has received a grant from the Federal Florida Department of Environmental Protection (DEP) under the Resilient Florida Grant Program for the estimated full project cost of \$2,797,000.



How will this project benefit the community?

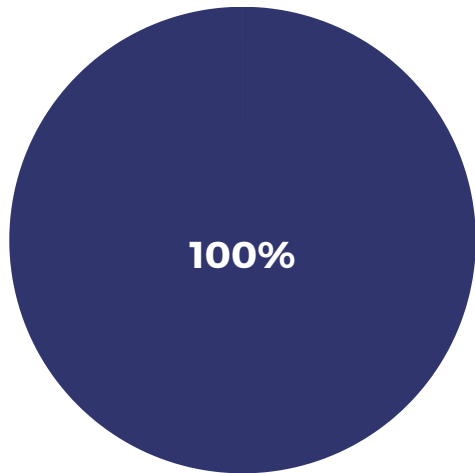
Originally built in the early 1900s by Mr. Davis, South Davis Shores was identified in the 2016 Coastal Vulnerability Assessment as one of the major flood pathways for nuisance flooding and future sea level rise conditions. Over the last five years this neighborhood has suffered from repetitive flood impacts and damages from nuisance flooding, rainfall driven flooding and hurricanes, as it is one of the more lower lying areas within the City. This project would seek to address the rainfall driven flooding through upgrades to existing stormwater infrastructure and installation of smart tide check valves.



SOUTH DAVIS SHORES

Flood Mitigation & Drainage Improvements

**ESTIMATED
CONSTRUCTION COST:
\$2,797,000**



**Resilient Florida Grant
\$2,797,000**



PROJECT SCHEDULE 2023-2026

PROJECT PHASE	PROJECT STATUS
PHASE 1	DESIGN AND PERMITTING OF PROJECT
PHASE 2	BIDDING/LOCAL PROCUREMENT
PHASE 3	CONSTRUCTION OF PROJECT



COURT THEOPHELIA

Neighborhood Flood Mitigation & Drainage Improvements

What is this project?

The project would include design, permitting and construction to replace aged utilities, upgrade existing stormwater infrastructure and evaluate structural and non-structural based resiliency options for the neighborhood. This would also incorporate a mobility component into the project for multiple benefits. The expected project outcomes include reconstruction of flood prone and damaged roads due to high tide flooding, improved drainage to provide a higher level of service during rainfall events, replacement of aged utilities, implementation of green infrastructure and/or low impact development to provide water quality benefit with stormwater management, potential incorporation of greenspace for multi-project benefits to serve as recreational, stormwater, mobility and resiliency uses.



Why is this project needed?

This neighborhood is subject to rainfall driven and coastal surge flooding. The streets are in poor condition due to the inundation of salt water on the roads that has accelerated the deterioration. The utilities are also aged and in need of replacement (water and sewer). This project would include the replacement of aged utilities while the stormwater improvements are conducted. The improvements to the neighborhood will provide a higher level of flood protection for critical infrastructure (City Roads).

How is this project being funded?

The City of St. Augustine (COSA) has received a grant from the Federal Florida Department of Environmental Protection (DEP) under the Resilient Florida Grant Program for the estimated full project cost of \$2,581,600.

How will this project benefit the community?

This is a low-lying neighborhood that is subject to both tidal and rainfall driven flooding. The 2016 Coastal Vulnerability Assessment identified major flood pathways and increased risks for future nuisance flooding and 1% annual chance flooding with sea level rise. By providing a higher level of service for rainfall and coastal surge events, this will protect a large area that has vulnerable critical assets. This project would provide needed stormwater improvements to address both rainfall driven and coastal surge flooding and look to incorporate multiple project benefits that could include mobility components with green infrastructure and/or low impact development into the project design.

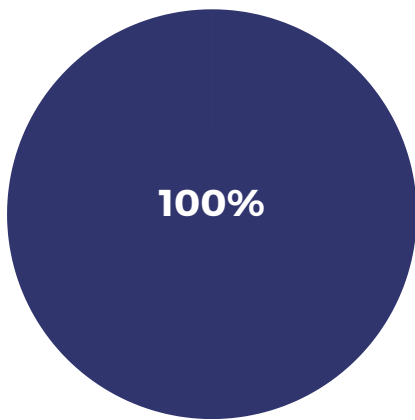


COURT THEOPHELIA

Neighborhood Flood Mitigation & Drainage Improvements

ESTIMATED CONSTRUCTION

COST: \$2,581,600

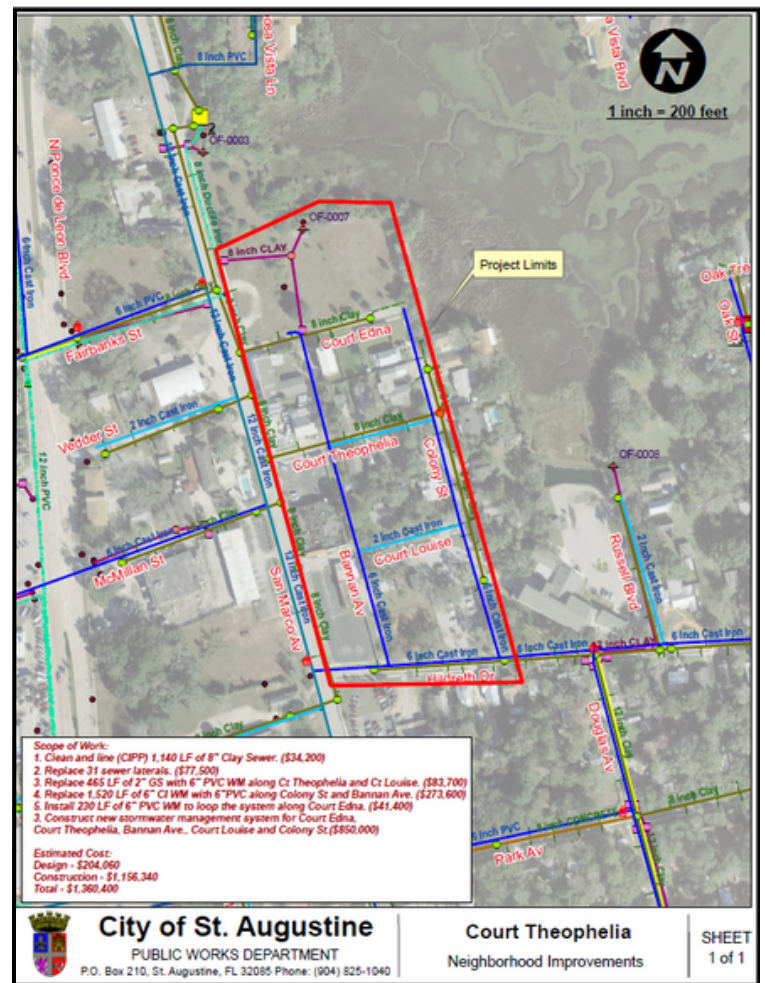


**Resilient Florida Grant
\$2,581,600**

PROJECT SCHEDULE 2023-2026

PROJECT PHASE	PROJECT STATUS
PHASE 1	DESIGN AND PERMITTING OF PROJECT
PHASE 2	BIDDING/LOCAL PROCUREMENT
PHASE 3	CONSTRUCTION OF PROJECT

PROPOSED PROJECT AREA AND SCOPE OF WORK





AVENIDA MENENDEZ SEAWALL

What is this project?

The project will involve repairs of the face and cap of a section of the seawall located along the bayfront in downtown St. Augustine, coupled with design and construction of a two foot wall behind the current seawall. The latter will resemble the parapet wall built adjacent to the promenade constructed in the early 2000's, South of the project area. Specifically, the project area extends from the north end of the "new" seawall on the south end to the Bridge of Lions apron on the north. The project length is approximately 570 feet. The Marina Building is on the western edge of the project area.

Why is this project needed?

The City completed the Avenida Menendez seawall replacement and the current Bayfront Park improvements which have both raised the level of flood in 2013. The area between the City Marina south access pier and the Whites Warf (formerly Santa Maria) restaurant provides a gap in the otherwise elevated flood protection along the Bayfront. This project will "fill the gap" and provide continuity of the City's target flood protection elevation of +7.1' NAVD extending along approximately 1,700 LF of the Bayfront. Failure to repair the existing marina seawall and replace the approx. 85 LF of failing seawall will put critical infrastructure and historic properties at risk.

How is this project being funded?

The City of St. Augustine (COSA) has received a grant from FEMA's HMGP grant program for Hurricane Irma disaster relief, along with funding from the Florida Inland Navigation District (FIND), and will cost-share the remainder of funds needed to complete the project.



How will this project benefit the community?

The primary community need addressed by this project is the enhanced protection from flooding associated with extreme weather events by providing a continuous seawall of equal height. By doing this project, it will provide the protection of the existing pedestrian/recreational path which provides access to the Municipal Marina facilities. Currently, the elevation gap between the two previous projects provides a vulnerable entry point that allows for flooding that can impeded and compromise the existing public access. Completion of the continuous seawall along the City's Southern Bayfront will increase flood protection and minimize the potential property and environmental damage resulting from extreme weather events.



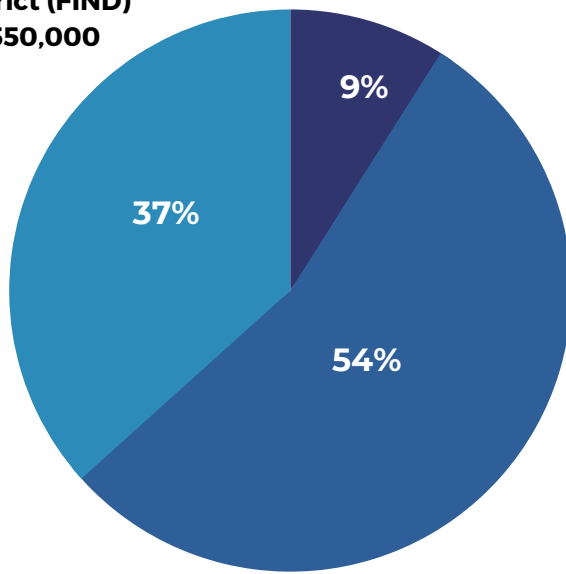
AVENIDA MENENDEZ SEAWALL

ESTIMATED PROJECT COST:
\$1,500,000

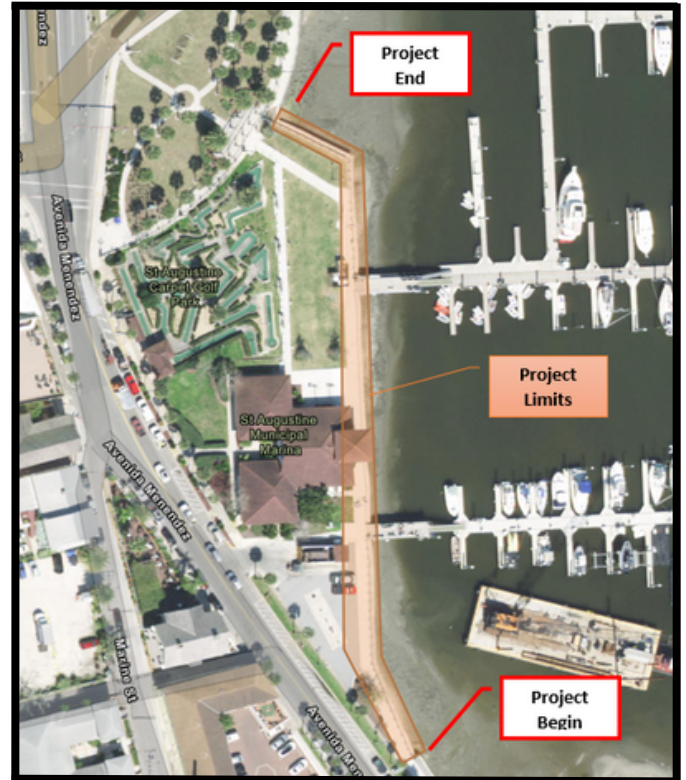
PROJECT LIMITS MAP

Florida Inland
Navigation
District (FIND)
\$550,000

City of St. Augustine
\$134,761.25



HMGP (FEMA)
\$815,238.75



SEAWALL EXAMPLE



PROJECT SCHEDULE 2023-2026

PROJECT PHASE	PROJECT STATUS
PHASE 1	DESIGN AND PERMITTING OF PROJECT
PHASE 2	BIDDING/LOCAL PROCUREMENT
PHASE 3	CONSTRUCTION OF PROJECT



TIDAL BACKFLOW PREVENTION IMPROVEMENTS

City Wide Tide Check Valve Installations

What is this project?

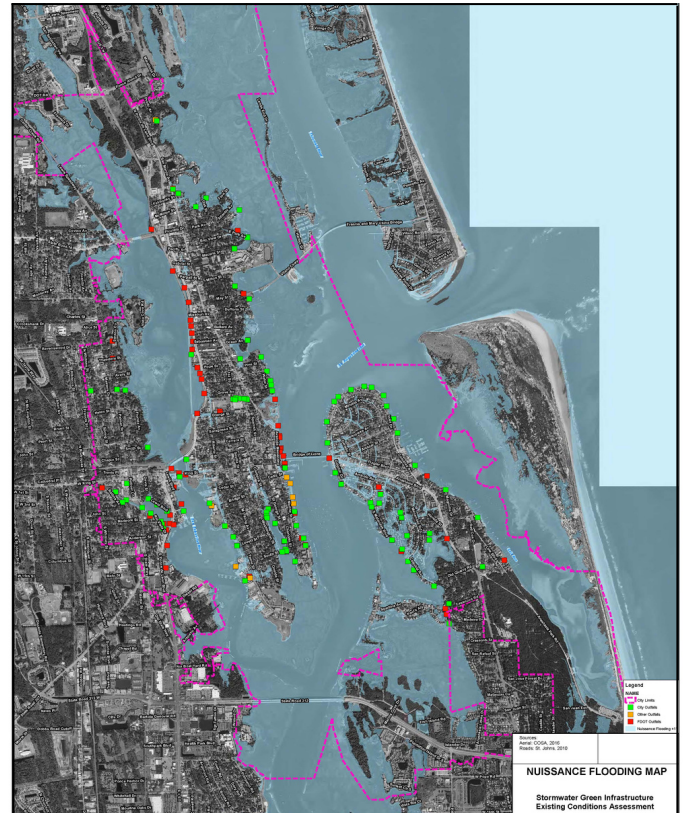
The City has approximately 103 stormwater outfalls that are tidally influenced, resulting in nuisance flooding of the road infrastructure. To date, the City has retrofitted 43 outfalls with tide check valves to eliminate nuisance tidal flooding. The City proposes to retrofit an additional 20 outfalls. Once the locations are identified, the City will contract out for the evaluation of each storm outfall that includes cleaning and closed-circuit television (CCTV). The City will review that evaluation data and determine if any storm pipe repairs or lining needs to occur in preparation for the tide check valve installation.

Why is this project needed?

The City of St. Augustine experiences nuisance tidal flooding between 12-16 times per year during lunar or king tides, with additional flooding during Nor'easter conditions. This frequently inundates the road infrastructure and provides a major flood pathway that can allow for additional flooding of structures. The road conditions have deteriorated due to standing salt water and inundation, reducing the lifespan of the road infrastructure. This project will continue those previous efforts to work towards completion of the outfalls with retrofitting and provide a higher level of flood protection and extend the life of the road infrastructure.

How is this project being funded?

The City of St. Augustine has received a grant from the Federal Florida Department of Environmental Protection (DEP) under the Resilient Florida Grant Program in the amount of \$230,641.00. The City will match that \$230,641.00 using the stormwater operational budget for a total project cost of \$461,282.00.



How will this project benefit the community?

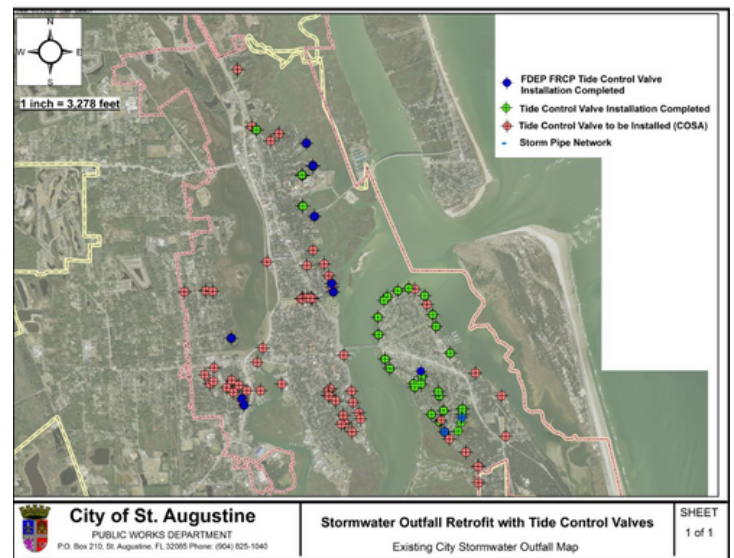
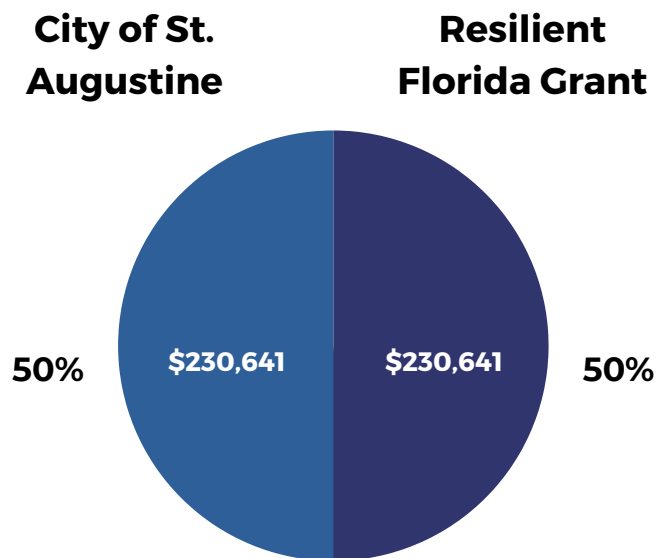
The stormwater outfalls are a major flood pathway that can allow for surge and high tide flooding to inundate the streets and potentially impact structures (residential and commercial). There are many historically significant buildings, structures and other cultural resources that can be impacted from the flooding that are considered regionally significant. Additionally, there are State Highways that are throughout the City. These stormwater outfalls can also have an impact on local and state roads, also considered regionally significant. By implementing this project, we can eliminate that risk that threatens a much larger area that has an overall higher percentage of vulnerable critical assets.



TIDAL BACKFLOW PREVENTION IMPROVEMENTS

City Wide Tide Check Valve Installations

Estimated Construction Cost: \$461,282



PROJECT SCHEDULE 2023-2026

PROJECT PHASE	PROJECT STATUS
PHASE 1	PLANNING AND EVALUATION
PHASE 2	REHABILITATION AND PREPARATION
PHASE 3	CONSTRUCTION / INSTALLATION



GROUNDWATER MONITORING NETWORK

For Sea Level Rise Impacts

What is this project?

In conjunction with the Vulnerability Assessment, this effort will focus on predicting impacts, specifically to critical infrastructure, of sea level rise by installing a monitoring network to accurately measure rates of change in current shallow groundwater elevation and water quality. The monitoring network proposed will contain up to 60 monitoring points. A professional licensed surveyor will survey each point. Monitoring will be scheduled/sequenced to represent the same atmospheric / geologic conditions each monitoring period to attempt to replicate these variables. All data (sea level, groundwater, water quality & creek level) will be compiled and summarized quarterly, building the data set. Daily rainfall along with any severe storm activity will also be summarized.

Why is this project needed?

As sea level rises, so does shallow groundwater. As groundwater approaches closer to land surface, water quality and critical infrastructure may become adversely impacted, such as the stability of foundations, water quality used for irrigation, function of buried utilities (communications, electric transmission, natural gas distribution), storm/water/sanitary sewer functions, and historic structures can become more at risk. Therefore, better prediction of these impacts by monitoring is needed to mitigate for these risks.

How is this project being funded?

The City of St. Augustine (COSA) has received a grant from the Florida Department of Environmental Protection (DEP) under the Resilient Florida Grant Program in the amount of \$201,903.00. The City will contribute \$15,197 for a total project cost of \$217,100.

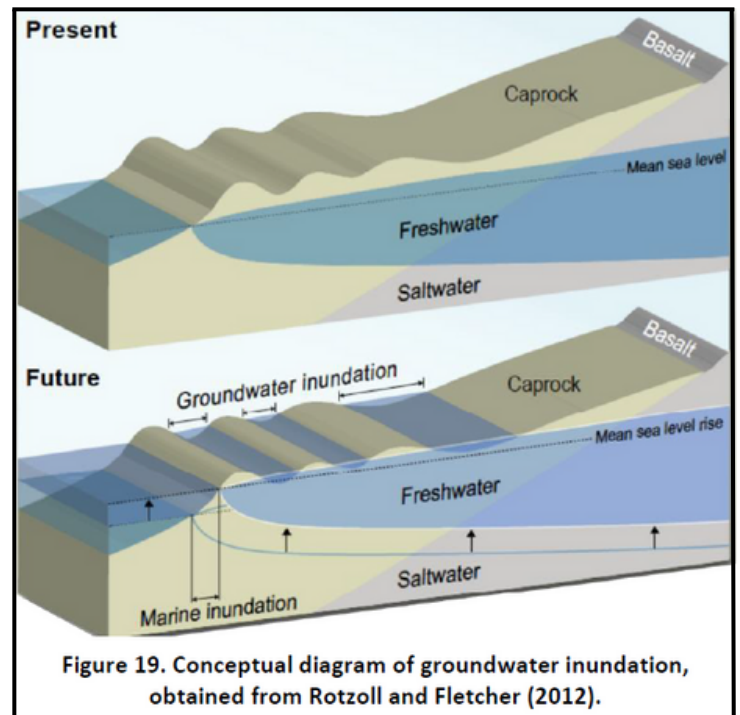


Figure 19. Conceptual diagram of groundwater inundation, obtained from Rotzoll and Fletcher (2012).

How will this project benefit the community?

The data collected from this project will be able to better predict and model groundwater impacts which has a significant impact on critical infrastructure. This includes the threat to the city's existing archaeological and historic buildings which are considered regionally significant assets. Having a better mechanism for predicting those impacts and risks will enable the City to identify mitigation strategies to address those risks. The groundwater monitoring network can be installed and monitoring to begin within the first year of the project. The data collected from that network would occur over the next 15-18 months and then the results from that effort will be summarized into a final report by the end of year three.

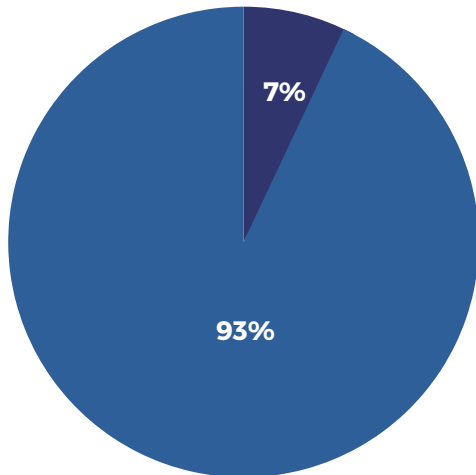


GROUNDWATER MONITORING NETWORK

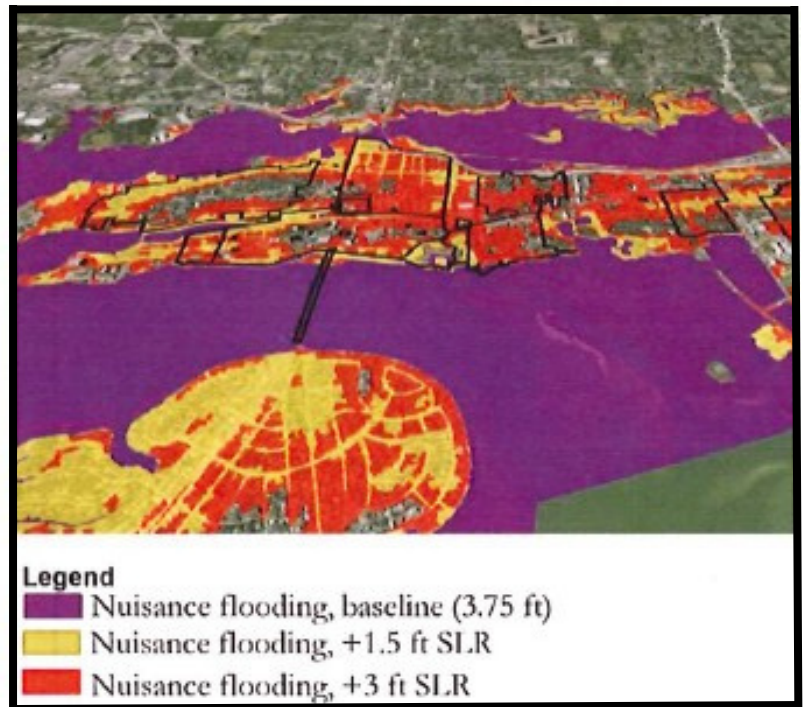
For Sea Level Rise Impacts

**ESTIMATED CONSTRUCTION
COST: \$217,100**

City of St. Augustine
\$15,197



Resilient Florida Grant
\$201,903



PROJECT SCHEDULE 2023-2026

PROJECT PHASE	PROJECT STATUS
PHASE 1	MONITORING NETWORK INSTALLATION
PHASE 2	MONITORING
PHASE 3	MONITORING AND FINAL REPORTING



VULNERABILITY ASSESMENT UPDATE

With The Florida Department of Environmental Protection

What is this study?

Vulnerability Assessments (VA) identify or address risks of flooding and sea level rise and help development of adaptation/resilience plans, projects, and policies that allow for preparation for threats from flooding and sea level rise. The final report does include an adaptation plan with recommendations for identified projects to be implemented.

Why is this study needed?

Previous studies, including a coastal vulnerability assessment, were completed in 2016, which identified major flood pathways in the city. However that previous VA does not meet the current criteria outlined in section 380.093 of Florida statutes. By completing the FDEP VA it qualifies the city for the 50% cost-share for implementation projects and the city is eligible for future funding.

How will this study benefit the community?

A Vulnerability Assessment helps a community determine which structural and social assets are likely to be impacted by future coastal flooding and sea level rise and help create an adaptation plan for future mitigation projects. By integrating scientific methods and developing awareness of different structural and social assets that may be vulnerable to future coastal flooding, the community may ensure that the most useful basis for planning is established.

How is this study being funded?

The City of St. Augustine has been awarded funding from the Resilient Florida Grant Program in the estimated total assessment cost of \$500,000.



ESTIMATED ASSESMENT COST:
\$500,000



STUDY SCHEDULE 2023-2024

PHASE	STATUS
PHASE 1	DATA COLLECTION & ANALYSIS
PHASE 2	COMMUNITY OUTREACH
PHASE 3	REPORTING



BACK BAY COASTAL STORM RISK MANAGEMENT

A City Wide Feasibility Study With The U.S. Army Corps of Engineers

What is this study?

The City of St. Augustine Coastal Storm Risk Management Study is a three-year federal feasibility study that investigates coastal storm impacts on the City of St. Augustine. In partnership with the Army Corps of Engineers, City of St. Augustine and its stakeholders, the study will also explore economically-viable and environmentally-sound solutions to mitigate coastal storm risks.

Why is this study needed?

The reduction of flood-related damages to residential, commercial and historic/culturally significant resources, and critical infrastructure is vital. The study will identify comprehensive Coastal Storm Risk Management strategies to increase resilience and to reduce risk from future storms and compounding impacts of sea level change.

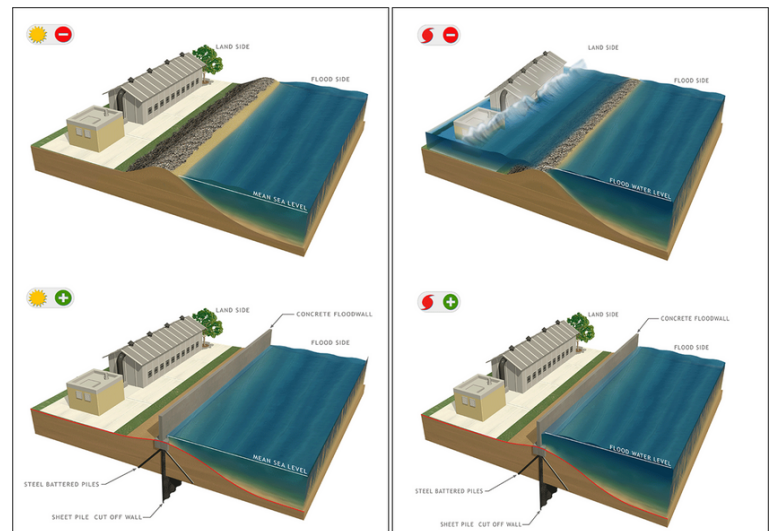
How will this study benefit the community?

The objective of the study is to investigate Coastal Storm Risk Management problems and identify solutions to reduce damages from coastal flooding that affects population, critical infrastructure, historic and culturally significant resources, and ecosystems, which will benefit the community as future projects are designed to mitigate flooding.

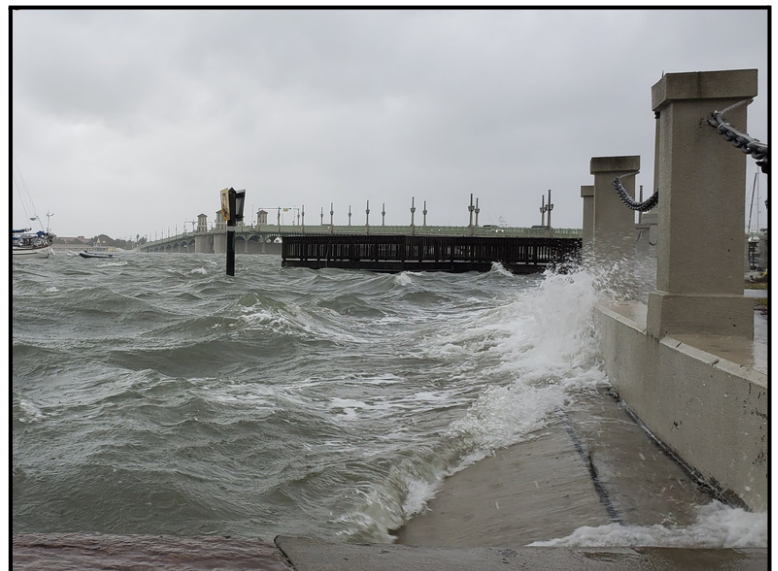
How is this study being funded?

The City of St. Augustine will be utilizing \$1,500,000 in American Rescue Plan Act (ARPA) funds, while the Army Corps of Engineers will fund \$1,500,000 for a total cost of \$3,00,000.

Flood Wall Example



St. Augustine Bay Front During a Storm





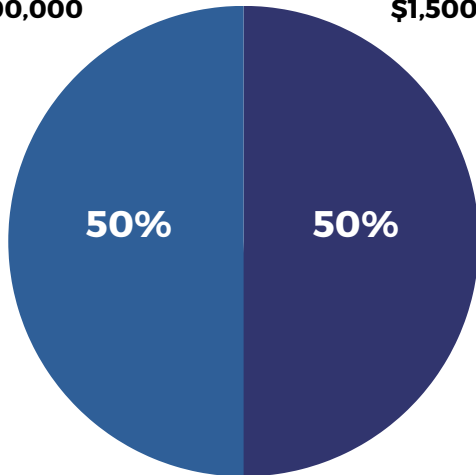
BACK BAY COASTAL STORM RISK MANAGEMENT

A City Wide Feasibility Study With The U.S. Army Corps of Engineers

**Total Estimated Study
Cost: \$3,000,000**

Army Corps
of Engineers
\$1,500,000

City of
St. Augustine
\$1,500,000



St. Augustine Bay Front During a Storm



Taken on Nov. 13, 2019 of water crashing over the sea wall and flooding the park lawn.

Photo Credit:

<https://www.nps.gov/casa/learn/historyculture/climatechange.htm>

STUDY SCHEDULE 2023-2026

PHASE	STATUS
PHASE 1	DATA COLLECTION, ANALYSIS AND MODELING / COMMUNITY OUTREACH
PHASE 2	DATA COLLECTION, ANALYSIS AND MODELING / COMMUNITY OUTREACH
PHASE 3	DEVELOPMENT / ADOPTION, FINAL STUDY



BUILDING RESILIENCE

The St. Augustine, Florida Back Bay Coastal Storm Risk Management (CSRM) Feasibility Study will conduct activities and tasks required to identify and evaluate alternatives and produce a decision document that, as appropriate, recommends a coordinated and implementable solution for hurricane protection, storm damage reduction, beach erosion control, and other related purposes at St. Augustine, Florida.

In partnership with the City of St. Augustine and its stakeholders, the study will explore effective, economically-viable and environmentally-sound solutions to mitigate risks and build enduring coastal resiliency - and amidst the potential impacts of sea level rise on the city's character and livability.

A feasibility study is the first step toward a potential federally-cost shared water resources project that could be one piece of the City of St. Augustine's overall, long-range flood resiliency strategy.

* The typical cost of a CSRM study is \$3 million. The cost will be split 50/50 percent between the U.S. Army Corps of Engineers (USACE) and the City of St. Augustine, Florida.




US Army Corps of Engineers

CITY OF ST. AUGUSTINE
EST. 1565

STUDY AREA

Through the planning process, the study will assess the multi-faceted landscape within the city limits of St. Augustine. Maintaining St. Augustine's unique and rich multi-layered sense of place will be a priority of the team as they develop and evaluate alternatives to reduce coastal storm risk.








PHOTO CREDITS (LEFT TO RIGHT): CITY OF ST. AUGUSTINE; CITY OF ST. AUGUSTINE; VISITSTAUGUSTINE.COM; CRAIG SWAIN; T.TAUGHER

TRANSPARENT PLANNING PROCESS

Feasibility studies use a transparent 6-Step Planning Process that pursues alternatives to reduce economic damages from storms over a 50-year project life, consistent with environmental statutes. In addition to economic and environmental conditions, regional economic development and social effects are addressed during the planning process. There are a variety of approaches, both quantitative and qualitative, to assist with multi-criteria decision making and plan selection.

Public input is paramount in the decision process. Multiple public/stakeholder meetings will occur throughout the study.

1
IDENTIFY PROBLEMS AND OPPORTUNITIES

2
INVENTORY AND FORECAST CONDITIONS

3
FORMULATE ALTERNATIVE PLANS

4
EVALUATE ALTERNATIVE PLANS

5
COMPARE ALTERNATIVE PLANS

6
SELECT RECOMMENDED PLAN

MULTI-DISCIPLINARY PROJECT DELIVERY TEAM

The project delivery team (PDT) is the workgroup tasked with conducting the study and consists of varied experts including planners, engineers, biologists, geologists, hydrologists, surveyors, archaeologists, economists, real estate specialists, and more to address problems and opportunities. Each team member is responsible for identifying water resources problems and assisting in formulating solutions to those problems within their area of expertise. This interdisciplinary approach to problem solving is key to a successful feasibility study.



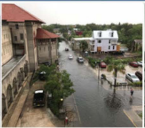





PHOTO CREDITS (LEFT TO RIGHT): CITY OF ST. AUGUSTINE AND WWW.FACEBOOK.COM/CITYSTAUG/PHOTOS.

INTEGRATED FEASIBILITY REPORT AND NATIONAL ENVIRONMENTAL POLICY ACT ANALYSIS

The National Environmental Policy Act (NEPA) is a Federal law enacted in 1969. As required by NEPA, USACE will assess the potential environmental effects of the study alternatives, including a no action alternative. The report also documents coordination with the varied resource agencies that help to shape the final recommendation. Examples of NEPA effects categories include:

AESTHETICS

CULTURAL RESOURCES

RECREATION

SOCIOECONOMICS

THREATENED AND ENDANGERED SPECIES

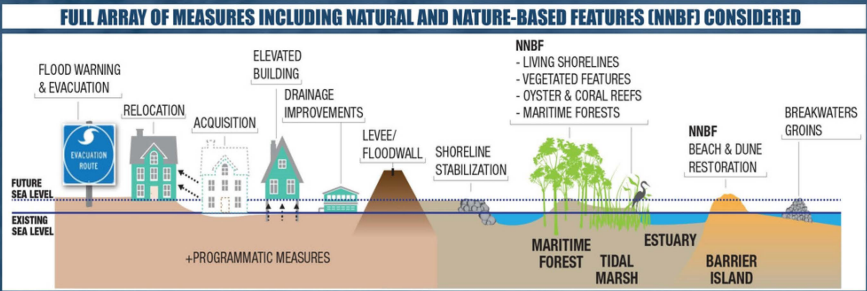
WILDLIFE RESOURCES








PHOTO CREDITS (LEFT TO RIGHT): T.TAUGHER (FIRST THREE); WWW.FACEBOOK.COM/CITYSTAUG/PHOTOS; U.S. FISH AND WILDLIFE SERVICES.



TYPICAL SCHEDULE | PLANNING MILESTONES FOR A 3-YEAR STUDY *

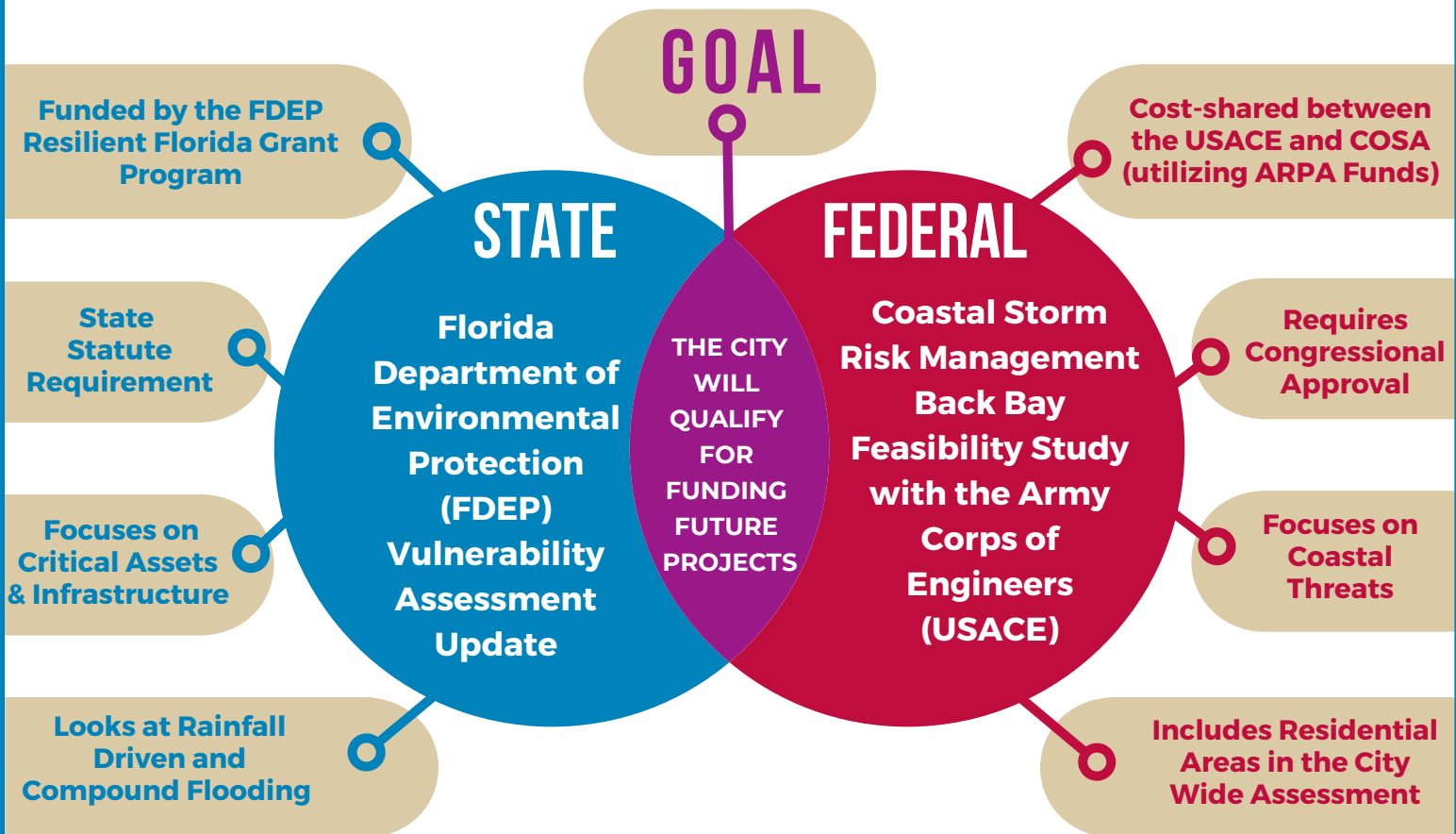


* The study schedule, scope, and budget can vary depending upon the complexity of the study area and corresponding problems identified throughout the study process; changes to the 3-year, \$3 million parameters require documentation and approval of division and Headquarters USACE and concurrence of the local sponsor. A specific schedule and budget for this study will be developed after the Feasibility Cost Sharing Agreement (FCSA) is signed.

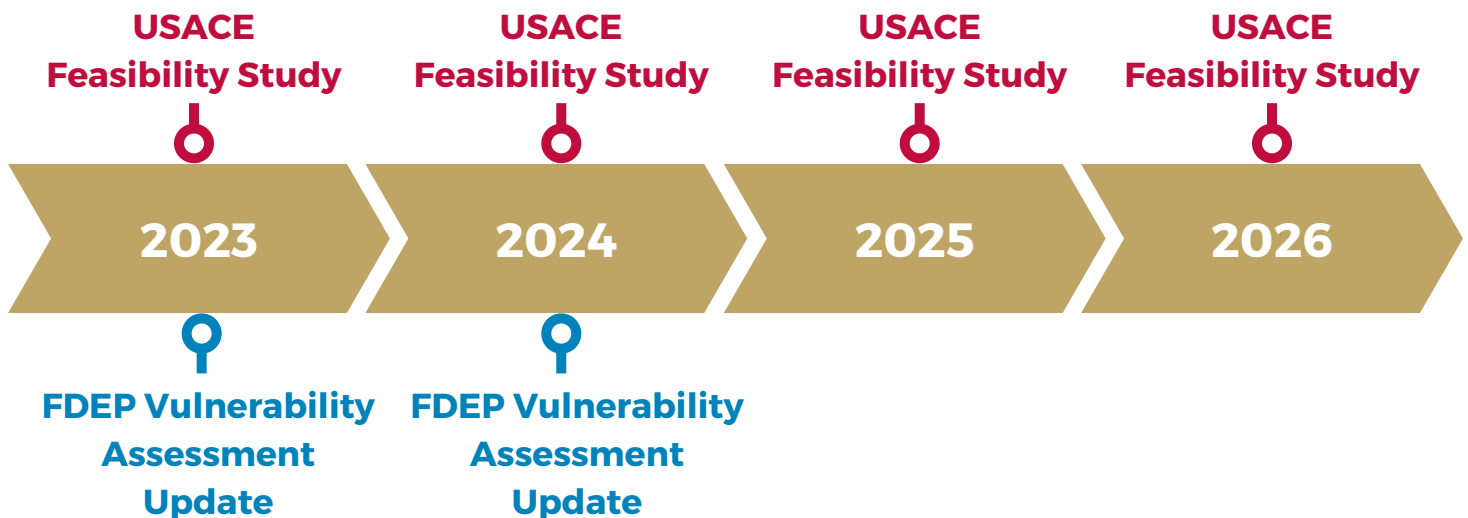
ST. AUGUSTINE, FLORIDA BACK BAY CSRM FEASIBILITY STUDY



CITY OF ST. AUGUSTINE STUDIES BREAKDOWN



STUDIES TIMELINE





PROPOSED RESILIENT SHORELINES ORDINANCE

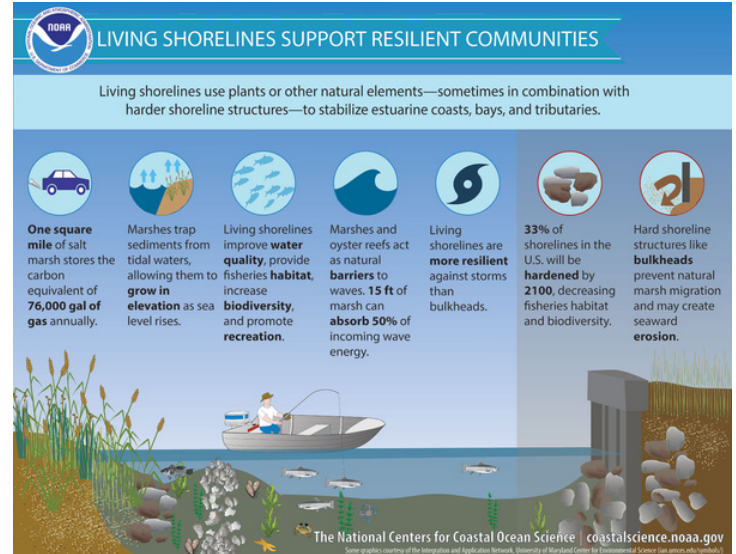
What is this proposed ordinance?

The City of St. Augustine is working on implementing a Resilient Shorelines Ordinance to help combat sea level rise and coastal storm surge threats to the city. A Resilient Shoreline Ordinance will help promote nature-based designs that create/protect habitat & improve water quality.

Why is this proposed ordinance needed?

Sea level rise increasingly threatens both public and private infrastructure. The development of a resilient shoreline ordinance will provide the city and its residents guidance and opportunities for protective infrastructure such as seawalls, living shorelines, and hybrid approaches. The proposed ordinance will allow for a consistent approach to inform both public and private stakeholders on appropriate shoreline policy, infrastructure construction, maintenance and repair, and methodology and account for future flood risk.

SCHEDULE
2023-2025

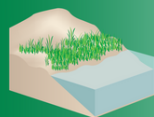


PHASE	STATUS
PHASE 1	DATA COLLECTION
PHASE 2	DRAFT RESILIENT SHORELINE ORDINANCE
PHASE 3	COMMUNITY OUTREACH & ENGAGEMENT SUPPORT

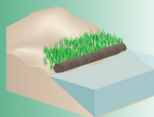
GREEN - SOFTER TECHNIQUES

GRAY - HARDER TECHNIQUES

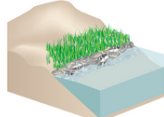
Living Shorelines



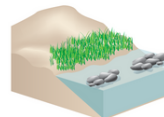
VEGETATION ONLY - Provides a buffer to upland areas and breaks small waves. Suitable for low wave energy environments.



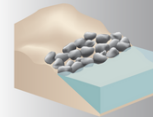
EDGING - Added structure holds the toe of existing or vegetated slope in place. Suitable for most areas except high wave energy environments.



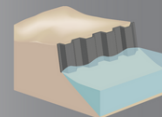
SILLS - Parallel to vegetated shoreline, reduces wave energy, and prevents erosion. Suitable for most areas except high wave energy environments.



BREAKWATER - (vegetation optional) - Offshore structures intended to break waves, reducing the force of wave action, and encourage sediment accretion. Suitable for most areas.



REVETMENT - Lays over the slope of the shoreline and protects it from erosion and waves. Suitable for sites with existing hardened shoreline structures.



BULKHEAD - Vertical wall parallel to the shoreline intended to hold soil in place. Suitable for high energy settings and sites with existing hard shoreline structures.

Coastal Structures



FLOOD MITIGATION ASSISTANCE (FMA) PROGRAM

What is the FMA Program?

FEMA's Flood Mitigation Assistance (FMA) grant program is a resource provided to the City meant to reduce or eliminate the risk of repetitive flood damage to buildings and structures insured under the National Flood Insurance Program (NFIP).

The FMA Program is a nationally competitive annual FEMA grant program. Prioritization is given to those structures listed as Severe Repetitive Loss and Repetitive Loss.

Cost shares for the homeowner will vary depending on the validation of the structure and are pre-determined by FEMA in most cases.

Who can apply for the FMA program?

Those who currently participate in the National Flood Insurance Program:

- Must be insured with the NFIP at the time of the Cycle 2 application opening period of 9/30/23
- Policy must be effective as of 9/30/23
- Must maintain flood insurance to the structure in perpetuity

More FMA Info: www.citystaug.com/FMA

Before Elevation



What is the FMA Program timeline?

The FMA Program is a yearly resource available to residents of the City of St. Augustine. The application is due annually in late September to the City. However, residents can be working to actively building an application all year and turn in paperwork at any time. Once the application has been turned into the state, the awards will not be announced until late summer the following year. If funding is awarded, the grant must be completed within three years of contract execution.

Documents Needed for Participation Elevation and Reconstruction

- Signed FMA Forms
- NFIP Insurance Declaration Page
- Current Elevation Certificate - contact a local surveyor or check to see if the City has one on file: **904.209.4327 / fma@citystaug.com**
- 3 Elevation Quotes from qualified elevation firms (Quote should indicate who is performing the lift)
 - A sketch of the structure submitted
 - Copy of Contractor License
- Copy of Riggers Insurance (if lift contractor)
- Color photos of all 4 sides of structure

Planning & Building Dept- 904.825.1065

Public Works Dept- 904.825.1040

After Elevation



City of St. Augustine –

Resiliency and Stormwater Program

Planning and Zoning Board – Special Meeting February 21, 2023

Jessica L. Beach, P.E.
Chief Resilience Officer
Public Works Department





CITY OF
ST AUGUSTINE
— EST. 1565 —

Presentation Outline

- ❖ Recap of the Hurricane Season
- ❖ Why do we flood? A look at our challenges...
- ❖ Overview of the Resilience Program and Strategy



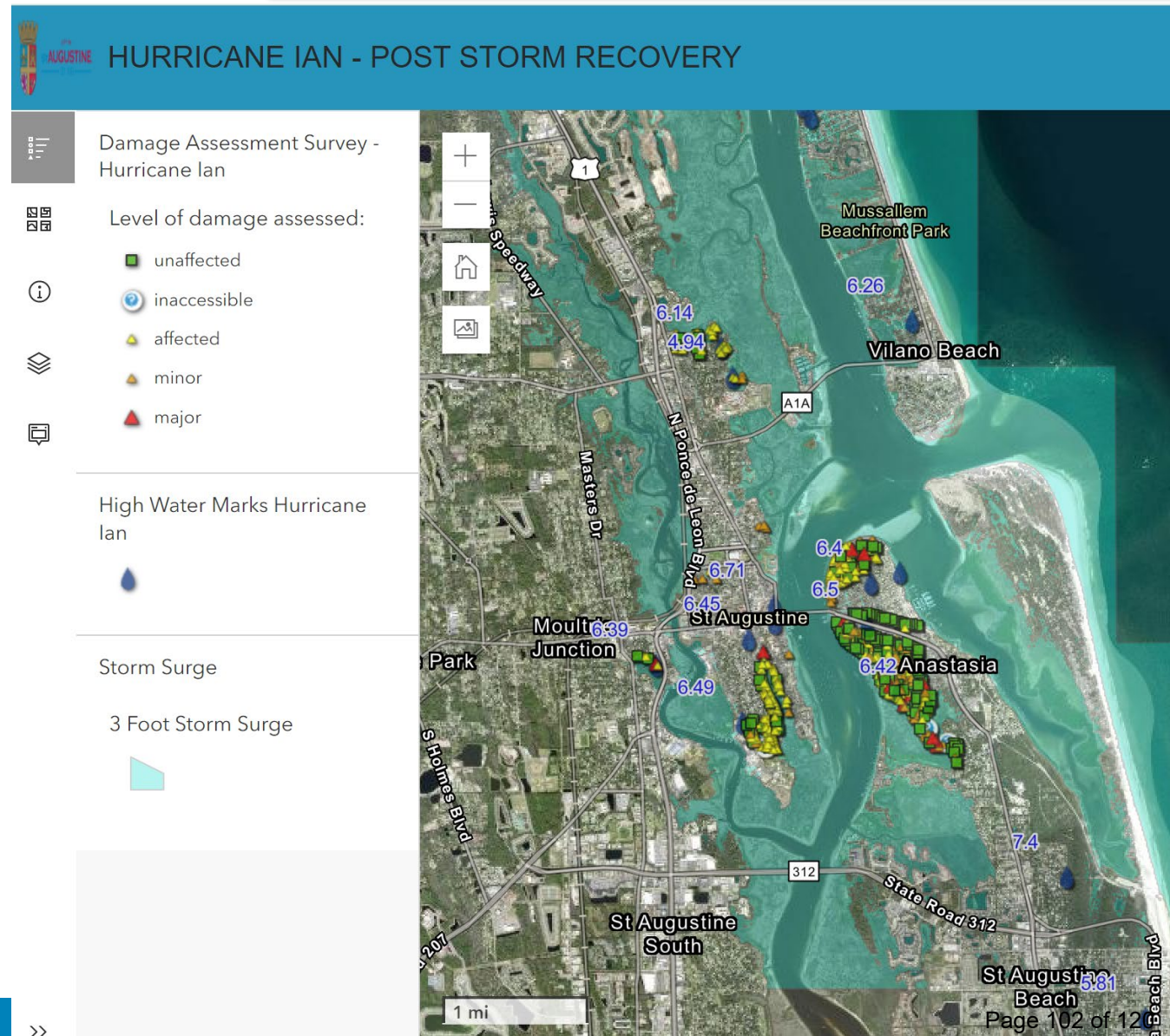


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A Recap of Hurricane Season

- ❖ City wide flooding from Hurricane's Ian and Nicole
- ❖ Map shows high water marks (HWM) – ranged from 4.94 – 7.4
- ❖ Preliminary assessment of impacted homes





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A Recap of Hurricane Season



High Water Marks (HWM) at O'Steens Restaurant – Anastasia Blvd (Island)

Matthew (7.07 NAVD88)



Ian (6.5 NAVD88)



Nicole (6.53 NAVD88)

Irma (4.9 NAVD88)





A Recap of Hurricane Season

- ❖ Affected = water under the house/garage, not in living space
- ❖ Minor = less than 18" in living space
- ❖ Major = more than 18" in living space

Properties Impacted by Hurricane Ian			
Affected	Minor	Major	Subtotal
330	157	19	506
65	31	4	%
Neighborhood			
Fullerwood			10%
Abbott Tract			1%
Flagler Model Land			2%
Lake Maria Sanchez			13%
Lincolnville			12%
Oyster Creek			1%
North Davis Shores			13%
South Davis Shores			48%



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Why Do We Flood ?

Flooding is not new to the City

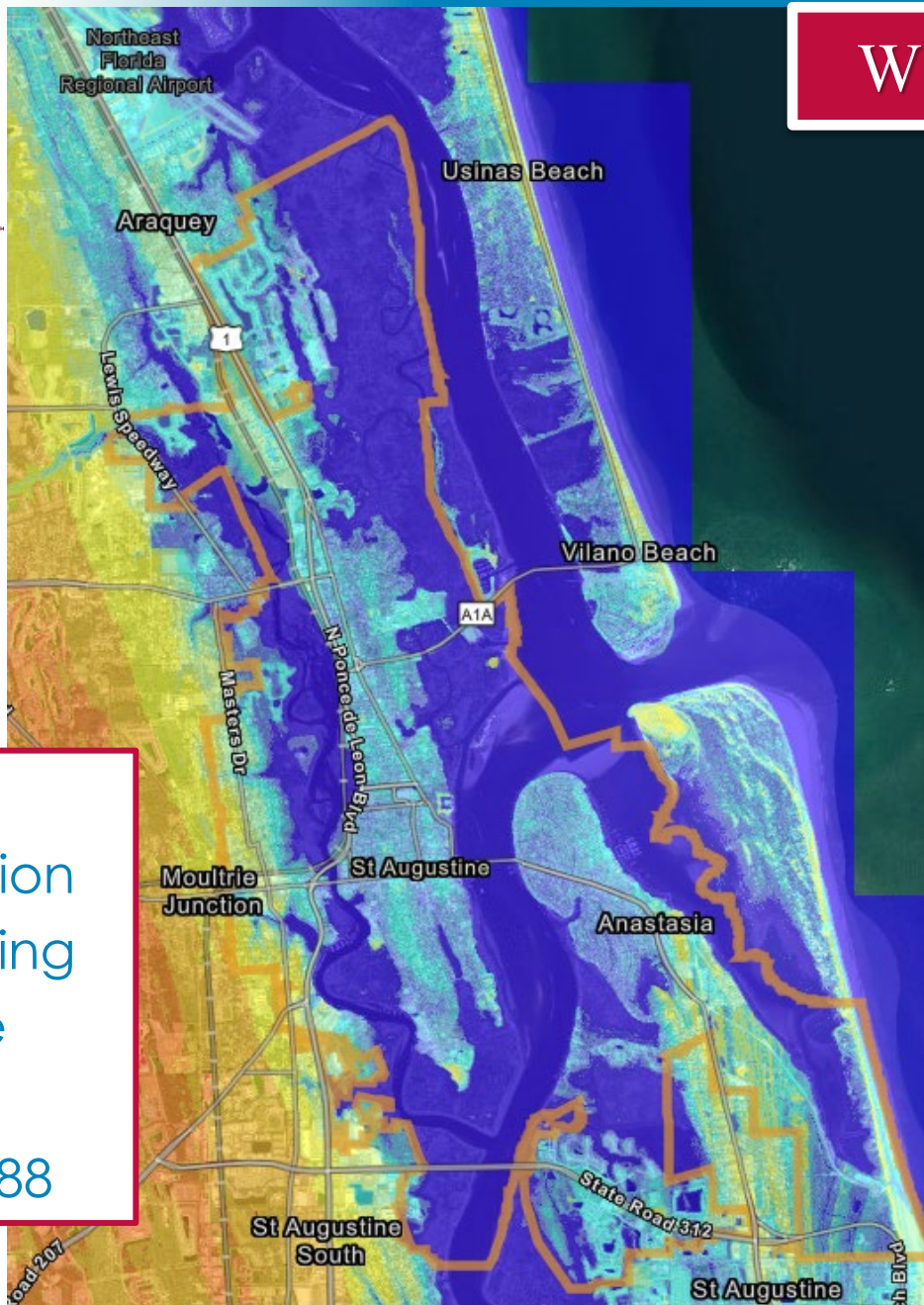


However, the frequency of “sunny day” flooding is on the rise



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❖ Digital
Elevation
Mapping
for the
City in
NAVD88



Why Do We Flood ?

Hurricane's Ian and
Nicole
(HWM ≈ 6.5 NAVD88)

- ☐ Wetlands
- ☐ Zip Codes
- ☐ Zone Codes
- ☐ Elevation Certif
- ☐ Storm Surge De
- ☒ COSA_DEM





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Why Do We Flood ?

Current City Challenges (stormwater):

- Aging infrastructure
- Undersized collection system
- Low-lying and coastal location
(90% of the City is within a flood zone)
- Highly developed (high
impervious area)
- **Subject to flooding – both from
rainfall and tidal/coastal
influence (compound flooding)**



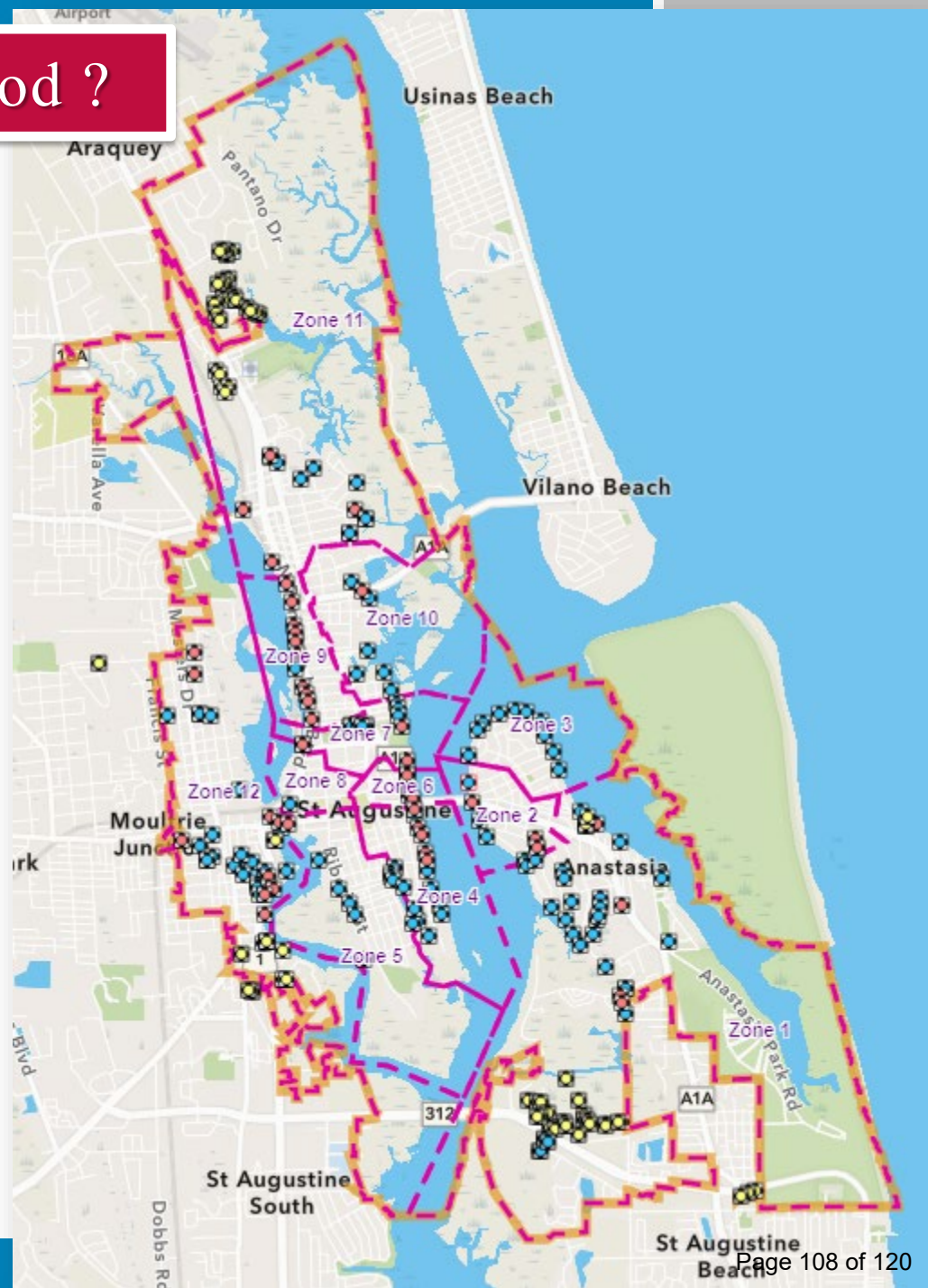


Why Do We Flood ?

CITY OF
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Stormwater Infrastructure:

- 103 Outfalls
Tidally Influenced
(not including
FDOT)
- 949 Storm Inlets
- 20 miles of pipe
- Twelve (12)
maintenance
zones





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Overview of the Resilience Program and Strategy



www.citystaug.com/resiliency

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Overview of the Resilience Program and Strategy

❖ Outreach and Education

❖ “One Stop Shop”:

- ✓ Programs
- ✓ Projects
- ✓ Planning / Studies
- ✓ Payment / Funding
- ✓ Policy
- ✓ Resources for Residents

www.CityStAug.com/Resiliency

Planning and Studies +

Projects +

Programs +

Policy +

Resources +

Payment/Funding

Home > Government > Resiliency

Flood Resilience

Resilience is the ability of individuals, communities, institutions, businesses, and system within St. Augustine to survive, adapt, and grow no matter what kinds of acute shocks (a sudden, sharp event that can threaten the city) and chronic stresses (stresses weaken the fabric of the city on a day-to-day basis) they experience.

The City of St. Augustine faces many challenges when it comes to both coastal and rain driven flooding, as a majority of the city is located in a flood plain. The City of St. Augustine is proactively identifying areas of risks as it relates to the inevitable effects of sea level rise.

Stormwater Updates

For the latest updates given to commission regarding the resilience program, [click here](#).

Programs

Planning / Studies

Payment / Funding

Projects

Policy

Resources

Contact Us

Jessica Beach, P.E.
Chief Resilience Officer
[Send an email](#)
[More Information](#)

FAQs

- [What is flood resilience?](#)
- [What is the city doing about the flooding?](#)
- [What can I do to protect my home from flooding?](#)

[View All](#)

Quick Links

- [St. John's County Emergency Operations Center](#)
- [St. John's County Flood Facts website](#)
- [St. John's County Evacuation Information](#)

[View All](#)



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Overview of the Resilience Program and Strategy

- ❖ Resources Available for Historic Properties
- ❖ Flood Mitigation Guidance for Historic Properties
- ❖ Resilient Heritage in the Nation's Oldest City

-12-





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www.citystaug.com/FMA
for more info

❖ Flood Mitigation Assistance (FMA) Program

- ✓ Cost share program with FEMA to elevate and/or reconstruct flood prone, at-risk structures
- ✓ FY21 – Application Cycle Completed (25 applications), but not selected
- ✓ FY 22 – Application Cycle:
 - Over 80 properties interested in the program, 62 properties had complete applications that met the program requirements
 - City submitted its applications to the State November 14th and is currently under State review, eligible applications will then be submitted to FEMA
 - Total funding request of \$12,353,474 submitted that would be cost shared with FEMA if selected
 - Late August – estimated timeframe to know if selected



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CITY OF ST. AUGUSTINE



Project Map Key

1. Lake Maria Sanchez Flood Mitigation
2. South Whitney/West King Street Drainage
3. Inlet Drive Shoreline Stabilization
4. South Davis Shores Drainage
5. Court Theophelia Neighborhood Drainage
6. Avenida Menendez Seawall

City Wide Projects

- Tidal Backflow Prevention Program
- Groundwater Monitoring Network

City Planning Studies

- Back Bay Feasibility Study (Federal)
- Vulnerability Assessment Update (State)

City Programs

- Flood Mitigation Assistance (FMA) Program

City Ordinances

- Proposed Resilient Shorelines Ordinance

RESILIENCE STRATEGIES

PROJECTS

PLANNING/STUDIES

POLICY

PROGRAMS

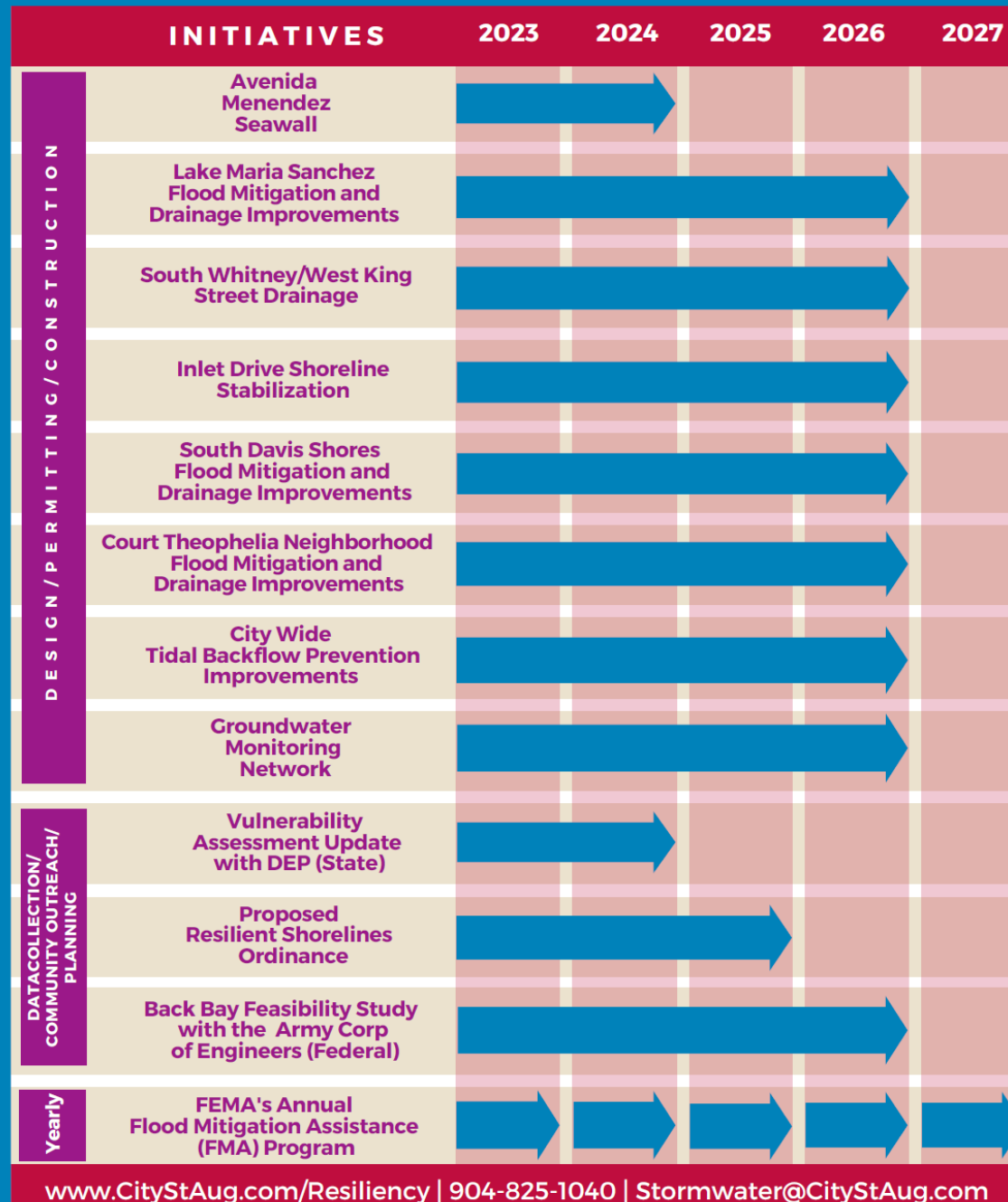


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RESILIENCE EFFORTS TIMELINE



www.CityStAug.com/Resiliency | 904-825-1040 | Stormwater@CityStAug.com



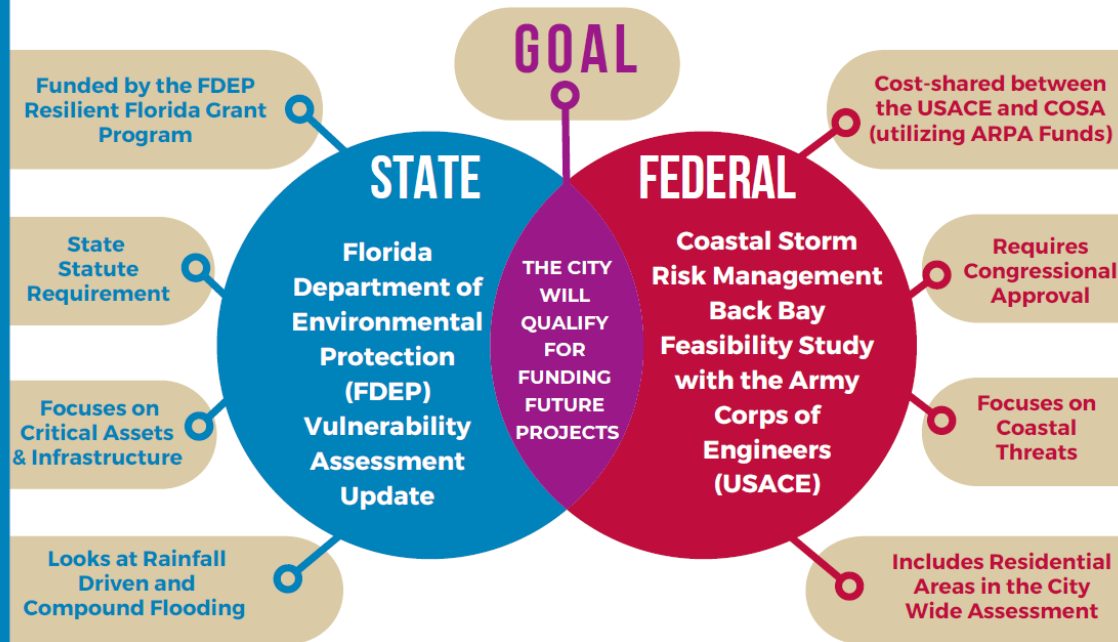
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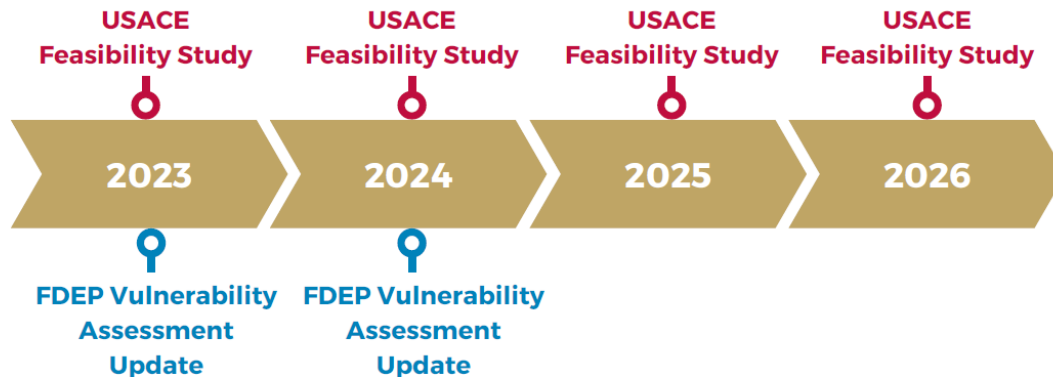
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CITY OF ST. AUGUSTINE STUDIES BREAKDOWN



STUDIES TIMELINE





VULNERABILITY ASSESMENT UPDATE

With The Florida Department of Environmental Protection

What is this study?

Vulnerability Assessments (VA) identify or address risks of flooding and sea level rise and help development of adaptation/resilience plans, projects, and policies that allow for preparation for threats from flooding and sea level rise. The final report does include an adaptation plan with recommendations for identified projects to be implemented.

Why is this study needed?

Previous studies, including a coastal vulnerability assessment, were completed in 2016, which identified major flood pathways in the city. However that previous VA does not meet the current criteria outlined in section 380.093 of Florida statutes. By completing the FDEP VA it qualifies the city for the 50% cost-share for implementation projects and the city is eligible for future funding.

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How is this study being funded?

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ESTIMATED ASSESMENT COST:
\$500,000



STUDY SCHEDULE 2023-2024

PHASE	STATUS
PHASE 1	DATA COLLECTION & ANALYSIS
PHASE 2	COMMUNITY OUTREACH
PHASE 3	REPORTING





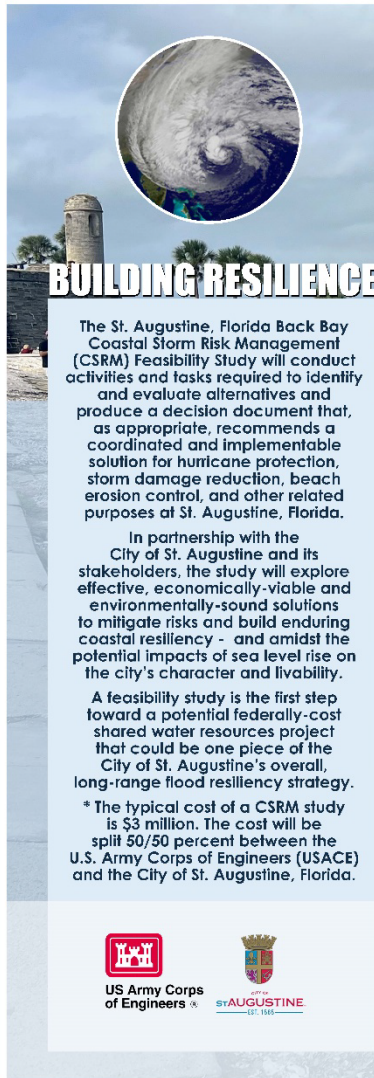
CITY OF
ST. AUGUSTINE
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❖ Public input is important ! ❖ 1st Public Meeting Wed. Feb. 22nd @ 6-8 PM, Alcazar Room

- ❑ Poster sessions
- ❑ Presentation
- ❑ Public Comment
- ❑ Live streamed and recorded

www.citystaug.com/BackBay



BUILDING RESILIENCE

The St. Augustine, Florida Back Bay Coastal Storm Risk Management (CSRSM) Feasibility Study will conduct activities and tasks required to identify and evaluate alternatives and produce a decision document that, as appropriate, recommends a coordinated and implementable solution for hurricane protection, storm damage reduction, beach erosion control, and other related purposes at St. Augustine, Florida.

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TYPICAL SCHEDULE | PLANNING MILESTONES FOR A 3-YEAR STUDY*



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ST. AUGUSTINE, FLORIDA BACK BAY CSRSM FEASIBILITY STUDY

STUDY AREA

Through the planning process, the study will assess the multi-faceted landscape within the city limits of St. Augustine. Maintaining St. Augustine's unique and rich multi-layered sense of place will be a priority of the team as they develop and evaluate alternatives to reduce coastal storm risk.



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TRANSPARENT PLANNING PROCESS

Feasibility studies use a transparent 6-Step Planning Process that pursues alternatives to reduce economic damages from storms over a 50-year project life, consistent with environmental statutes. In addition to economic and environmental conditions, regional economic development and social effects are addressed during the planning process. There are a variety of approaches, both quantitative and qualitative, to assist with multi-criteria decision making and plan selection.

Public input is paramount in the decision process. Multiple public/stakeholder meetings will occur throughout the study.



MULTI-DISCIPLINARY PROJECT DELIVERY TEAM

The project delivery team (PDT) is the workgroup tasked with conducting the study and consists of varied experts including planners, engineers, biologists, geologists, hydrologists, surveyors, archaeologists, economists, real estate specialists, and more to address problems and opportunities. Each team member is responsible for identifying water resources problems and assisting in formulating solutions to those problems within their area of expertise. This interdisciplinary approach to problem solving is key to a successful feasibility study.



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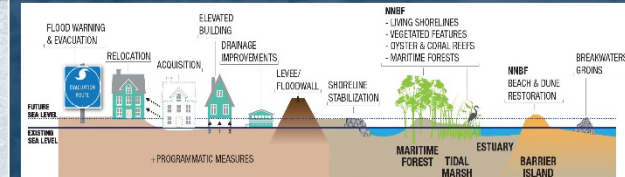
INTEGRATED FEASIBILITY REPORT AND NATIONAL ENVIRONMENTAL POLICY ACT ANALYSIS

The National Environmental Policy Act (NEPA) is a Federal law enacted in 1969. As required by NEPA, USACE will assess the potential environmental effects of the study alternatives, including a no action alternative. The report also documents coordination with the varied resource agencies that help to shape the final recommendation. Examples of NEPA effects categories include:



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FULL ARRAY OF MEASURES INCLUDING NATURAL AND NATURE-BASED FEATURES (NMBF) CONSIDERED



PROPOSED RESILIENT SHORELINES ORDINANCE

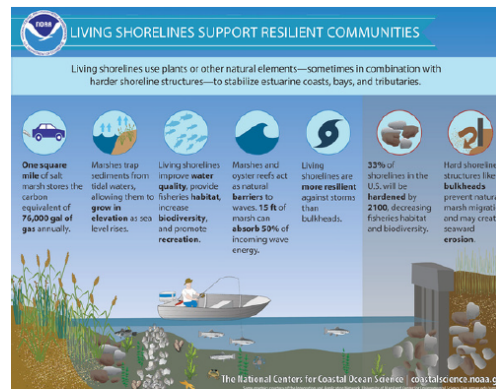
What is this proposed ordinance?

The City of St. Augustine is working on implementing a Resilient Shorelines Ordinance to help combat sea level rise and coastal storm surge threats to the city. A Resilient Shoreline Ordinance will help promote nature-based designs that create/protect habitat & improve water quality.

Why is this proposed ordinance needed?

Sea level rise increasingly threatens both public and private infrastructure. The development of a resilient shoreline ordinance will provide the city and its residents guidance and opportunities for protective infrastructure such as seawalls, living shorelines, and hybrid approaches. The proposed ordinance will allow for a consistent approach to inform both public and private stakeholders on appropriate shoreline policy, infrastructure construction, maintenance and repair, and methodology and account for future flood risk.

SCHEDULE 2023-2025



PHASE	STATUS
PHASE 1	DATA COLLECTION
PHASE 2	DRAFT RESILIENT SHORELINE ORDINANCE
PHASE 3	COMMUNITY OUTREACH & ENGAGEMENT SUPPORT

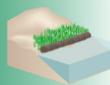
GREEN - SOFTER TECHNIQUES

GRAY - HARDER TECHNIQUES

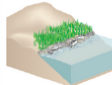
Living Shorelines



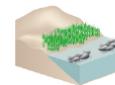
VEGETATION ONLY - Provides a buffer to upland areas and breaks small waves. Suitable for low wave energy environments.



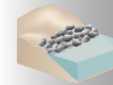
EDGING - Added structure holds the toe of existing or vegetated slope in place. Suitable for most areas except high wave energy environments.



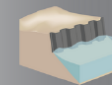
SILLS - Parallel to vegetated shoreline, reduces wave energy, and prevents erosion. Suitable for most areas except high wave energy environments.



BREAKWATER - (vegetation optional) - Offshore structures intended to break waves, reducing the force of wave action, and encourage sediment accretion. Suitable for most areas.



REVETMENT - Lays over the slope of the shoreline and protects it from erosion and waves. Suitable for sites with existing hardened shoreline structures.



BULKHEAD - Vertical wall parallel to the shoreline intended to hold soil in place. Suitable for high energy settings and sites with existing hard shoreline structures.



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EST. 1565

In Summary

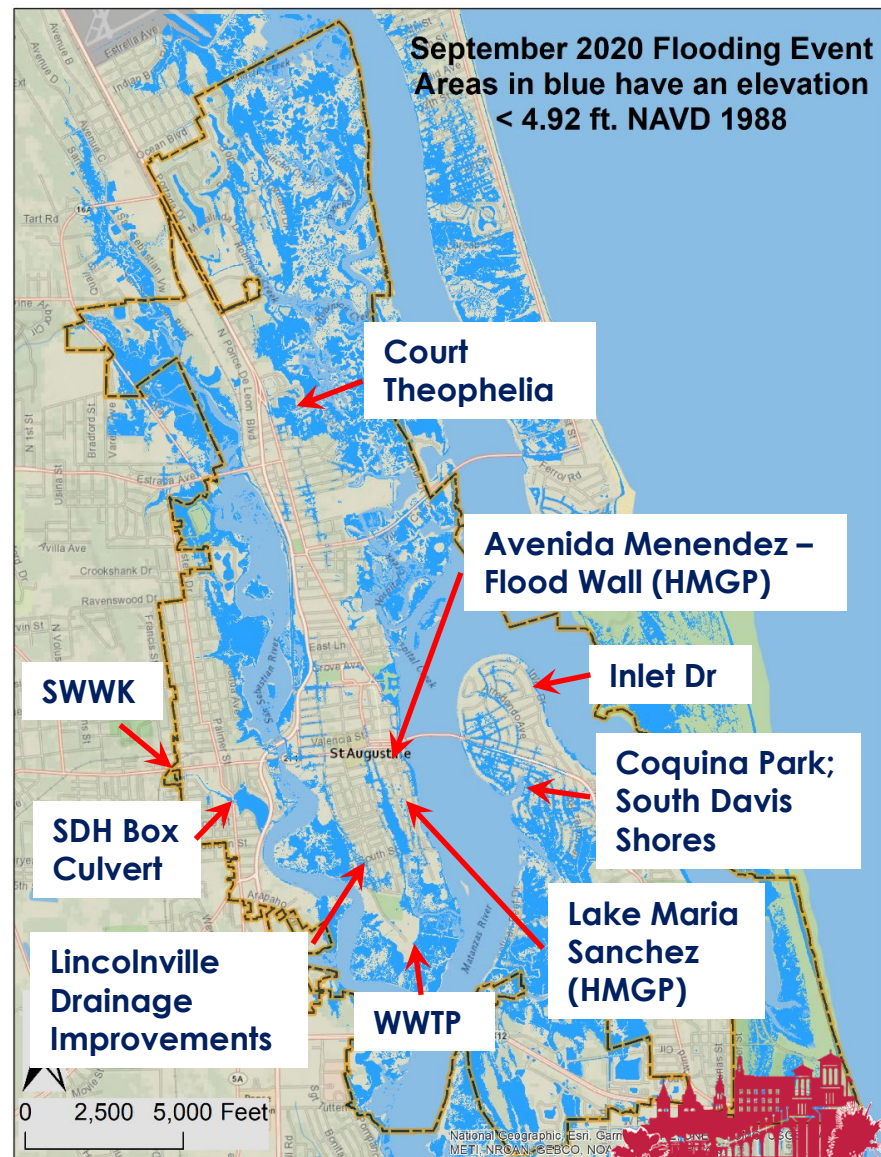
*Denotes Federally Funded Project (FEMA –PA, HMGP; HUD/DEO-CDBG-NR)

Denotes State Funded Project (SJRWMD, **FDEP)

❖ Current Flood Mitigation Investments ≈ \$69,741,833 (\$58,218,292, grant funded, 83%):

- ❑ Lake Maria Sanchez*, **
- ❑ FEMA 13 Lift Station Hardening and Flood Proofing*
- ❑ Wastewater Treatment Plant (WWTP) Flood Proofing
- ❑ South Whitney/West King (SWWK) Flood Mitigation*, **
- ❑ Avenida Menendez Flood Wall*
- ❑ City-wide tide check valves (43 installed, 20 future)**
- ❑ Coquina Park
- ❑ South Dixie Highway Culvert Replacement**
- ❑ Lincolnville Utility and Drainage Improvements*, **
- ❑ South Davis Shores Flood Mitigation and Drainage Improvements*, **
- ❑ Inlet Drive Shoreline Resiliency Improvements*, **
- ❑ Flood Mitigation and Drainage Improvements for the Court Theophelia Neighborhood*, **
- ❑ Updated Vulnerability Assessment (State)**
- ❑ USACE Back Bay Feasibility Study (Federal)**

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Thank you for your time!

www.CityStAug.com/Resiliency



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