

SR 5/US-1 AT SW JOAN JEFFERSON WAY

Martin County, Florida | FPID No.: 438354-2-22-01

Planning Study

City of Stuart
Commission Meeting

January 2019

FDOT

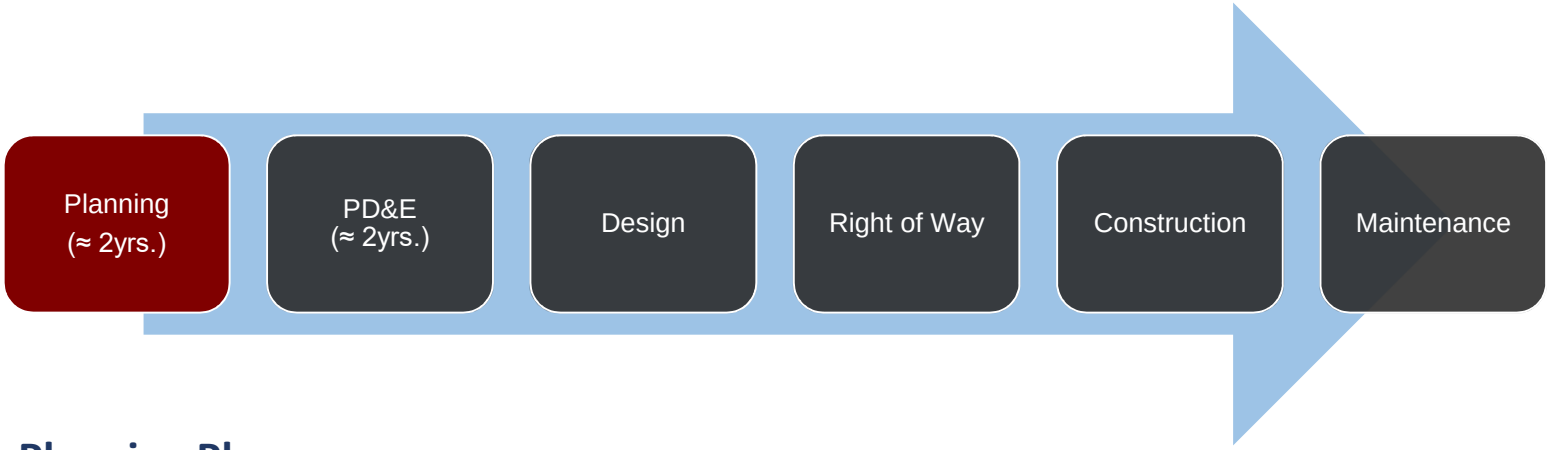
Project Objective

Address congestion and safety concerns at the intersection of SR 5/US-1 and SW Joan Jefferson Way.

Project Goals

1. Develop and evaluate improvements to address project needs
2. Develop an action plan with a prioritized list of short and long term improvements

Project Development Process



Planning Phase

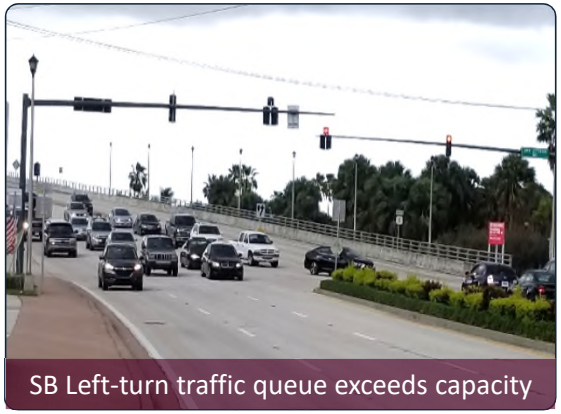
- Identify short term and long term needs for a 20 year horizon based on MPO approved socio-economic data
- Develop preliminary design concepts, cost estimates, and identify potential impacts for further study
- Identify course of action and project programming

Project Location



Project Background

- Primary southbound gateway into Downtown Stuart
- Inadequate storage for southbound left-turn queues at Joan Jefferson Way
- Residual delays from the railroad crossing and bascule bridge along S Dixie Highway
- Lack of west to east access at SW Ocean Blvd/Dixie Hwy



SB Left-turn traffic queue exceeds capacity

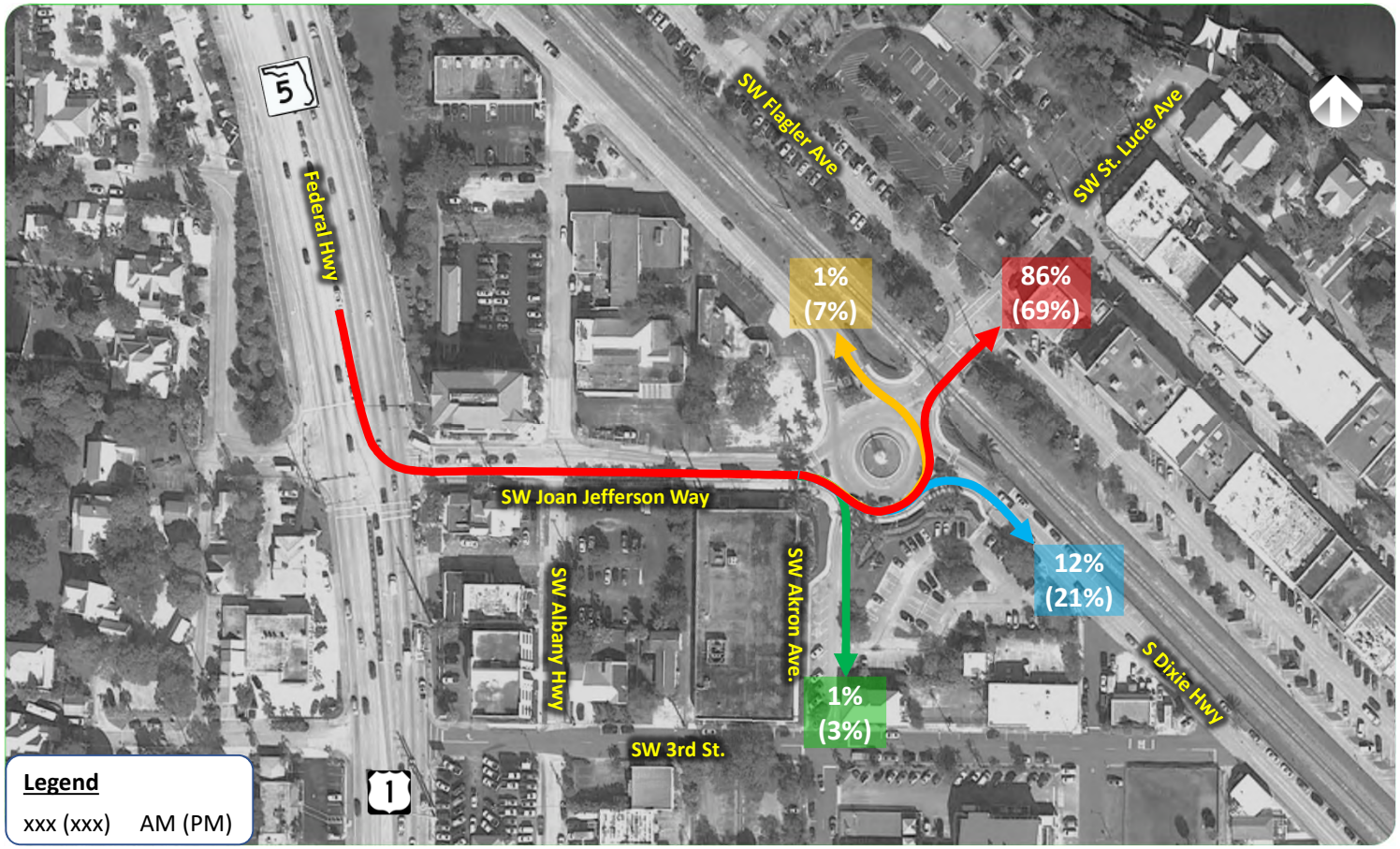


FEC Railroad crossing results in delays



No direct west-east access at Ocean Blvd

Southbound to Eastbound Traffic Distribution

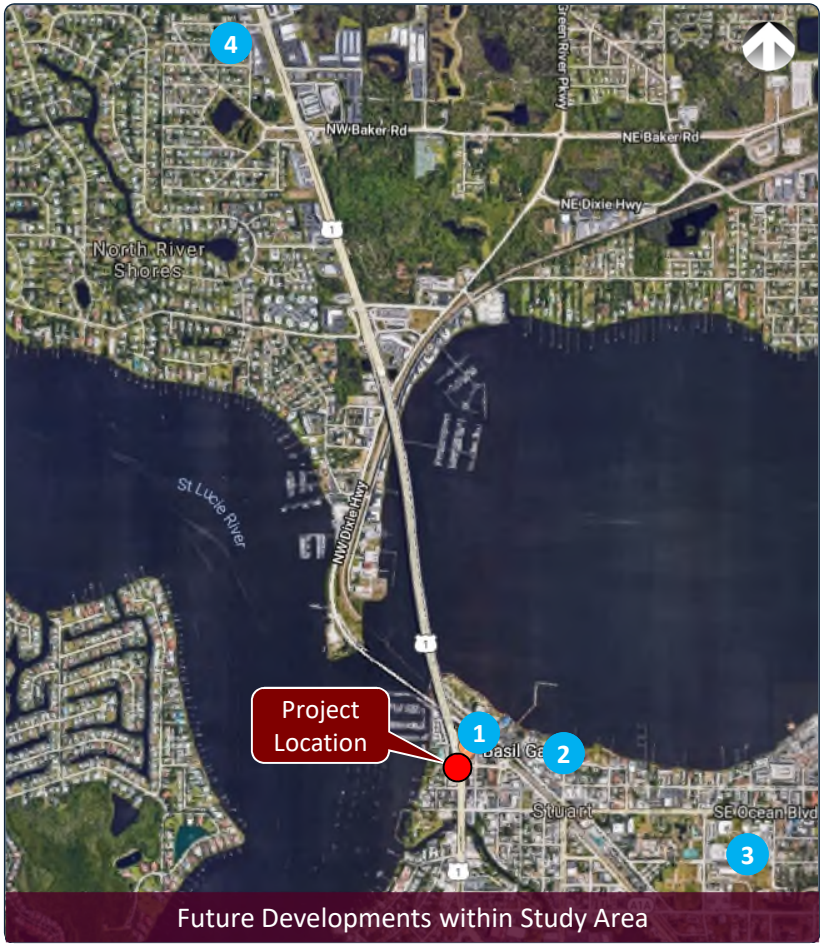


Traffic Forecast

- **New Developments**
  1. Azul Apartments - Stuart Triangle planned residential development
  2. Seminole Bluff - Planned luxury apartments along Seminole Street
  3. Planned expansion project for the City of Stuart Cultural Arts Center
  4. The Sovana at Stuart - proposed 182-unit apartment complex

- **Travel Demand (2010 – 2040)**

Population	Employment	Traffic
27% ↑	17% ↑	15% ↑



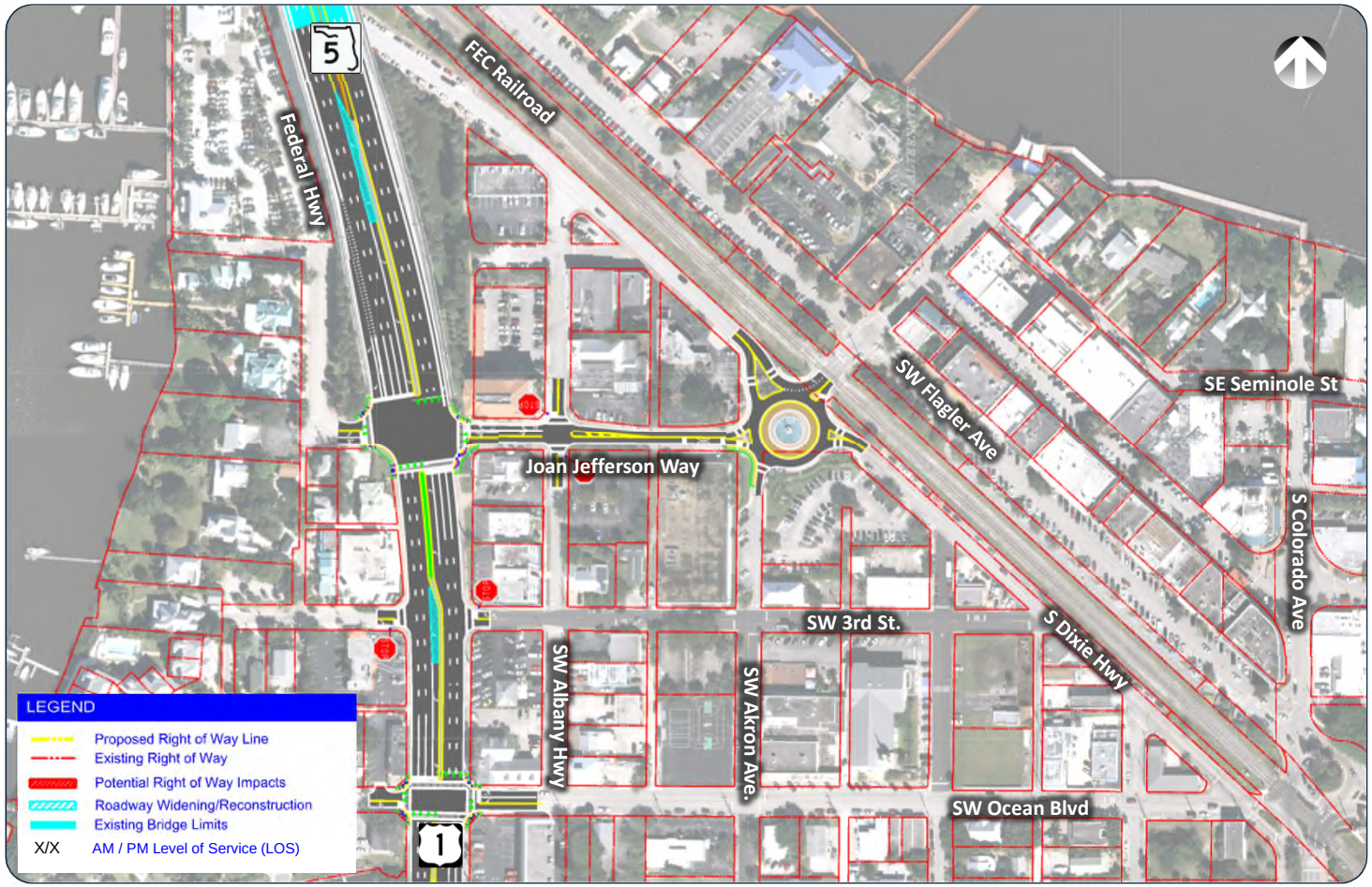
Future Developments within Study Area

Alternatives Considered

- **No-Build**
  - Serves as a baseline for comparison of the Build Alternatives
- **Transportation System Management and Operations (TSM&O)**
  - Implement ITS strategies to optimize the performance of existing facility
    - Queue detection camera for EB traffic along SW Joan Jefferson Way
    - Signal timing optimization for SB left-turn movement
    - Provide train activated flashing beacons at roundabout EB approach
- **Build Alternatives**
  - Build Alternative 1: Extend existing SB left-turn storage
  - Build Alternative 2: Dual SB left-turn lanes + WB right-turn only
  - Build Alternative 3: Dual SB left-turn lanes + One-way EB roadway
  - Build Alternative 4: Dual SB left-turn lanes + One-way Pair

Build Alternative 1

Extend existing SB left-turn storage



PROS

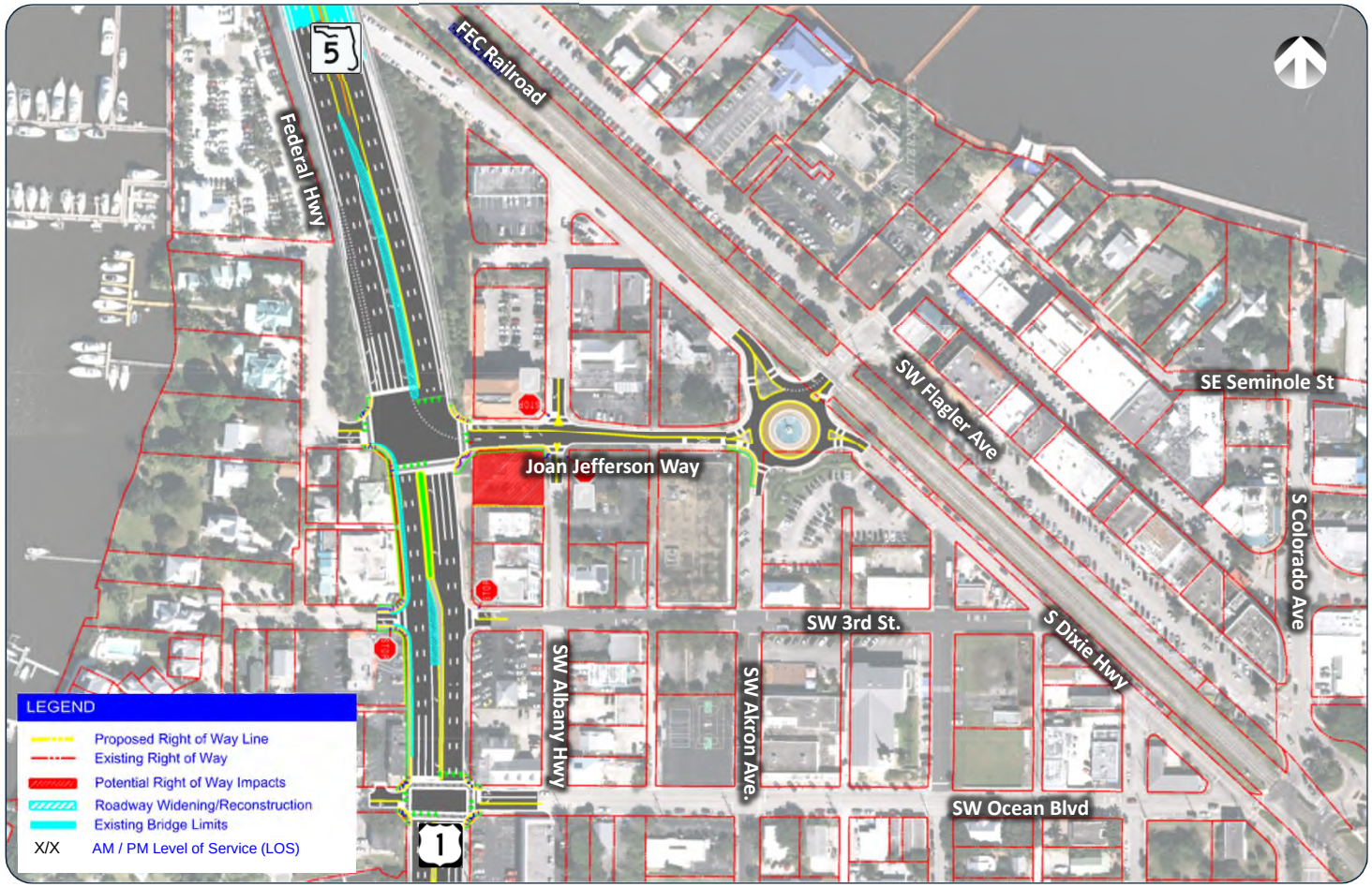
- Minimal right of way impact
- Maintains existing traffic patterns and access
- Least construction cost and easiest to implement

CONS

- Does not accommodate the future SB left turn queue demand
- Does not significantly improve operations and safety
- Does not satisfy the project objective

Build Alternative 2

Dual SB left-turn lanes + WB right-turn only



PROS

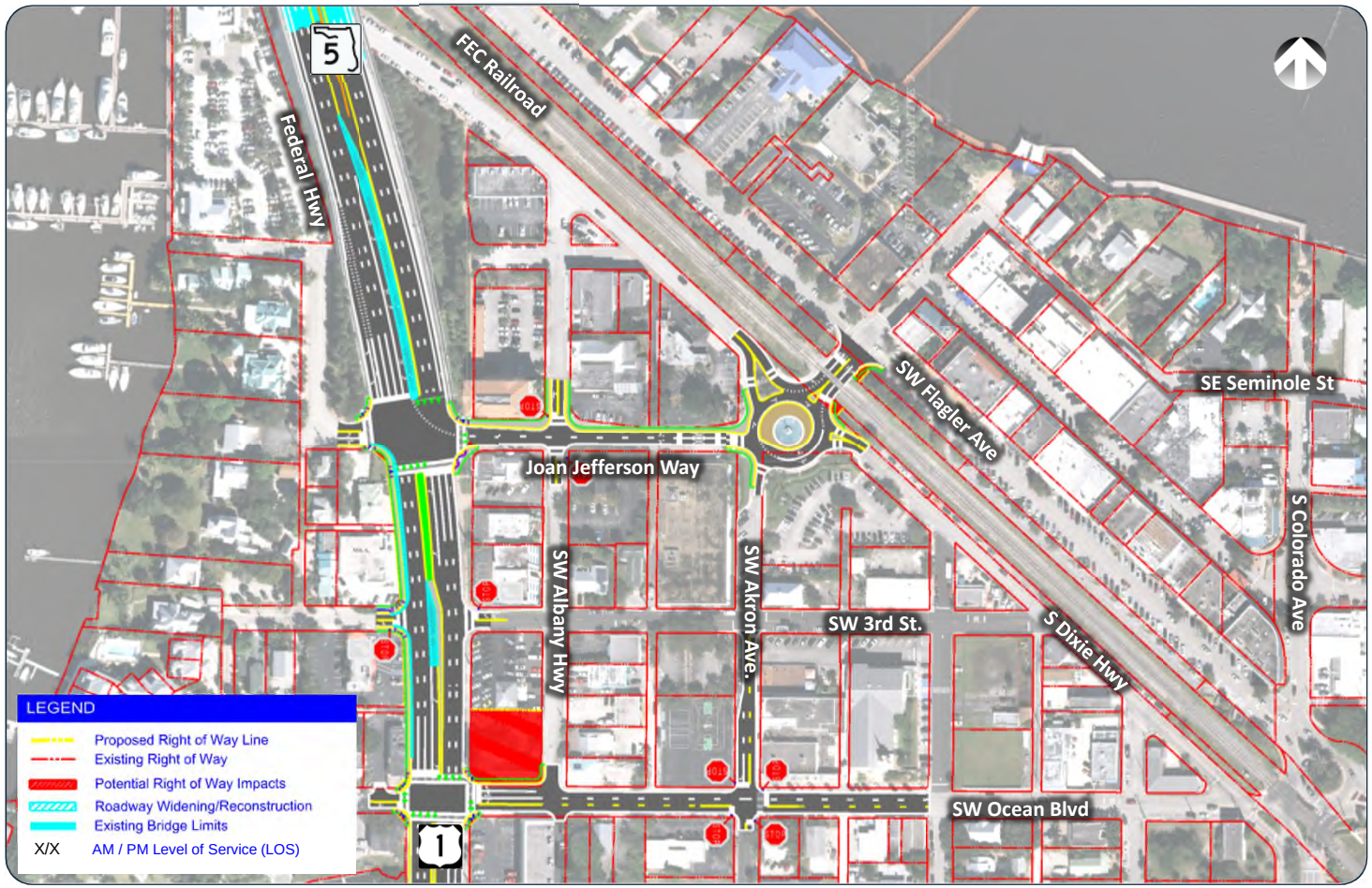
- Accommodates SB left turn queues
- Provides some operational and safety improvements
- Maintains most of the existing traffic patterns

CONS

- Does not provide long-term traffic operational relief
- Requires significant right of way acquisition

Build Alternative 3

Dual SB left-turn lanes + One-way EB roadway



PROS

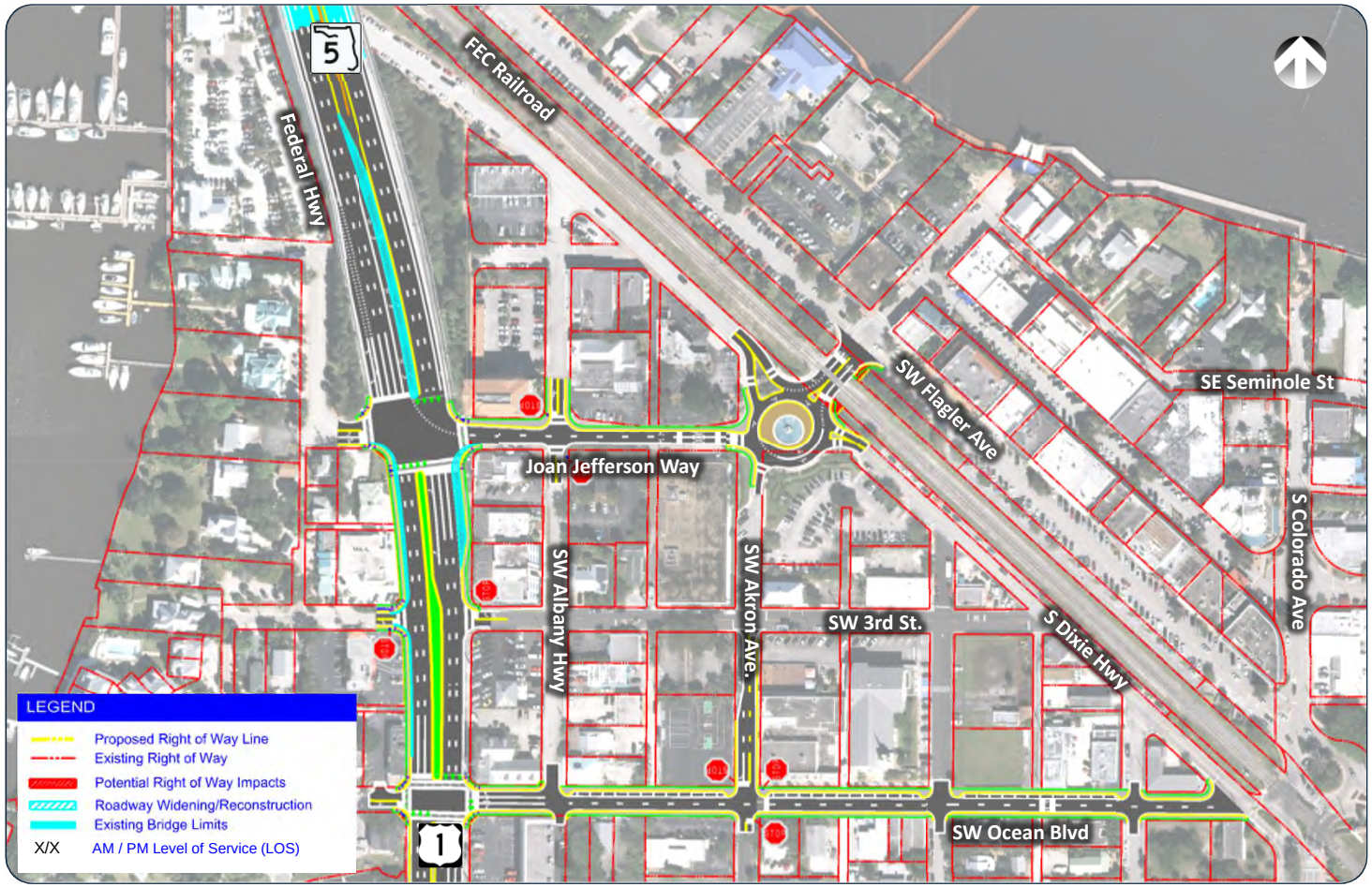
- Accommodates SB left turn queues
- Significant operational and safety improvements
- Meets project objective

CONS

- Requires significant right of way acquisition
- Requires roadway widening across FEC Railroad
- Impacts to existing traffic circulation pattern

Build Alternative 4

Dual SB left-turn lanes + One-Way Pair



PROS

- Minimal right of way impact
- Accommodates SB left turn queues
- Significant operational and safety improvements
- Meets project objective

CONS

- Requires roadway widening across FEC Railroad
- Impacts to existing traffic circulation pattern

Alternatives Summary

Performance Criteria	Alternatives Comparison				
	No-Build Alternative	Build Alternative 1	Build Alternative 2	Build Alternative 3	Build Alternative 4
Traffic Operations and Safety	Poor	Poor	Fair	Good	Best
Access Impacts	None	None	Low	Medium	High
Right of Way impacts	None	Low	High	High	Low
Construction Costs	$0	$2.2 Million	$2.6 Million	$2.9 Million	$3.3 Million
Meets Project Objective	No	No	Yes	Yes	Yes

- Build Alternative 1 is not recommended since it only provides short-term operational relief and does not meet project objective
- Build Alternatives 2 and 3 provide traffic operations and safety improvements but require significant right of way impacts
- Build Alternative 4 has the least right way impacts and provides the most benefit from a traffic operations and safety standpoint

Role:

- Serve as agency liaisons
- Provide input on strategies and implementation plan to achieve project goals

Agencies & Stakeholders:

FDOT

COUNTY OF MARTIN STATE OF FLORIDA

MARTIN MPO

Stuart

Stuart/Martin County CHAMBER of COMMERCE

MARTIN COUNTY FIRE RESCUE

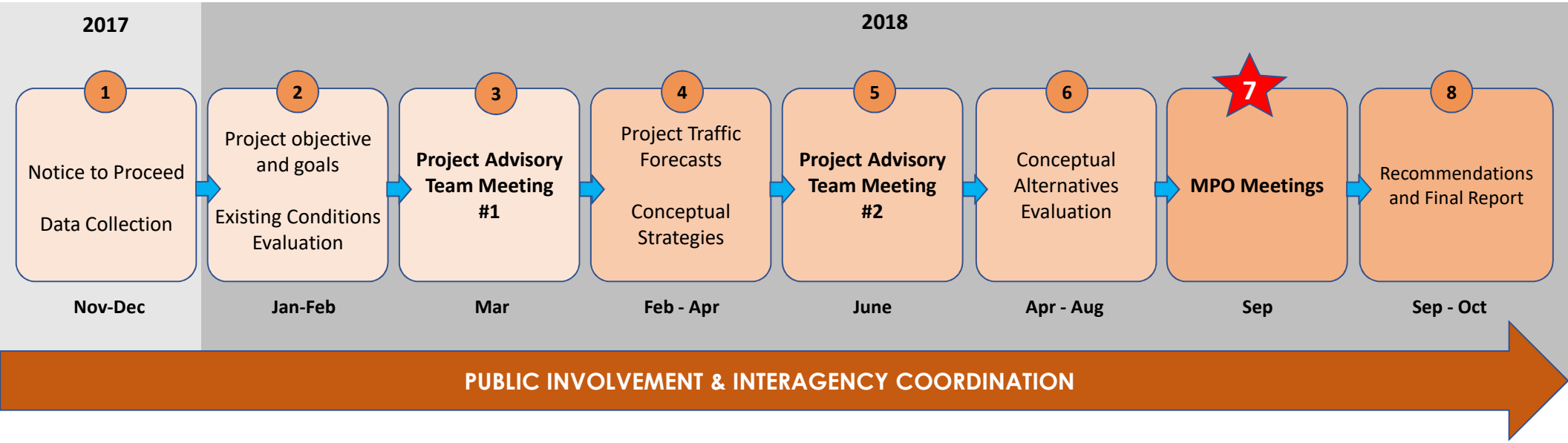
SHERIFF'S OFFICE MARTIN COUNTY

MARTIN COUNTY Community Redevelopment Agency

Martin

Schedule & Process

- Planning Study commenced in November 2017
- 12 month contract with anticipated completion in October 2018
- Two (2) Project Advisory Team (PAT) Meetings



Contact Information

Ron Kareiva, P.E.
Concept Development Supervisor
Florida Department of Transportation - District Four
3400 West Commercial Boulevard
Fort Lauderdale, Florida 33309
Phone: (954) 777-4441
Email: ronald.kareiva@dot.state.fl.us

Alexander Estrada, P.E.
Project Manager
Florida Department of Transportation - District Four
3400 West Commercial Boulevard
Fort Lauderdale, Florida 33309
Phone: (954) 777-4319
Email: alexander.estrada@dot.state.fl.us

Thank You