



US 1 Corridor Planning Study

Existing Conditions Technical Memorandum

Project Limits: Pineda Causeway (State Road (S.R.) 404)
to Park Avenue in Brevard County

FM #:433604-1-12-01

Date: May 2019

Table of Contents

1.	Memorandum Purpose.....	1
2.	Project Background and Purpose.....	1
3.	Project / Facility Description	1
3.1.	Project Description.....	1
4.	Summary of Transportation Plans	3
4.1.	Location in Local Plans	3
4.2.	Funding and Sources.....	3
4.3.	Previous / Ongoing Planning Studies	3
5.	Study Area Description	3
5.1.	Existing and Future Land Use.....	3
5.2.	Planned Development.....	16
6.	Summary of Existing Facility	18
6.1.	Right of Way and Existing Typical Section	18
6.2.	Multi-modal / Bicycle and Pedestrian Features.....	20
6.3.	Functional Classification / Facility Type	20
6.4.	Access Classification.....	20
6.5.	Drainage Features	23
6.8.	Structures.....	31
6.9.	Lighting / Aesthetics.....	31
6.10.	Existing Traffic Data and Characteristics.....	31
6.11.	Existing Operational Analysis (LOS)	33
6.11.1.	Roadway Operational Analysis.....	33
6.11.2.	Intersection Operational Analysis.....	35
6.11.3.	Interchange Analysis	37
6.12.	Crash Data.....	39
6.12.1.	Crash Data	39
6.12.2.	US 1 Total Crashes.....	39
6.12.3.	Fatal Crashes	43
6.12.4.	Crash Rate Analysis	47
6.12.5.	Bicycle and Pedestrian Crashes.....	48
6.13.	Intelligent Transportation Systems Infrastructure	49

6.13.1. Fiber Optic Communications.....	49
6.13.2. Closed-Circuit Television.....	49
6.14. Bluetooth Devices	49
6.15. Utilities / Railroads.....	52
6.16. Transit Data / Routes	52
6.17. Existing / Planned and Trails	54
7. Environmental Setting	55
7.1. Natural Resources.....	55
7.2. Cultural Resources	62
7.2.1 Historic Resources.....	62
7.2.2 Archaeological Resources	69
7.3. Social Resources.....	69
7.3.1 Socioeconomic Data.....	79
7.4. Physical Resources	79

Figures

Figure 1 Project Location Map	2
Figure 2 Existing Land Use Map	4
Figure 3 Future Land Use Map.....	10
Figure 4 Planned Developments	17
Figure 5 Existing Typical Section	19
Figure 6 Existing Access Management.....	22
Figure 7 Floodplains Map.....	25
Figure 8 Existing Intersection Geometry.....	32
Figure 9 Annual Average Daily Traffic (AADT) and Segment LOS	34
Figure 10 Existing Peak Hour Traffic Volumes & Intersection Level of Service (LOS)	36
Figure 11 US 1 at SR 404 Interchange.....	37
Figure 12 Crash Locations and Types.....	41
Figure 13 Fatal Crashes and Bicycle/Pedestrian Crashes.....	46
Figure 14 ITS Infrastructure	51
Figure 15 Space Coast Area Transit Route 7	53
Figure 16 Wetlands and Wildlife Map	56
Figure 17 Historic Structures Map	63
Figure 18 Community Facilities.....	70
Figure 19 Public Land, Parks, and Recreation Areas.....	73
Figure 20 Soils Type (SSURGO) Map	81
Figure 21 Contamination Sites.....	87

Tables

Table 1 Existing Access Management	21
Table 2 Summary of Existing Cross Drains	23
Table 3 Existing Roadway Level of Service for US 1.....	33
Table 4 Existing Intersection Level of Service	35
Table 5 Existing Interchange Level of Service	38
Table 6 Interchange Intersections Existing Level of Service	39
Table 7 Crash Data Summary by Year.....	40
Table 8 US 1 Crash Summary by Harmful Event	42
Table 9 Crash Summary by Location.....	42
Table 10 SR 404 Crash Data-Crash Summary for US 1 and SR 404 Interchange.....	43
Table 11 Summary of Fatal Crashes.....	43
Table 12 Crash Rate Analysis Summary	47
Table 13 Bicycle and Pedestrian Crash Summary	48
Table 14 Community Facilities	69
Table 15 Project Limit Demographics	79

Appendices

Appendix A	Pages from Planning Documents
Appendix B	Straight Line Diagrams
Appendix C	Traffic Count Data and Related Materials

1. Memorandum Purpose

This memorandum is intended to provide a summary of the existing conditions on the approximately nine-mile section of US 1 from Pineda Causeway (State Road (S.R.) 404) to Park Avenue in Brevard County.

The information contained herein documents the baseline conditions related to the environmental setting and identifies social, natural, cultural and physical features present in the study area. The memorandum also documents planning and a range of engineering items such as roadway, drainage, traffic, operations and similar items.

The information collected will serve as a starting point for the development of the project's purpose and need, identify the alternative(s) to be developed and evaluated, as well as the constraints and characteristics of the study area.

2. Project Background and Purpose

The project is documented in the Space Coast Transportation Planning Organization's (TPO) Adopted Fiscal Year (FY) 2019 Transportation Project Priorities FY 2020 to FY 2024 list as number 7 in the highway component section as a potential four lane to six lane widening project. Local agency planning documents are provided in **Appendix A**.

As part of the planning process, the Space Coast TPO submitted an application to the Florida Department of Transportation (FDOT) requesting a corridor planning study be conducted in Fiscal Year 2019. This process is also consistent with FDOT's internal process of conducting a corridor planning study on projects that may advance to the Project Development and Environment (PD&E) Study phase.

The purpose of the planning study is to identify the project's purpose and need, identify the environmental setting, develop and evaluate alternative(s) to meet the project's need.

3. Project / Facility Description

3.1. Project Description

As shown in **Figure 1**, the limits of the study begin at Pineda Causeway (SR 404) and extend nine miles to the north to Park Avenue. The corridor traverses both the City of Rockledge and Brevard County and is bound by the Florida East Coast Railway (FECR) on the west and the Banana River on the east. Within the study limits, US 1 is a four-lane divided suburban arterial roadway. South of Pineda Causeway, US 1 is a six-lane divided, suburban arterial roadway. At Park Avenue, US 1 transitions to a six-lane divided urban arterial roadway. It should be noted the project is not evaluating capacity or operational improvements at the Pineda Causeway (SR 404) interchange.



Florida Department
of Transportation
District 5

US 1 Corridor Planning Study

from Pineda Causeway (SR 404)

to Park Avenue

Brevard County, Florida

Financial Project ID: 433604-1-12-01

Federal Project No: n/a

FIGURE 1
PROJECT
LOCATION MAP

4. Summary of Transportation Plans

4.1. Location in Local Plans

The project is documented in the Space Coast Transportation Planning Organization's (TPO) Adopted Fiscal Year (FY) 2019 Transportation Project Priorities FY 2020 to FY 2024 list as number 7 in the highway component section as a potential four lane to six lane widening project.

The Space Coast Transportation Planning Organization (SCTPO) identifies the widening of US 1 from Pineda Causeway to Barnes Boulevard to six lanes with interchange improvements at Pineda Causeway/SR 404 and the widening of US 1 from Barnes Boulevard to Park Ave to six lanes under their Cost Feasible Plan located in their 2040 Long Range Transportation Plan (LRTP).

4.2. Funding and Sources

The project is documented in the Space Coast Transportation Planning Organization's (TPO) Adopted Fiscal Year (FY) 2019 Transportation Project Priorities FY 2020 to FY 2024 list as number 7 in the highway component section as a potential four lane to six lane widening project.

The Corridor Planning Study is being funded by Surface Transportation Program funds, known as "SU" funds. These are federal funds for urban areas with populations greater than 200,000.

4.3. Previous / Ongoing Planning Studies

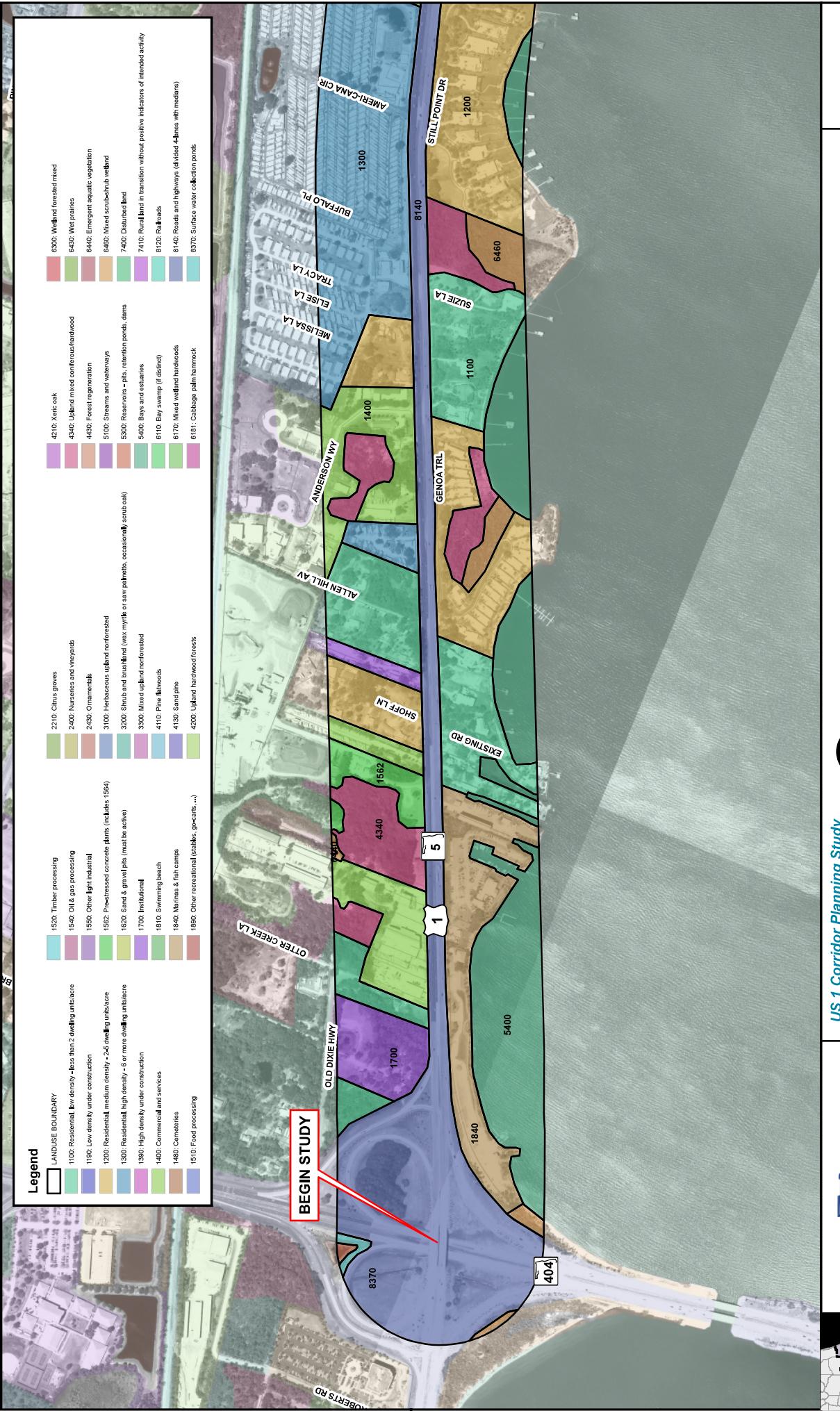
There are no previous or ongoing planning studies on this segment of US 1. All Aboard Florida, now known as Virgin Trains, completed a Final Environmental Impact Statement (FEIS) in August 2015. A Record of Decision (ROD) was not identified. This action was completed to facilitate passenger rail between Miami and Orlando. The number of trains operating on the FEC line is unknown at this time; however, the double tracking of this line may influence future intersection layouts and geometry.

5. Study Area Description

5.1. Existing and Future Land Use

The existing land use was identified using St. Johns River Water Management District (SJRWMD), 2009 data. The existing land uses within a 300-foot buffer of the project limits are shown on **Figure 2**. The dominant land use classifications are Bays and Estuaries, Roads and Highways, and Commercial and services. Within the study limits, there are substantial industrial land uses / facilities that are severed by the FECR. These are generally manufacturing, light industrial, industrial and similar uses.

Within a 300-foot buffer of the project limits, the dominant Future Land Use listed are CC- Community Commercial, IND- Industrial, and NC- Neighborhood Commercial, as shown on **Figure 3**.



US 1 Corridor Planning Study

from Pineland Causeway (SR 404)
to Park Avenue
Brevard County, Florida
Financial Project ID: 133604-1-12-01
Federal Project No. na



0 250 500

FIGURE 2
EXISTING LAND USE

Sheet
1 of 6



US 1 Corridor Planning Study

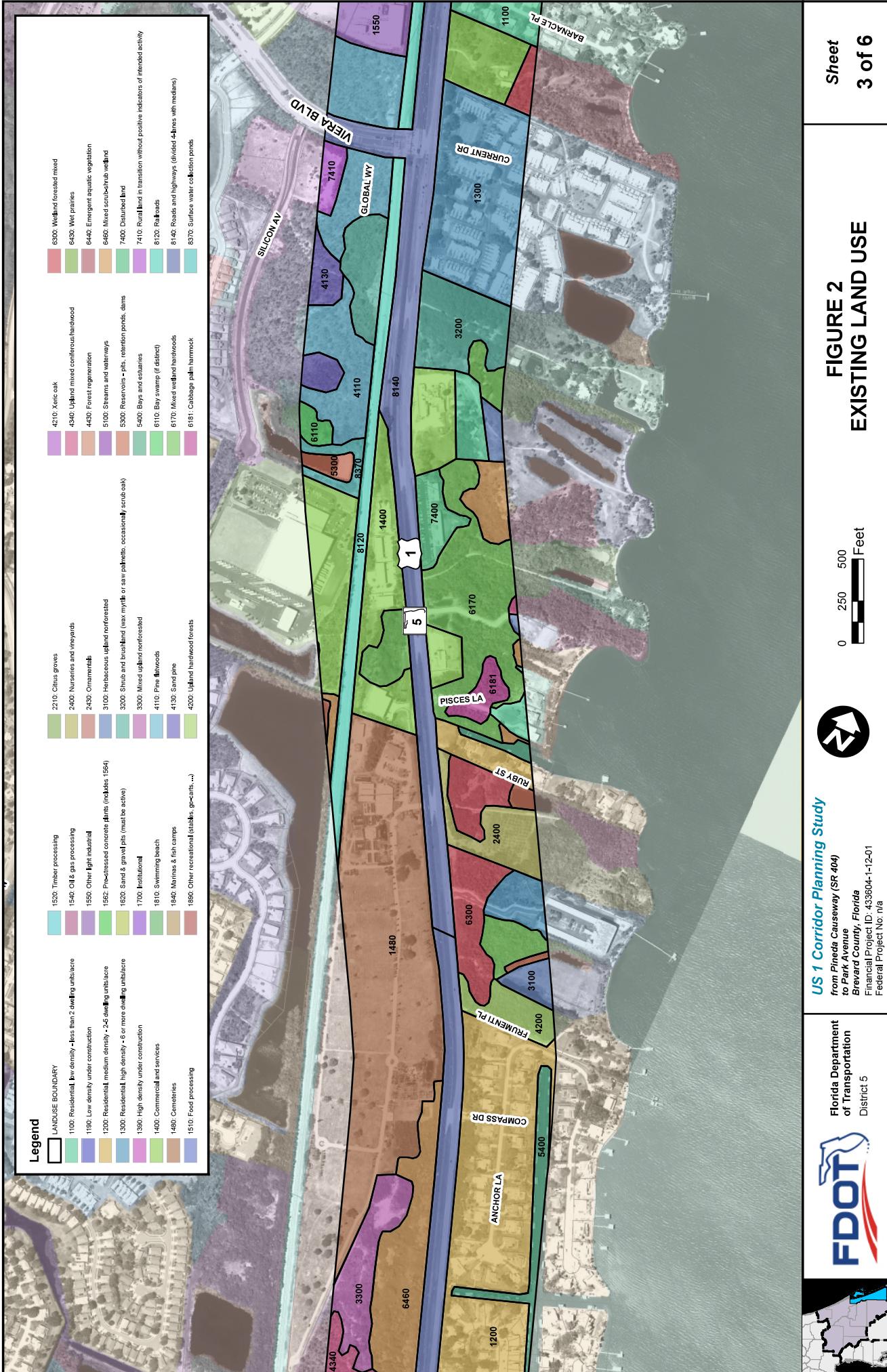
from Pineda Causeway (SR 404)
to Park Avenue
Brevard County, Florida
Financial Project ID: 133604-1-12-01
Federal Project No. na

Florida Department
of Transportation
District 5



FIGURE 2
EXISTING LAND USE

Sheet
2 of 6



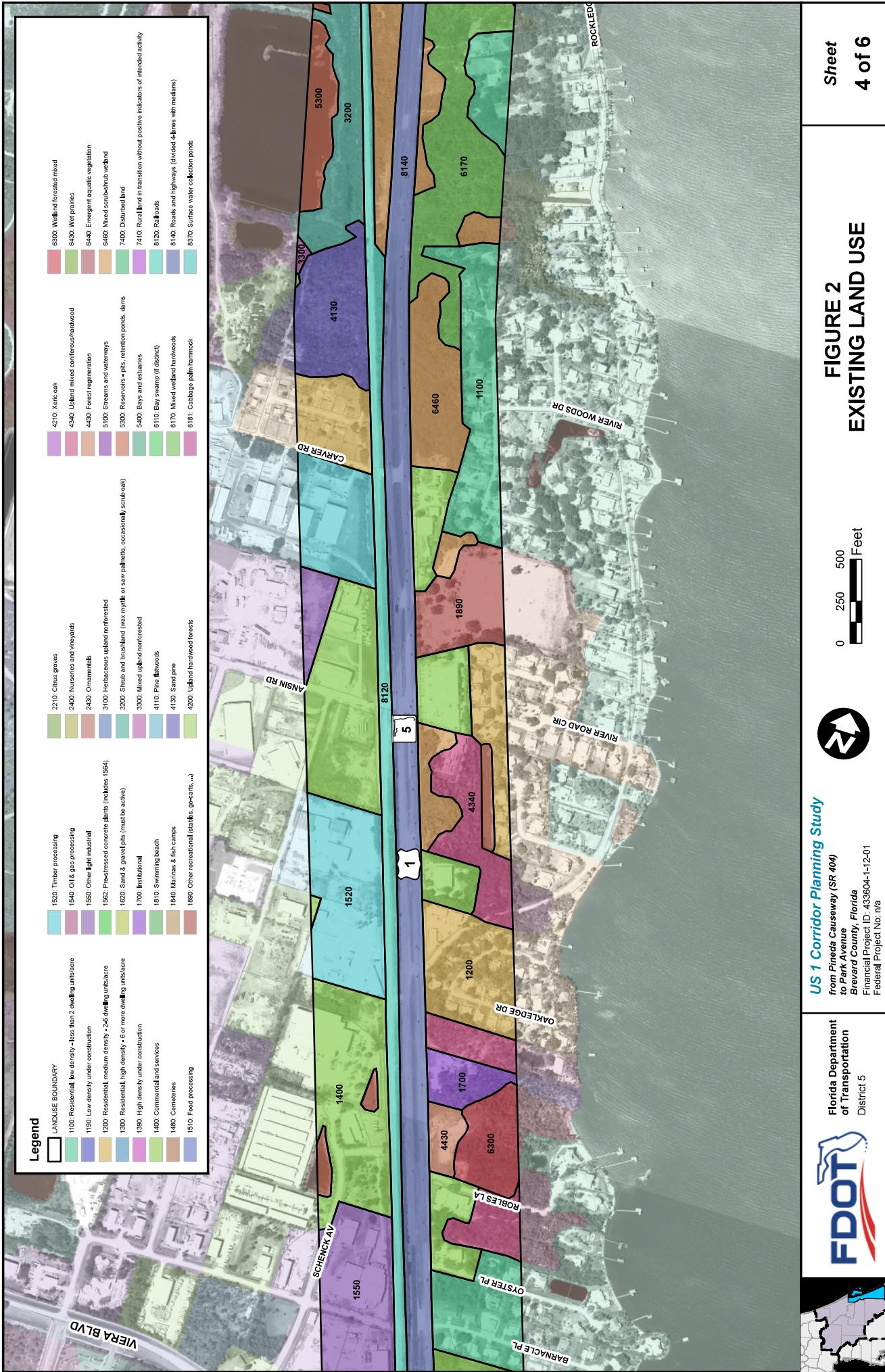




FIGURE 2
EXISTING LAND USE

Sheet
5 of 6

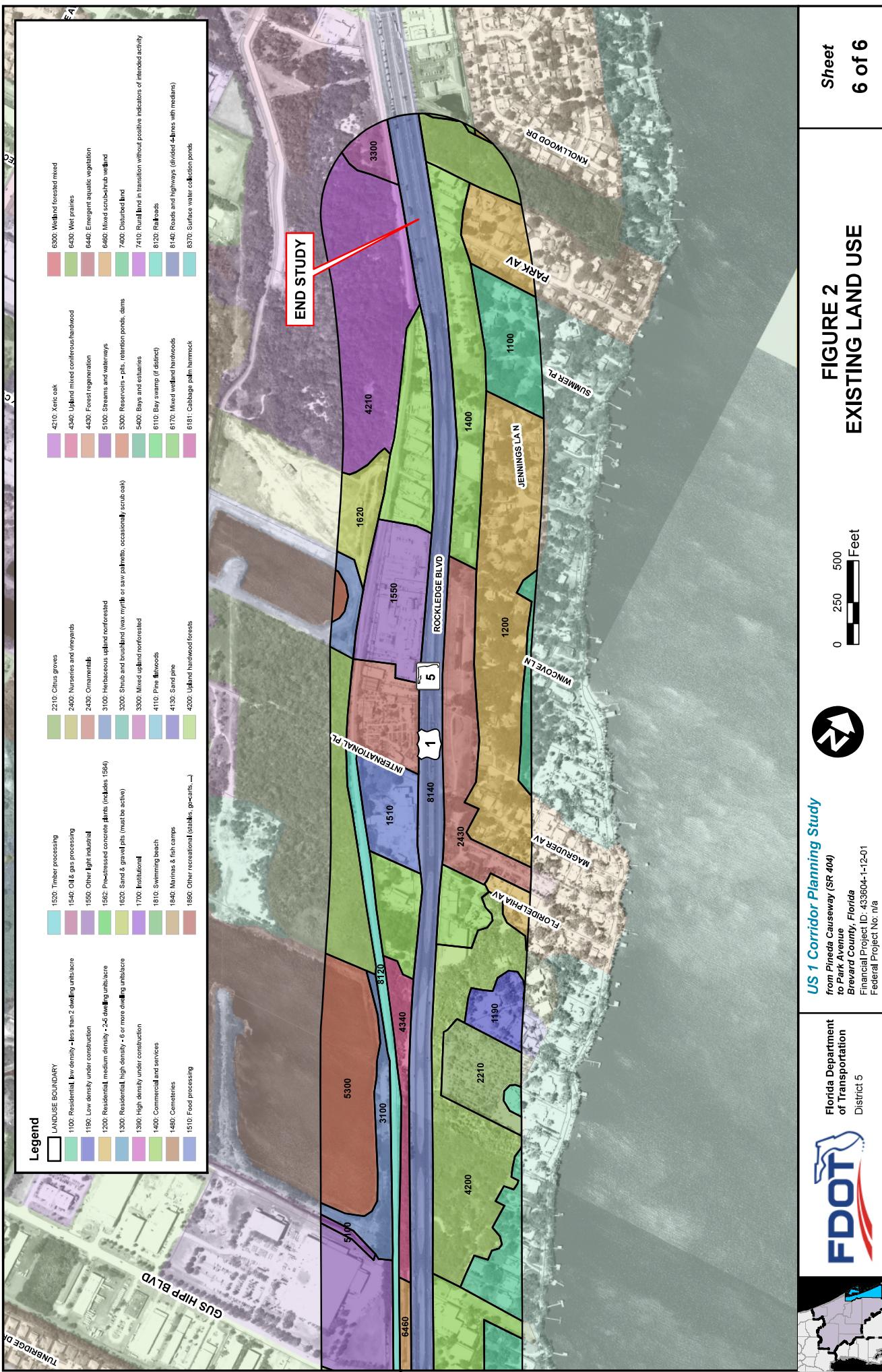


US 1 Corridor Planning Study

*from Pineda Causeway (SR 404)
to Park Avenue
Brevard County, Florida*

Florida Department
of Transportation





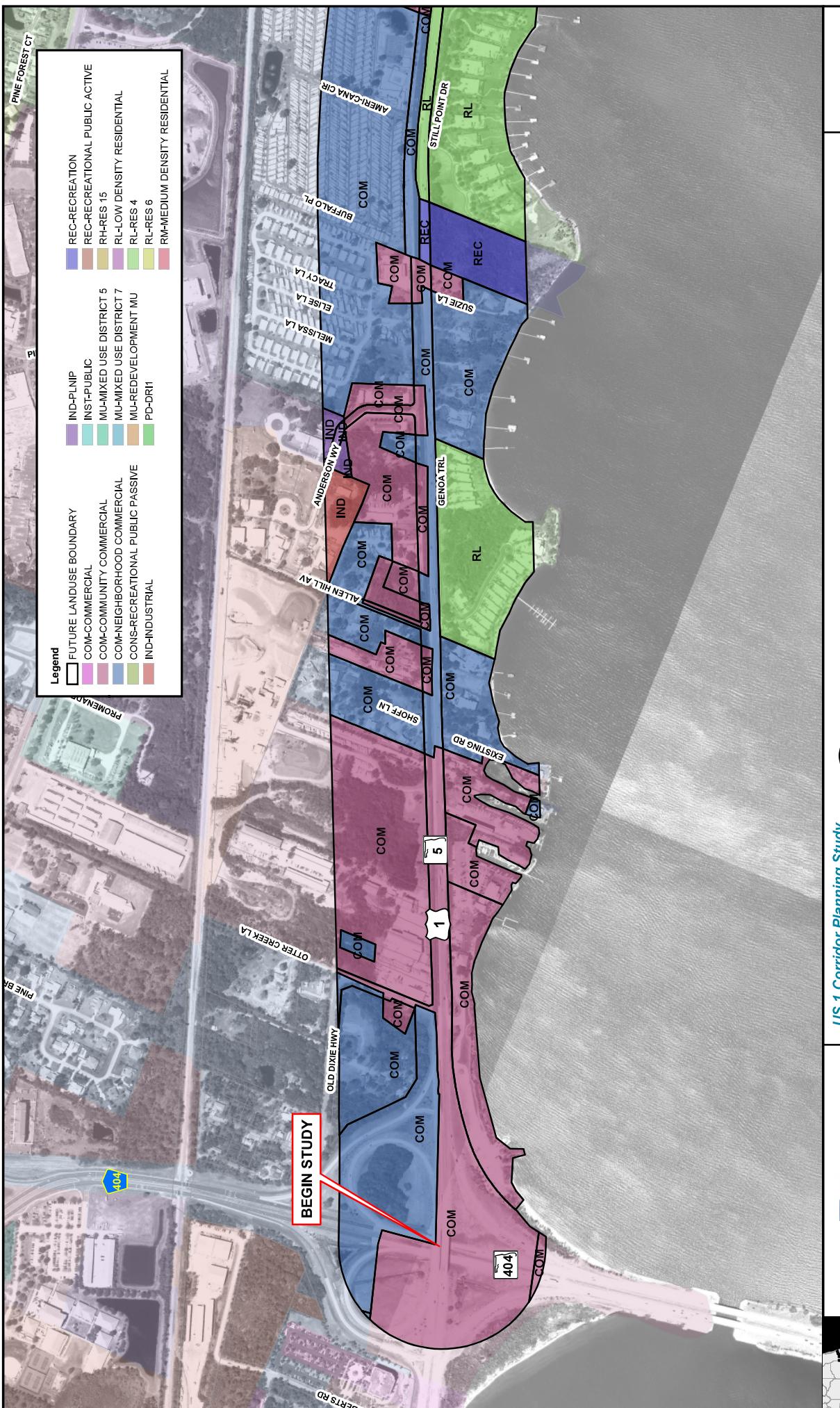


FIGURE 3

FUTURE LAND USE

Sheet
1 of 6

Us / Canaan Planning Study
from Ricardo Gómez (SP 101)

US 1 Corridor Planning Study
from Pineda Causeway (SR 404)
to Park Avenue
Brevard County, Florida
Financial Project ID: 433604-1-12-01



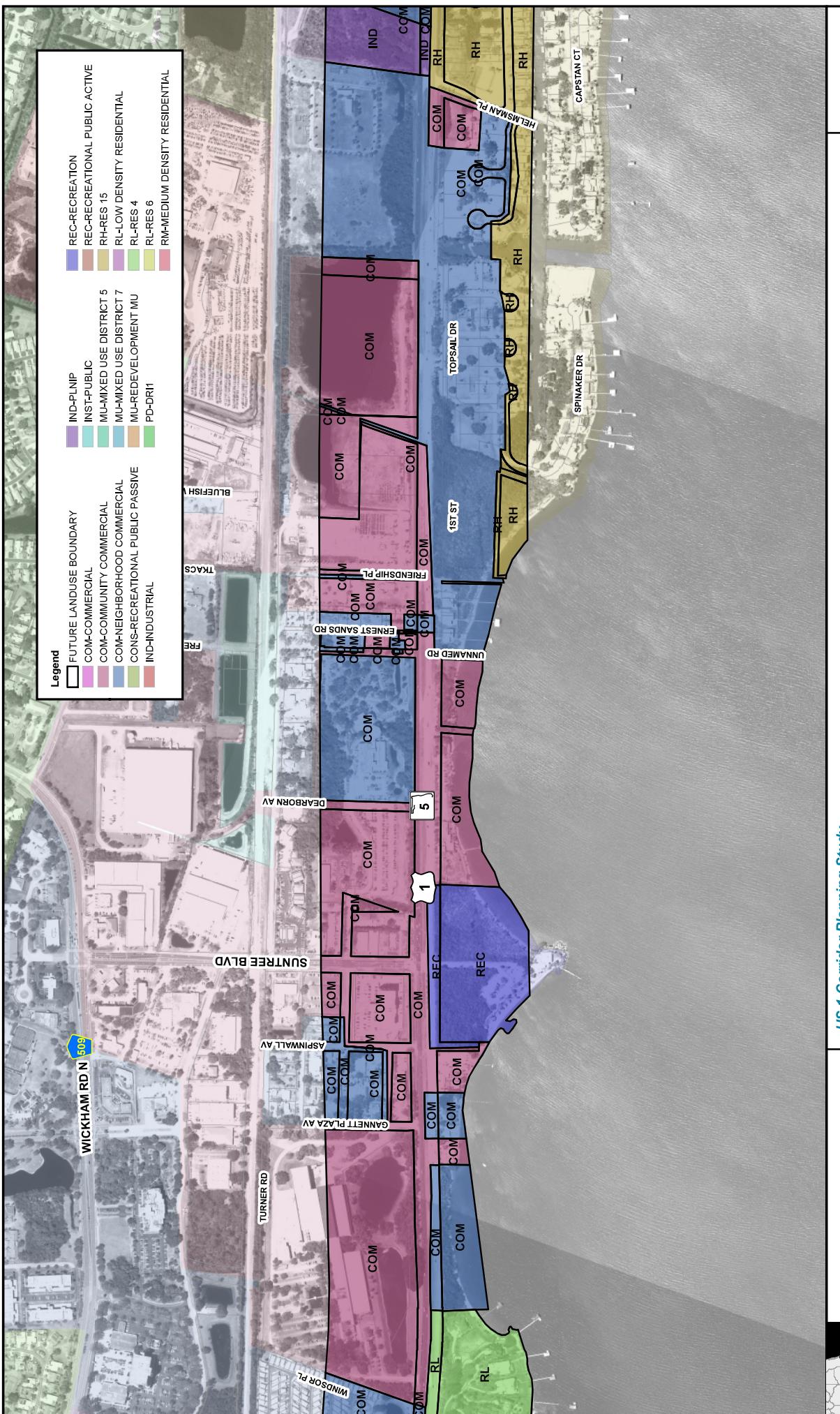


FIGURE 3

FUTURE LAND USE

Sheet
2 of 6



US 1 Corridor Planning Study

*from Pineda Causeway (SR 404)
to Park Avenue
Brevard County, Florida*
Financial Project ID: 433604-1-12-0

