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A REGIONAL TRANSPORTATION PARTNERSHIP

2050 Metropolitan Transportation Plan

Appendix G | Environmental Stewardship & Resilience Supplemental Information

August 22, 2025
DRAFT

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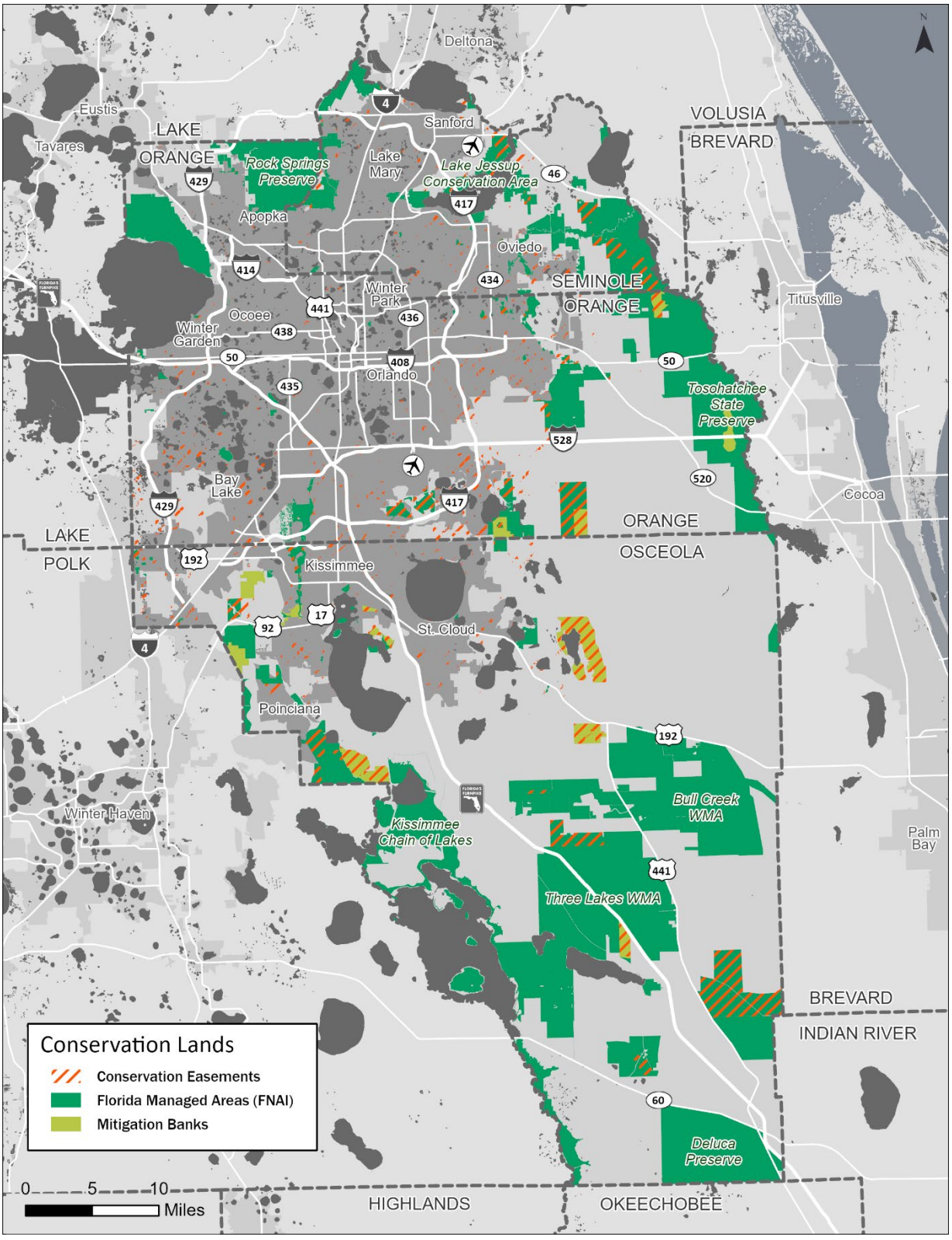
FIGURES

TABLES

G.1 Environmental Existing Conditions Supplemental Information

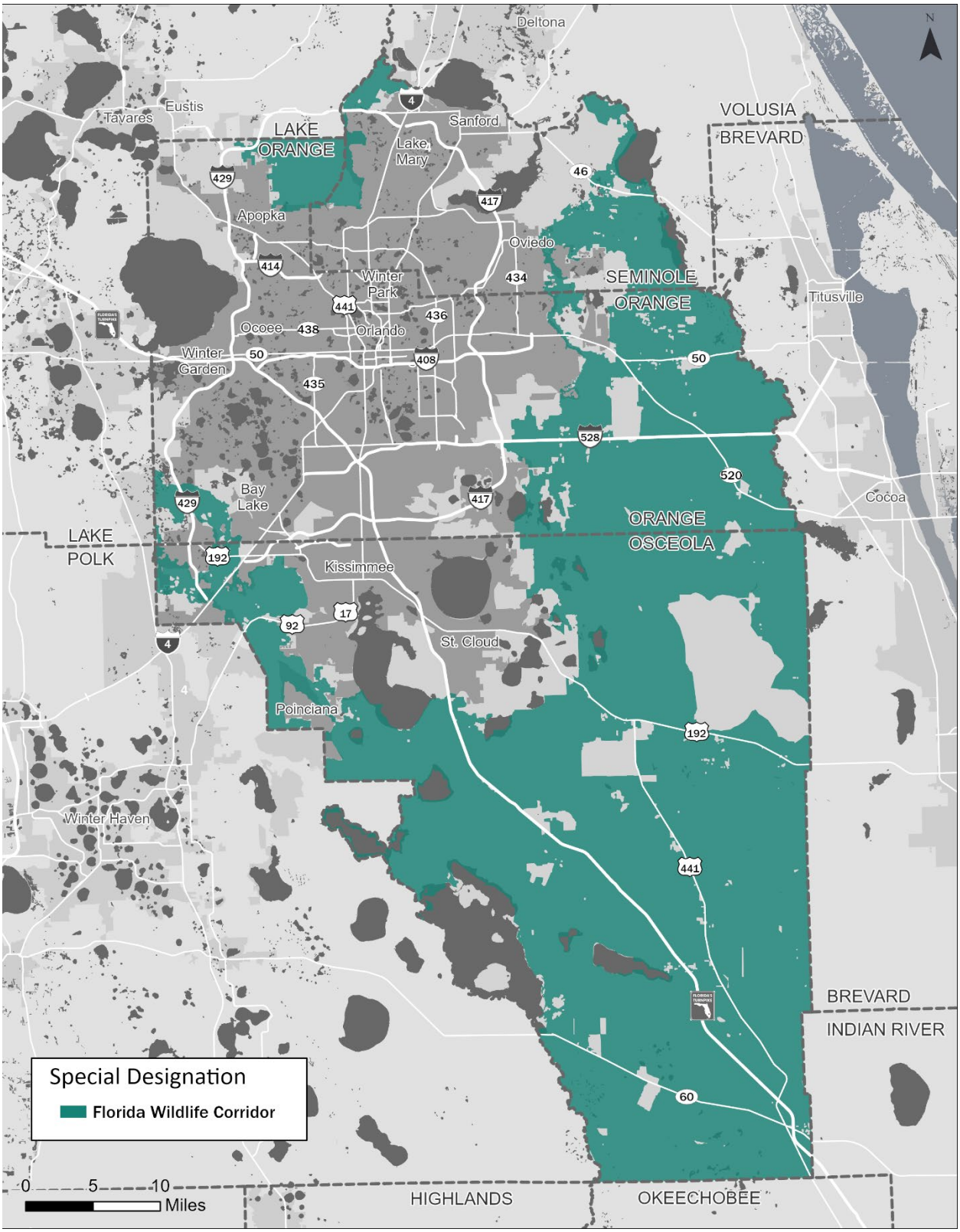
The information provided in this section supplement Chapter 6: Environmental Stewardship and Resilience. The map figures Figure G-1 through Figure G-7 were used to document the existing conditions for environmental resources within the MetroPlan Orlando region during the 2050 MTP update.

Figure G-1 | Conservation Lands within the MetroPlan Orlando Planning Region



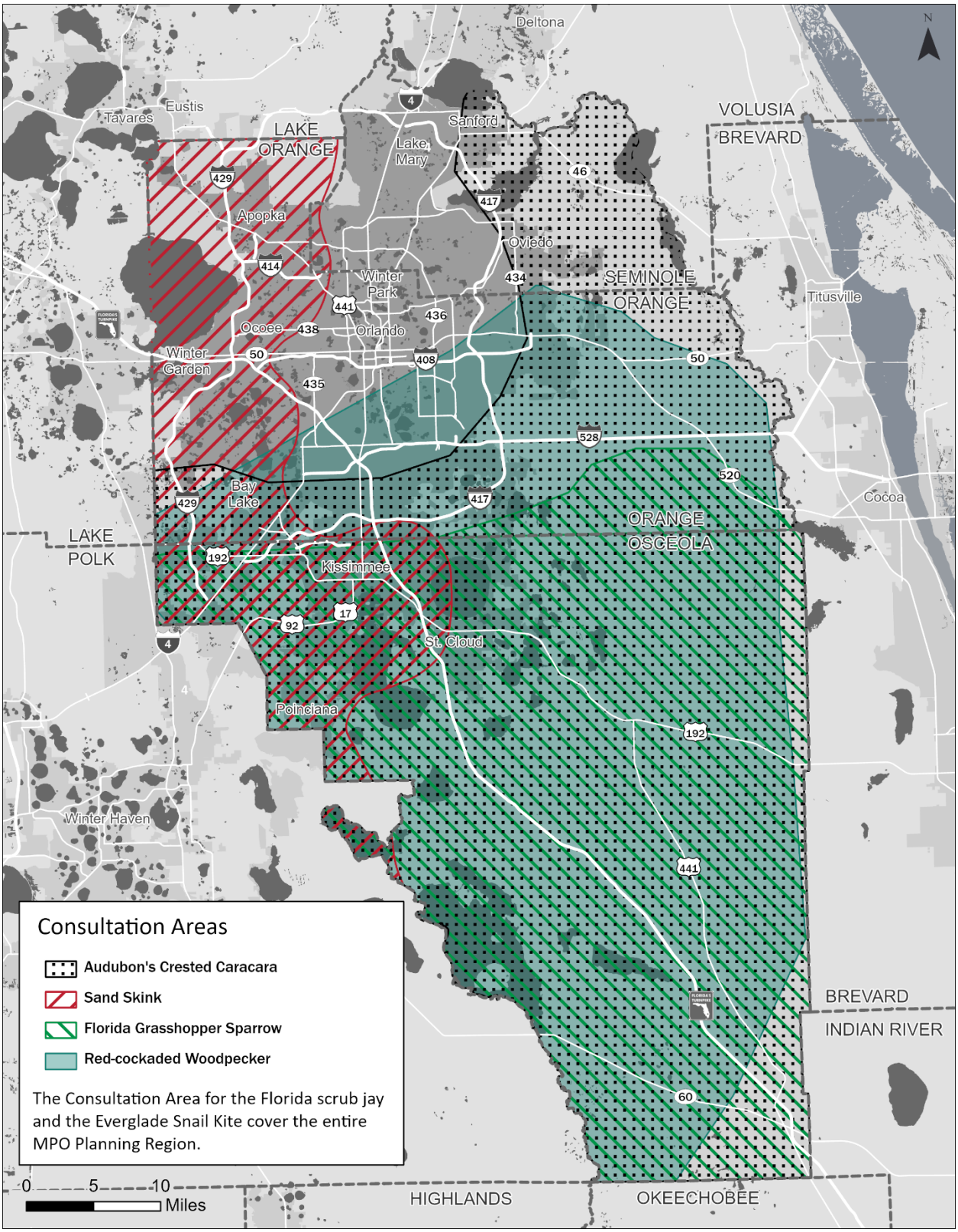
Sources: FNAI, 2024; SJRMWD, 2024; SFWMD, 2024; Natural Resource Conservation Service, 2024

Figure G-2 | Florida Wildlife Corridor in the MetroPlan Orlando Planning Region



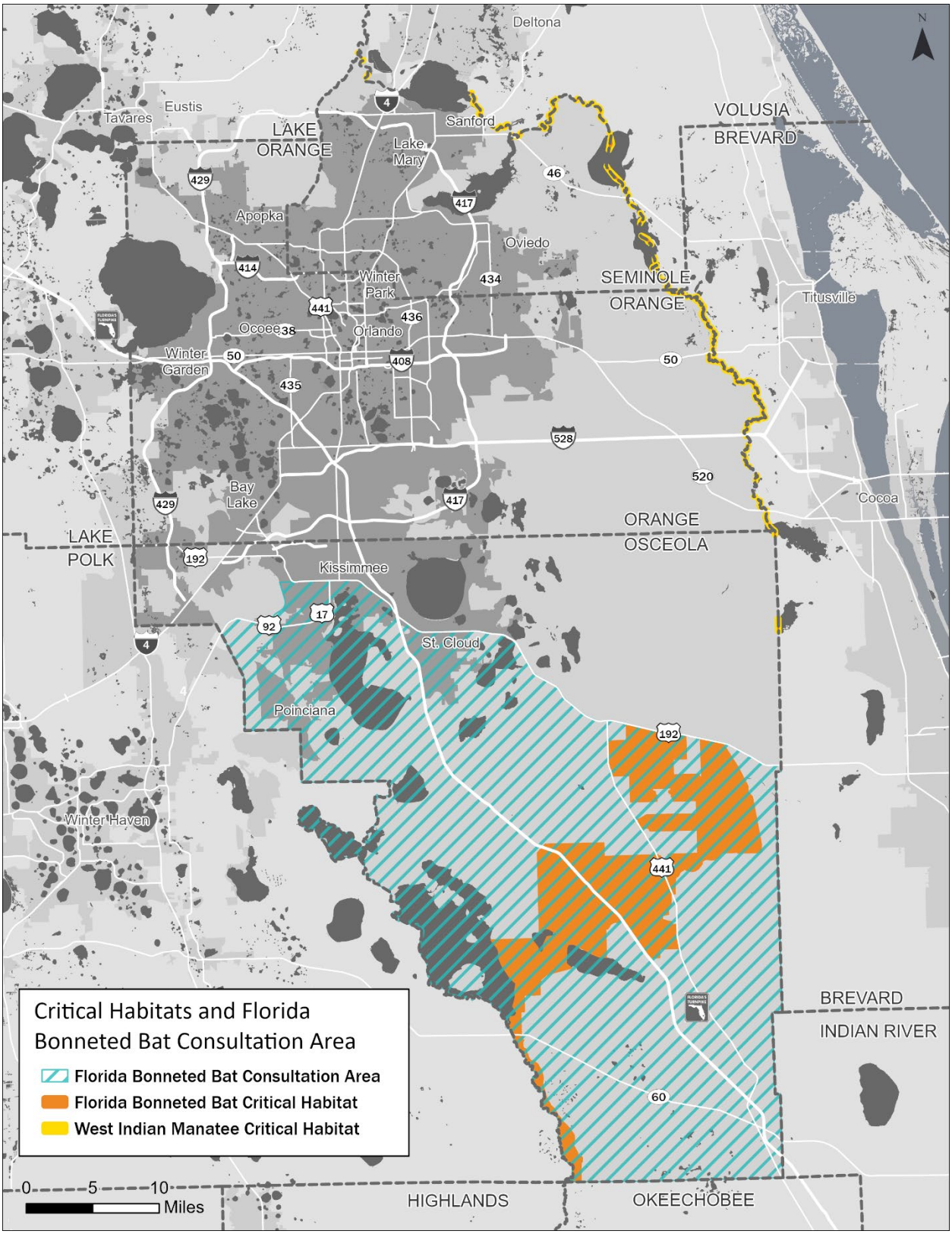
Source: University of Florida, 2024

Figure G-3 | Designated Consultation Areas in the MetroPlan Orlando Planning Region



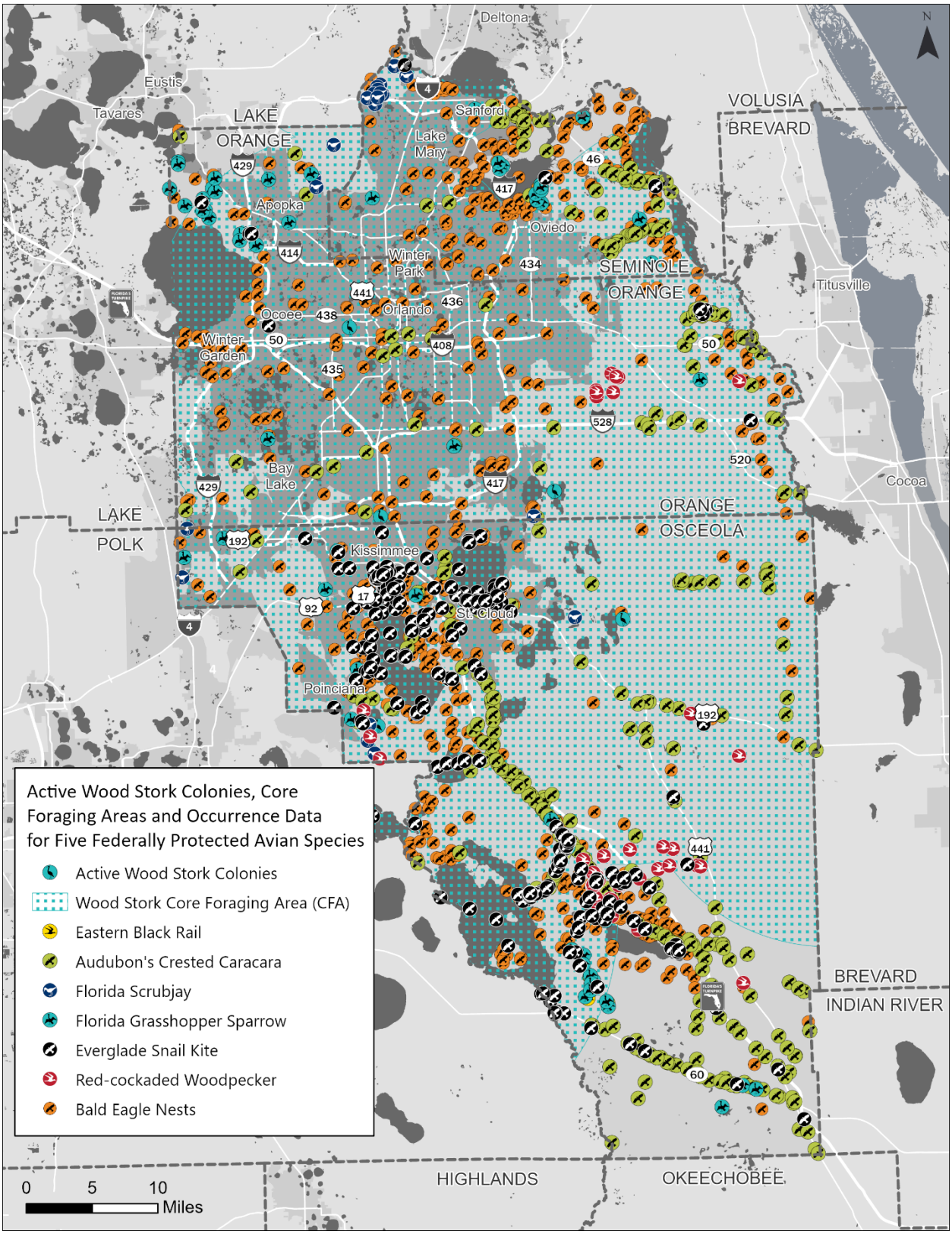
Source: USFWS, 2024

Figure G-4 | Designated Critical Habitat in the MetroPlan Orlando Planning Region



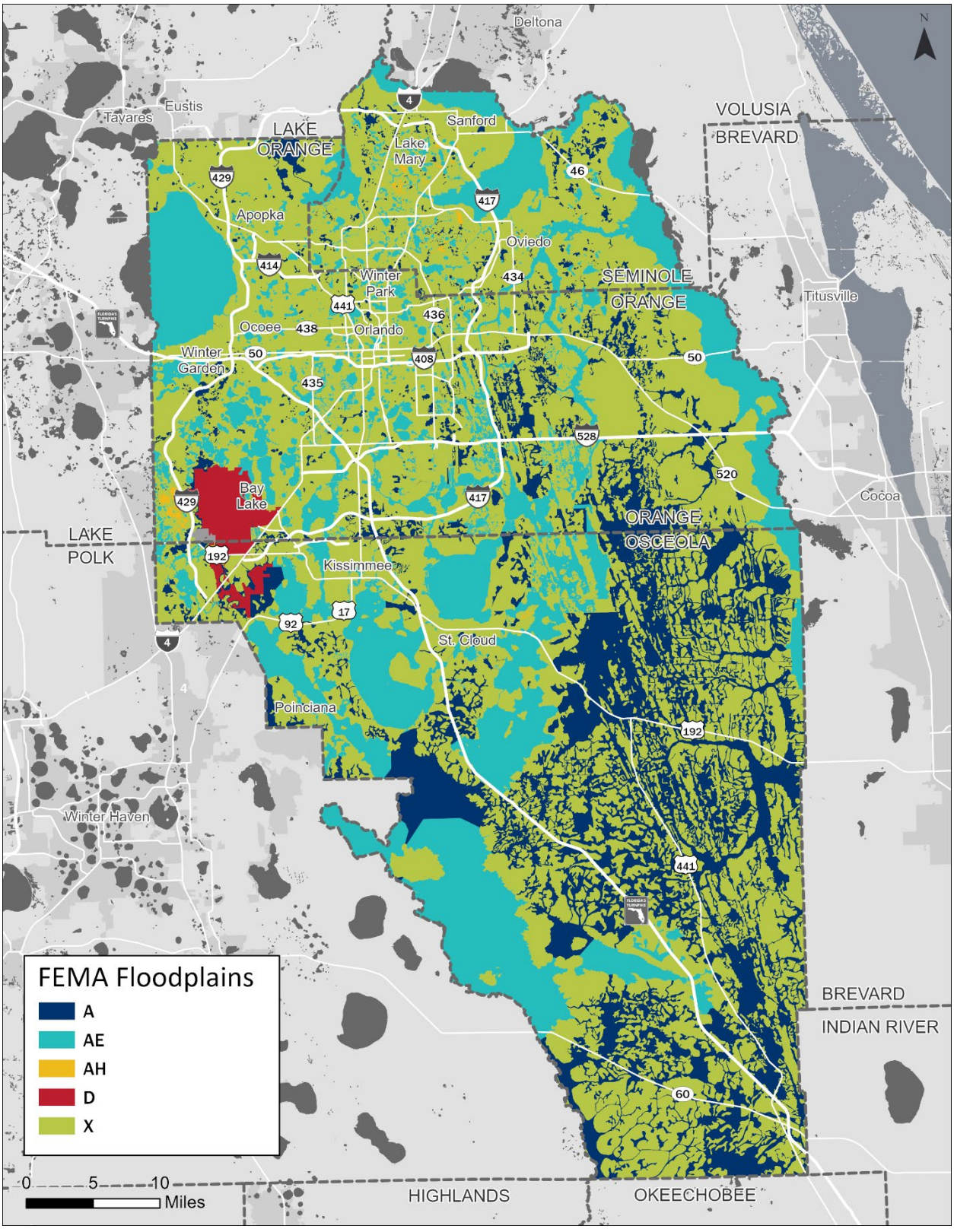
Source: USFWS, 2024

Figure G-5 | Protected Species Occurrences in the MetroPlan Orlando Planning Region



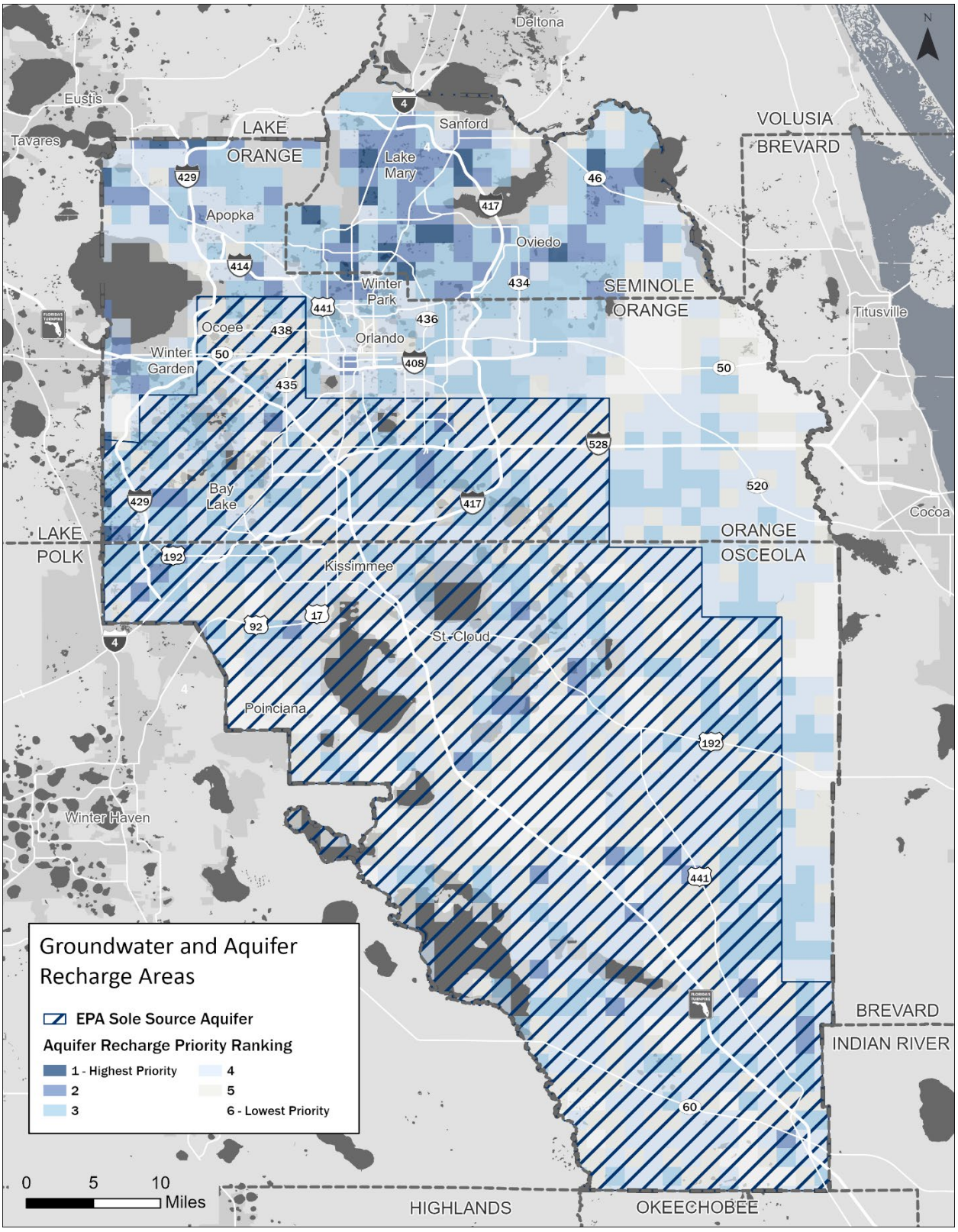
Sources: Audubon Eagle Watch, 2024; FDEP, 2024; USFWS, 2024; eBird, 2018

Figure G-6 | FEMA Floodplain Zones in the MetroPlan Orlando Planning Region



Source: FEMA, 2023

Figure G-7 | Sole Source Aquifer and Recharge Areas in the MetroPlan Planning Region



Sources: FNAI, 2021; EPA, 2019

G.2 Wetland Mitigation Strategy & Land Suitability Analysis

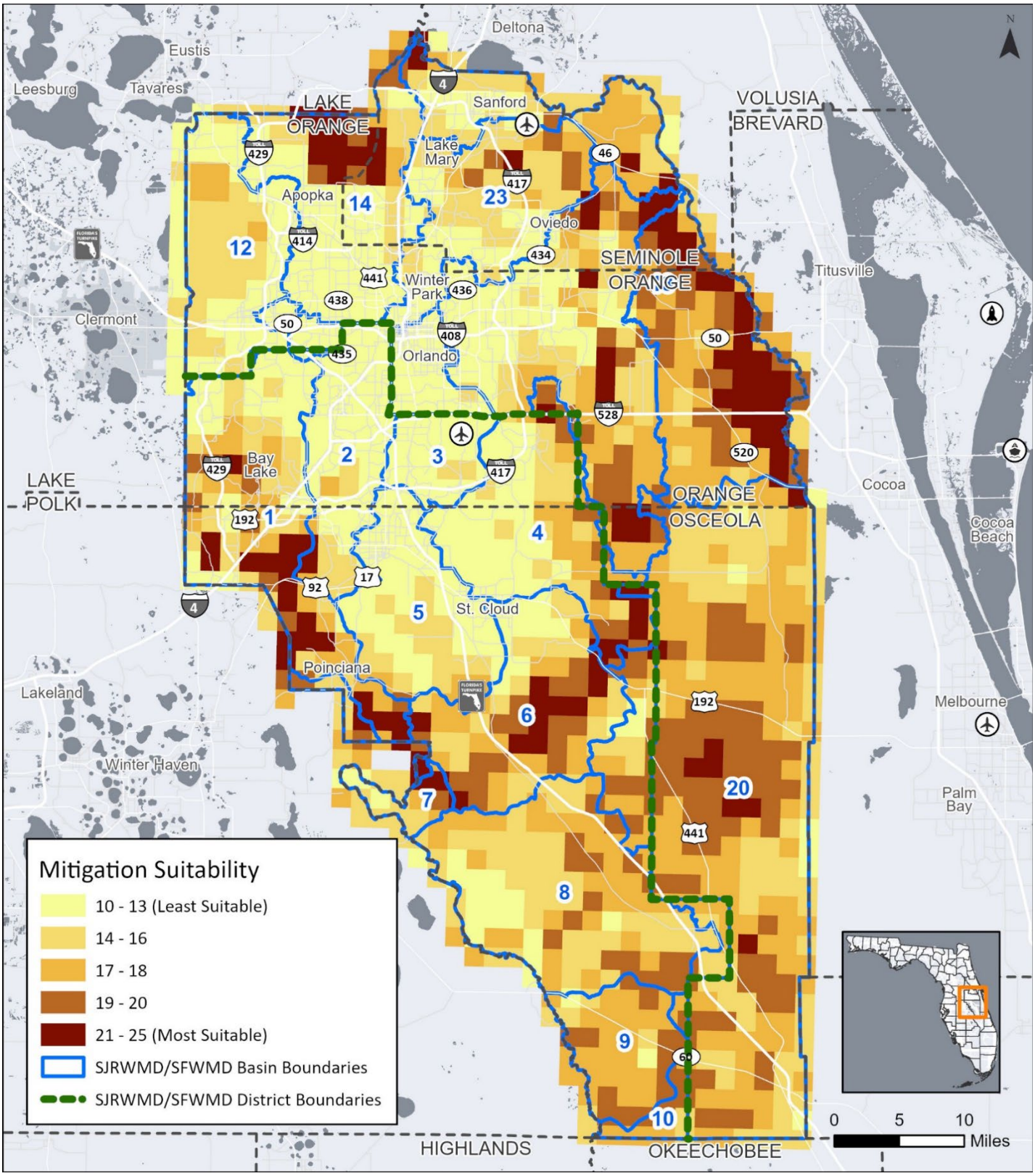
A land suitability analysis was conducted to identify those areas within the MetroPlan Orlando planning region (study area) that are most suitable for future wetland mitigation projects. For the analysis, the study area was divided into a grid containing 1372 cells, measuring 1.5x1.5-mile, and a surface area of 1,440-acres each. The mitigation suitability grid system and results can be seen on Figure G-8. Each cell was ranked as high (3), moderate (2) or low (1) for each of the ten environmental factors:

- Mitigation Needs
  - Cells that were located within basins without credits or are growing rapidly were rated as high (3);
  - Cells located in basins where mitigation bank credits are available and are experiencing moderate growth received as Moderate (2) ranking;
  - Cells located in basins where mitigation credits are available and are experiencing low growth were ranked as low (1).
- Protected Species
  - Cells that intersected the consultation area or designated critical habitat for more than five species were ranked as high (3); cells that intersected three or four species were ranked as moderate (2) and cells that intersected critical habitat or consultation area for less than two species were ranked as low (1).
- All Other Environmental Factors
  - For all other environmental factors, or data sets, the rankings were assigned based on the area of the cell that overlaps the specific feature.
  - For example, a cell where wetlands represent more than 75% of the cells total area were ranked as high (3); cells where wetlands made up between 25 and 50 percent of the cell's total area were ranked as Moderate (2) and cells where wetlands constituted less than 25% of the cell were ranked as low (1).

All ten individual criteria and thresholds are summarized in Table G-1.

The rankings for each criterion were added to obtain an overall suitability score ranging between 10 and 30. The overall scores were divided into quintiles using the Jenks natural breaks, a clustering method used in mapping software that groups data into that minimize the within-group variance and maximize the between-group variance (Jenks 1967). Each quintile reflects the cell's overall suitability as follows: Very Highly Suitable (21-25), Highly Suitable (19-20), Moderately Suitable (17-18), Marginally Suitable (14-16) Unsuitable (10-13).

Figure G-8 | Mitigation Suitability Analysis



Source: Wetland Mitigation Strategy Technical Memorandum, VHB, 2024

Table G-1 | Environmental Factors for the Evaluation of Potential Future Wetland Mitigation Sites

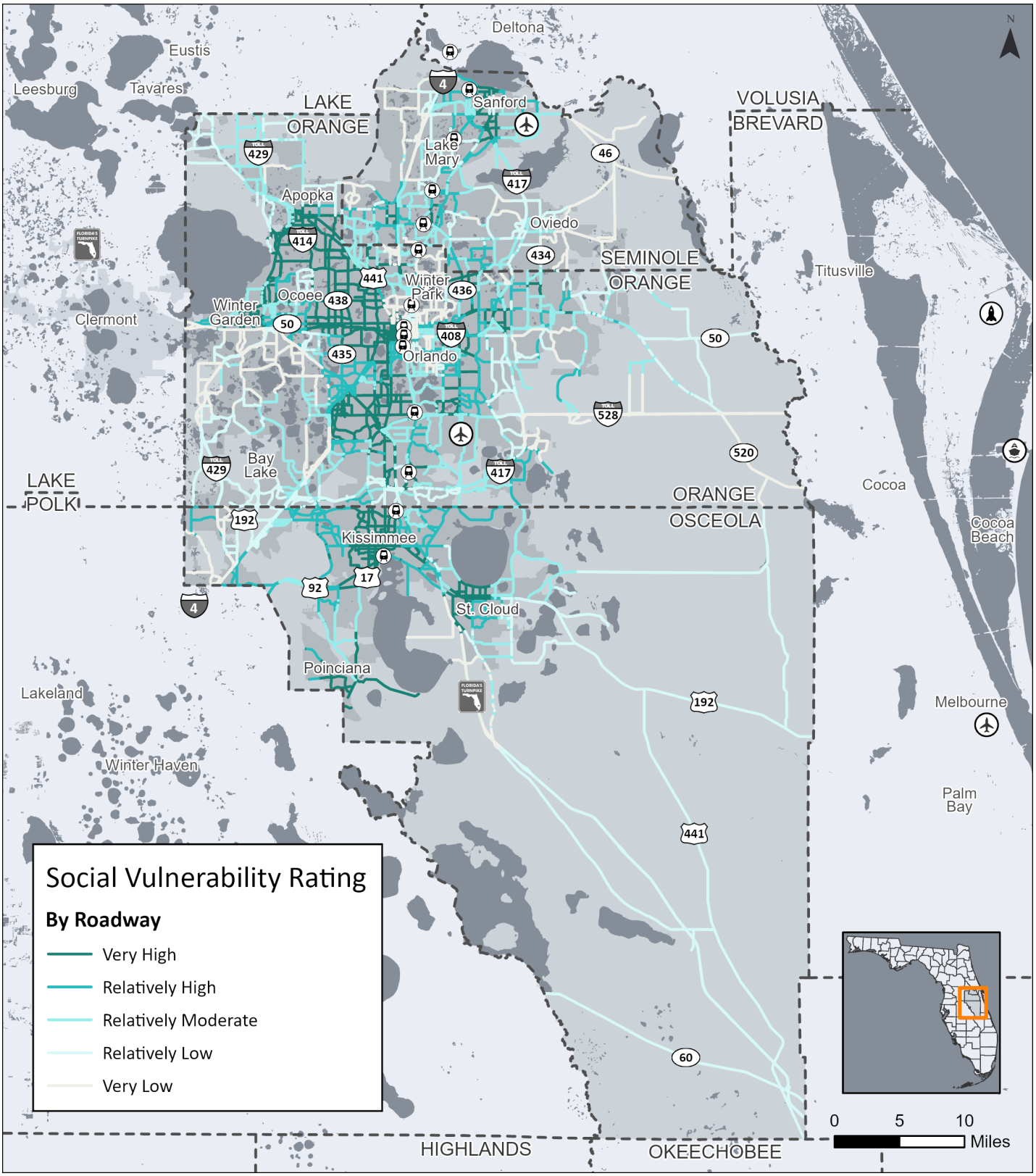
Environmental Factor	Criteria	High 3	Moderate 2	Low 1
Mitigation Needs	Mitigation Credit Availability and historical growth rate based on number of environmental resource permits issued by each WMD since 2020	No Credits Available/ High Growth	Moderate Growth	Low Growth
Habitat Connectivity	Area of the cell that is within the Florida Wildlife Corridor or the Florida Ecological Greenways Network expressed as a percentage	> 75%	25-50%	< 25%
Watershed Protection	Length of streams and flow ways was averaged for all the cells	> 75%	25-50%	< 25%
Floodplains	Areal extent of the cell that is considered as special hazard areas (Flood Zones A, AE, V or VE)	> 75%	25-50%	< 25%
Wetlands	Areal extent of the cell that is wetlands as mapped by the SJRWMD or the SFWMD	> 75%	25-50%	< 25%
Conservation Priority	Areal extent of the cell that is part of the FNAI Critical Lands expr	>75%	25-50%	< 25%
Protected Species Habitat	Potential number of protected species involvement based on consultation area, critical habitat	6-5	4-3	2-1
Florida Forever Board of Trustees Acquisition Projects (FFBOT)	Areal extent of the cell that is within the FFBOT project. For the analysis all removing lands already in conservation were removed from the layer.	>75%	25-50%	< 25%
Aquifer Recharge	Areal extent of high aquifer recharge areas (Priorities 1 and 2) based on FNAI aquifer recharge model	>75%	25-50%	< 25%
Habitats	Areal extent of high biodiversity areas (Priorities 1 and 2) on the FNAI Biodiversity	>75%	25-50%	< 25%

Source: VHB, 2024

G.3 Resilience Risk Assessment

The map figures and associated tables listed below were used to document the data collected for the resilience risk assessment.

Figure G-9 | Social Vulnerability Rating by Roadway



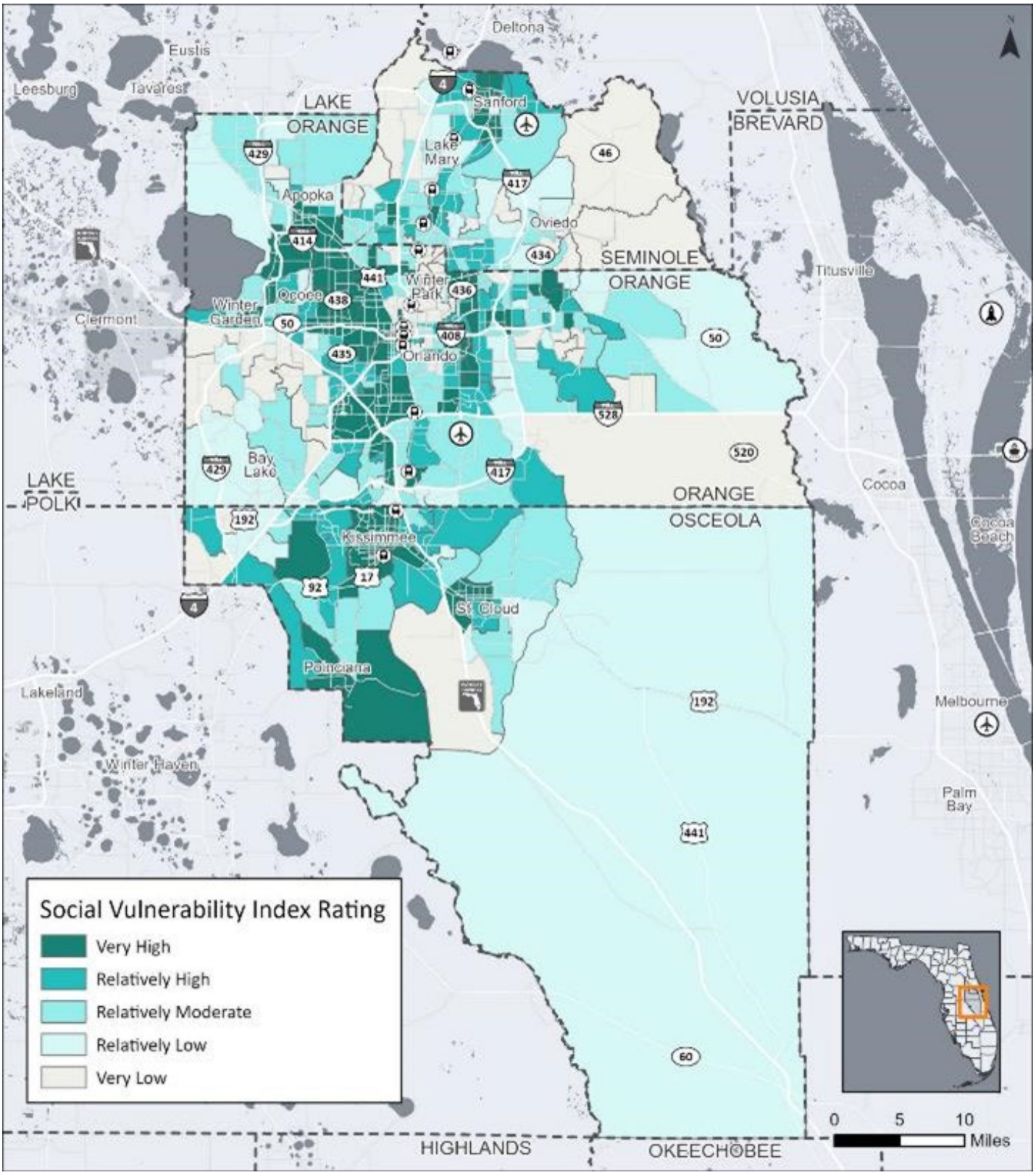
Source: FEMA, 2024

Table G-2 | FEMA "Very High" Social Vulnerability Roadways

FEMA SVI Rating	Roadway Description	County
Very High	25th St from Old Lake Mary Rd to Park Ave	Seminole County
Very High	Historic Goldsboro Blvd/Southwest Rd from 18th St to French Ave	Seminole County
Very High	1st St from Locust Ave to S Persimmon Ave	Seminole County
Very High	Orange Blossom Tr from SR 417 to SR 436/Main St	Orange County
Very High	Clarcona Ocoee Rd from Apopka Vineland Rd to Edgewater Rd	Orange County
Very High	Grand National Dr/Oak Ridge Rd from Carrier Rd to Orange Ave	Orange County
Very High	Landstar Blvd from Orange Blossom Tr to Orange Ave	Orange County
Very High	Vine Street from Shingle Creek to Cross Prairie Pkwy	Osceola County
Very High	Poinciana Blvd from Old Tampa Hwy to Irlo Bronson Memorial Hwy	Osceola County
Very High	John Young Pkwy from Ham Brown Rd to Orange County/Osceola County Line	Osceola County

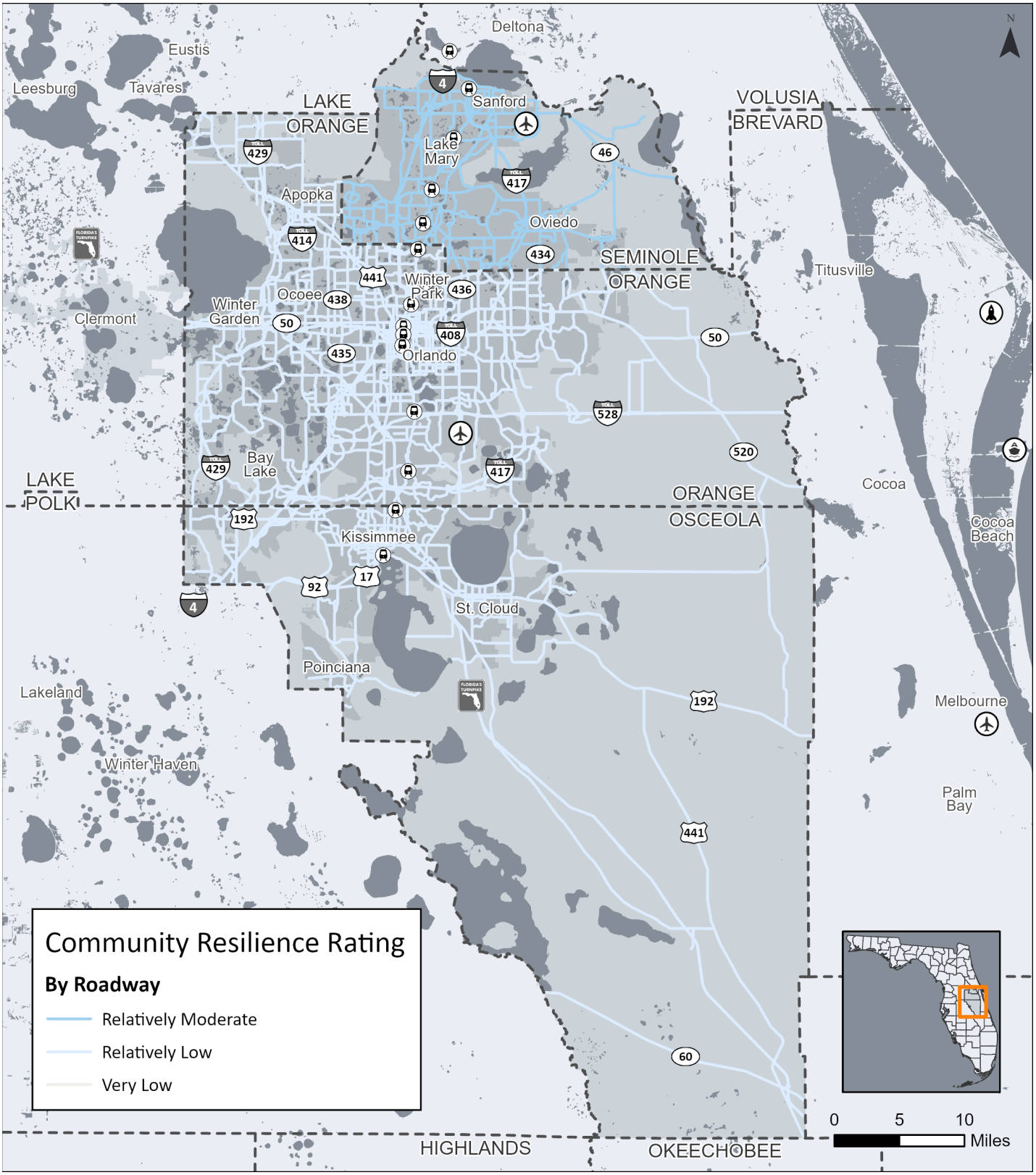
Source: FEMA, 2024

Figure G-10 | Social Vulnerability Rating



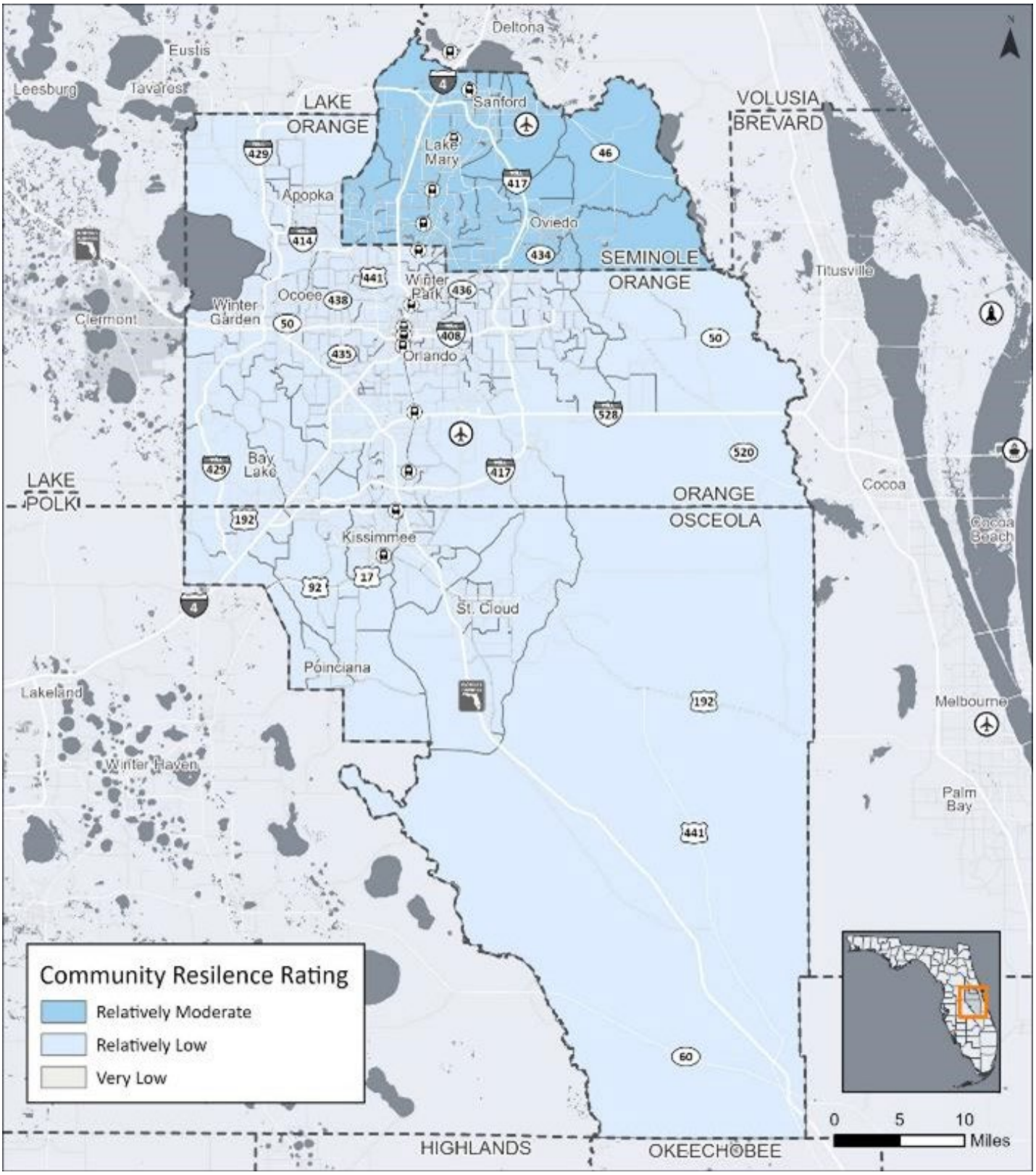
Source: FEMA, 2024

Figure G-11 | Community Resilience Rating by Roadway



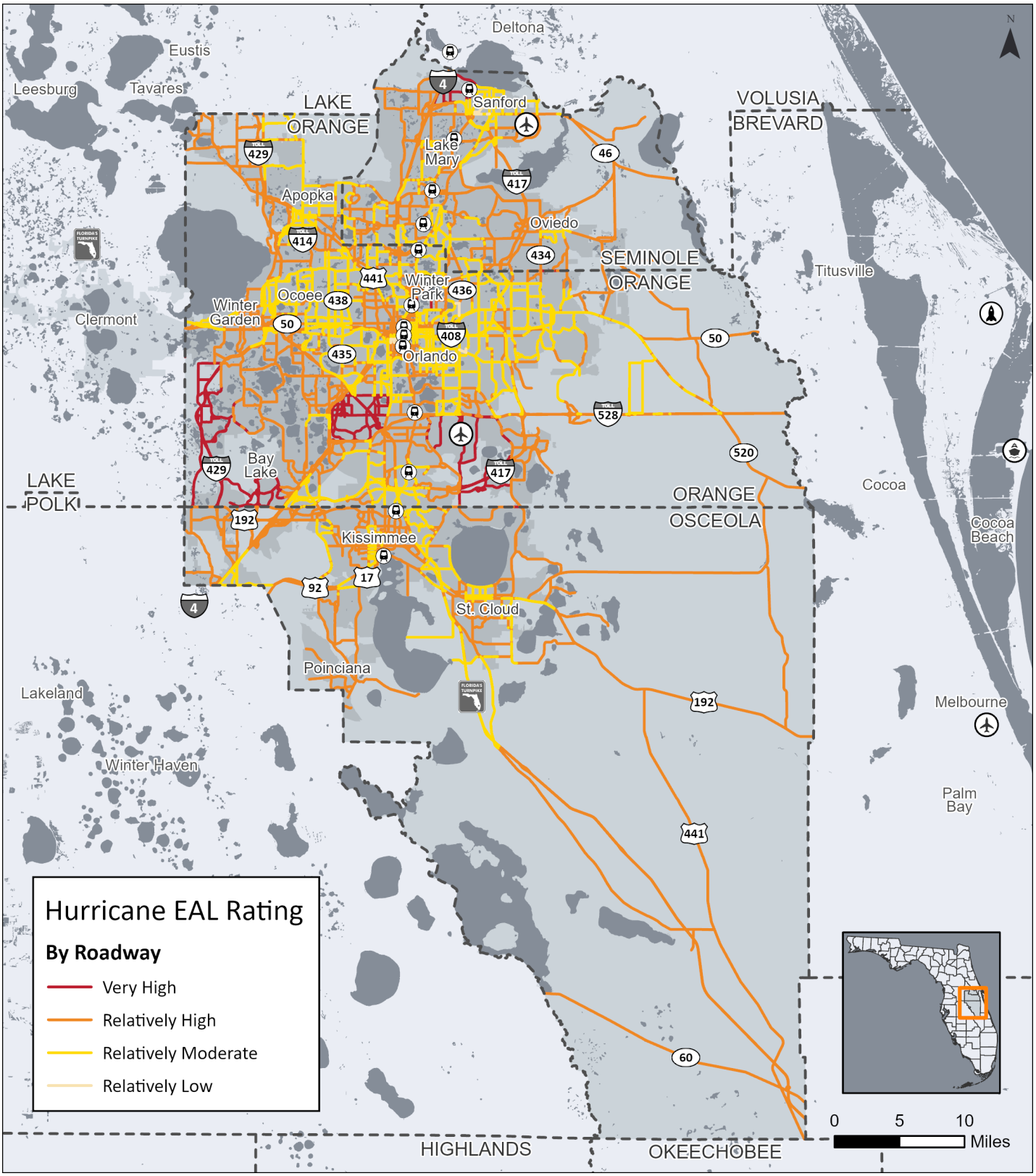
Source: FEMA, 2024

Figure G-12 | Community Resilience Rating



Source: FEMA, 2024

Figure G-13 | FEMA NRI Expected Annual Loss (EAL) Rating for Hurricanes by Roadway



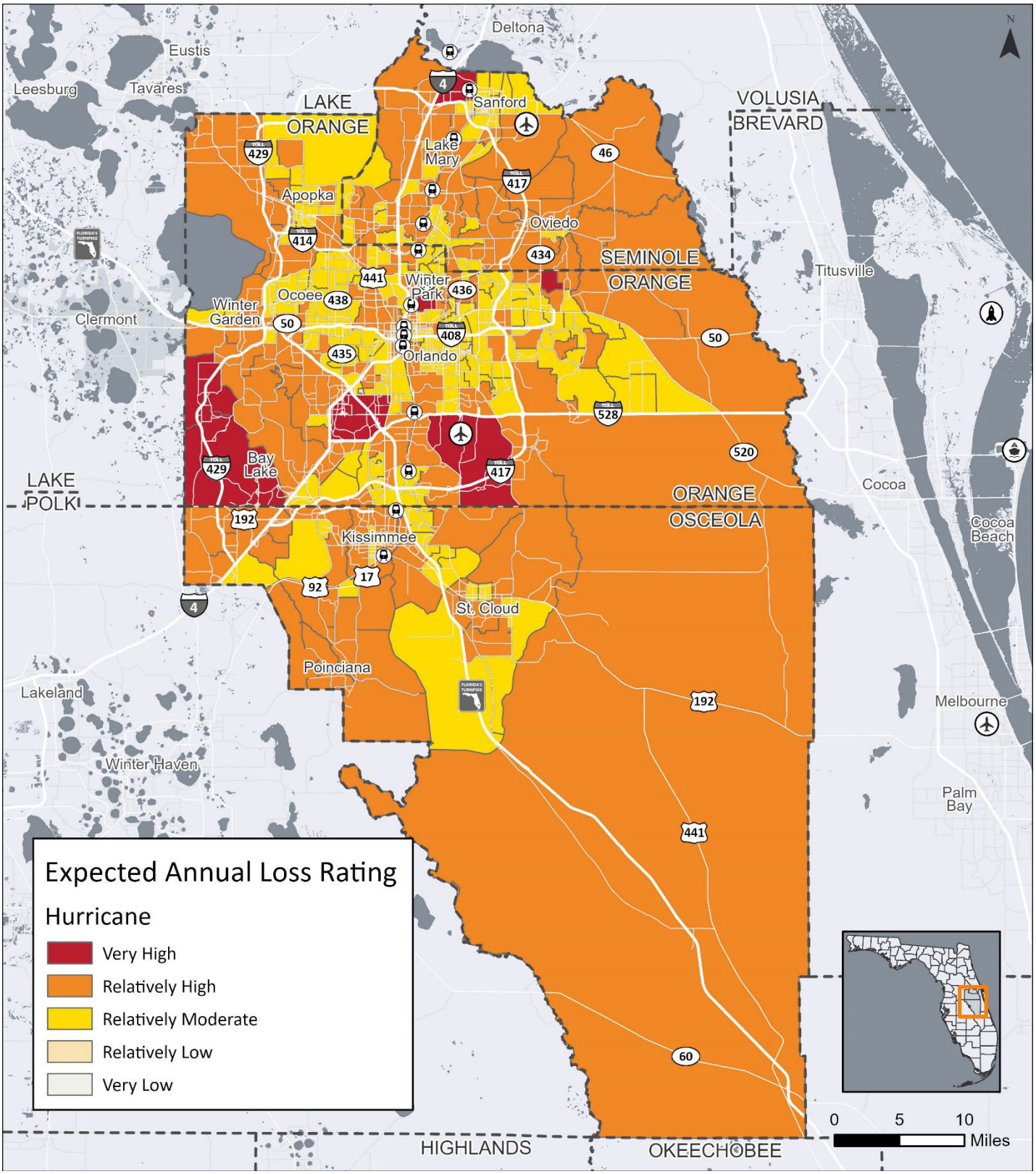
Source: FEMA, 2024

Table G-3 | FEMA "Very High" EAL from Hurricanes Rating by Roadway

FEMA EAL Hurricanes Rating	Roadway Description	County
Very High	W Seminole Blvd from Interstate 4 to Marbella Ln	Seminole County
Very High	SR 46/1st St from S Persimmon Ave to Interstate 4	Seminole County
Very High	Upsala Rd/Monroe Rd from SR 417 to W Seminole Blvd	Seminole County
Very High	Grand National Dr/Oak Ridge Rd from Carrier Rd to Orange Ave	Orange County
Very High	International Drive from Oak Ridge Rd to Interstate 4	Orange County
Very High	Airport Rd/Jeff Fuqua Pkwy from SR 528 to SR 417	Orange County
Very High	Avalon Rd from Tilden Rd to Space Coast Pkwy	Orange County
Very High	Lake Nona Blvd from Boggy Creek Rd to Narcoossee Rd	Orange County
Very High	Tradeport Dr from McCoy Rd to Boggy Creek Rd	Orange County
Very High	Universal Blvd from SR 528 to Interstate 4	Orange County

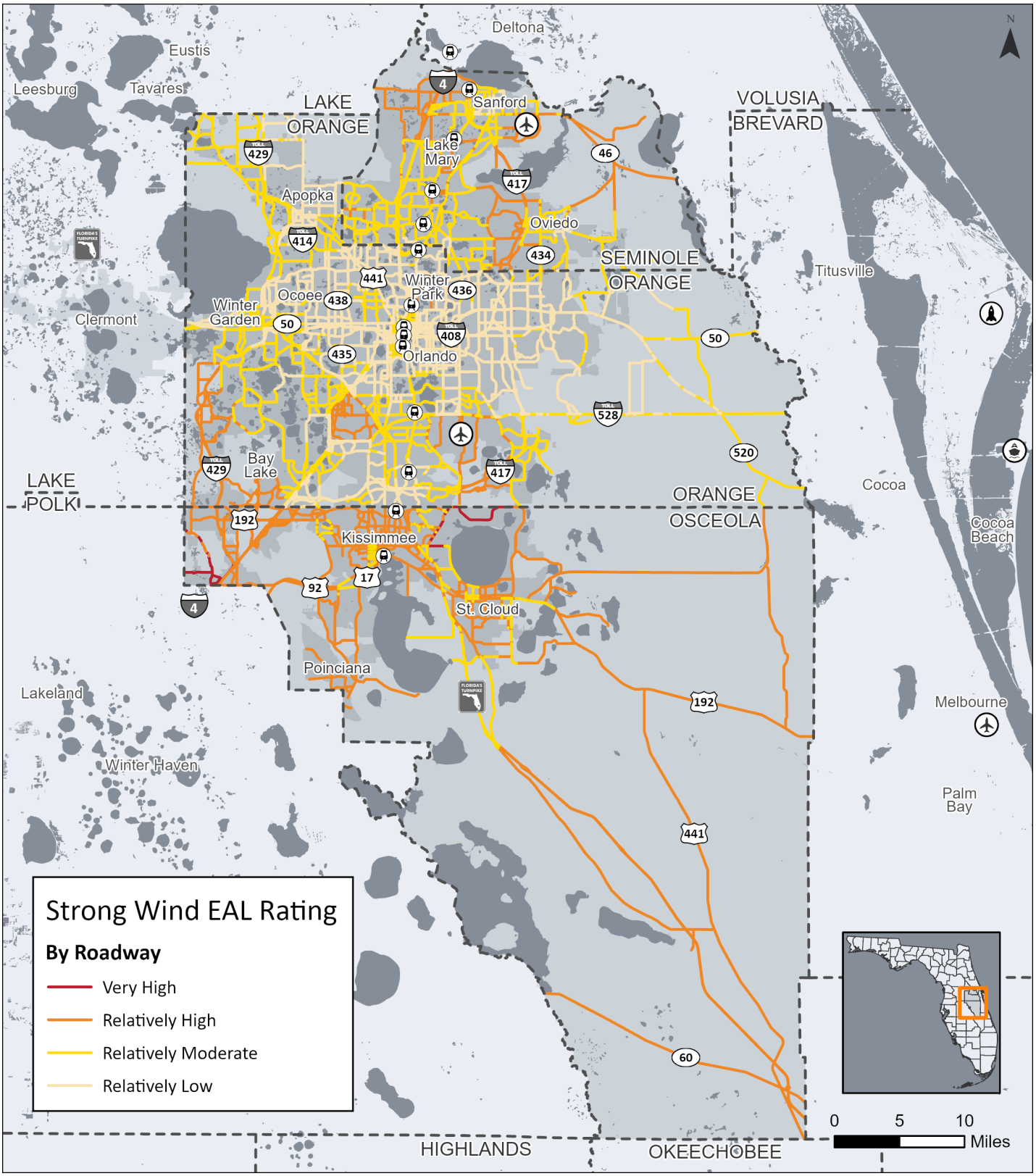
Source: FEMA, 2024

Figure G-14 | FEMA NRI Expected Annual Loss (EAL) for Hurricanes



Source: FEMA, 2024

Figure G-15 | FEMA NRI Expected Annual Loss (EAL) Ratings for Strong Winds by Roadway



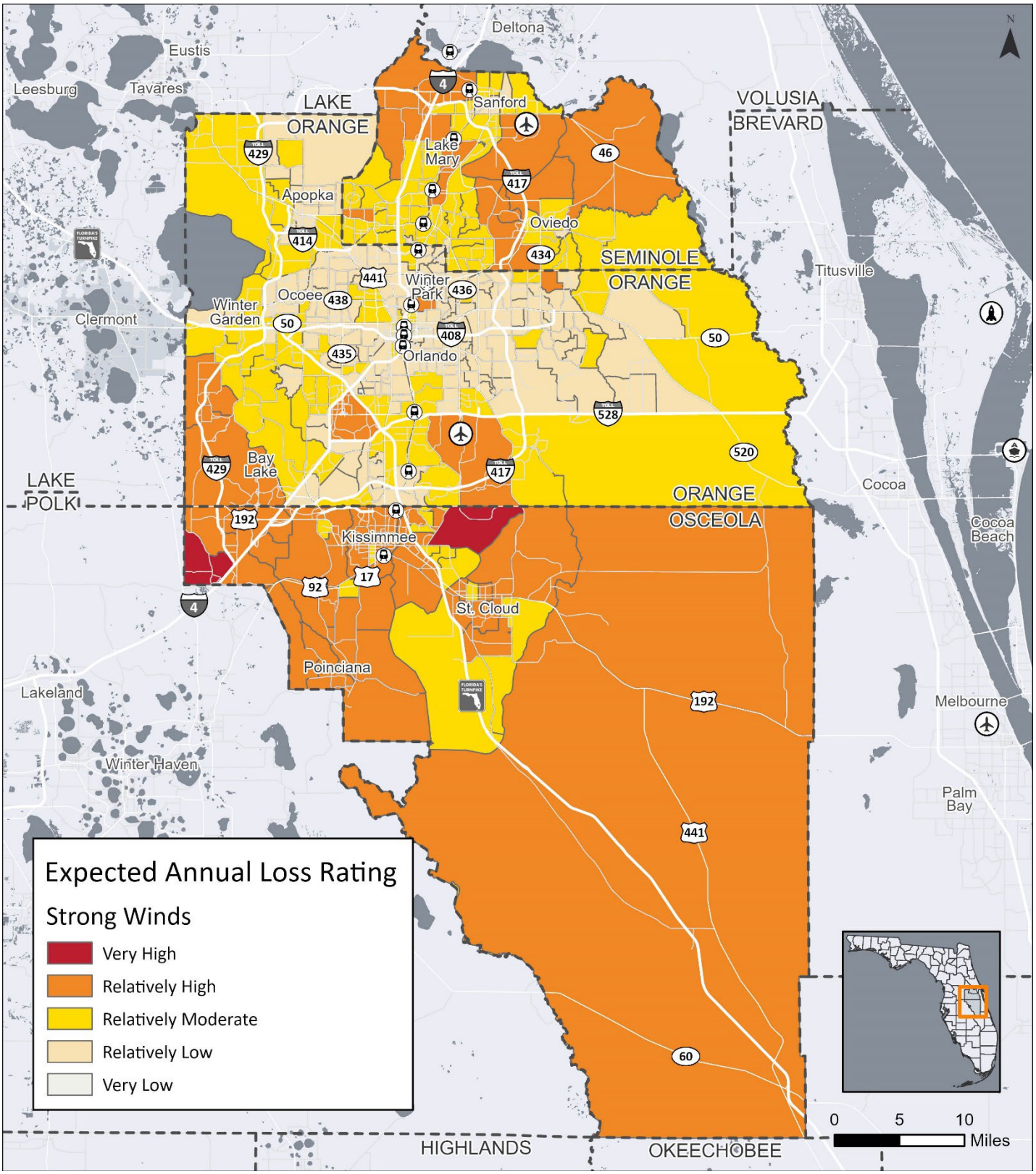
Source: FEMA, 2024

Table G-4 | FEMA "Very High" EAL from Strong Winds by Roadway

FEMA EAL Strong Winds Rating	Roadway Description	County
Very High	N Goodman Rd/Masters Blvd from Monaco Blvd to Champions Gate Blvd	Osceola County
Very High	Bella Cita Blvd from Goodman Rd to County Line	Osceola County
Very High	Simpson Rd from Fortune Rd to Boggy Creek Rd	Osceola County
Very High	Boggy Creek Rd from Simpson Rd to Quail Park Ter	Osceola County
Relatively High	International Drive from Oak Ridge Rd to Interstate 4	Orange County
Relatively High	Airport Rd/Jeff Fuqua Pkwy from SR 528 to SR 417	Orange County
Relatively High	Avalon Rd from Tilden Rd to Space Coast Pkwy	Orange County
Relatively High	Universal Blvd from SR 528 to Interstate 4	Orange County
Relatively High	SR 46/1st St from S Persimmon Ave to Wekiva Pkwy	Seminole County
Relatively High	W Seminole Blvd from Marbella Ln to County Line	Seminole County

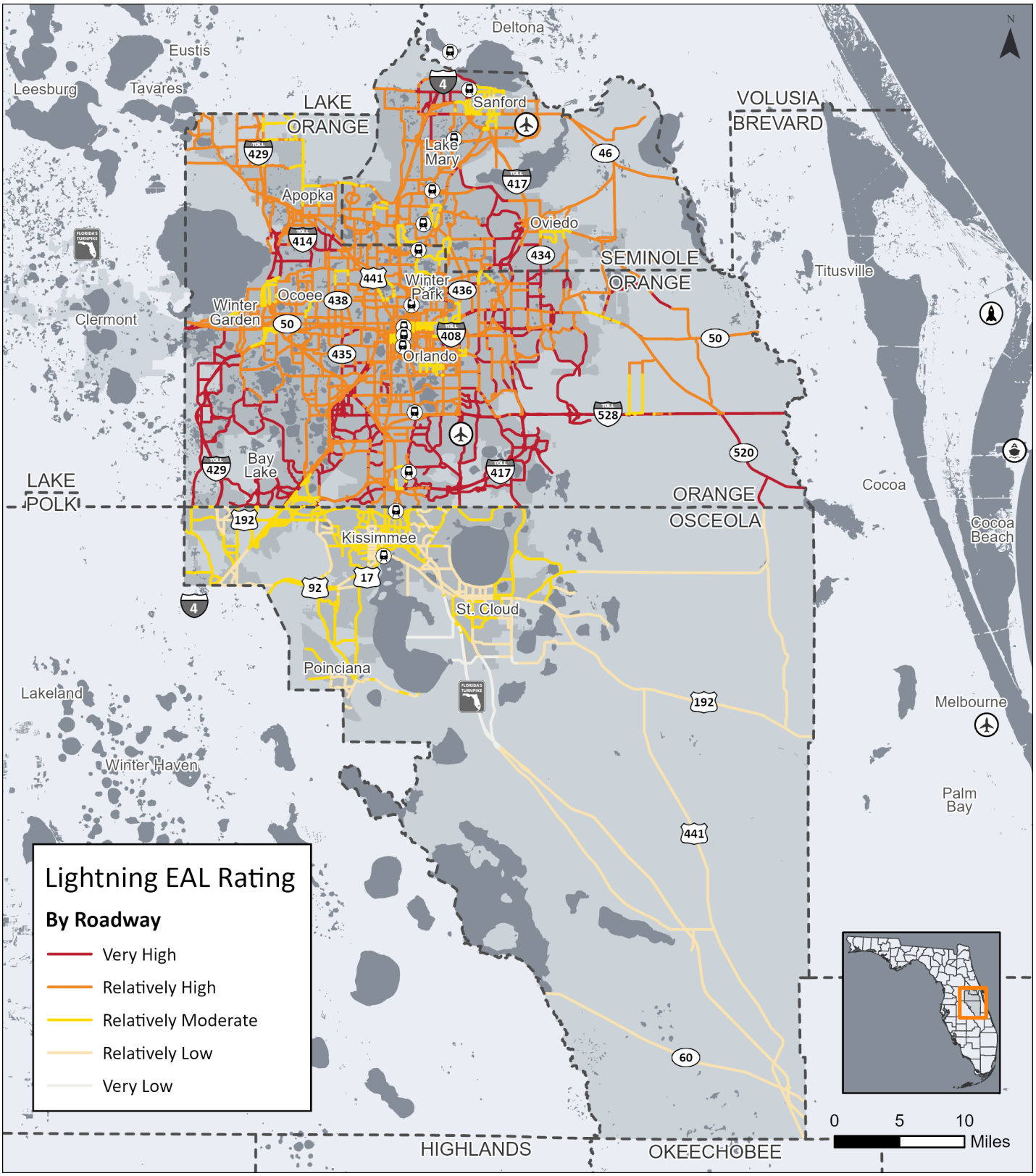
Source: FEMA, 2024

Figure G-16 | FEMA NRI Expected Annual Loss (EAL) Rating for Strong Winds



Source: FEMA, 2024

Figure G-17 | FEMA NRI Expected Annual Loss (EAL) Rating for Lightning by Roadway



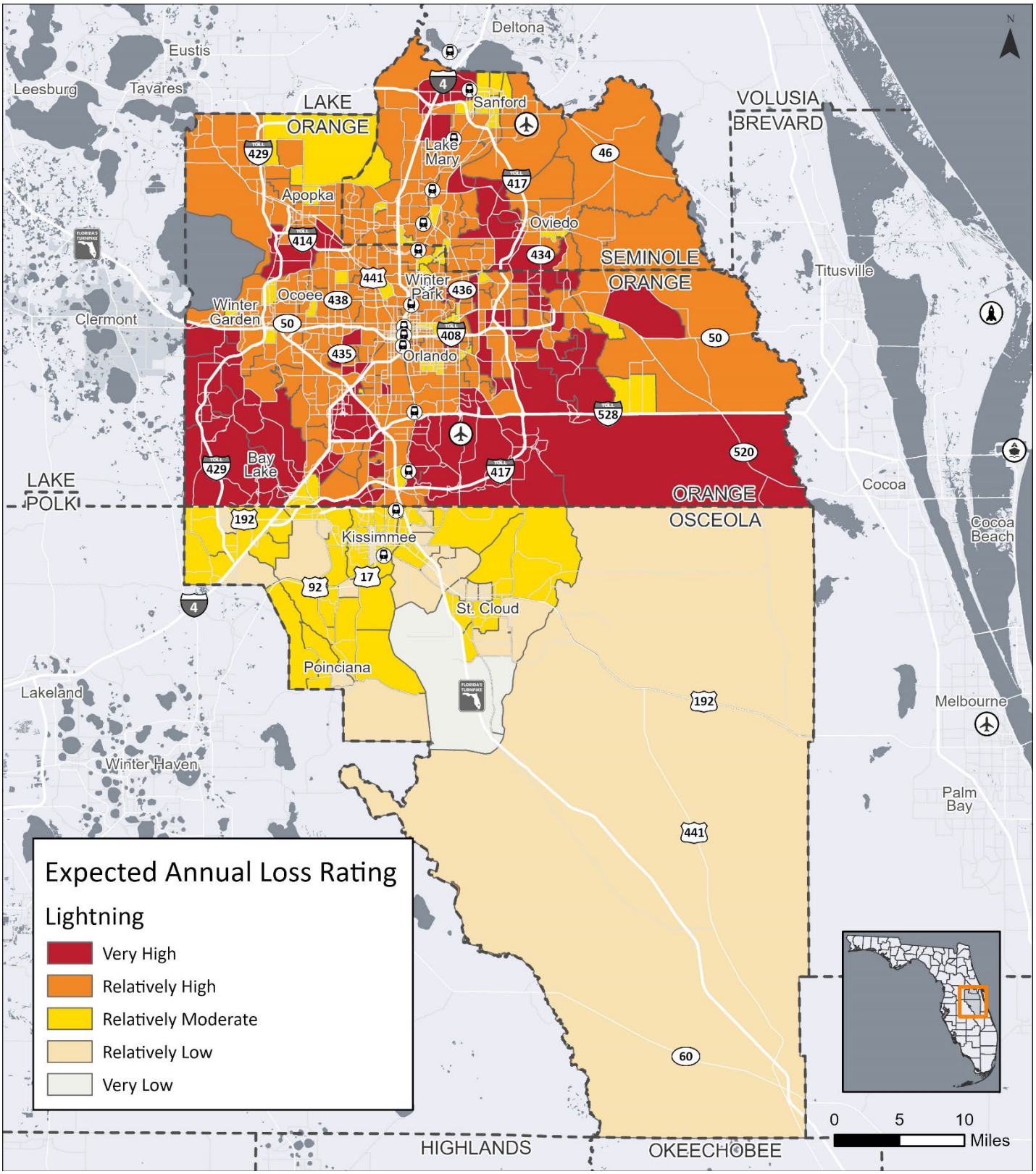
Source: FEMA, 2024

Table G-5 | FEMA "Very High" EAL from Lightning by Roadway

FEMA EAL Lightning Rating	Roadway Description	County
Very High	W Seminole Blvd from Interstate 4 to Marbella Ln	Seminole County
Very High	SR 46/1st St from S Persimmon Ave to Interstate 4	Seminole County
Very High	Tuskawilla Rd from SR 434 to SR 426	Seminole County
Very High	SR 434 from Integra Land Way to US 17-92	Seminole County
Very High	Lake Mary Blvd from S County Club Rd to Interstate 4	Seminole County
Very High	International Drive from Oak Ridge Rd to Interstate 4	Orange County
Very High	Airport Rd/Jeff Fuqua Pkwy from SR 528 to SR 417	Orange County
Very High	Avalon Rd from Tilden Rd to Space Coast Pkwy	Orange County
Very High	Universal Blvd from SR 528 to Interstate 4	Orange County
Very High	Sand Lake Rd/McCoy Rd from Interstate 4 to Florida's Turnpike	Orange County

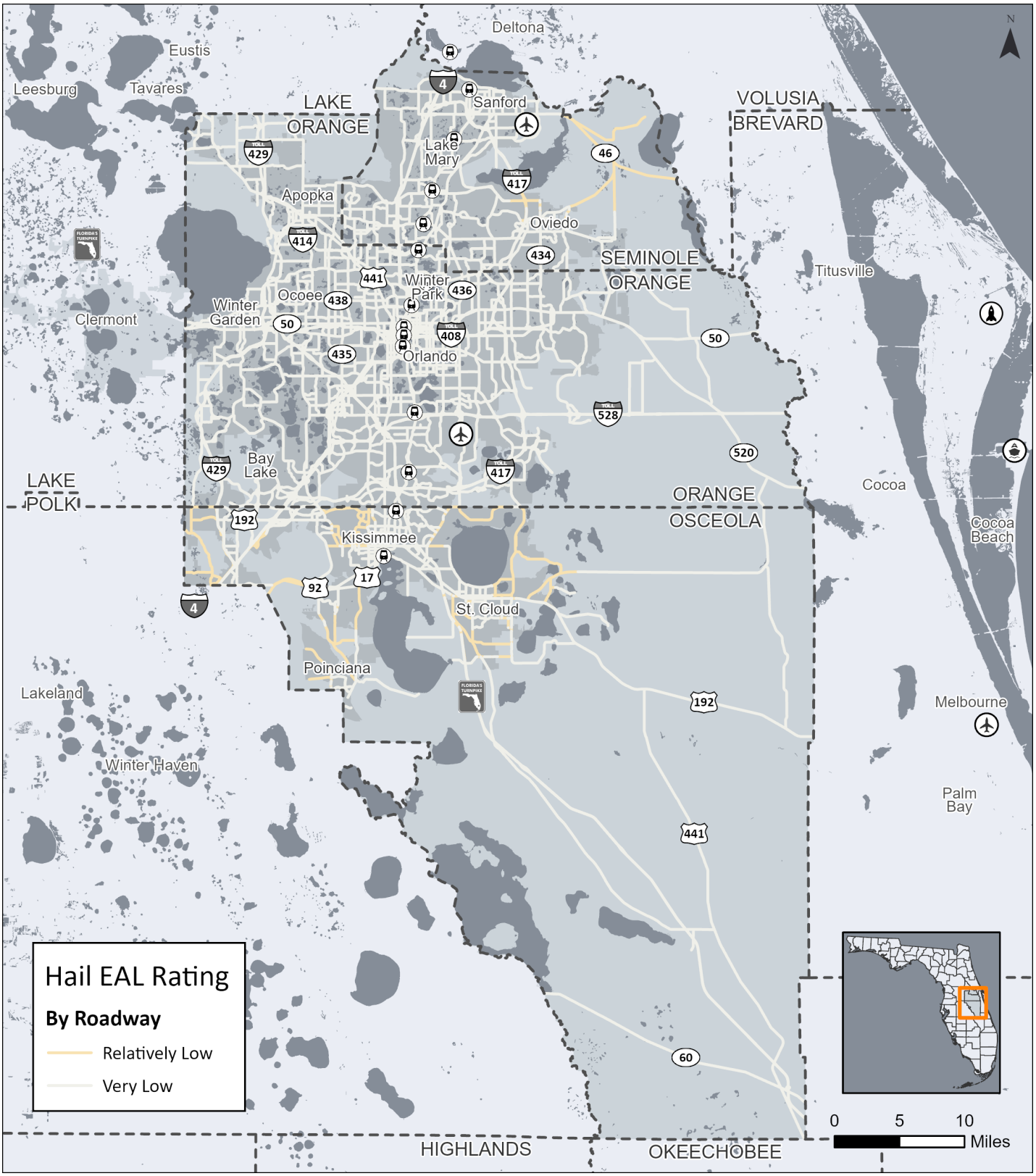
Source: FEMA, 2024

Figure G-18 | FEMA NRI Expected Annual Loss (EAL) Rating for Lightning



Source: FEMA, 2024

Figure G-19 | FEMA NRI Expected Annual Loss (EAL) Rating for Hail by Roadway



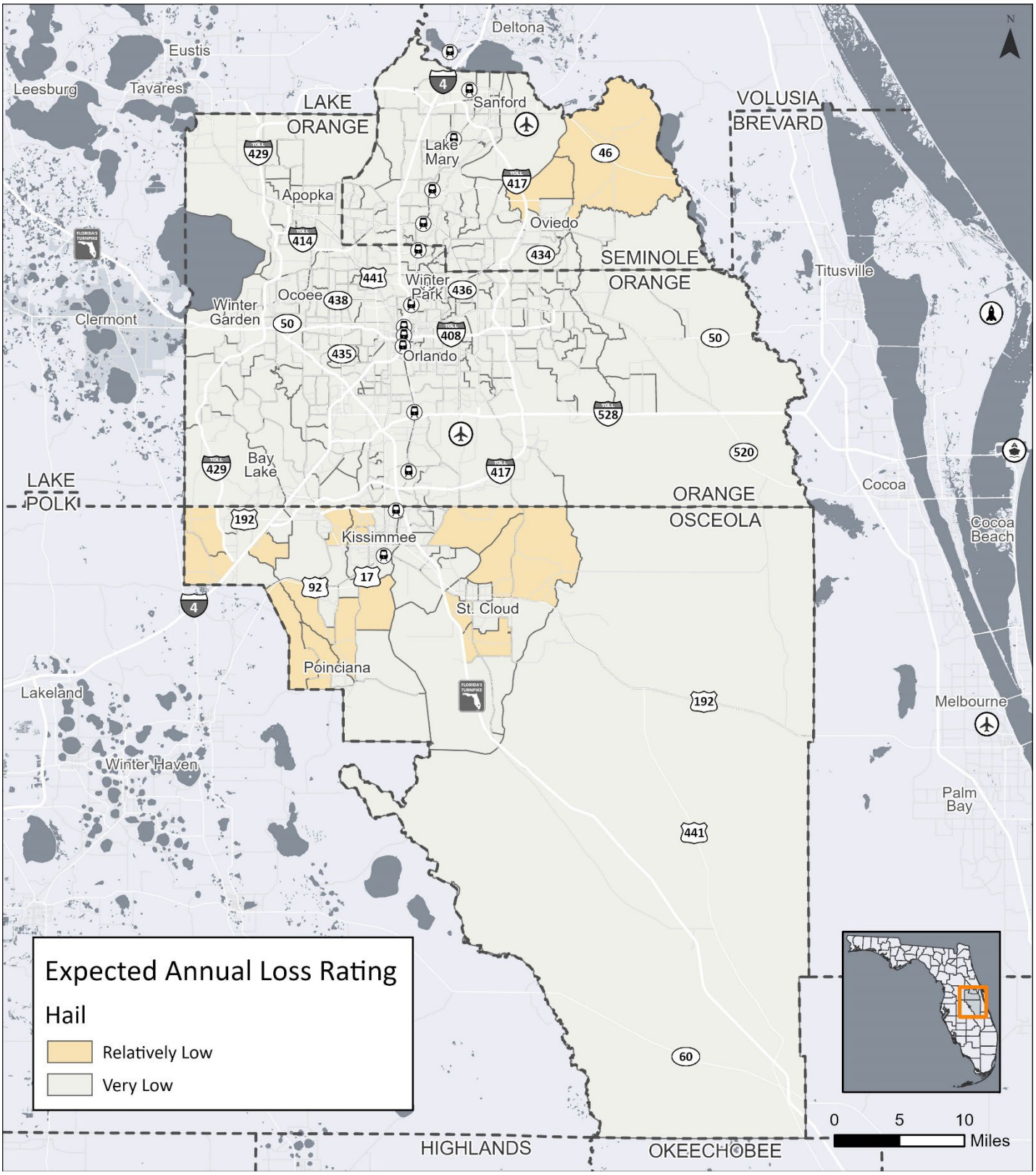
Source: FEMA, VHB, 2024

Table G-6 | FEMA "Relatively Low" EAL for Hail by Roadway

FEMA EAL Hail Rating	Roadway Description	County
Relatively Low	Oviedo Rd/N Central Ave from Geneva Dr to Integra Land Way	Seminole County
Relatively Low	SR 46 from W Osceola Rd to Seminole County Line	Seminole County
Relatively Low	W Osceola Rd from Osceola Rd to SR 46	Seminole County
Relatively Low	Snow Hill Rd from Bob White Tr to SR 426	Seminole County
Relatively Low	N Goodman Rd/Masters Blvd from Monaco Blvd to Champions Gate Blvd	Osceola County
Relatively Low	Orange Blossom Tr from S Poinciana Blvd to Osceola County Line	Osceola County
Relatively Low	Simpson Rd from Fortune Rd to Boggy Creek Rd	Osceola County
Relatively Low	Boggy Creek Rd from Simpson Rd to Quail Park Ter	Osceola County
Relatively Low	Jones Rd from Narcoossee Rd to Nova Rd	Osceola County
Relatively Low	Narcoossee Rd from Space Coast Pkwy to Osceola County Line	Osceola County

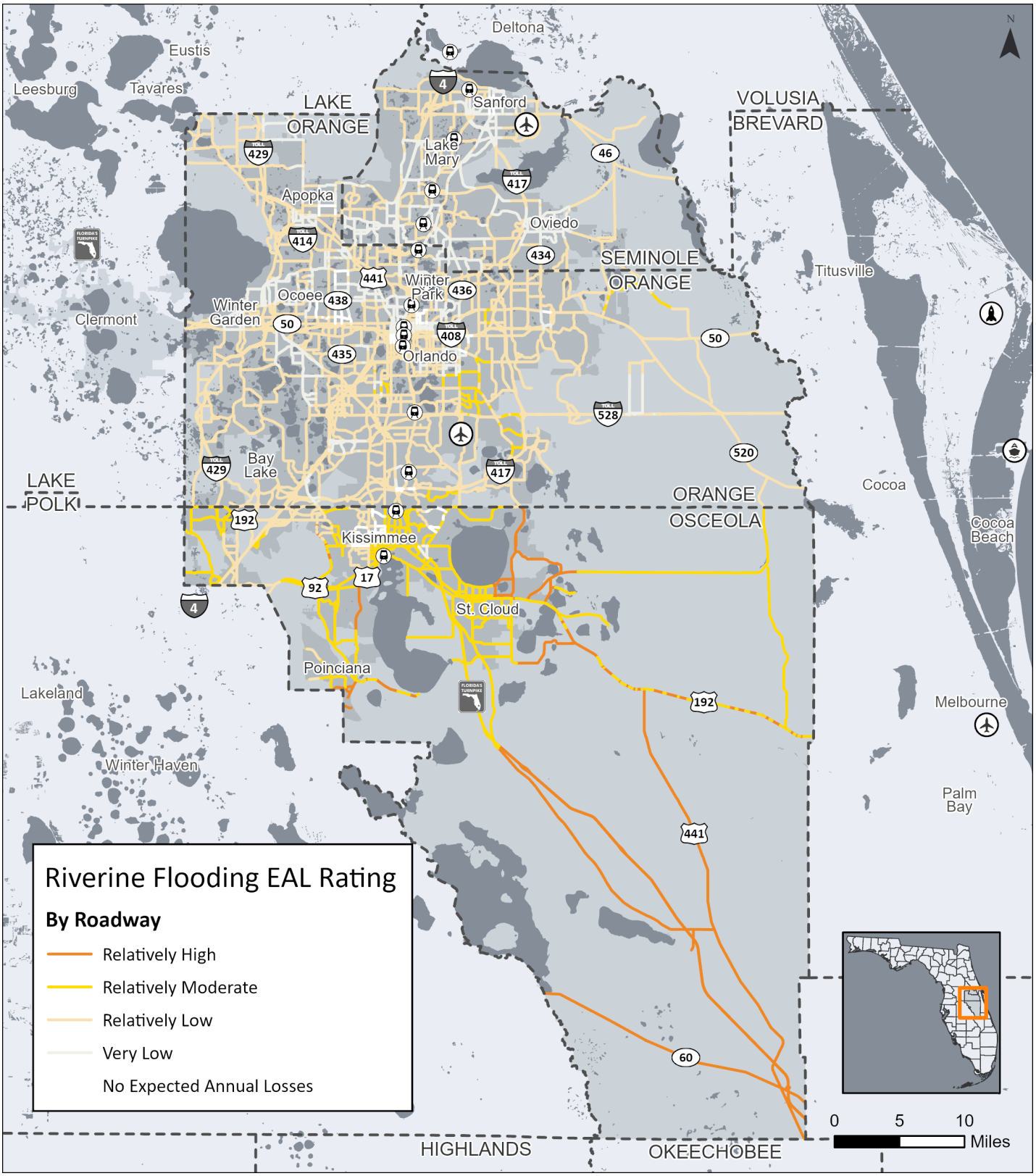
Source: FEMA, 2024

Figure G-20 | FEMA NRI Expected Annual Loss (EAL) Rating for Hail



Source: FEMA, 2024

Figure G-21 | FEMA NRI Expected Annual Loss (EAL) Rating for Riverine Flooding by Roadway



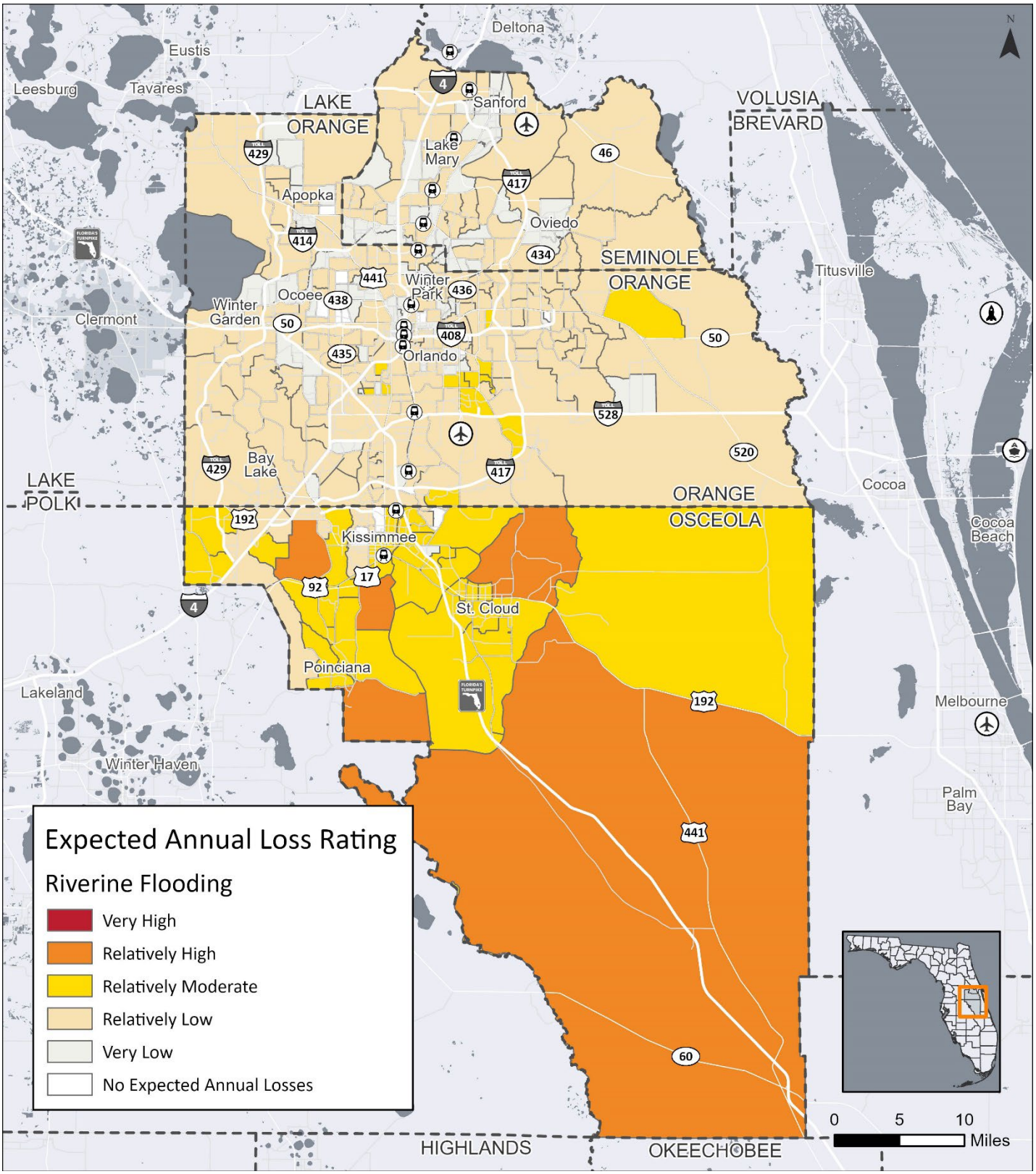
Source: FEMA, 2024

Table G-7 | FEMA "Relatively High" EAL from Riverine Flooding by Roadway

FEMA EAL Riverine Flooding Rating	Roadway Description	County
Relatively High	N Poinciana Blvd from Irlo Bronson Memorial Hwy to Orange Blossom Tr	Osceola County
Relatively High	Narcoossee Rd from Orange/Osceola County Line to Space Coast Pkwy	Osceola County
Relatively High	Nova Rd from Space Coast Pkwy to 6th St	Osceola County
Relatively High	Jones Rd from Nova Rd to Narcoossee Rd	Osceola County
Relatively High	Underwood Ave from Jack Brack Rd to Carson St	Osceola County
Relatively High	Pine Grove Rd from Nove Rd to Irlo Bronson Memorial Hwy	Osceola County
Relatively High	Rummell Rd from Narcoossee Rd to Eastern Ave	Osceola County
Relatively High	Orange Ave from Rummell Rd to 10th St	Osceola County
Relatively High	E Southport Rd from Pleasant Hill Rd to Lake Tohopekaliga	Osceola County
Relatively High	Cypress Pkwy from Poinciana Blvd to Old Pleasant Hill Rd	Osceola County

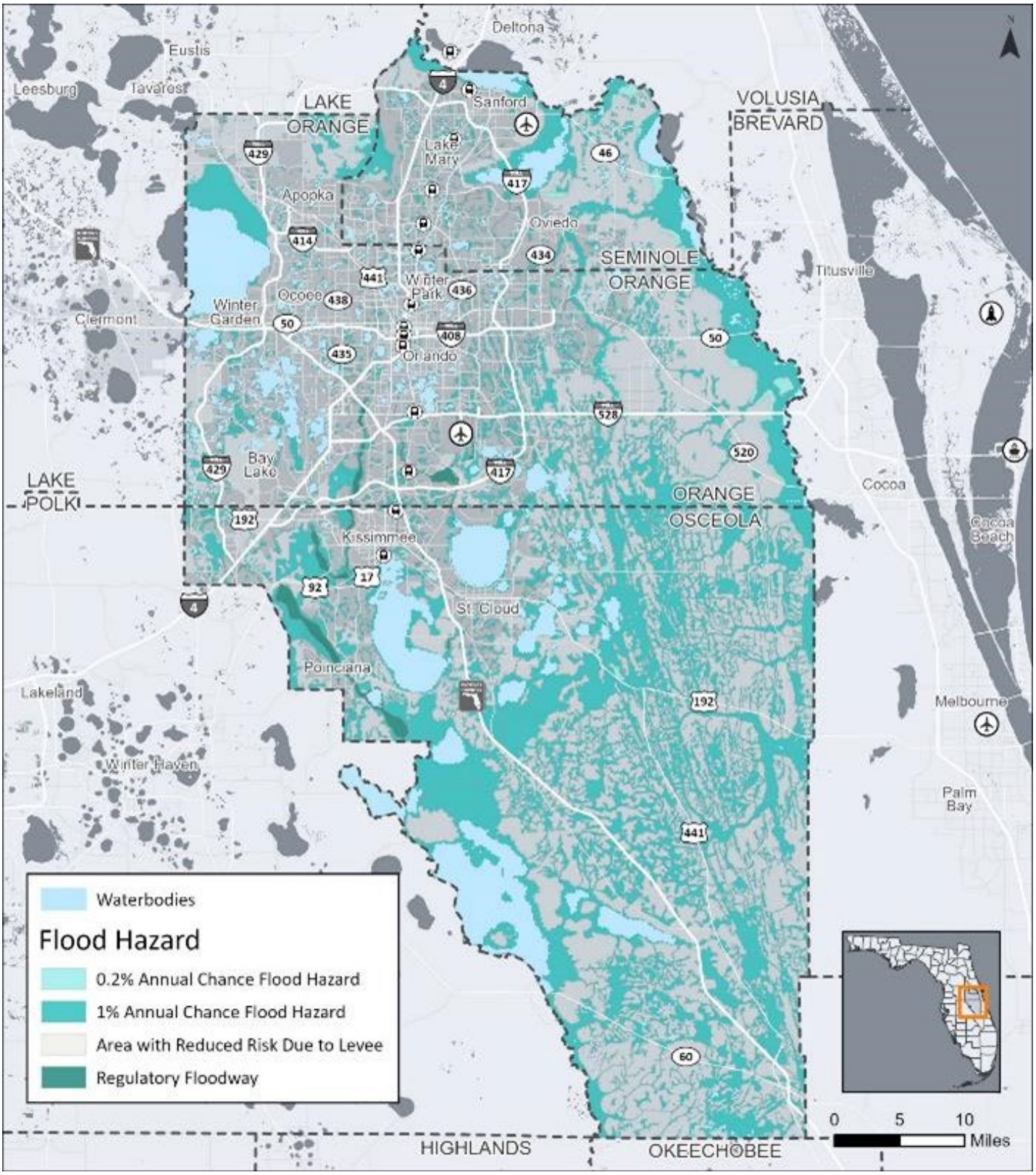
Source: FEMA, 2024

Figure G-22 | FEMA NRI Expected Annual Loss (EAL) Rating for Riverine Flooding



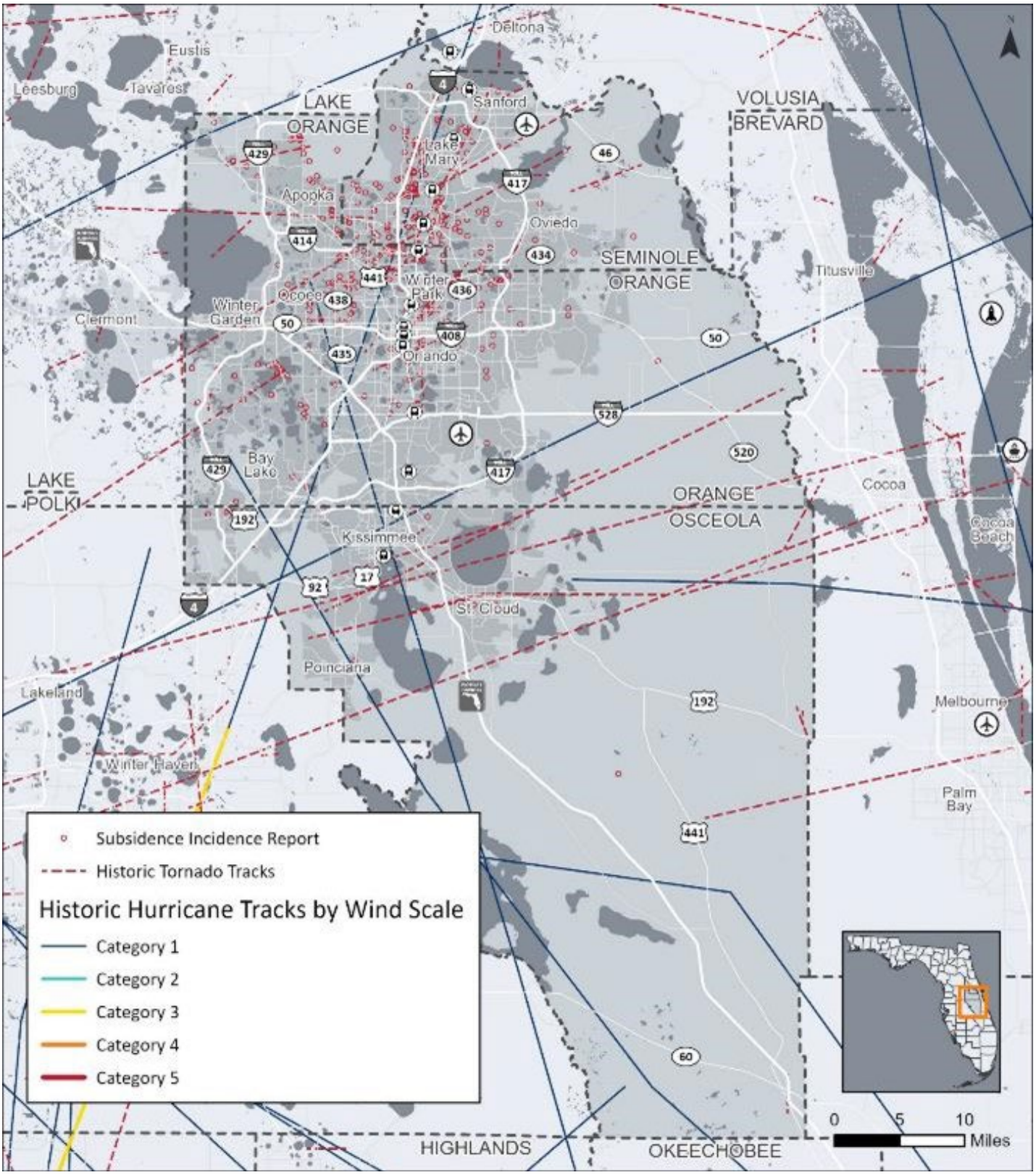
Source: FEMA, 2024

Figure G-23 | Flood Hazard



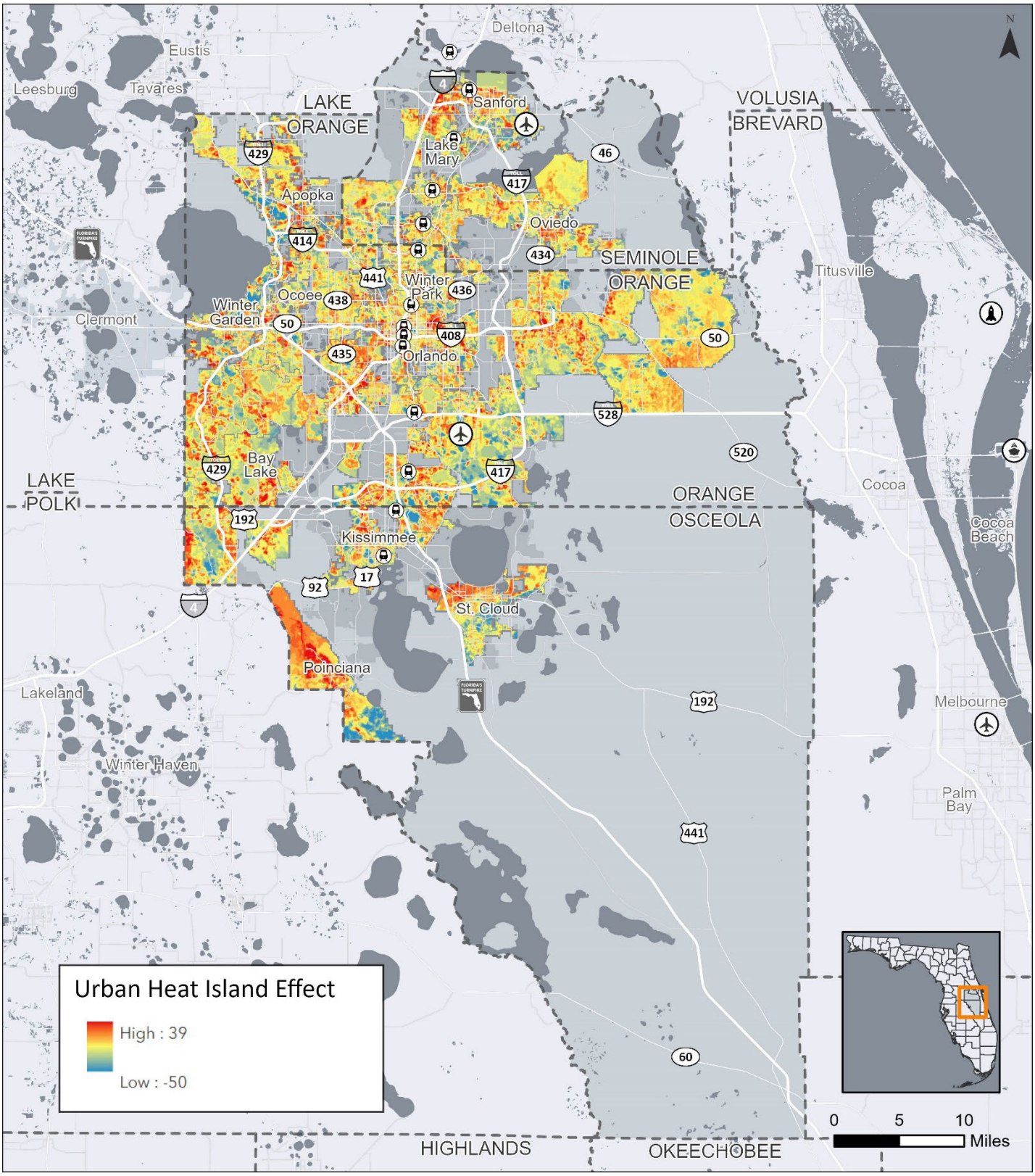
Source: FEMA Flood Insurance Rate Map (FIRM), 2024

Figure G-24 | Historic Incidents of Hurricanes, Tornados, and Subsidence



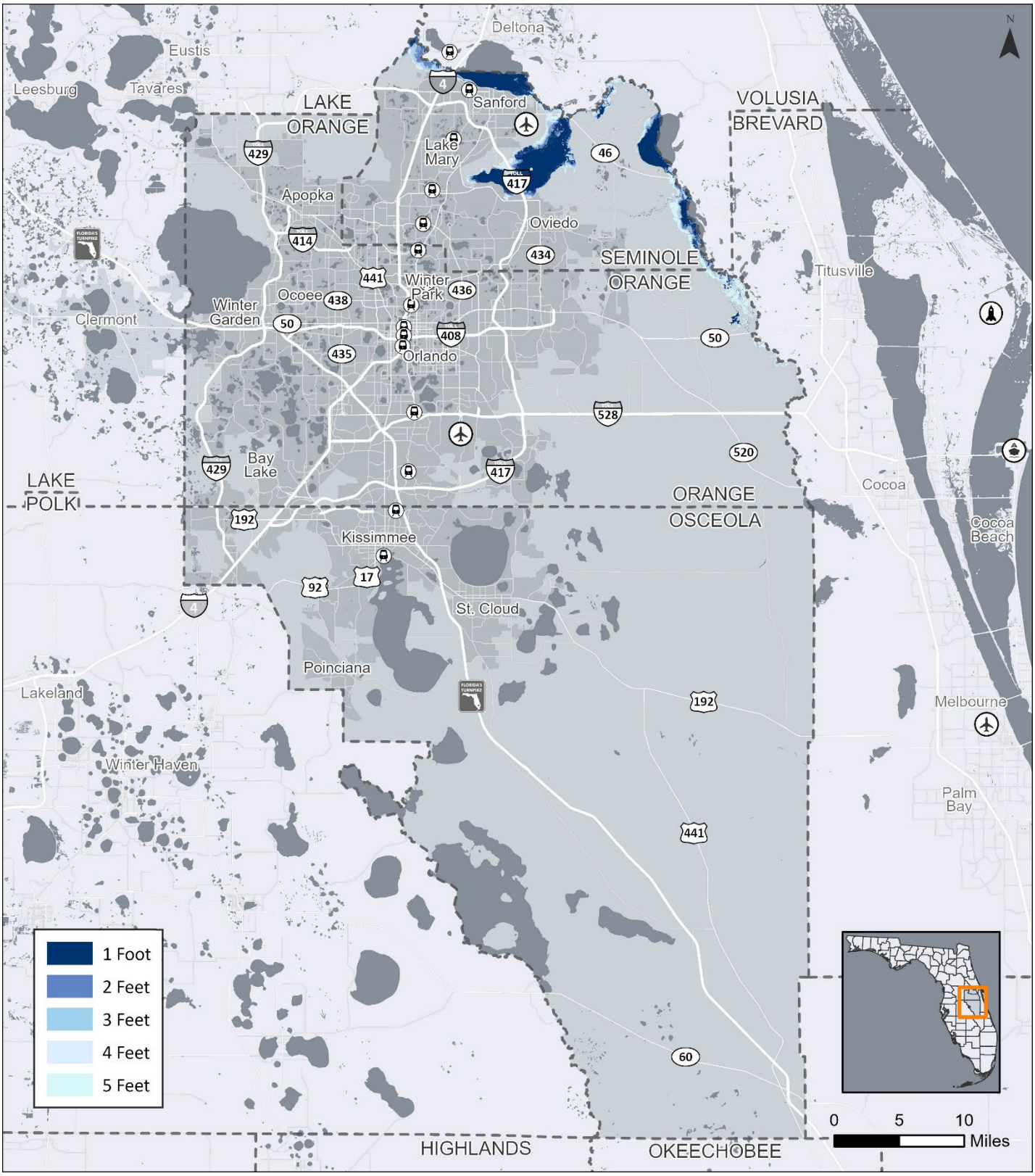
Source: FEMA Resilience Analysis and Planning Tool (RAPT) and FDEP data, 2024

Figure G-25 | Urban Heat Island Effect in MetroPlan Orlando Region Cities



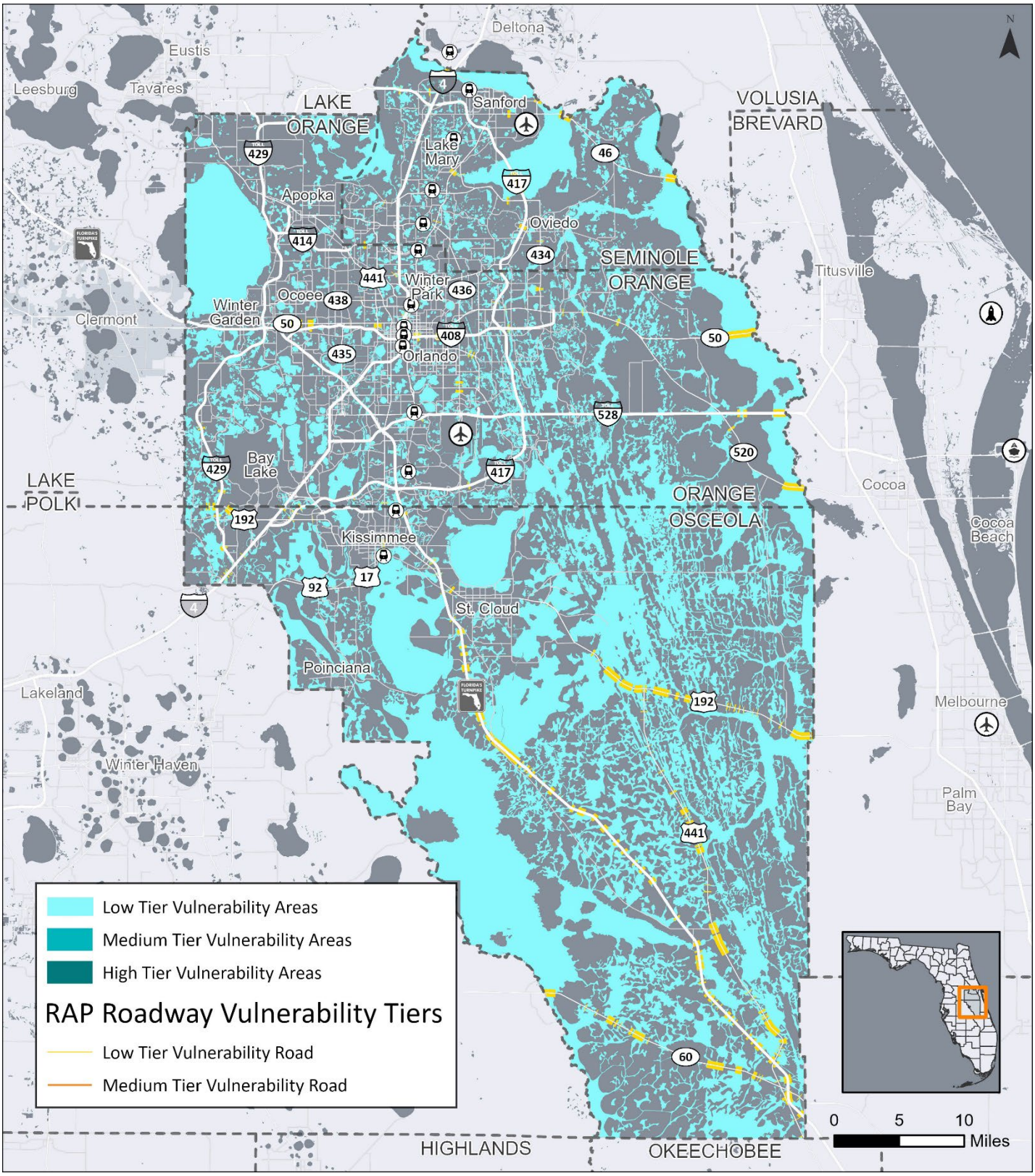
Source: The Trust for Public Land, 2024

Figure G-26 | Tidal Inundation Projections



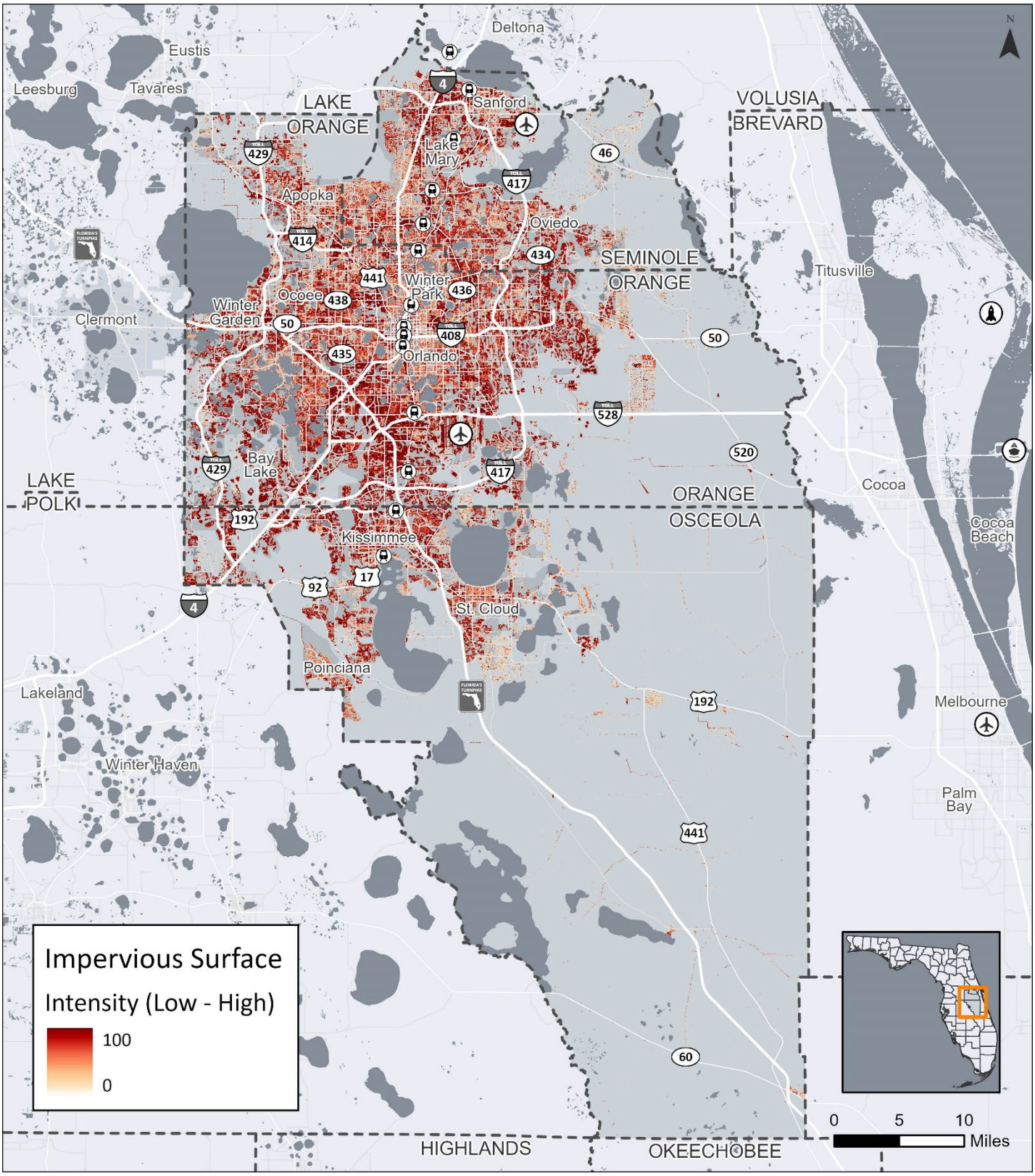
Source: National Oceanic and Atmospheric Administration (NOAA), 2024

Figure G-27 | FDOT Resilience Action Plan (RAP) State Highway System Vulnerability Areas and Roads



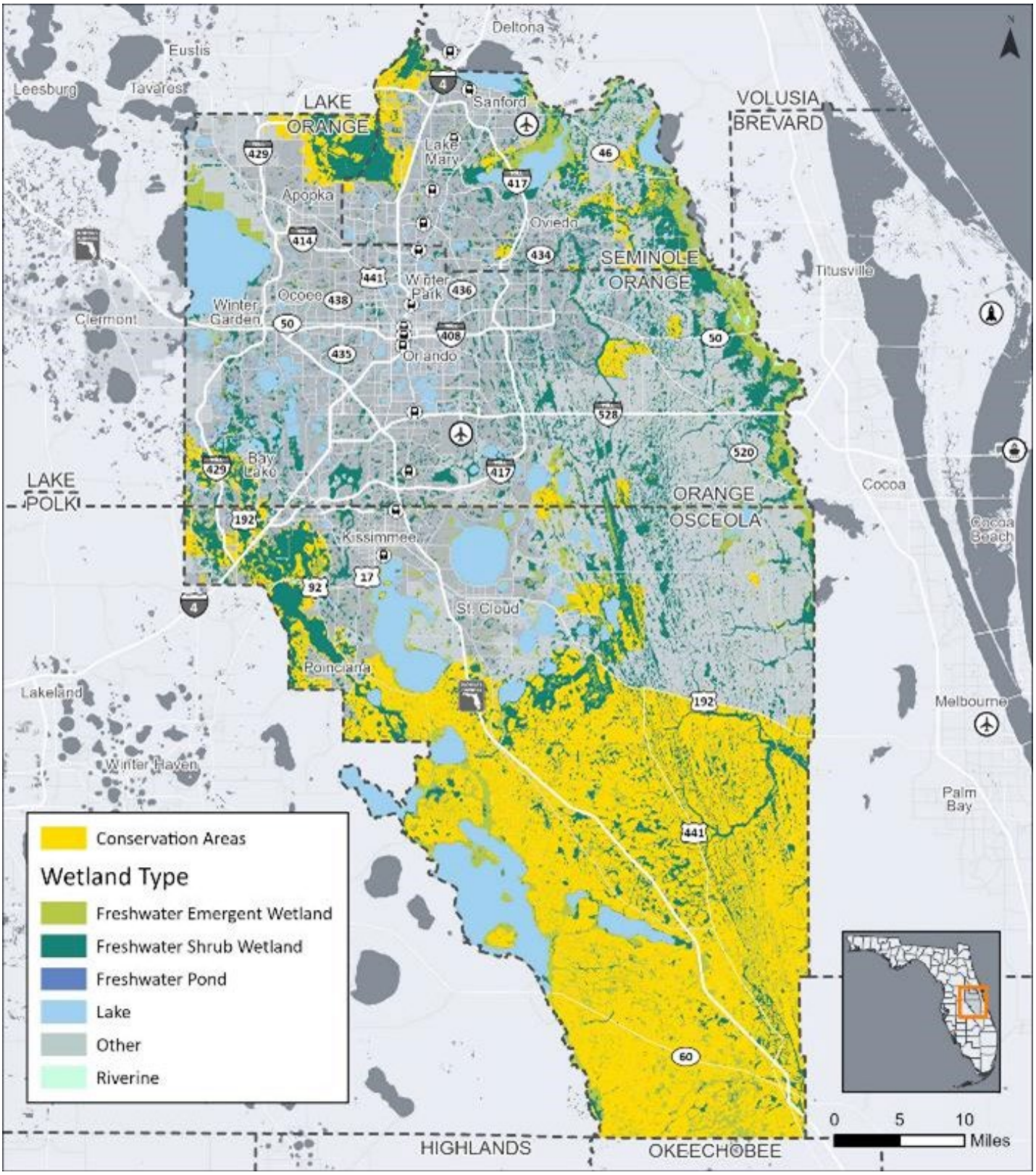
Source: FDOT, 2024

Figure G-28 | Urban Imperviousness



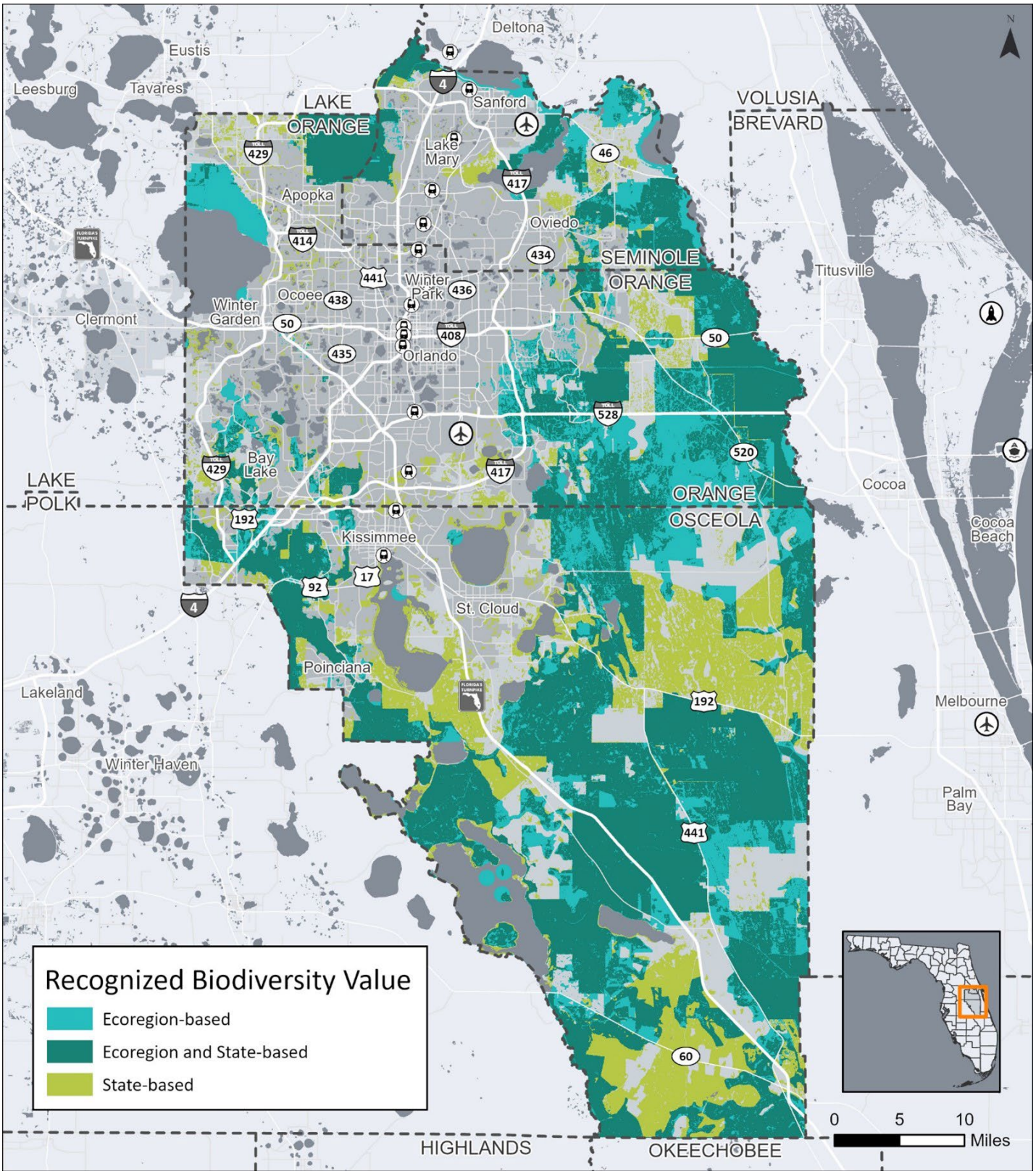
Source: The National Land Cover Database (NLCD), 2024

Figure G-29 | Wetlands and Conservation Areas



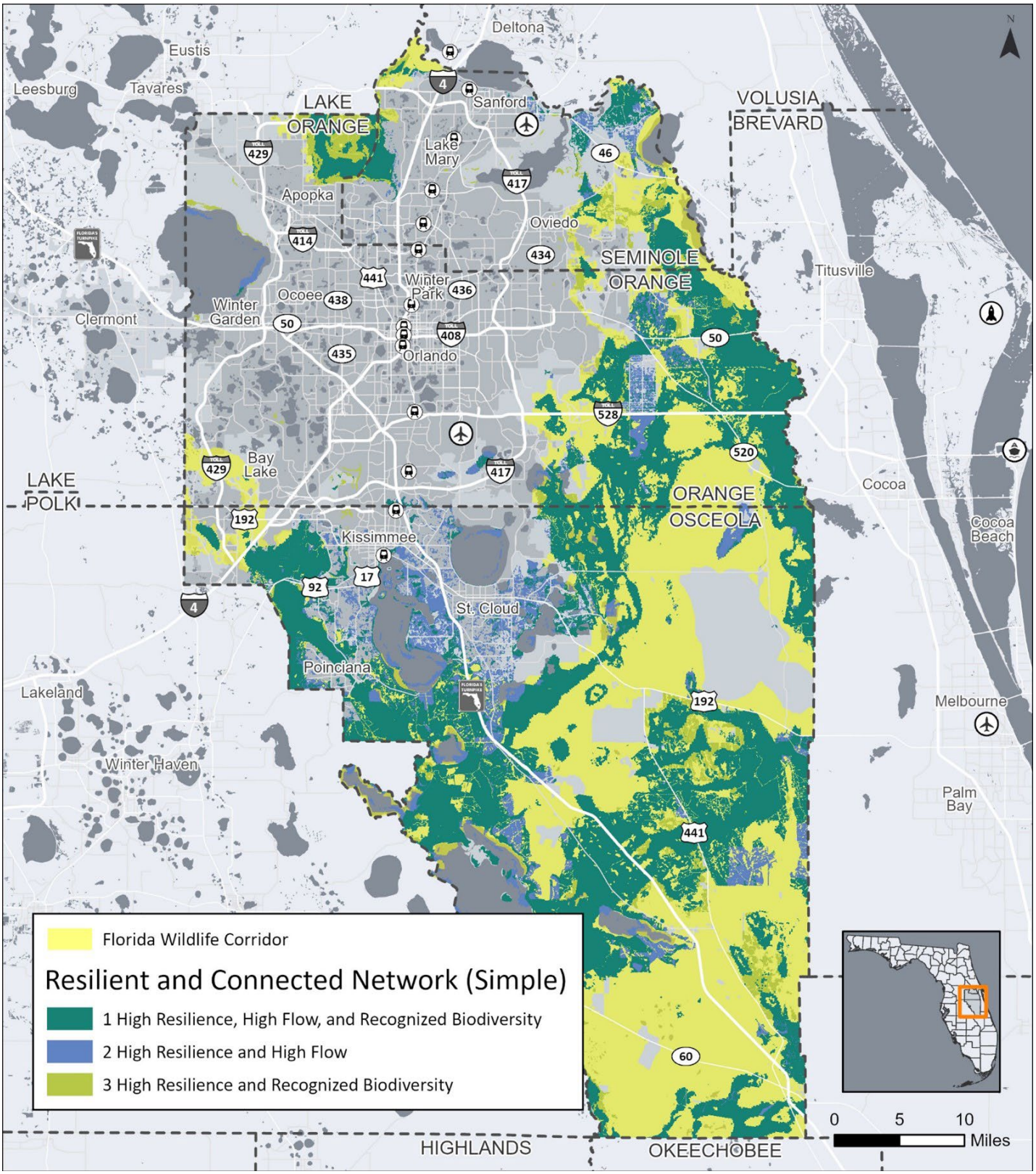
Source: National Wetland Inventory and Florida Natural Areas Inventory, 2024

Figure G-30 | Recognized Biodiversity Value



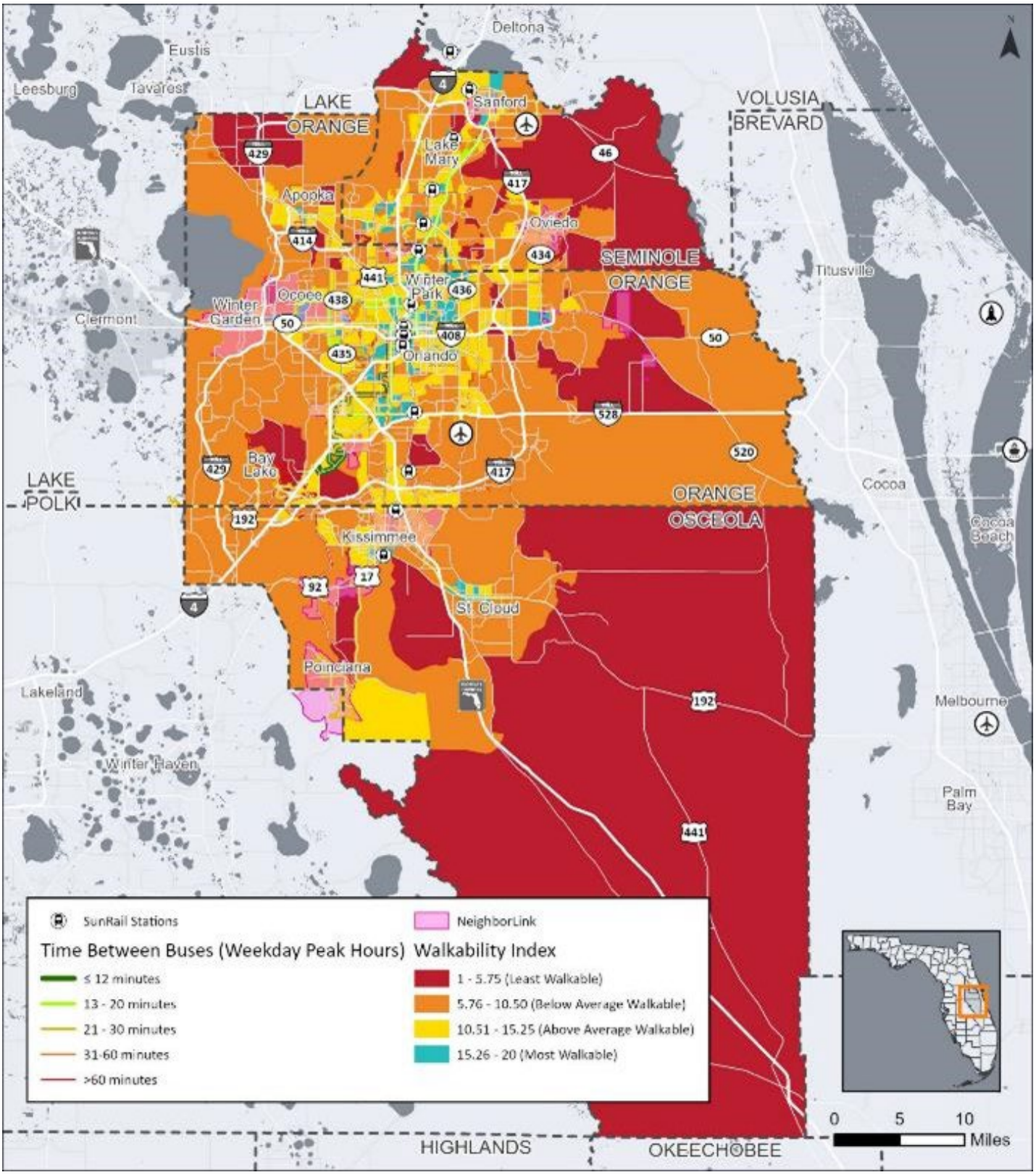
Source: The Nature Conservancy, 2024

Figure G-31 | Resilient and Connected Network and Florida Wildlife Corridor



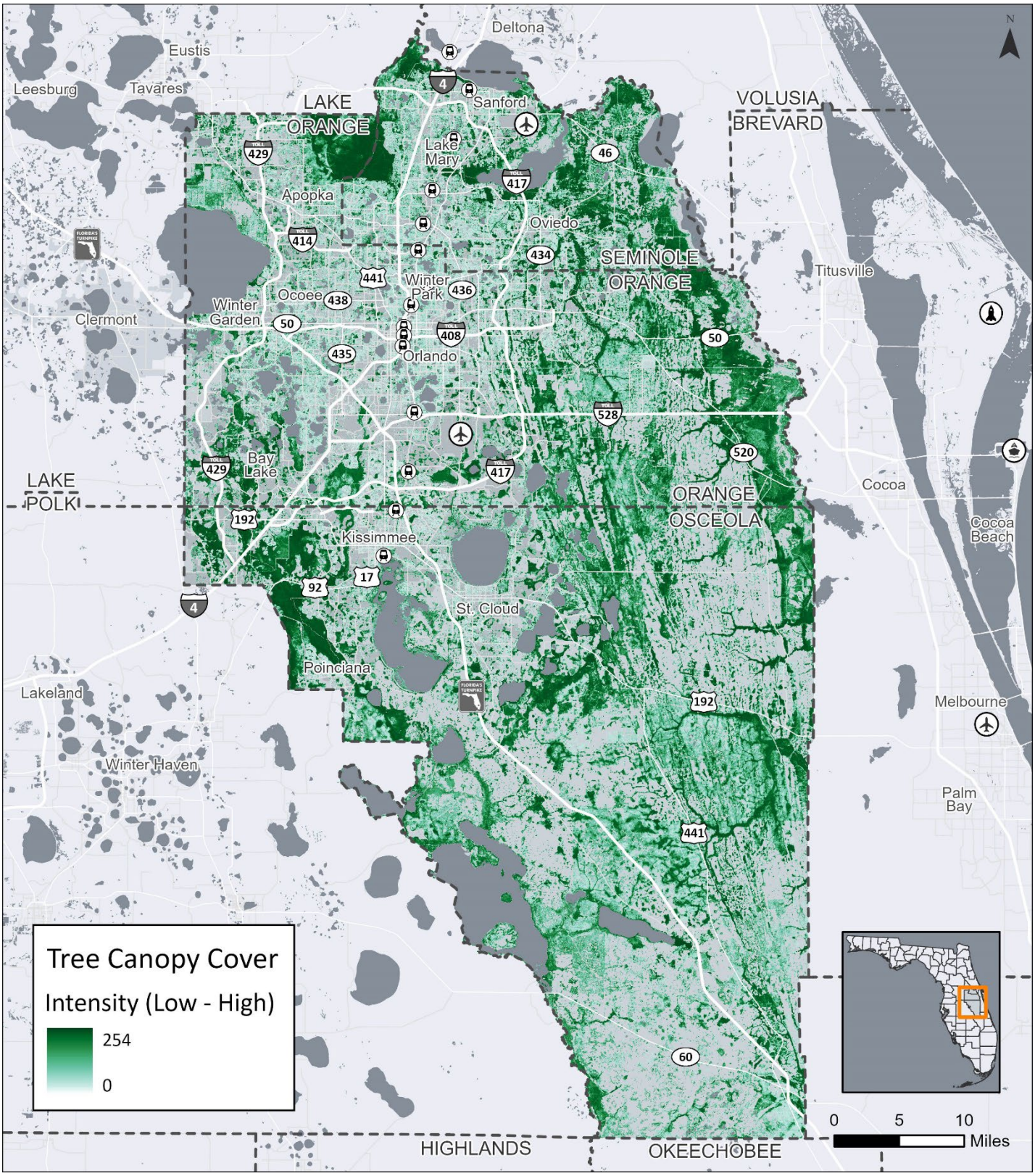
Source: The Nature Conservancy and Florida Natural Areas Inventory (University of Florida), 2024

Figure G-32 | Walkability Index and Transit Infrastructure



Source: U.S. EPA, 2024

Figure G-33 | Tree Canopy Cover



Source: The National Land Cover Database (NLCD), 2024

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