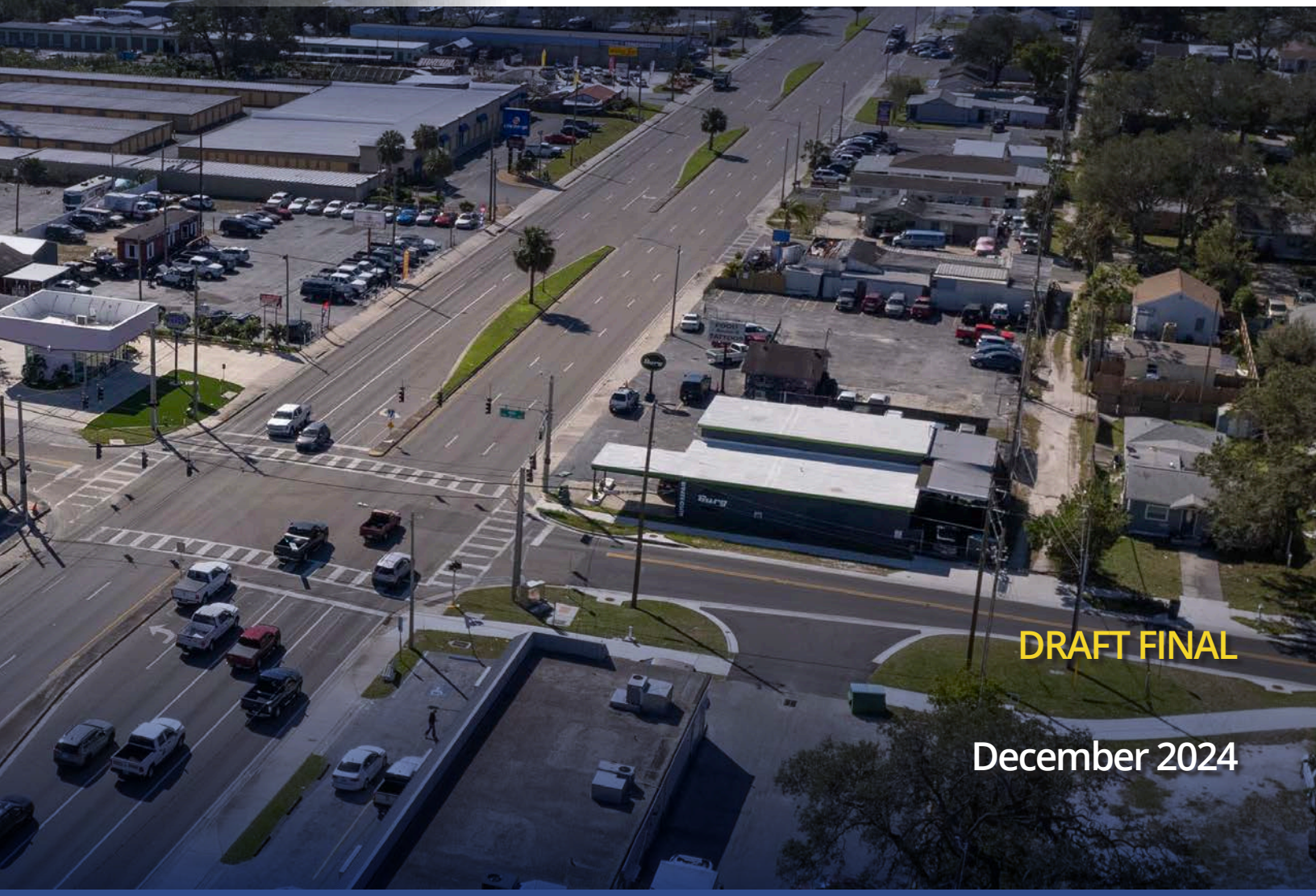
FORWARD PINELLAS

Pinellas County

49TH STREET SAFETY STUDY



DRAFT FINAL

December 2024

Whether driving, biking, walking, or taking public transportation, everyone deserves to be safe while traveling on our roads.

49TH STREET SAFETY STUDY

December 2024

Prepared For:

FORWARD PINELLAS

Pinellas County

Prepared By:

AECOM

Table of Contents

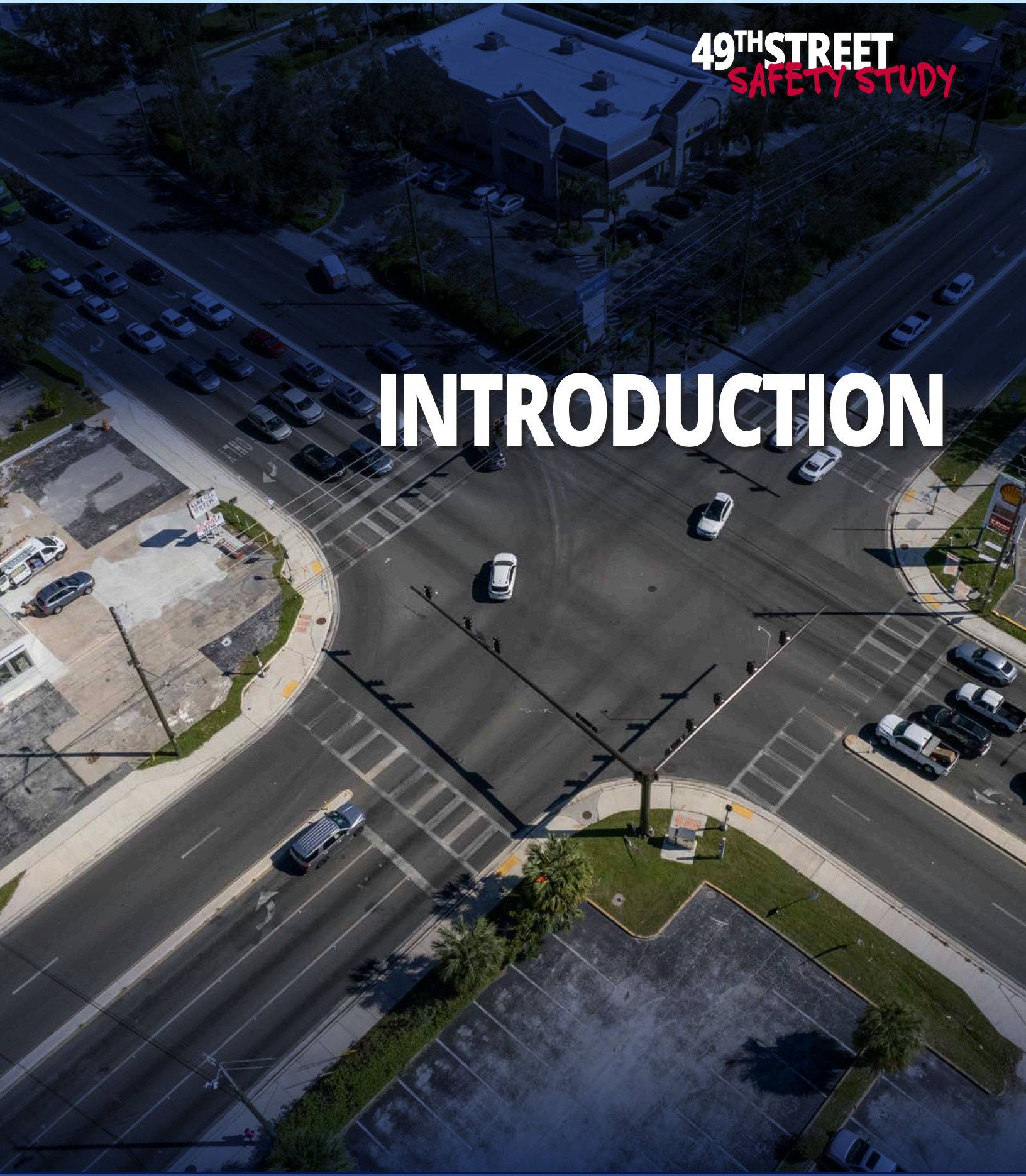
Figures

Tables

FORWARD PINELLAS

Pinellas County

49TH STREET SAFETY STUDY



INTRODUCTION

Whether driving, biking, walking, or taking public transportation, everyone deserves to be safe while traveling on our roads.

Introduction

Forward Pinellas, in collaboration with Pinellas County, is conducting a comprehensive safety study along the 49th Street N corridor, focusing on two key segments:

- **South Focus Area:** 40th Avenue N to 62nd Avenue N
- **North Focus Area:** North of Ulmerton Road to South of Roosevelt Boulevard

The purpose of this study is to support development of implementable actions that improve safety along the 49th St. corridor, advance the priorities and recommendations identified in the **Safe Streets Pinellas Action Plan**, and support future **Safe Streets and Roads for All (SS4A) Implementation Grant** applications.

The **Safe Streets Pinellas Action Plan**, completed in 2021, identifies 49th Street as part of Pinellas County's **High-Injury Network (HIN)**. The HIN identifies roadways where the most serious and fatal collisions occur. This network encompasses approximately 3 percent of the roadway network and is where 40 percent of the serious and fatal collisions occur. Between 2015 and 2019, 450 people lost their lives and thousands more sustained life altering injuries on Pinellas County roadways. The safety study on 49th Street is intended to address the conditions that make 49th Street hazardous and achieve the county's goal of zero serious injuries and fatalities on our roads by 2045.

The 49th Street corridor serves as a critical arterial roadway for commuters, freight vehicles, and transit users while also accommodating pedestrians and cyclists.

This report provides an analysis of the current conditions along the corridor, detailing roadway characteristics, multimodal infrastructure, and crash history. It also summarizes public outreach efforts, including community walking audits, stakeholder workshops, and online engagement. Based on these findings, the report offers short-, medium-, and long-term recommendations aimed at enhancing safety and improving the travel experience throughout the corridor. This will be accomplished by:

1. **Analyzing Traffic and Crash Data:** Identify high-risk locations and determine patterns that contribute to crashes.
2. **Evaluating Existing Infrastructure:** Assess the condition and effectiveness of the corridor's pedestrian, cyclist, and vehicular infrastructure.
3. **Engaging Stakeholders:** Collaborate with local agencies, community groups, and transportation planners to prioritize improvements.
4. **Developing Actionable Recommendations:** Create both short-term pilot projects and long-term capital improvements to reduce crashes and enhance safety.

The study areas for the South and North Focus Areas are illustrated in **Figure 1**.

Figure 1: 49th Street N Project Location Map

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49TH STREET SAFETY STUDY

COMMUNITY CONTEXT

Whether driving, biking, walking, or taking public transportation, everyone deserves to be safe while traveling on our roads.

Land Use

49th Street functions as a significant commercial and residential hub in Central Pinellas County, housing various businesses, public, and residential properties. The 49th Street is nearly entirely developed passing through an urbanized area with medium development density.

As depicted in **Figure 2** and summarized in **Table 1**, existing land uses within the 500-foot buffer primarily includes retail/office, industrial, and residential with segments of public/semi-public, institutional, and vacant nonresidential also present. According to generalized existing and future land use datasets, published by the University of Florida GeoPlan Center that allow for multi-jurisdictional land use comparison, the project area is expected to continue to support commercial, residential, industrial, and public/semi public uses into the future.

The southern portion of the project corridor from 40th Ave N to the 62nd Ave N, including most of the South Focus Area, is located within the **Lealman Community Redevelopment Area (CRA)**. Established in 2015, this is the first CRA in unincorporated Pinellas County. Pinellas County adopted the **Lealman CRA Redevelopment Plan** in 2016 and the **Lealman Redevelopment Trust Fund and Tax Increment Financing (TIF) District** soon after. The 49th Street Corridor is fronted by primarily commercial use land use backed by residential neighborhoods. The commercial use consists of a mix of strip commercial and freestanding commercial buildings. Most commercial use is fronted by off-street parking areas located along 49th Street. Some areas of the corridor front residential and public/semi-public use. An area of the corridor just south of 54th Street backs residential development located to the east.

The North Focus Area supports a mix of commercial, industrial, and public/semi-public use. Large parcels in this area support larger buildings. A mix of industrial/ commercial/ office space fronts 49th Street near Ulmerton Road. Public/Semi-public use dominates the corridor closer to Roosevelt Parkway. The larger parcels result in fewer cross streets and fewer intersections.

Gateway Signage on 49th St near 40th Ave N welcoming traffic to Lealman

Table 1: Existing Land Use – 49th Street Corridor

Existing Land Use Classification	North Focus Area (Acres)	South Focus Area (Acres)
Industrial	72.9	14.6
Public/ Semi-Public	66.2	36.6
Residential	6.0	41.7
Retail/Office	32.4	41.1
Transportation	2.3	0.0
Vacant	18.2	1.1
Other	7.1	3.1

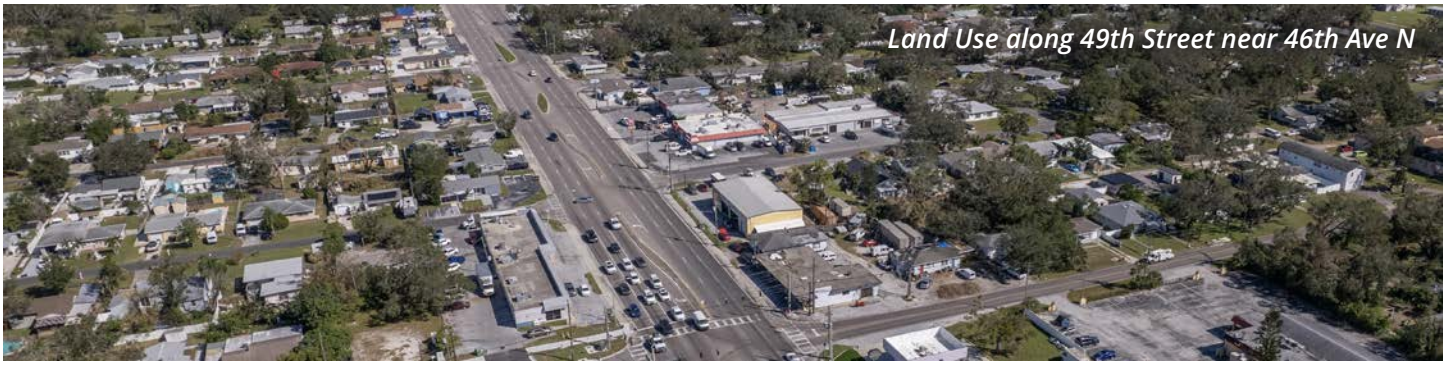
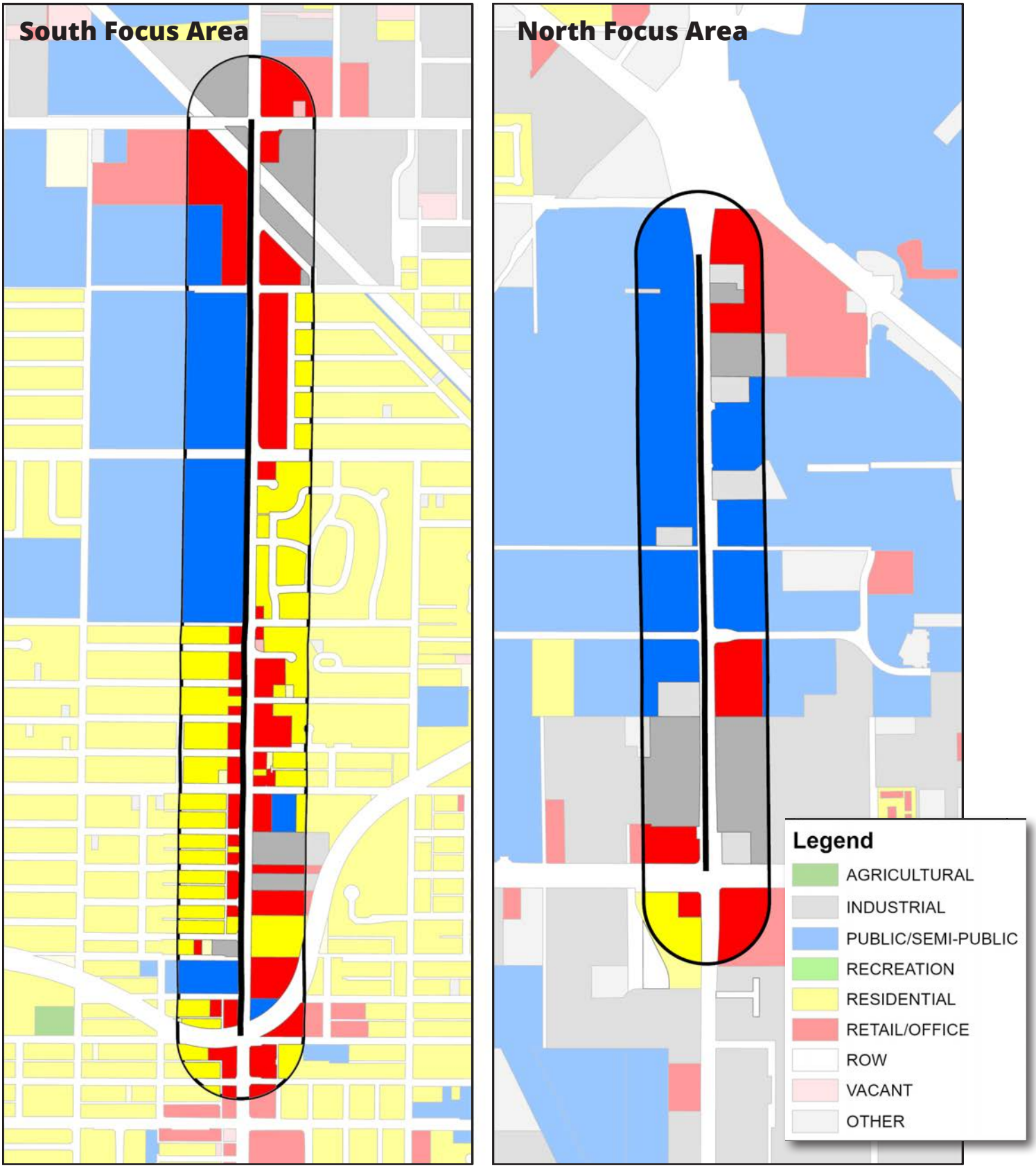

Land Use along 49th Street near 46th Ave N

Figure 2: 49th Street N Existing Land Use



Major Activity Centers

Review of multiple datasets published in the Florida Geographic Data Library, field review, and interaction with community stakeholders confirms a series of major activity centers as present within the project focus areas.

As noted above in the description of existing land use, the South Focus Area occurs within the Lealman Community and passes through a primarily residential area of that community. Major activity centers in this area include HCA Florida Northside Hospital and ancillary medical services buildings located near 58th Ave N. This Hospital hosts 288 beds and 1,000 employees. Adjacent to the Hospital is Memorial Park Cemetery and Funeral Home. Additionally, participants in the Roadway Safety Audit (RSA) identified Armature Square Apartments as a hub of activity on 49th Street and two activity centers located just beyond the 49th Street Corridor including Disston Plaza shopping center and Lealman Exchange Community Center. Both centers draw trips from within the South Focus Area.

The North Focus Area is located just east of St Petersburg/Clearwater International Airport. Several parcels located along 49th street support airport activity including long-term parking and vehicle maintenance activities. The predominant feature on 49th Steet in the North Focus Area is the Pinellas County Justice Center.

Pinellas County Hospital

The Pinellas County Justice Center complex includes Pinellas County Courts, Pinellas County Jail, and Juvenile Detention Center. Additionally, Pinellas Safe Harbor houses an emergency homeless shelter and a jail diversion program. The total number of beds available in the Safe Harbor facility is 400 with approximately 300 daily residents. The final major activity center noted along the North Focus Area is Bayside High School. Bayside is a public alternative secondary school that offers students behind in required educational credits opportunity to complete course more rapidly than traditional secondary schools. Bayside supports an enrollment of 201 students.

Population Characteristics

Much of the 40th Street Corridor passes through Census Tracts designated in **Advantage Pinellas**, the Metropolitan Planning Organizations's (MPO) **2045 Long Range Transportation Plan**, as Environmental Justice Minority & Low-Income Areas including two Census Tracts in the North and four Census Tracts in the South Focus Areas. The project corridor intersects six census tracts identified as disadvantaged by the Justice40 initiative. These tracts are recognized as overburdened and underserved for meeting more than one burden threshold and the associated socioeconomic threshold. The Justice40 designated census tract within the southern focus area is within the 93rd percentile for low income, people in households where income is less than or equal to twice the federal poverty level, not including students enrolled in higher education. The census tract within the northern focus area is in the 96th percentile for low income and the 91st percentile for housing cost, which indicates the share of households making less than 80% of the area median family income and spending more than 30% of income on housing. The other four census tracts along the corridor are all over the 65th percentile of low-income people (shown in **Figures 3** and **4**).

The census block groups intersected by the 500-foot buffer of the southern focus area of the 49th Street corridor includes approximately 13,284 people within 5,505 households and the northern focus area includes approximately 6,298 people within 1,759 households. Demographic characteristics for the 500-foot buffers of the south and north focus areas and Pinellas County are provided **Tables 2** and **3**.

Table 2: Population Demographics – 49th Street Corridor

Population Characteristic	South Focus Area	North Focus Area	Pinellas County
White (Race)	69.80%	71.07%	76.73%
Black or African-American (Race)	7.31%	15.80%	10.96%
Other (Race)*	21.63%	13.13%	13.07%
Hispanic or Latino of Any Race (Ethnic Group)	17.49%	10.65%	10.41%
Minority	33.54%	34.52%	27.59%
Under Age 18	19.49%	4.67%	15.72%
Age 65 and Over	18.45%	19.83%	25.56%
Median Family Income	$68,433	$109,722	$98,396
Population Below Poverty Level	10.70%	19.24%	11.24%
Households Below Poverty Level	15.26%	13.85%	11.54%
Households with Public Assistance Income	3.80%	1.42%	2.38%
Population 20 to 64 Years of Age with Disability	14.44%	36.62%	11.77%
Less Than 9th Grade Education	5.49%	2.99%	2.57%
9th to 12th Grade Education, No Diploma	7.16%	11.46%	4.93%
High School Graduate or Higher Education	87.36%	85.55%	92.51%
Bachelor's Degree or Higher Education	15.29%	18.01%	22.46%
Speaks English Less Than Very Well	6.98%	4.11%	5.38%

* *Other includes Asian, American Indian or Alaska Native, Native Hawaiian & Other Pacific Islander, Some Other Race, and Two or More Races.*

Table 3: Household Vehicle Access and Use – 49th Street Corridor

Population Characteristic	South Focus Area	North Focus Area	Pinellas County
Occupied Housing Units with No Vehicle	2.03%	5.82%	1.98%
Means of Transportation to Work Car, Truck, Van, or Motorcycle	85.58%	77.14%	79.94%
Means of Transportation to Work Bicycle or Walked	0.96%	1.96%	2.17%
Means of Transportation to Work Other**	12.52%	20.90%	17.63%

** *Other includes Public Transportation (excluding taxicab), other, and worked at home.*

According to **United States Census Longitudinal Employer-Household Dynamics (LEHD)** data, of the 7,293 jobs within the census tracts impacted by the southern focus area, 96.10% are filled by individuals who commute from outside the census tracts. Of the 2,781 jobs within the census tracts impacted by the northern focus area, 92.30% are filled by individuals who commute from outside the census tracts. As such, much of this workforce/regional traffic use the 49th Street corridor to access the provided jobs.

The largest percentage of individuals are employed in health care and social assistance, manufacturing, construction, and retail trade within a quarter-mile of the project corridor. Pinellas County is expected to grow to 1,030,000 by the year 2045, adding 93,000 people and projected employment of 60,000 jobs according to Advantage Pinellas 2045, the **Pinellas County Long Range Transportation Plan**. The flow of daily work trips into and out of the project area is shown in **Figure 5**.

Land use near 58th Ave N

Figure 3: Minority Population Map

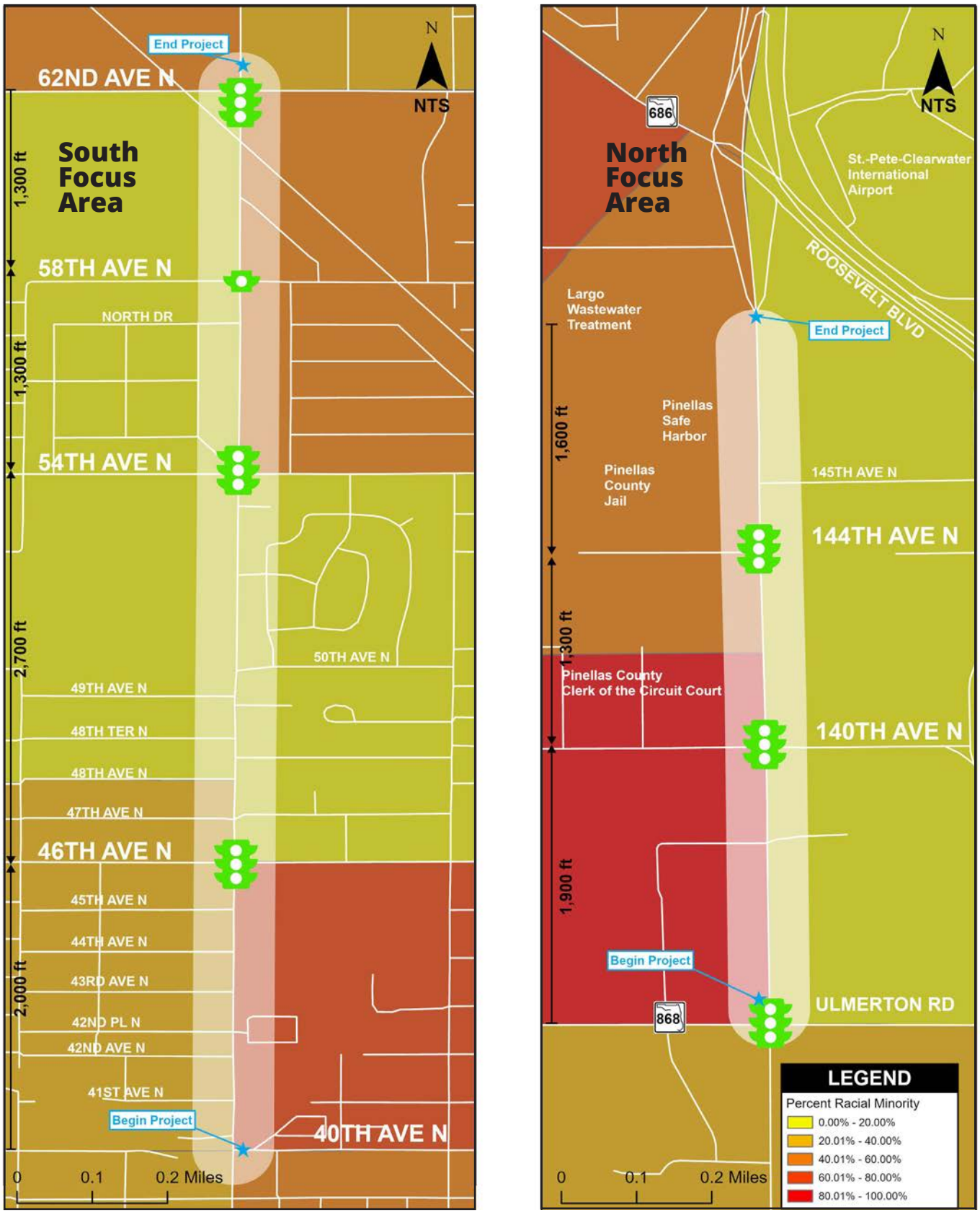


Figure 4: Low Income Population Map

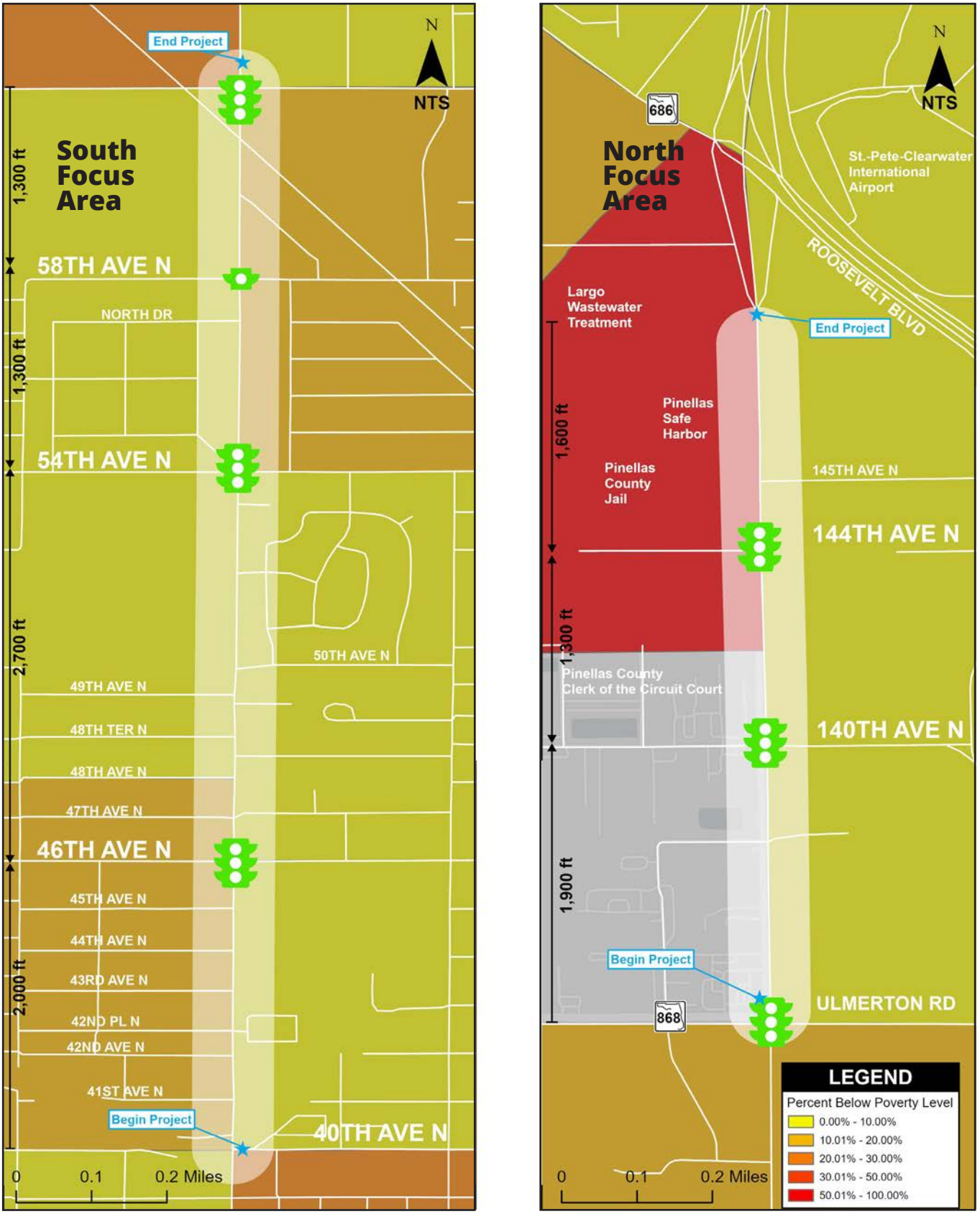
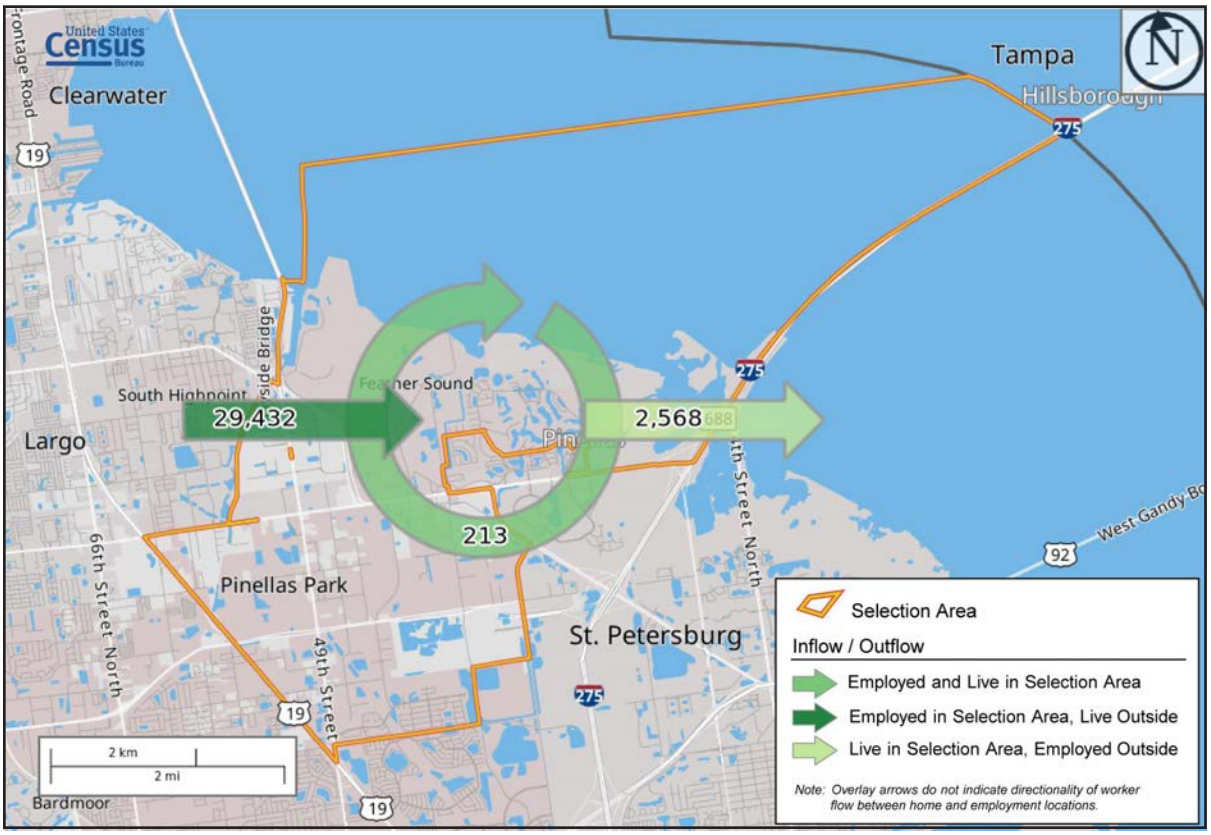


Figure 5: Inflow/Outflow Map

South Focus Area



North Focus Area

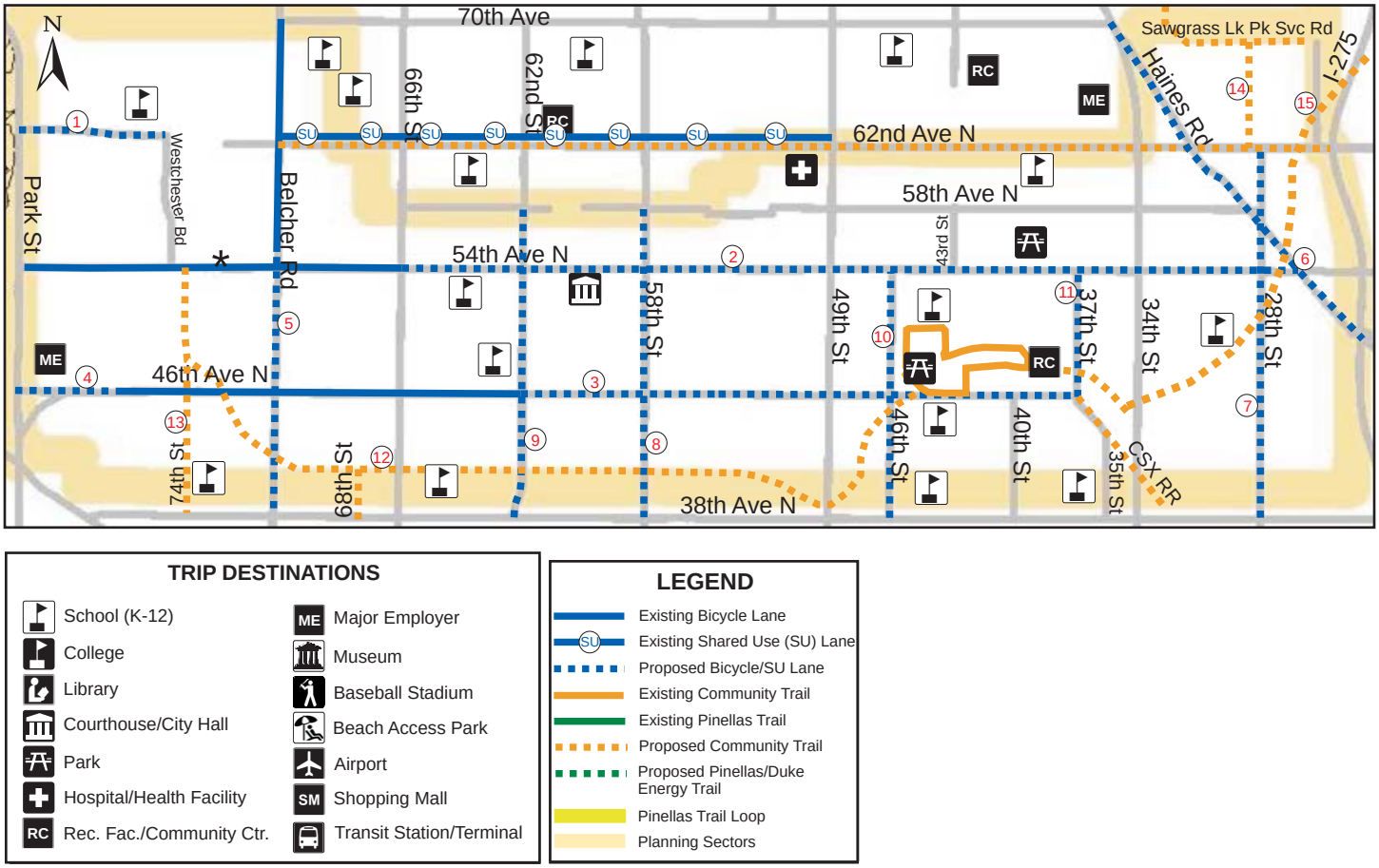
Planned and Programmed Projects

Local Plans

Local governments supported by their communities develop plans to guide the development of infrastructure within their jurisdictions. Several local plans include proposed transportation system improvement priorities and express goals for the transportation system that includes 49th Street.

- **Advantage Pinellas, 2045 Long Range Transportation Plan (2019) -** The plan describes key roadway and transit projects for the county, which align with a vision to provide a comprehensive mobility network. The following corridors that intersect 49th Street within the areas of focus that are recommended for enhancements:
  - Roadway enhancement 62nd Ave N from 49th St to 66th St
  - Roadway enhancement on 54th Ave N from 49th St N to 34th St N
  - Roadway enhancement 46th Ave N from 49th St N to 38th St N
  - Active Transportation enhancement Joe's Creek Greenway Trail
- **Pinellas County Bicycle and Pedestrian Master Plan (Amended 2017) -** Identifies several proposed transportation improvements located within the 49th Street Focus Areas including:

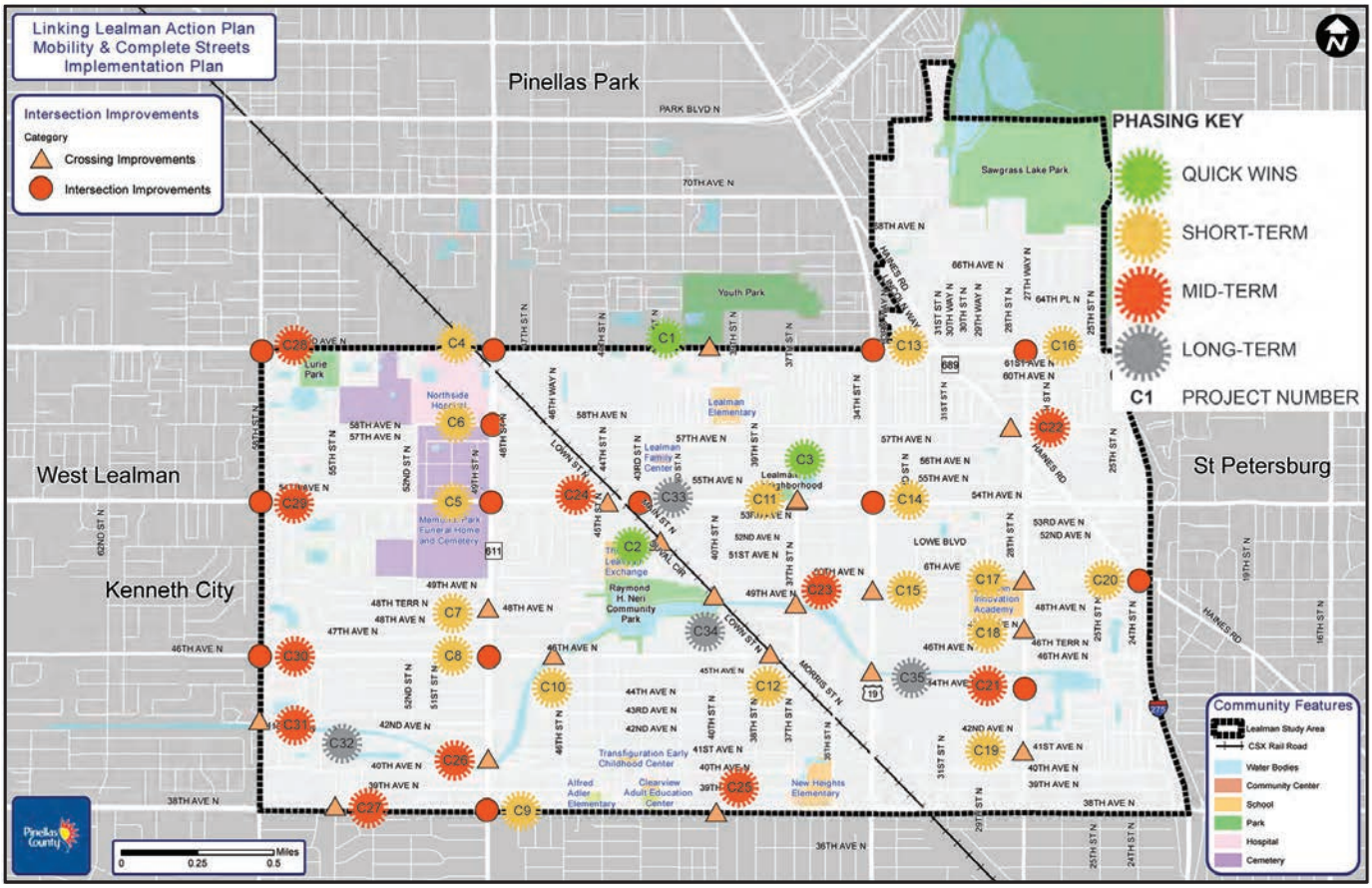
Figure 6: Pinellas County Bicycle and Pedestrian Master Plan bicycle and trail priorities in the South Focus Area



- Bike Lanes on 49th Street from Ulmerton Rd to Roosevelt Bd
- Community Trail on 62nd Ave N Crossing 49th Street
- Bike Lanes on 54th Ave N Crossing 49th Street
- Bike Lanes on 46th Ave N Crossing 49th Street
- Community Trail – Joe's Creek Greenway

- **PSTA Transit Development Plan (FY 2021–2030) -** Sets priorities for investment in the transit system in future years. The TDP Identifies Routs 52/52LX (routes operating on 49th Street) as Operating Priorities and Core Routes. Ridership projections for year 2030 show a potential of up to 2,900 new daily riders with implementation of the 2030 Optimal Scenario that implements increased headways and service hours.
- **Lealman Community Redevelopment Area Plan (Amended 2019) -** Includes an overarching goal for the transportation system within that community with the first element of the first goal related to safety.
  - **Goal One:** Provide for a safe, convenient, and energy efficient multimodal transportation system that serves to increase mobility, reduce the incidence of single-occupant vehicles, protect roadway capacity, reduce the contribution to air pollution from motorized vehicles and improve the quality of life for the citizens of Pinellas County.
- **Linking Lealman Mobility Plan -** The Plan includes several goals and specific infrastructure improvements to be considered in the development of the 49th Street Safety Study including:
  - Plan Goals and Themes include:
    + Encourage mobility and accessibility for all transportation modes
    + Create an actionable plan for complete street improvements
    + Provide a link between economic redevelopment opportunities, safety, and mobility objectives

Figure 7: Crossing and Intersection projects proposed in the Linking Lealman Plan



  - Develop concepts for focus corridors
  - Transportation Improvement Theme: There is a need for multimodal improvements that work in tandem to create a safe and accessible transportation system for all users on key corridors such as 54th Avenue North, 62nd Avenue North, 46th Avenue North, 34th Street North, 28th Street North and 49th Street North.

- Specific Infrastructure improvements included in Linking Lealman along 49th Street include:
  - **Intersection: 62nd Ave N & 49th St N -** Improve turn lanes; Restripe intersection; improve merge lane
  - **Intersection: 49th St N & 54th Ave N -** Construct raised median at north and east legs of intersection
  - **49th St N & 58th Ave N -** Signal warrant analysis & crosswalks
  - **48th Ave N & 49th St N -** Improve turn lane; if warranted, consider mid-block crossing with RRFB
  - **49th St N & 46th Ave N -** Consider protected turning phases; improve driveway access points at intersection
  - **38th Ave N & 40th St N -** Mid-block crossing, RRFB
  - **49th St N & 40th Ave N -** Install crosswalk on east leg & stop bar

Programmed Projects

In addition to the review of local plans, coordination with Pinellas County Staff in June 2024 identified multiple projects programmed for implementation in the next five years. **Table 4** provides a list of current Pinellas County improvements programmed within the study area and considered in the development of the recommended improvements along the South Focus Area. No projects were identified within the North Focus Area study area.

Pedestrian Improvements on 46th Ave N

Table 4: Pinellas County Planned and Programmed Improvements Projects

Project ID	Project	CIP Phase	Construction
002131A	46th Avenue N from 49th Street N (CR 611) to 38th Street N Roadway Improvements	Design	FY 2025
002180A	62nd Avenue N from 49th Street N to 66th Street N Facility Enhancements (Recommendation by LRTP & Forward Pinellas Bicycle Pedestrian Master Plan)	Planning	FY 2032
000097A	62nd Avenue N from34th Street to 49th Street N	Design	FY 2028
005539A	49th Street at 46th Street N Intersection Improvements	Design	FY 2026
003882A	54th Avenue N from 49th Street N to 34th Street N Roadway Improvements (Complete Streets)	Design	FY 2028
002927A-002131B	46th Avenue N from 49th Street N to 55th Street N Sidewalk Improvements	Bidding Construction	FY 2025
004116A	Joe's Creek Greenway Trail and Stormwater Management	Planning	FY 2026

Community Engagement

The **Safe Streets and Roads for All (SS4A)** program prioritizes public involvement, requiring active engagement of residents and diverse groups in the planning and implementing of safety projects. This public engagement requirement ensures community needs and context are considered, builds community support for initiatives, and ultimately creates more effective and equitable solutions in reducing traffic fatalities and serious injuries. As part of this study, effort was made to engage the community to identity opinions related to current safety conditions and potential safety countermeasures able to address the hazards present along 49th Street.

The following activities were undertaken to engage the community in the **49th Street Safety Study** and root project recommendations in the context of the community.

Community Survey

A community survey focused on transportation safety issues was administered in support of the overall Safety Study over a 30-day period in June 2024. The survey served to gather direct feedback from residents about their experiences and concerns related to safety along 49th Street. The survey was administered online and advertised through existing Forward Pinellas and Pinellas County social media and website outlets. Additionally, signs were posted at transit stops and in other high-visibility locations along 49th Street to solicit the public's participation in the survey.

The survey included a total of eleven questions to help in the develop an understanding the community's specific safety needs and priorities.

A total of 99 responses were received detailing the frequency and mode of travel, perception of safety conditions and hazardous areas, near-miss observations, and suggestions for potential improvements. Below are two response summaries received related to the type and location of top safety concerns within the community.

Figure 8:

What are your top 3 transportation safety concerns on 49th Street?

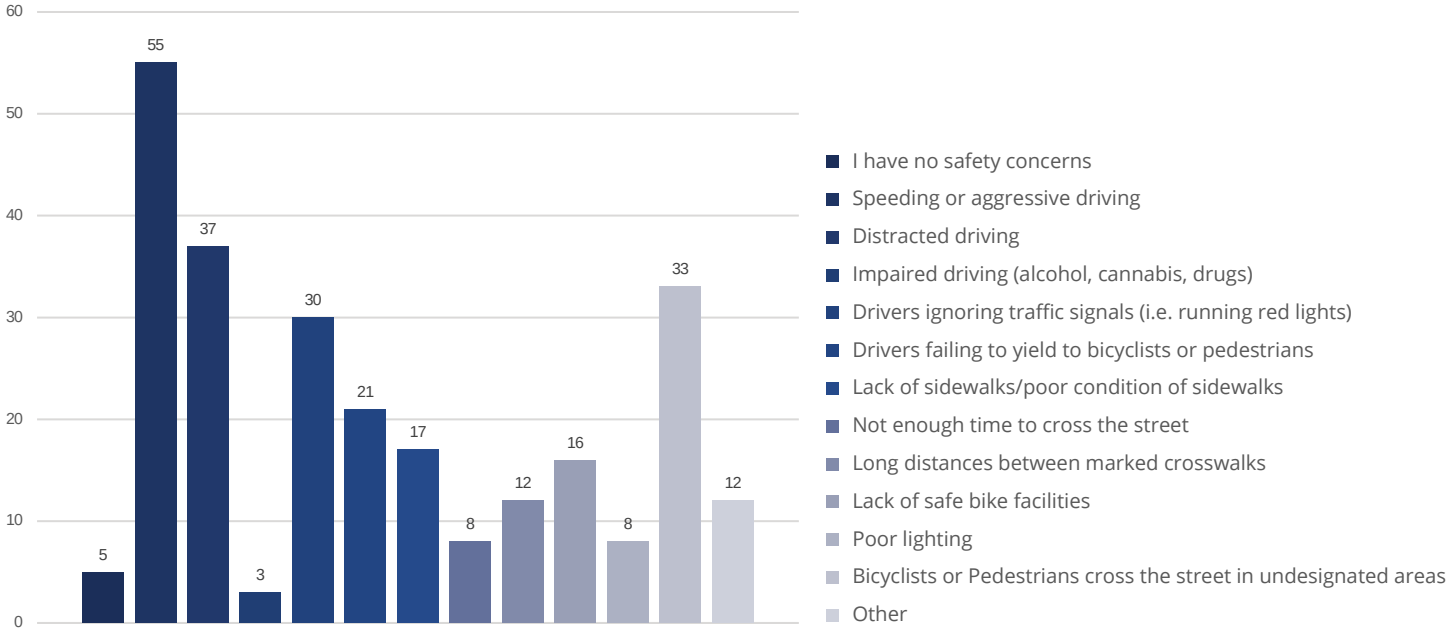
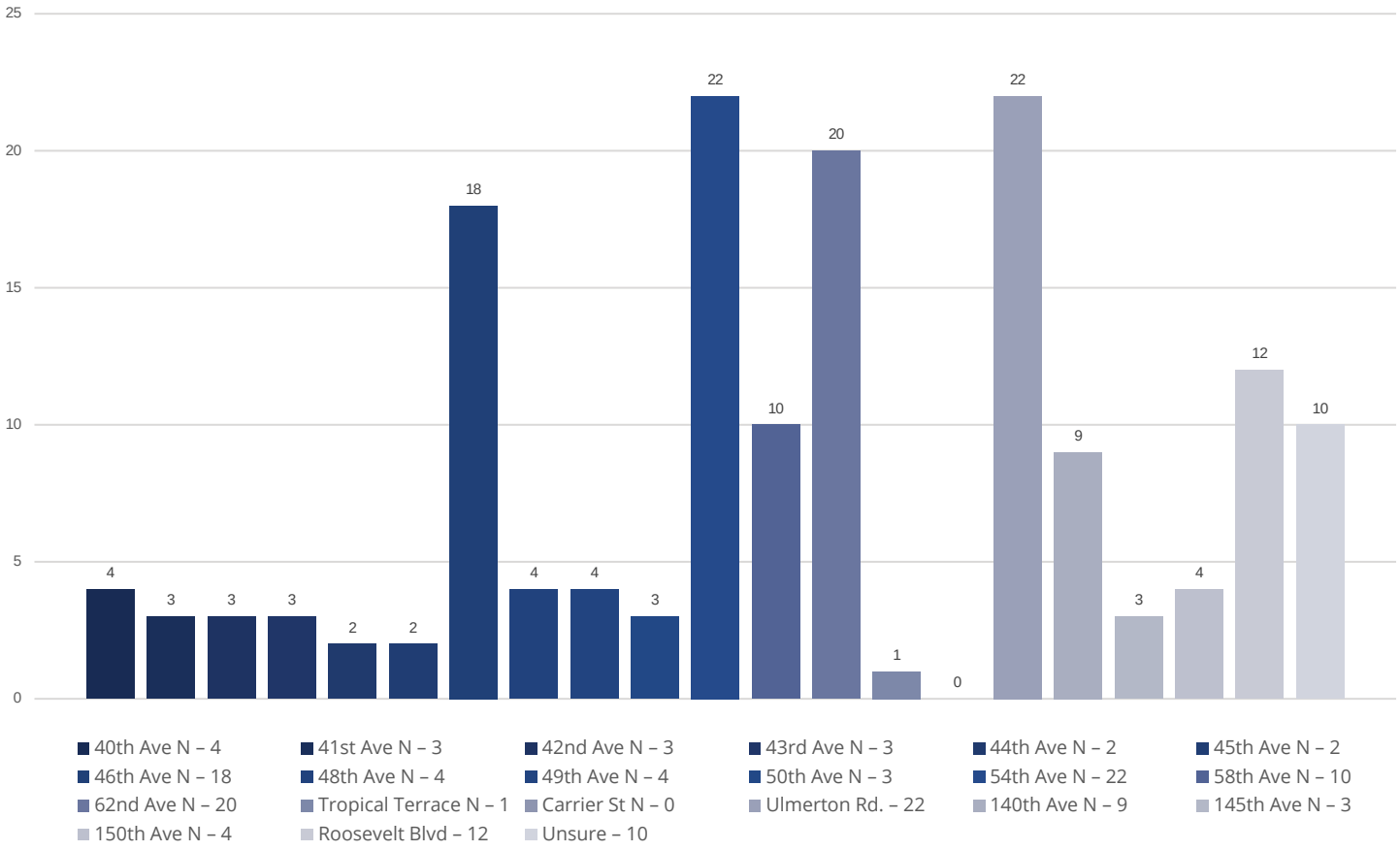


Figure 9:

If you have observed a "near miss", tell us where it occurred. Identify the closest intersection.



The input received included suggested projects related to lighting, speed reductions, signal location and timing, expanded facilities for bicyclists and pedestrians including bike lanes, sidewalks, and crossings, lane repurposing and reduction, improved landscape and infrastructure maintenance, and enforcement of existing traffic laws. The survey results will be used to inform the development of safety countermeasures that are appropriate within the communities located along 49th Street.

Full survey results detailing each response received is included in **Appendix A**.

Community Workshop

A community workshop was held on July 17, 2024 from 6:00 to 8:00 p.m. at the Lealman Exchange Community Center. The findings of the community survey, corridor safety evaluation (including RSA's) and list of preliminary safety countermeasure recommendations were presented to the public. A series of boards summarizing the study purpose, existing traffic conditions, crash history, and preliminary recommendations were presented at the meeting. County, MPO, and Consultant Staff were present to discuss relevant topics with the public. The meeting was advertised through existing Forward Pinellas and Pinellas County social media and website outlets. Additional advertisement was communication through existing community stakeholder lists.

The opportunity for public comment was offered through printed comment forms, direct notation on plots depicting existing/proposed conditions (with safety countermeasures implemented), and through conversation with staff. Members of the public participated in the workshop identifying 28 unique comments related to safety concerns and appropriate countermeasures.

Concern expressed by workshop participants consistently centered on the speed of vehicles; movement of cars, bicyclists, and pedestrians across 49th street at numerous uncontrolled locations; signal timing; and the safety of vulnerable users (pedestrians and bicyclists). Also, as part of potential mitigation strategies, the public expressed interest in lane repurposing and reduction along 49th Street, the installation of turn-lanes, mid-block crossings with signals, pedestrian refuges, bollards in high-pedestrian traffic areas, speed feedback signs, LED lighting, and landscape and sidewalk maintenance.

Public opinion on some issues was split within the group of participants with some supporting lane reduction and repurposing while other stakeholders indicated the need to maintain existing capacity along 49th Street and improve the existing facilities to enhance safety. Finally, 58th Ave N was consistently identified as an area of concern for crashes and near-miss incidents. A summary of the materials presented, and comments received at the July 17th workshop are included in the supporting Community Context Report published under separate cover.

Lealman community members and county staff team make notes on plots of the 49th Street corridor. Specific hazards and potential safety countermeasures were identified for consideration.

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Pinellas County

49TH STREET SAFETY STUDY

EXISTING CONDITIONS

Whether driving, biking, walking, or taking public transportation, everyone deserves to be safe while traveling on our roads.

Existing Conditions

The following section introduces the physical characteristics of the roadway within each Corridor Focus Area. This includes descriptions of lane widths, posted speed limit, and other key multi-modal infrastructure elements. These foundational details provide a basis for analyzing crash and operational data, helping to inform targeted recommendations for improving corridor safety and efficiency.

South Focus Area
(49th Street N from 40th Avenue N to 62nd Avenue N)

49th Street N from 40th Avenue N to 62nd Avenue N is a six lane divided roadway with curb and gutter. Sidewalks width from the back of curb varies from five foot to six feet wide with minimal grass buffered areas. Street lighting exist along 49th Street N. There are dedicated left turn lanes present. A curb with lawn median is present. The roadway width is approximately 85 feet. The posted speed limit is 40 mph. A detailed description of the physical conditions at the intersections present along the South Corridor are included in the supporting Existing Conditions Report developed under separate cover.

Pinellas County Transit route 52 and 52LX run along 49th Street N supporting bus stops are located within the ROW along 49th Street.

Figures 10 and **11** illustrate the Typical Sections for the South Focus Area.

North Focus Area
(49th Street N from Ulmerton Road to S. of Roosevelt Boulevard)

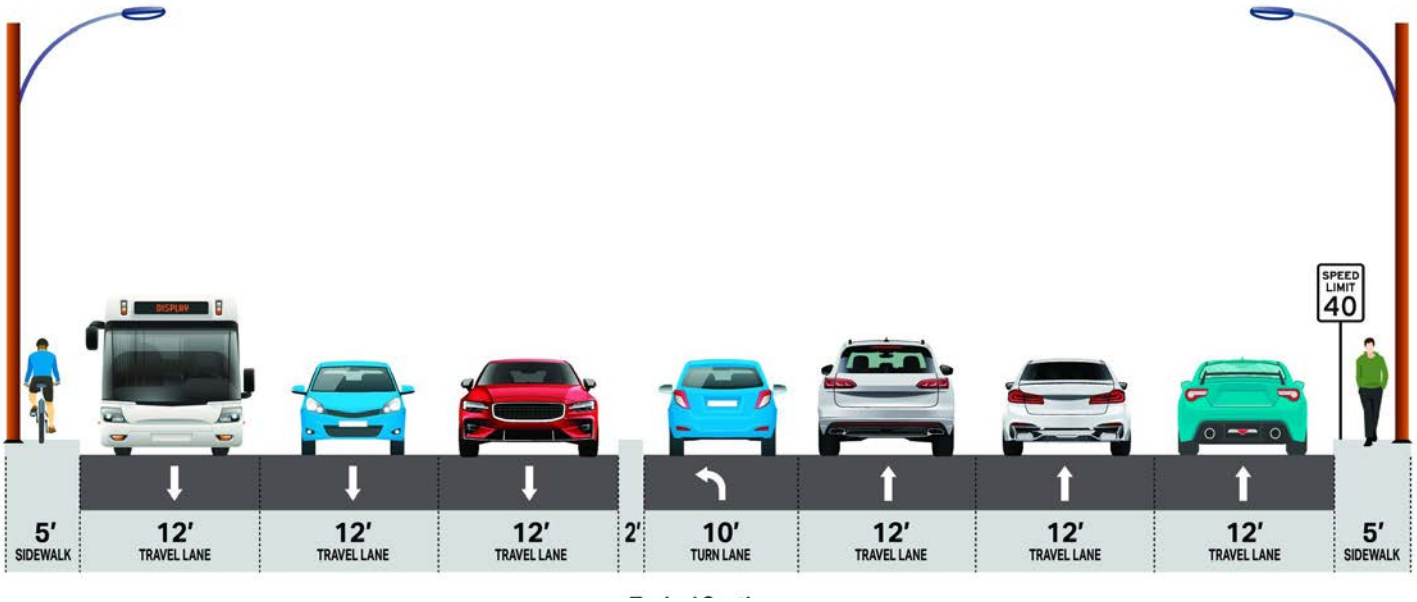
49th Street north from Ulmerton Road to south of Roosevelt Boulevard is a six lane divided roadway with curb and gutter and five to six foot sidewalks and two foot grass buffer. Existing street lighting runs along N 49th Street N. on both sides of the roadway. Transit shelter and bus stops with benches are also present. The roadway width is approximately 97 feet. The posted speed limit is 45 mph. The Pinellas County Clerk of the Circuit Court, Pinellas County Jail, Safe Harbor and Largo Wastewater Treatment are the west side of the roadway, and the St. Pete-Clearwater International Airport located just northeast of Roosevelt Boulevard. A detailed description of the physical conditions at the intersections present along the North Corridor are included in the supporting Existing Conditions Report developed under separate cover.

Pinellas County Transit route 52 and 52LX run along 49th Street N supporting bus stops are located within the ROW along 49th Street.

Figure 12 illustrates the Typical Section for the North Focus Area.

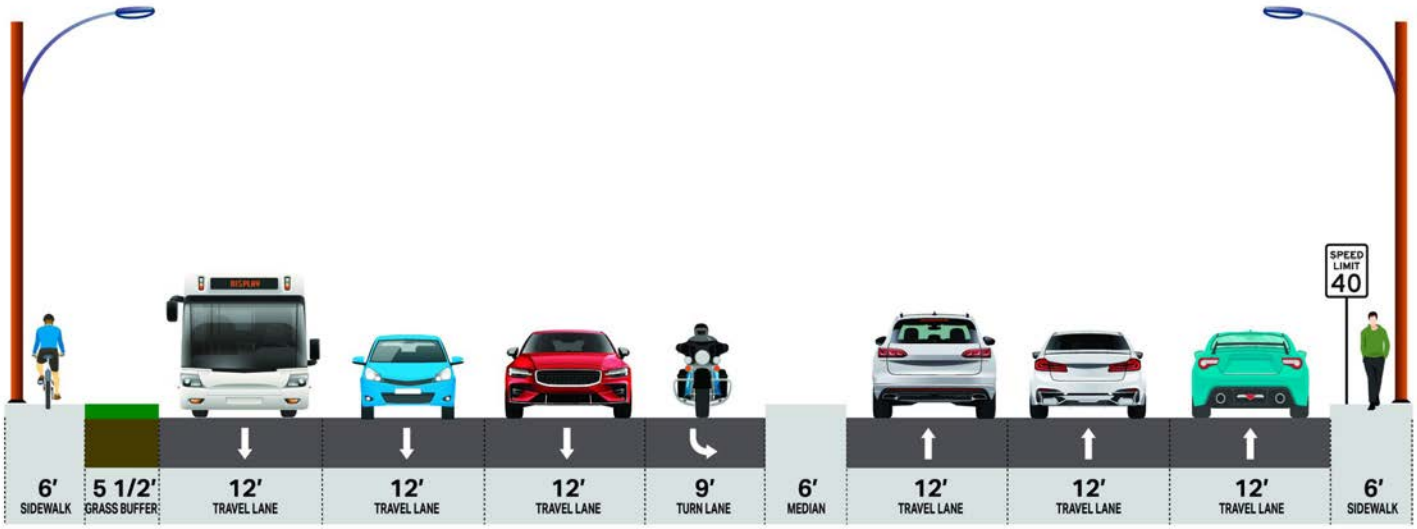
Vehicle Attempting U-Turn Near 40th Ave N

Figure 10: South Focus Area Typical Sections 49th Street N from 40th Avenue N to Carrier Street



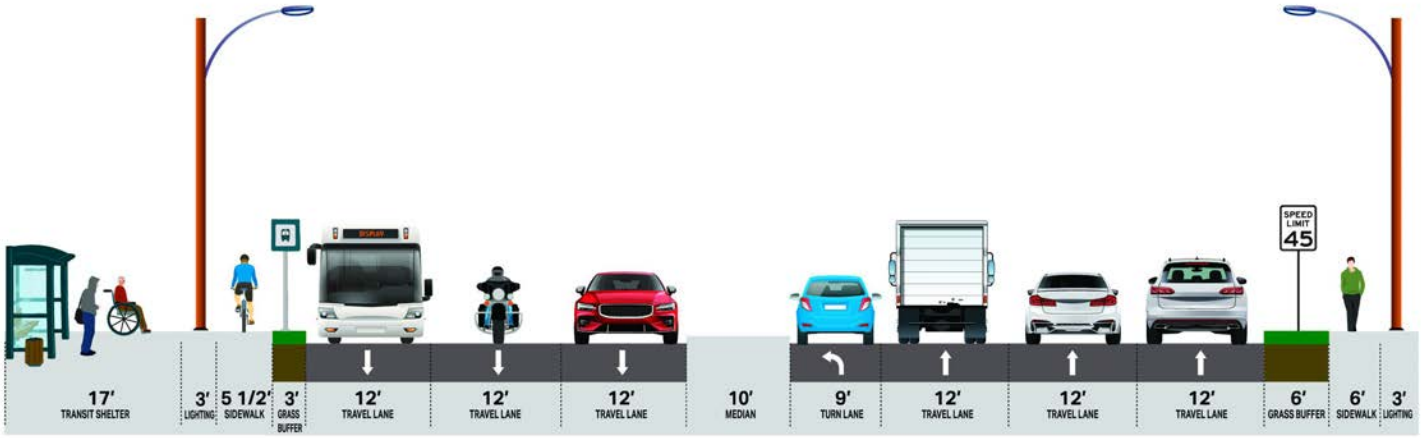
Typical Section: Six-Lane Divided Arterial, C4-Urban General Context Classification, 40 MPH Posted Speed

Figure 11: South Focus Area Typical Sections 49th Street N from Carrier Street to 62nd Avenue N



Typical Section: Six-Lane Divided Arterial, C4-Urban General Context Classification, 40 MPH Posted Speed

Figure 12: North Focus Area Typical Section



Typical Section: Six-Lane Divided Arterial, C4-Urban General Context Classification, 45 MPH Posted Speed

Pedestrian and Bicycle Facilities

The pedestrian facilities along 49th Street are generally well-developed, with sidewalks, crosswalks, transit facilities, and pedestrian infrastructure at intersections. However, there are several factors to consider regarding pedestrian safety and comfort along this corridor. 49th Street is a six-lane divided roadway with a raised median and posted speed limits of 40-45 mph. High vehicle speeds in this environment can pose a risk to pedestrians, as collisions are more likely to result in severe injuries at these speeds.

Sidewalks are present on both sides of the roadway and are generally 6 feet wide, which provides adequate space for two-way pedestrian travel. Buffer zones between the sidewalk and roadway range from 0 to 5 feet, which can impact pedestrian comfort. Additional grassed buffers create a safer and more comfortable walking experience by separating pedestrians from fast-moving vehicles. Areas with no buffer may feel less safe and more stressful for pedestrians.

Marked crosswalks are present at signalized intersections within the South and North Focus Areas. This provides designated crossing points, but with crosswalk spacing ranging from ¼ to ½ mile, pedestrians may have limited options to cross safely. The spacing between marked crosswalks (up to ½ mile) could encourage pedestrians to cross midblock rather than walking to the nearest crosswalk, which increases the risk of unprotected crossing incidents.

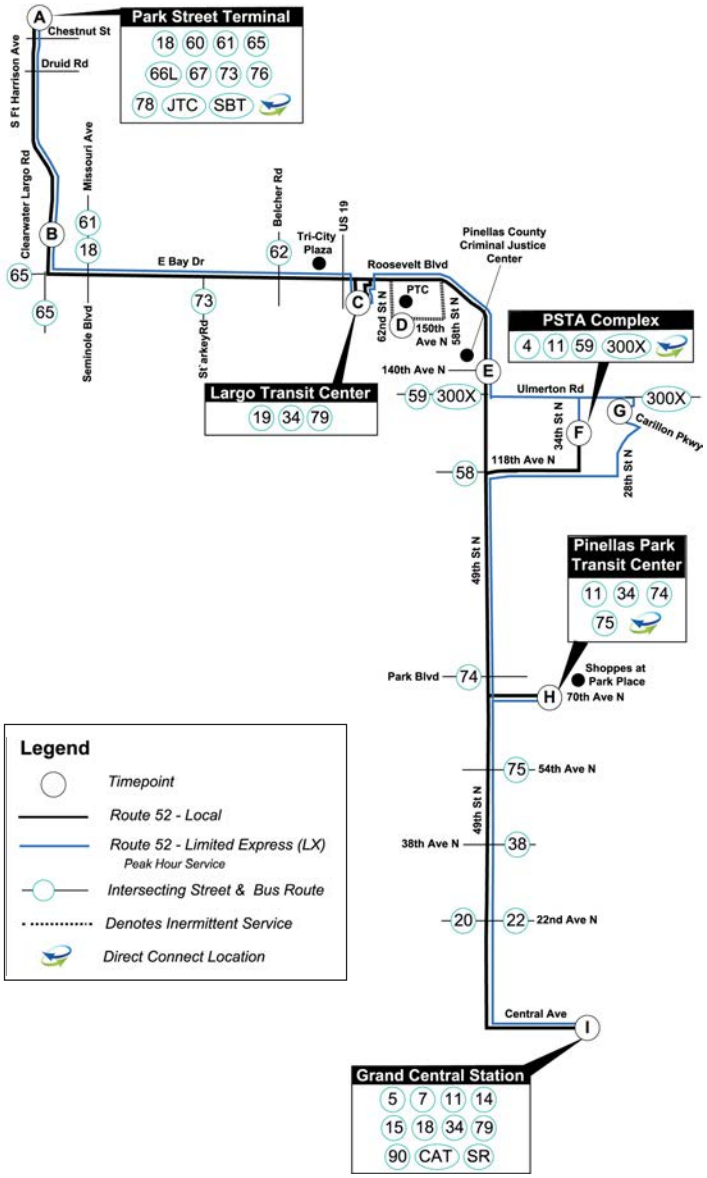
The absence of bike lanes along 49th Street is a significant limitation, especially given the characteristics of the corridor. The high speeds (40-45 mph), six-lane divided roadway, and limited crossing opportunities make this a challenging and potentially unsafe environment for bicyclists. Without dedicated bike lanes, cyclists may feel forced to ride in traffic lanes or on sidewalks, both of which have drawbacks in terms of safety and accessibility.

Transit Routes and Facilities

Pinellas Suncoast Transit Authority (PSTA) provides for public transportation along 49th Street N throughout the day and evening hours. **Routes 52** and **52LX** run north and south along the corridor as shown in **Figure 13**. **Routes 52** and **52LX** headways and frequencies are listed below:

- **Route 52:**
  - Service Days: Monday through Sunday
    - Average Headway: 15 to 30 minutes

Figure 13: Location of Routes 52/52LX



- **Route 52LX (Express Service):**
  - Service Days: Monday through Friday only (during peak hours)
    - Average Headway: 30-40 minutes

Bus stop boarding and alighting data was obtained from PSTA for Routes 52 and 52LX and represents a single weekday ridership total in April 2024. **Figure 14** illustrates the boarding and alighting proportional distribution of the totals at each of the stop location.

Along the South and North Focus Areas, generally, transit stops facilities are in close proximity of signalized intersections.

Figure 14: Routes 52/52LX Boarding and Alighting Proportional Distribution

Traffic Data Collection

Traffic counters and MIOVISION video cameras were used to collect traffic volume and speed data along 49th Street. The data collected, using the traffic counters, was used to develop existing midblock segment volumes, and spot speed data volumes for the South and North Focus Areas. Intersection vehicular volumes, pedestrian and bicycle crossings data was developed using Miovision video cameras. A description of all count data collections are provided in the Existing Conditions Report published under separate cover. A summary of the traffic data is provided below.

Vehicle Counts

Bi-directional segment traffic counts were collected at five (5) locations along 49th Street N for a 48-hour period on select dates in February and March of 2024. Vehicle volumes and classification data, and spot speeds were obtained from these counts.

Table 5 provides a summary of the 48-hour raw traffic counts, the adjusted directional annual average daily traffic (AADT) using the appropriate axle correction and peak season conversion factors for Pinellas Countywide, the two-way AADT and the 24-hour truck traffic volumes. Vehicle classification is based on standard Federal Highway Association (FHWA) 13 classification categories.

Table 5: Existing Traffic Volumes

49th Street Intersection		Day 1	Day 2	Raw Average Daily Traffic	Adjusted Directional AADT[1]	AADT[1]	T_{24}[2]	
South Focus Area								
From 40th Ave N to 46th Ave N	Northbound	15,513	15,559	15,536	14,000	29,000	2.8%	6.0%
	Southbound	16,712	16,572	16,642	15,000		3.2%	
From 46th Ave N to 54th Ave N	Northbound	16,322	16,694	16,508	14,900	30,300	3.9%	7.7%
	Southbound	16,943	17,269	17,106	15,400		3.8%	
From 54th Ave N to 64th Ave N	Northbound	17,212	17,837	17,525	15,800	31,700	3.5%	7.1%
	Southbound	17,211	18,015	17,613	15,900		3.6%	
North Focus Area								
From 140th Ave N to 144th Ave N	Northbound	14,143	15,135	14,639	13,200	28,200	3.3%	7.0%
	Southbound	16,366	16,916	16,641	15,000		3.7%	
From 145th Ave N to Roosevelt Blvd	Northbound	14,395	15,139	14,767	13,300	28,200	3.9%	7.5%
	Southbound	16,547	16,579	16,563	14,900		3.6%	

[1] *Annual Average Daily Traffic*
[2] ***T_{24}*** *is 24 Hour Truck Traffic*

Spot Speed Data Evaluation

The evaluation of speeds is based on the procedures outlined in the F*DOT 2018 Speed Zoning for Highways, Roads and Streets in Florida*. The posted speed should not exceed the design speed for the selected facility and shall not exceed the maximum speed as allowed by Florida Statutes, **Table 6** provides summaries of the spot speed data collected for the South and North Focus Areas.

Table 6: Vehicle Spot Speed Data

49th Street Intersection		Posted Speed Limit	Speed (MPH) (Two Day Details)			
			Average	50th Percentile	85th Percentile	10-mph Pace Speed
South Focus Area						
From 40th Ave N to 46th Ave N	Northbound	40 MPH	43	42	48	40-49
	Southbound		41	40	47	35-44
From 46th Ave N to 54th Ave N	Northbound		43	42	48	40-49
	Southbound		42	42	47	40-49
From 54th Ave N to 64th Ave N	Northbound		44	43	48	40-49
	Southbound		43	42	47	40-49
North Focus Area						
From 140th Ave N to 144th Ave N	Northbound	45 MPH	44	43	50	40-49
	Southbound		41	41	48	40-49
From 145th Ave N to Roosevelt Blvd	Northbound		45	44	51	40-49
	Southbound		39	40	47	40-49

Pedestrian, Bicycle and Wheelchair Activity

MIOVISION cameras were placed at locations considered to have high crash severity. Video was reviewed and documented for pedestrian, bicycle, and wheelchair activity. The hours reviewed were 7:00 a.m. to 9:00 a.m., 12:00 p.m. to 2:00 p.m. and 4:00 p.m. to 6:00 p.m.. **Table 7** provides a summary of the pedestrian and bicycle crossings at signalized intersections during am and pm peak hours at signalized intersections.

Table 7: Pedestrian and Bicycle Crossings at Intersections Summary

49th Street Intersection	AM Peak				PM Peak			
	Pedestrian		Bicycle		Pedestrian		Bicycle	
	NB/SB	EB/WB	NB/SB	EB/WB	NB/SB	EB/WB	NB/SB	EB/WB
South Focus Area								
46th Avenue N	0	1	1	1	2	6	0	4
54th Avenue N	5	8	2	4	5	4	3	1
62nd Avenue No	1	3	2	8	1	3	1	5
South Focus Area Crossings	**6**	**12**	**5**	**13**	**8**	**13**	**4**	**10**
North Focus Area								
140th Avenue N	1	20	1	5	1	21	0	12
144th Avenue N	7	30	1	5	7	24	0	7
North Focus Area Crossings	**8**	**50**	**2**	**10**	**8**	**45**	**0**	**19**

FORWARD PINELLAS

Pinellas County

49TH STREET SAFETY STUDY

IDENTIFICATION OF SAFETY ISSUES

Whether driving, biking, walking, or taking public transportation, everyone deserves to be safe while traveling on our roads.

Safety

The **Safe Streets Pinellas Action Plan** goal is to prioritize the elimination of crashes that result in fatalities and serious injuries (KSI collisions). Implementing the approach of a **Safe System for All** to address the five elements including safe road users, safe vehicles, safe speeds, safe roads and post-crash care.

This section evaluates historical crash data for 49th Street N provided by Forward Pinellas from the **Pinellas County Crash Data Management System (CDMS)**. The historical crash data provided is from January 2019 to December 2023. A total of 858 crashes occurred along 49th Street N within the South and North Focus Areas with 49 involving a pedestrian or bicyclist, 37 resulting in severe injuries and 10 fatalities.

This section provides historical crash data details for the South Focus Area corridor from 40th Avenue N to 62nd Avenue N, followed by details for the North Focus Area corridor from Ulmerton Road to south of Roosevelt Boulevard, within a 250-foot buffer area for all sidestreets.

A detailed list of the crashes for the South and North Focus Areas is included in the **Existing Conditions Report** published under separate cover.

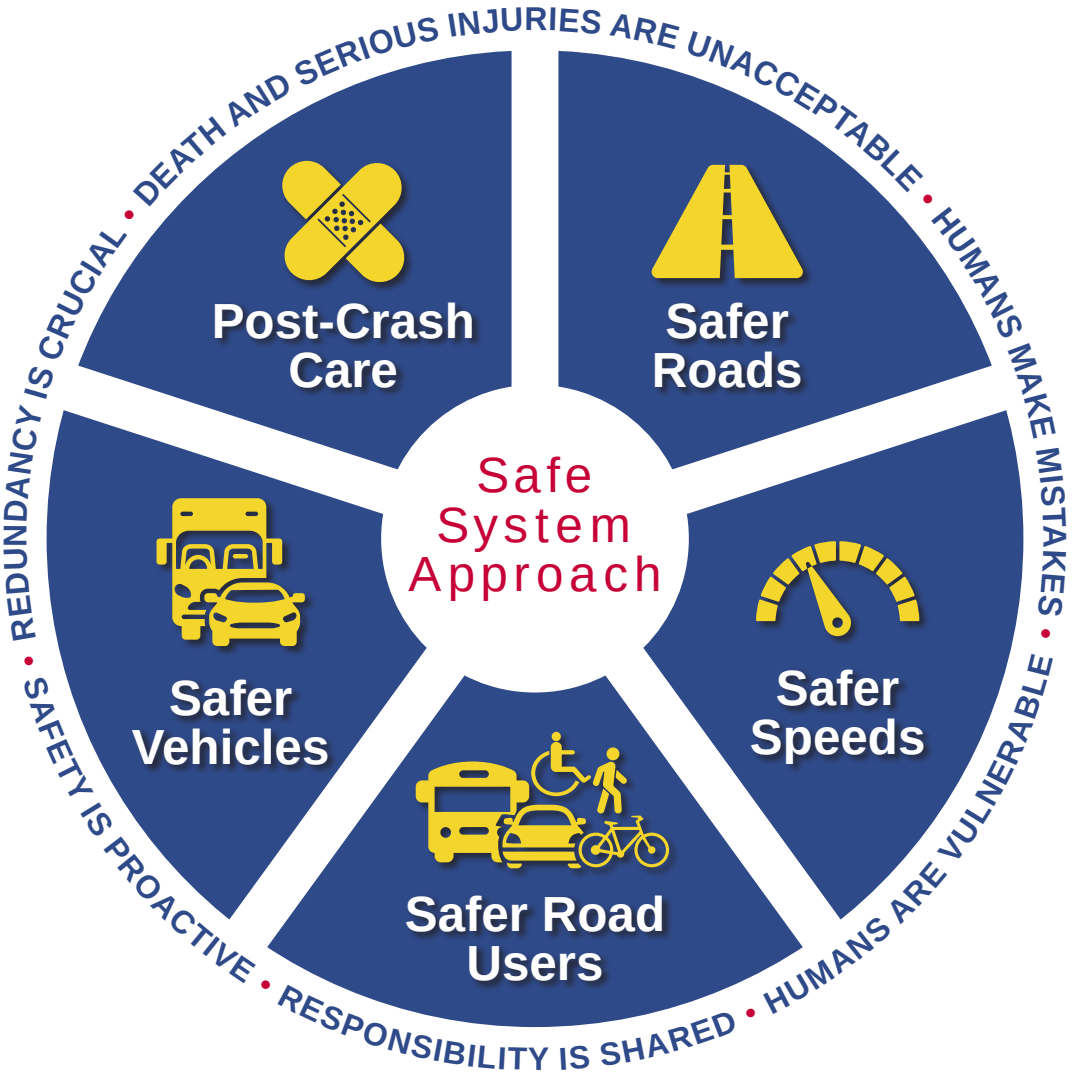
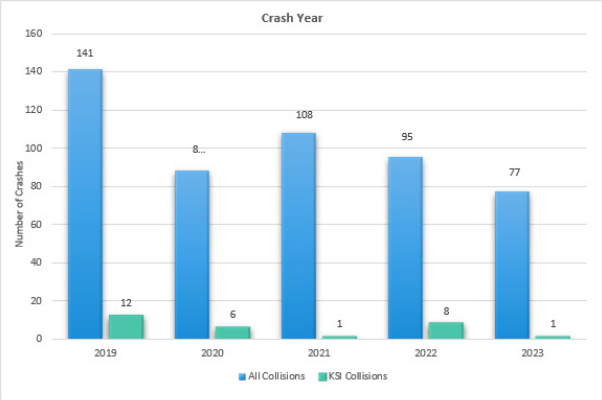
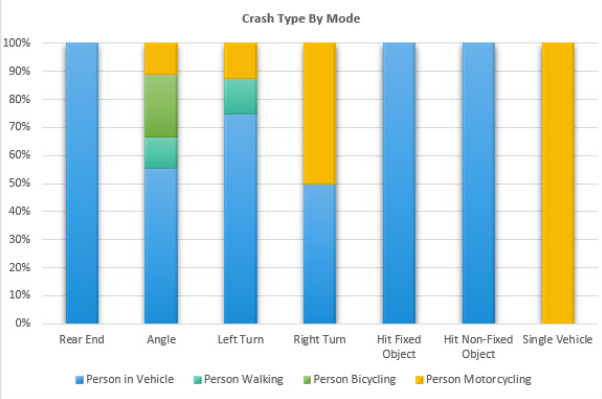
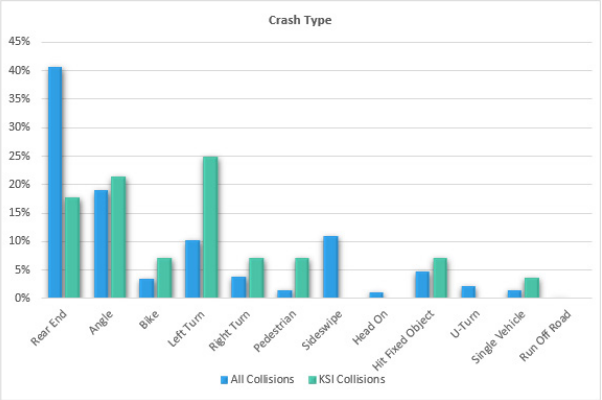
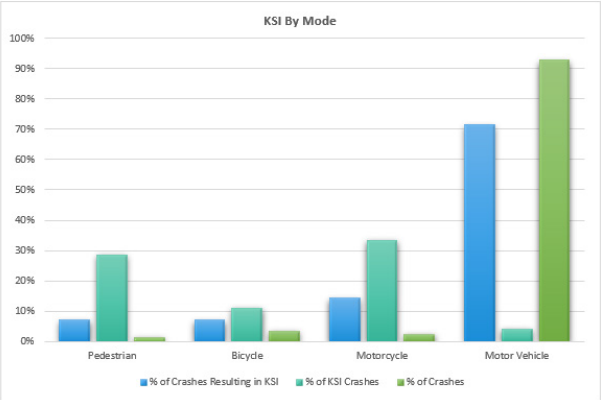


Figure 15: South Focus Area Crash Data Summary (2019 - 2023)









South Focus Area
(49th Street N from 40th Avenue N to 62nd Avenue N)

The goal of Forward Pinellas and Pinellas County and a key component of this study is to reach zero KSI crashes by the year 2045. As part of the Safe Systems approach, there are strategies and countermeasure where roadways with high KSI crashes can proactively be improved with short-, mid- and long-term improvements for all modes of transportation.

The South Focus Area experienced a total of 509 crashes within the 5-year period from 2019 through 2023, with an average of 102 crashes per year. Of the total crashes, five resulted in fatalities and 23 resulted in incapacitating injuries.

Of the total crashes, 25 crashes (4.9 percent) involved a pedestrian or bicyclist of which 4 crashes (16 percent) resulted in a fatality or incapacitating injury crash. Also, 12 motorcycle-related crashes (2.4 percent) occurred with three crashes (25 percent) resulting in incapacitating injuries.

Figures 15 and **16** provide a comparison of all collisions versus KSI collisions of crashes by year, crash type, crash type by mode, KSI by Mode and collision contributing causes for the South Focus Area. **Figure 17** illustrates the location of all KSI collisions.

Figure 16: South Focus Area Contributing Cause Crash Summary (2019 - 2023)

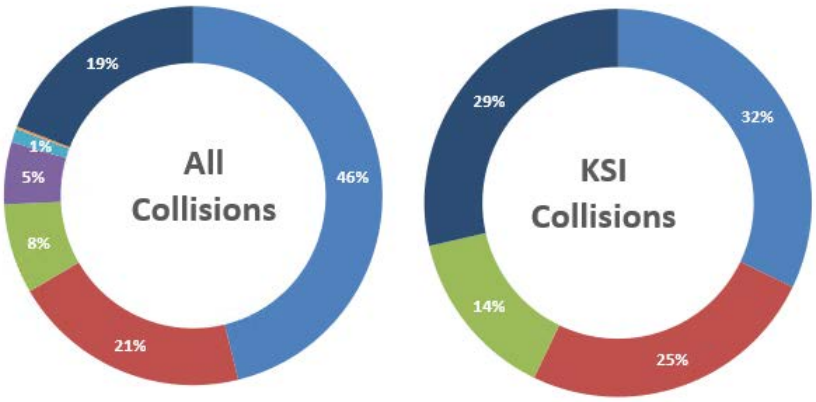


Figure 17: South Focus Area KSI Collisions Location Map (2019 - 2023)

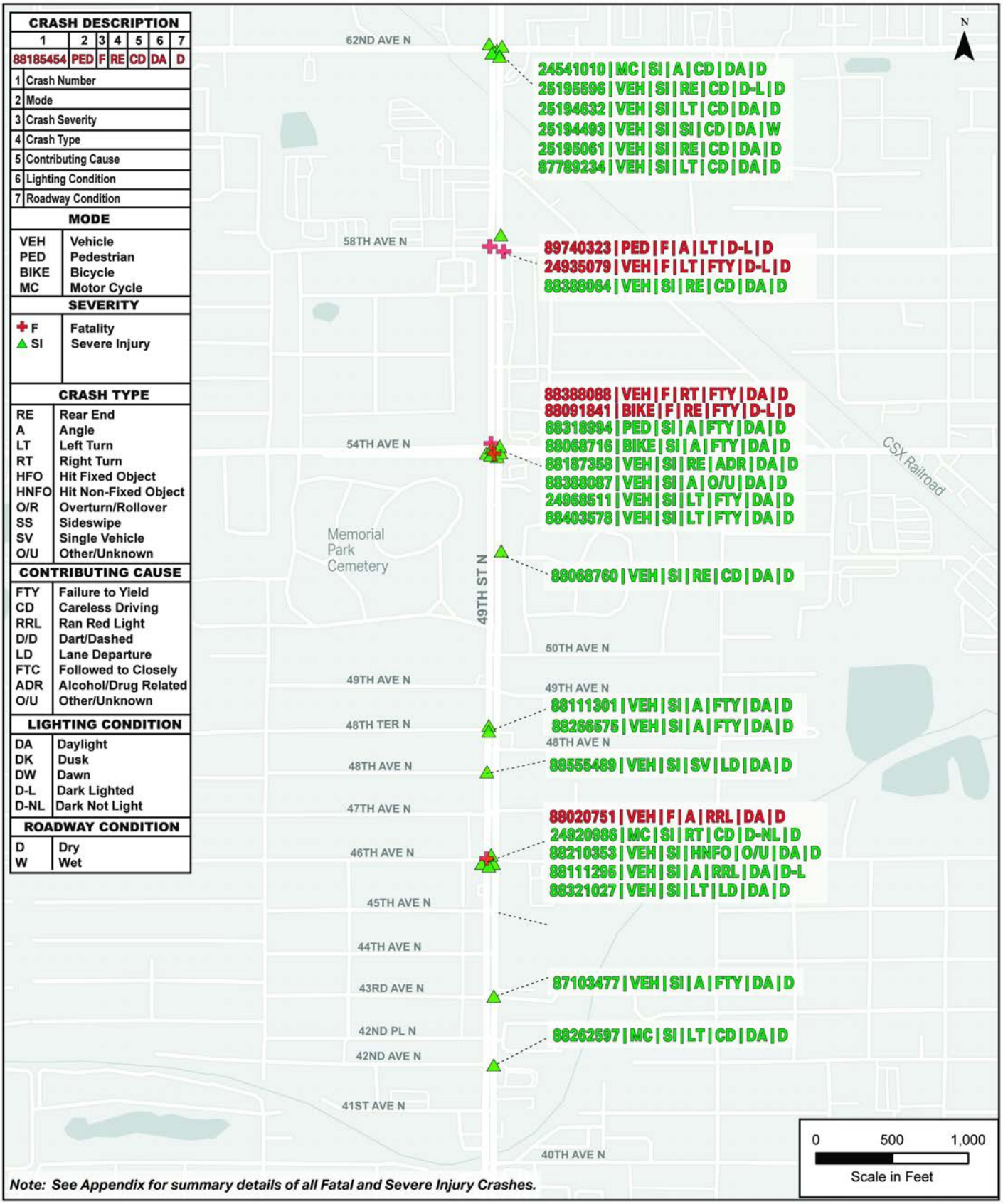
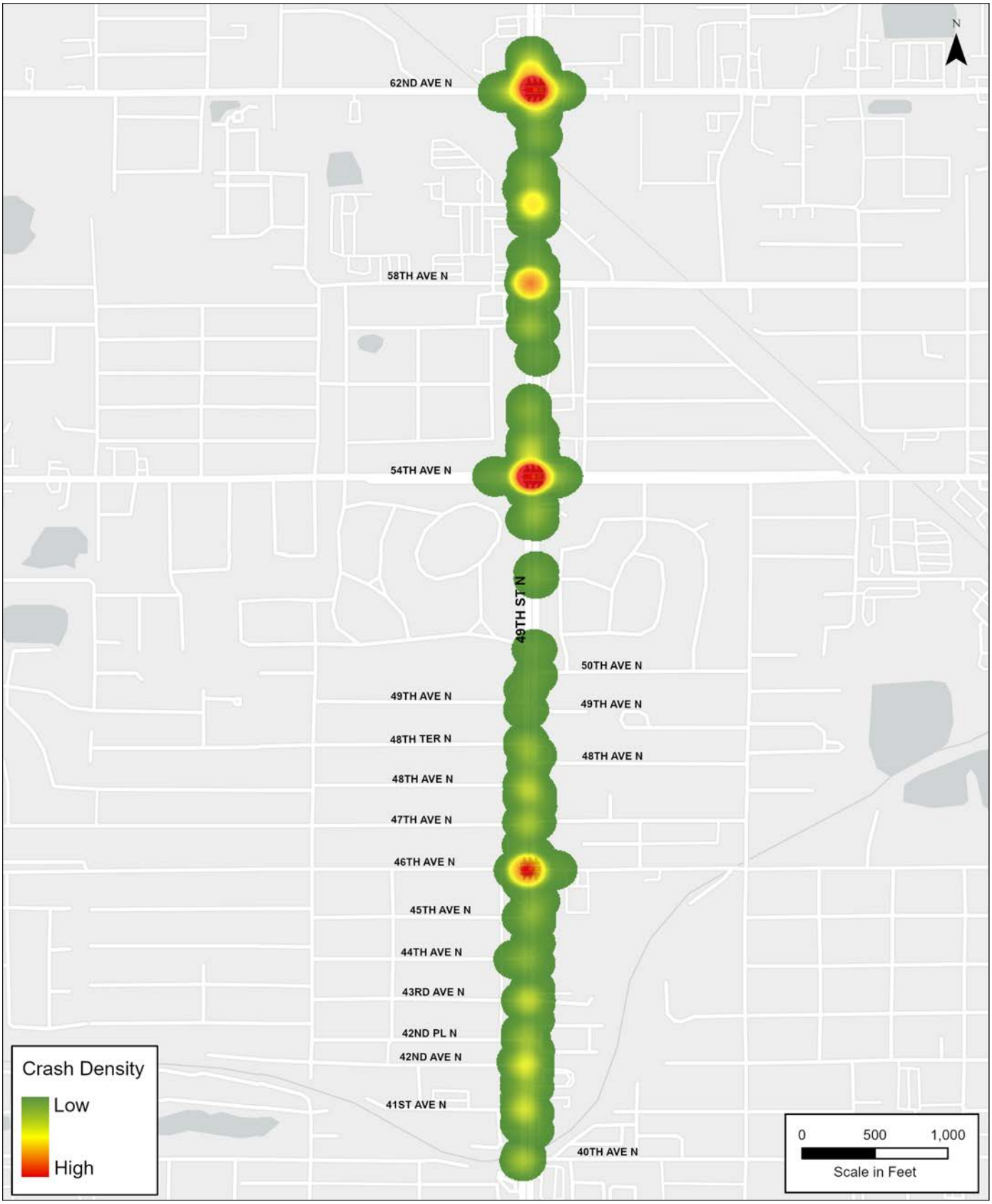


Figure 18: South Focus Area Crash Density Heat Map (2019 - 2023)



Tables 8 through **10** provide summaries of crashes by type, by severity of injury, and segment crash rate, respectively.

Table 8: South Focus Area Crash Types (2019 - 2023)

Crash Type	2019	2020	2021	2022	2023	Total	Proportion	KSI
Rear End	59	35	43	34	36	207	41%	5
Sideswipe	16	8	11	9	12	56	11%	0
Angle	27	14	23	21	12	97	19%	6
Head On	2	0	3	1	0	6	1%	0
Unknown	1	0	0	1	0	2	0%	0
Hit Non-Fixed Object	1	1	1	0	0	3	1%	1
Bicycle	5	6	2	2	3	18	4%	2
Pedestrian	2	1	1	2	1	7	1%	2
Hit Fixed Object	6	8	4	2	4	24	5%	2
Left Turn	14	9	10	14	5	52	10%	7
Right Turn	4	3	5	4	3	19	4%	2
Single Vehicle	1	2	1	3	0	7	1%	1
U-Turn	4	1	3	2	1	11	2%	0
Run Off Road	0	0	1	0	0	1	0%	0
Total	141	88	108	95	77	509	100%	28

Table 9: South Focus Area Crash Severity (2019 - 2023)

Crash Severity	2019	2020	2021	2022	2023	Total	Proportion
Fatality	2	1	0	1	1	5	1%
Severe Injury	10	5	1	7	0	23	5%
Injury	39	23	23	28	25	138	27%
Property Damage Only	90	59	84	59	51	343	67%
Total	141	88	108	95	77	509	100%

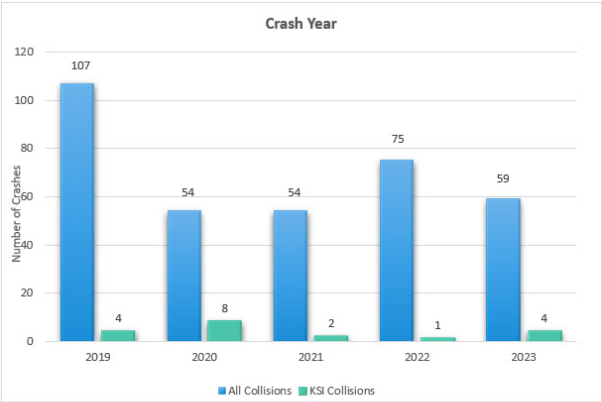
Table 10: South Focus Area Segment Crash Rates (2019 - 2023)

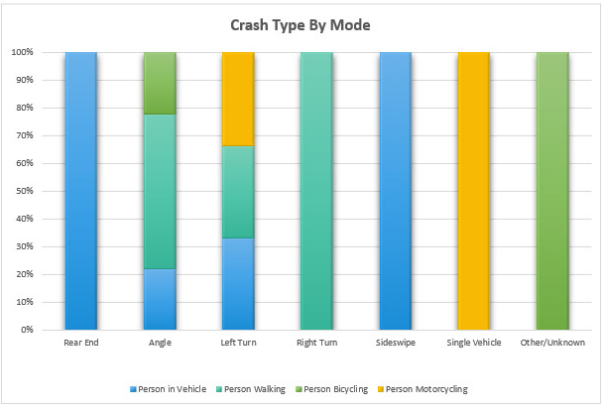
Crash Severity	5-Year Crashes	Per Year	AADT	Length	Crash Rate	Statewide Crash Rate	Critical Crash Rate	Safety Ratio
40th Avenue N to 54th Avenue N	171	34	29000	1.00	3.231	4.183	5.693	0.568
54th Avenue N to 62nd Avenue N	243	49	31700	0.50	8.401	4.183	6.248	1.344

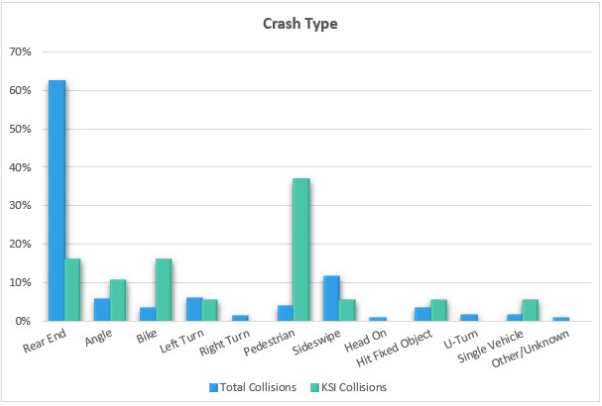
Note: Existing crashes data "On Road" category for 49th Street N only. Sidestreet "On-Road" crashes excluded.

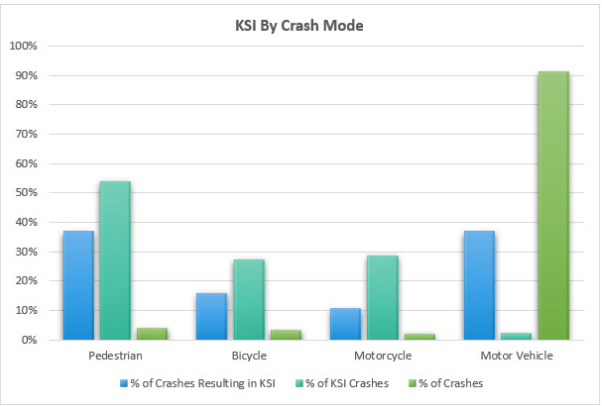
Crash Rate: Crashes per Million Vehicle Miles Travelled (MVMT). The critical crash rate is based on the average crash rate for a similar facility adjusted by vehicle exposure and a probability constant. The safety ratio represents the actual crash rate divided by the critical crash rate. If a segment has an actual crash rate higher than the critical crash rate (i.e., safety ratio > 1.0), it may have a safety deficiency.

Figure 19: North Focus Area Crash Data Summary (2019 - 2023)









North Focus Area

(49th Street N from Ulmerton Road to S. of Roosevelt Boulevard)

The North Focus Area experienced a total of 349 crashes within the 5-year period with an average of 70 crashes per year. Of the total crashes, 24 crashes (7 percent) involved a pedestrian or bicyclist of which 10 crashes (42 percent) resulted in a fatality or incapacitating injuries. Also, seven motorcycle-related crashes (2.0 percent) with two crashes (28.6 percent) resulting in a fatality and incapacitating injuries.

Figures 19 and **20** provides a comparison of all collisions versus KSI collisions of crashes per year, crash type, crash type by mode, and KSI by Mode and collision contributing causes for the North Focus Area. **Figure 21** illustrates the location of all KSI collisions.

Figure 20: North Focus Area Contributing Cause Crash Summary (2019 - 2023)

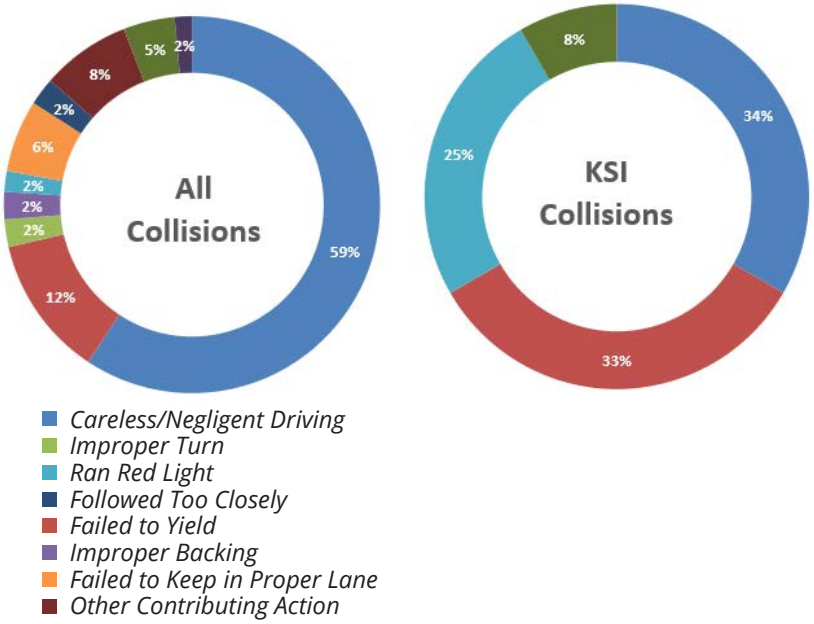


Figure 21: North Focus Area KSI Collisions Location Map (2019 - 2023)

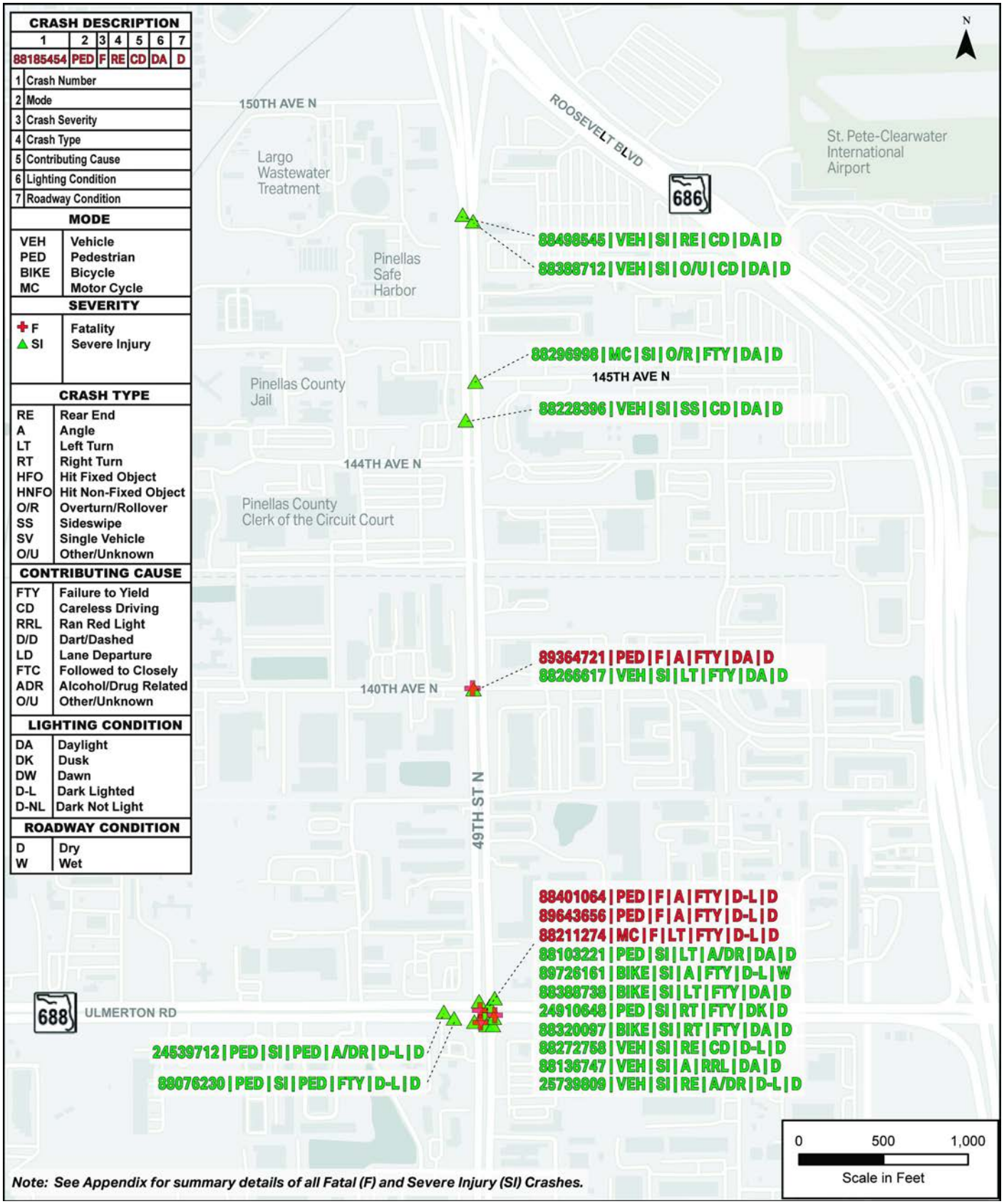
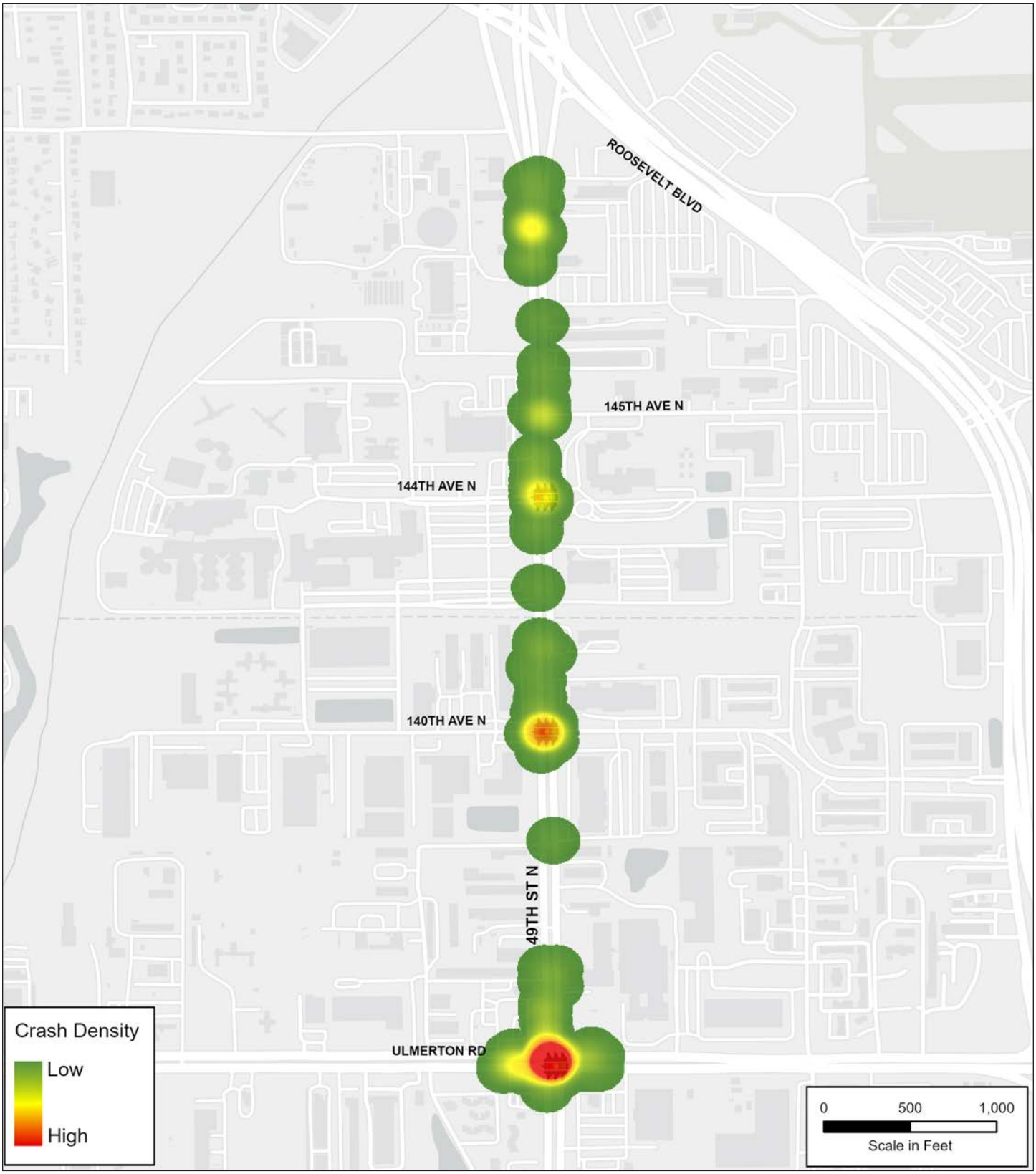


Figure 22: North Focus Area Crash Density Heat Map (2019 - 2023)



Tables 11 through **13** provide summaries of crashes by type, by severity of injury, segment crash rate and the economic loss to society based on the *2019 FDOT Design Manual KABCO Crash Costs (Table 122.6.2)*, respectively.

Table 11: North Focus Area Crash Types (2019 - 2023)

Crash Type	2019	2020	2021	2022	2023	Total	Proportion	KSI
Rear End	70	31	35	48	33	217	62%	3
Sideswipe	11	2	6	9	12	40	11%	1
Angle	6	2	3	5	3	19	5%	2
Head On	0	1	0	1	0	2	1%	0
Bicycle	3	3	2	1	2	11	3%	3
Pedestrian	4	1	1	3	3	13	4%	7
Hit Fixed Object	4	4	1	1	1	11	3%	1
Left Turn	4	5	4	4	3	20	6%	1
Right Turn	3	1	0	0	0	4	1%	0
Single Vehicle	2	3	0	0	0	5	1%	1
U-Turn	0	0	0	3	2	5	1%	0
Other/Unknown	0	0	2	0	0	2	1%	0
Total	**107**	**54**	**54**	**75**	**59**	**349**	**100%**	**19**

Table 12: North Focus Area Crash Severity (2019 - 2023)

Crash Severity	2019	2020	2021	2022	2023	Total	Proportion
Fatality	1	2	0	0	2	5	1%
Severe Injury	3	6	2	1	2	14	4%
Injury	25	9	8	14	7	63	18%
Property Damage Only	78	37	44	60	48	267	77%
Total	107	54	54	75	59	349	100%

Table 13: North Focus Area Segment Crash Rates (2019 - 2023)

Crash Severity	5-Year Crashes	Per Year	AADT	Length	Crash Rate	Statewide Crash Rate	Critical Crash Rate	Safety Ratio
Ulmerton Road to 140th Avenue N	149	30	28200	0.50	5.790	4.183	6.378	0.908
140th Avenue N to S. of Roosevelt Boulevard	72	14	28200	0.50	2.798	4.183	6.378	0.439

Note: Existing crashes data "On Road" category for 49th Street N only. Sidestreet "On-Road" crashes excluded.

Crash Rate: Crashes per Million Vehicle Miles Travelled (MVMT). The critical crash rate is based on the average crash rate for a similar facility adjusted by vehicle exposure and a probability constant. The safety ratio represents the actual crash rate divided by the critical crash rate. If a segment has an actual crash rate higher than the critical crash rate (i.e., safety ratio > 1.0), it may have a safety deficiency.

Roadway Safety Audits

A Roadway Safety Audit (RSA) is a systematic process used to identify potential hazards and risks on existing roads. The goal is to minimize the likelihood and severity of accidents by recommending improvements to road design, signage, markings, and other features. This helps create safer roads for all users, including drivers, pedestrians, and cyclists. RSA's focus on the identification of deficiencies through on-site inspection and comparison of conditions to design standards.

Two roadway safety audits were conducted along the 49th Street Corridor to evaluate potential hazards and recommend improvements to mitigate the identified risks and enhance safety for all road users, including pedestrians, cyclists, and motorists. The RSA's included multidisciplinary team with participation by FDOT, MPO, and County staff as well as representation from local government, fire rescue, and law enforcement. The first RSA was coordinated by FDOT in February 2024 as part of an independent safety project, and the second by Forward Pinellas/Pinellas County in May 2024 as part of the **49th Street Safety Study**. The RSA's conducted for this study accompanied each identified deficiency with an accompanying mitigating countermeasure.

The RSA conducted for the North Focus Area identified safety deficiencies and countermeasures related to:

- pedestrian crossing opportunities,
- vehicle speeds,
- pavement markings, wayfinding,
- signals and signal timing,
- vehicle turning movements, and
- sidewalk/landscape maintenance.

The RSA conducted for the South Focus Area identified safety deficiencies and countermeasures related to:

- median opening locations,
- driveway access,
- signals and signal timing,
- lighting,
- pedestrian crossing opportunity,
- left-turn storage,
- ADA standard at intersections, and
- pavement markings and signage.

See the RSA reports published under separate cover for a detailed description of the findings.

Multidisciplinary RSA Team assesses existing conditions along 49th Street during RSA conducted in May 2024.

FORWARD PINELLAS

Pinellas County

49TH STREET SAFETY STUDY

SAFETY IMPROVEMENT STRATEGIES

Whether driving, biking, walking, or taking public transportation, everyone deserves to be safe while traveling on our roads.

Recommendations

Safety Countermeasure Development

Site specific and area wide safety countermeasures were developed to address the safety problems identified along the 49th Street corridor. As noted in the preceding sections, analysis of crash data, road characteristics, RSA's, and community input were used to identify contributing factors where elements of the built environment could be adjusted to improve safety at specific locations.

Following the identification of individual safety issues, potential safety countermeasures were evaluated to identify those that address the safety concerns present and are appropriate for 49th Street. Reference was made to FHWA's set of 28 **Proven Safety Countermeasures** and additional resources such as the **Crash Modification Factors (CMF) Clearinghouse** to identify countermeasures rated as highly effective in addressing the specific hazards present.

Figure 23: FHWA's list of 28 Proven Safety Countermeasures referenced in the development of the 49th Street recommendations list

A draft list of project recommendations was presented at a community workshop held in July of 2024 at the Lealman Exchange Community Center. The comments received were used in the initial identification of appropriate strategies and to refine the list of recommendations.

Consideration of Constraints

The intent of this study is to provide implementable solutions that address identified safety problems. As each countermeasure was identified the location and context of that recommendation was evaluated. In that process, several countermeasures were found to be infeasible. Specific examples of countermeasures considered but eliminated include:

- **Lane Reduction (Road Diet) -** The six-lane configuration of 49th Street supports existing traffic volumes and meets level of service standards. The reduction of lanes on 49th Street would potentially result in future congestion and level of service failures. The reduced roadway capacity would impact important functions of the roadway including its status as a hurricane evacuation and truck route.
- **Addition of Bicycle Lanes -** The addition of bicycle lanes was considered. However, based on limited available ROW bike lanes would likely require the acquisition of a portion of each parcel fronting the roadway. Costs and impacts to adjacent use related to this action ware assumed to be too high for practical implementation. A recommendation was added to improve 52nd Street as a multi-modal corridor to provide an alternative route for bicycle traffic in the South Focus Area.
- **Expanded Sidewalks -** The expansion of the existing sidewalks/inclusion of a sidewalk buffer was considered. If developed within available ROW, this action would require a reduction in the width of existing travel lanes. The benefit of an additional 3.5 feet of sidewalk/buffer width did not justify the cost of sidewalk and roadway reconfiguration.
- **Bust Bay/Bus Pullout -** Bus bay improvements were recommended at two transit stops in the North Focus Area in areas that front large publicly-owned parcels. Similar improvements were not recommended in the South Focus Area due to limited available land and potential impacts to adjacent use.

Recommended Safety Countermeasures

Tables 14, 15, and **16** and **Figures 25** and **25** identify the 80 safety countermeasure recommendations that were identified in the course of study. The list of recommendations addresses topics including:

- lighting,
- access management,
- traffic control (signals, signage, pavement markings)
- roadway (include the addition/extension of lanes),
- drainage,
- bicycle and pedestrian, and
- maintenance.

The listing of recommendations in **Tables 14, 15,** and **16** are accompanied by an estimate of the length of time needed to implement each proposed action. The timeline estimates include near-term, mid-term and long-term timeframes which assume funding availability and consider needed additional actions such as additional study, design, and ROW acquisition. Near-term projects are those that can likely be implemented within 12 months, mid-term within 1-5 years, and long-term greater than 5 years.

Table 14: Corridor-Wide Countermeasure Recommendations

Proposed Countermeasure	Improvement Type	Timeline
Upgrade streetlights to LED	Lighting	Short-Term
Conduct Intersection Lighting Analysis for Focus on Vertical Illuminance for Pedestrians	Lighting	Short-Term
Implement signal timing modification to implement LPI along entire corridor	Traffic Control	Short-Term
Refresh of Pavement Markings	Traffic Control	Short-Term
Sidewalk and Transit Facility ADA accommodation	Bike-Ped	Mid-Term
Where practicable adjust driveway access to be consistent with current driveway spacing standards defined in the Pinellas County Transportation Design Manual for Class 4 (north study area) and 5 (south study area) roadways	Access Management	Long-Term
Where practicable adjust median access to be consistent with current median spacing standards defined in the Pinellas County Transportation Design Manual for Class 1 (north study area) and 3 (south study area) roadways	Access Management	Long-Term
Develop multiuse corridors along segments of roadways with lower traffic volumes and underutilized ROW. Include development of the exiting ROW along 52nd Street N between 38th Ave N and 62 Ave N. Additionally include development of an east-west connection on the west side of 49th Street near 50th Ave N	Bike-Ped	Long-Term

Short-Term *Less than 12 Months* Mid-Term *1-5 Years* Long-Term *>5 Years*

Table 15: South Study Area Countermeasure Summary

Corridor Location	Proposed Countermeasure	Improvement Type	Timeline
40th - 46th	Implement Median Restriction	Access Management	Long-Term
	Install crosswalk @ 40th Ave N	Traffic Control	Short-Term
	Install mid-block pedestrian crossing @ Joe's Creek (Hybrid Pedestrian Beacon)	Bike-Ped	Mid-Term
	Improve in-ground utility cover N of 43rd Ave N	Maintenance	Short-Term
	Relocate stop bar @ 44 Ave N	Traffic Control	Short-Term
	Relocate stop bar @ 45 Ave N	Traffic Control	Short-Term
	Improve stormwater drainage @ 45 Ave N	Drainage	Mid-Term
	Install speed limit sign N and S of 46th Ave N	Traffic Control	Short-Term
46th Ave N Intersection	Protected Left Turn - Install protected left turn signals with permissive yellow flashing phase	Traffic Control	Mid-Term
	Extend red light clearance intervals.	Traffic Control	Short-Term
	Traffic Control Visibility - reflective back plating, Signal lens size upgrades	Traffic Control	Short-Term
	Transition from span wire to mast arm Traffic Signal mounting	Traffic Control	Mid-Term
	Implement Proximate Driveway Access restriction	Access Management	Long-Term

Corridor Location	Proposed Countermeasure	Improvement Type	Timeline
46th-54th	Upgrade streetlights to LED	Lighting	Short-Term
	Implement Median Restriction	Access Management	Long-Term
	Expand Exclusive Turn Lane Capacity - Extend NB Turn Lane at 54th Ave	Roadway	Mid-Term
	Install crosswalk @ 47th Ave N	Traffic Control	Short-Term
	Install crosswalk @ 48th Ave N	Traffic Control	Short-Term
	Install crosswalk @ 49th Ave N	Traffic Control	Short-Term
	Install crosswalk @ 50th Ave N	Traffic Control	Short-Term
	Install mid-block pedestrian crossing @ 50th Ave N (Hybrid Pedestrian Beacon)	Bike-Ped	Mid-Term
	Install crosswalk @ Tropical Terrace N	Traffic Control	Short-Term
54th Ave N Intersection	Increase Signal Phase Length - Implement a Leading Pedestrian Interval	Traffic Control	Short-Term
	Conduct Intersection Lighting Analysis for Focus on Vertical Illuminance for Pedestrians	Lighting	Short-Term
	Advance Yield/Stop Markings and Signs, Yield to Pedestrians Sign (R10-15)	Traffic Control	Short-Term
	Lower Vehicle Turning Speeds: Tighter radii at NE and SE Intersection quadrants. Bollards to reduce radii may serve as interim/trial countermeasure	Roadway	Mid-Term
	Transition from span wire to mast arm Traffic Signal mounting	Traffic Control	Mid-Term
	Replace existing 5-secton signals controlling 54th Ave N with flashing yellow arrow protected/permissive left turn	Traffic Control	Mid-Term
	Vehicle Speed Reduction. Install radar speed feedback signs on north and south bound sides of 49th St South of 54th Ave	Traffic Control	Short-Term
	Explore installation of enhanced transit stop @ 54th Ave N	Transit	Mid-Term
54th - 62nd	Convert from Yield Signal Control to Full Signal Control with protected/permissive left and lead pedestrian interval	Traffic Control	Mid-Term
	Intersection Lighting Enhancement. Conduct Intersection Lighting Analysis for Focus on Vertical Illuminance for Pedestrians	Lighting	Short-Term
	Landscape maintenance – remove vegetation encroachment S of 58th Ave N	Maintenance	Short-Term
	Install full signal @ 58th Ave N	Traffic Control	Mid-Term
	Install enhanced crosswalk @ Carter St N	Bike-Ped	Short-Term
	Install no U-turn sign S of RR Crossing	Traffic Control	Short-Term
	Install dynamic envelope markings at RR crossing	Traffic Control	Short-Term
	Install pedestrian gates at RR crossing	Bike-Ped	Mid-Term
62nd Ave N Intersection	Install EB/WB dedicated right turn lanes on 62nd Ave N, extend dedicated left turn lane storage	Roadway	Mid-Term
	Extend SB left turn lane storage on 49th St N	Roadway	Mid-Term
	Extend Signal phasing all red timing, implement Leading pedestrian Interval	Traffic Control	Short-Term
	Reduce Driveway Access to Intersection adjacent parcels	Access Management	Long-Term

Short-Term *Less than 12 Months* Mid-Term *1-5 Years* Long-Term *>5 Years*

Table 16: North Study Area Countermeasure Summary

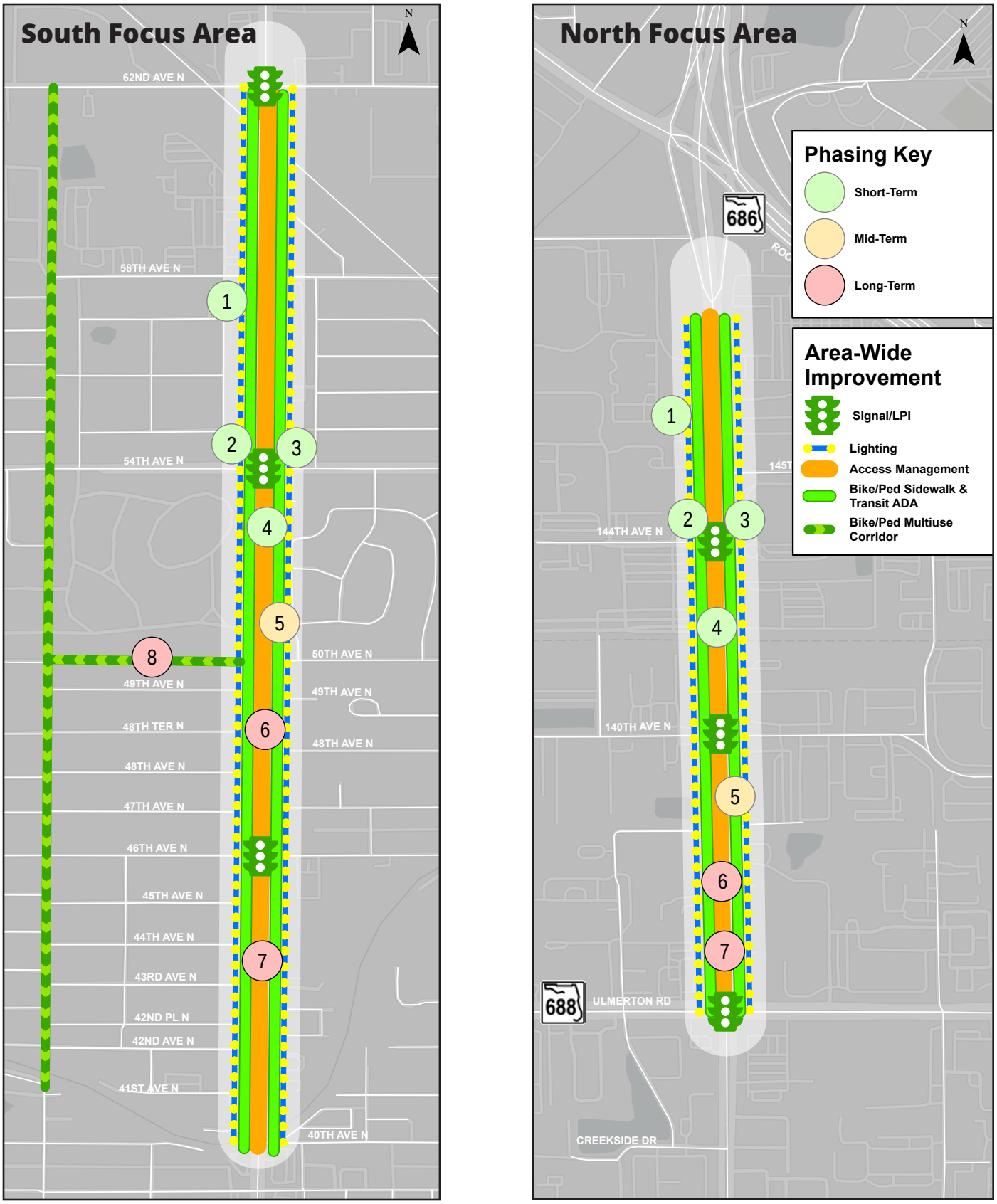
Corridor Location	Proposed Countermeasure	Improvement Type	Timeline
144th Ave N - Roosevelt Pkwy	Upgrade streetlights to LED	Lighting	Short-Term
	Vehicle Speed Reduction. Install radar speed feedback signs on N and S bound sides of 49th N of 145th Ave	Traffic Control	Short-Term
	Transit Stops located N and S of 144th Ave N be retrofitted to include bus bay/bus pullout areas	Transit	Mid-Term
	Install speed limit pavement markings N of 144th Ave N	Traffic Control	Short-Term
	Install advance signal warning upstream of the 144 Ave intersection	Traffic Control	Mid-Term
	Remove transit stop locate @ 145th Ave	Transit	Short-Term
	Install temp Median barrier for Turning movements at Pinellas Safe Harbor entrance	Traffic Control	Short-Term
	Landscape maintenance – remove vegetation encroachment S of 150th Ave N	Maintenance	Short-Term
	Install speed feedback signs S of 150th Ave N	Traffic Control	Short-Term
	Update No U-turn/No left-turn sign S of 150th Ave N to R3-18	Traffic Control	Short-Term
	Repair damaged pull boxes @ Roosevelt Blvd	Maintenance	Short-Term
	Landscape maintenance – remove sand from Sidewalk – evaluate drainage @ Roosevelt Blvd	Maintenance	Short-Term
144th Ave N Intersection	None Identified	-	-
140th -144th	None Identified	-	-
140th Ave N Intersection	Increase Signal Phase Length - Implement a Leading Pedestrian Interval	Traffic Control	Short-Term
	Conduct Intersection Lighting Analysis for Focus on Vertical Illuminance for Pedestrians	Lighting	Short-Term
	Advance Yield/Stop Markings and Signs, Yield to Pedestrians Sign (R10-15)	Traffic Control	Short-Term
	Transition from span wire to mast arm Traffic Signal mounting	Traffic Control	Mid-Term
	Replace existing 5-secton signals controlling 140th Ave N with flashing yellow arrow protected/permissive left turn	Traffic Control	Mid-Term
Ulmerton Rd - 140th Ave N	Code Enforcement coordination for proper truck operations N of Ulmerton	Maintenance	Short-Term
	Landscape maintenance – remove vegetation encroachment S of 50th Way N	Maintenance	Short-Term
	Transit Amenities meet ADA Compliance	Transit	Mid-Term

Corridor Location	Proposed Countermeasure	Improvement Type	Timeline
Ulmerton Rd Intersection	Increase Signal Phase Length - Implement a Leading Pedestrian Interval	Traffic Control	Short-Term
	Traffic Control Visibility - reflective back plating, Signal lens size upgrades	Traffic Control	Short-Term
	Transition from span wire to mast arm Traffic Signal mounting	Traffic Control	Mid-Term
	Conduct Intersection Lighting Analysis for Focus on Vertical Illuminance for Pedestrians	Lighting	Short-Term
	Advance Yield/Stop Markings and Signs, Yield to Pedestrians Sign (R10-15)	Traffic Control	Short-Term
	Bicycle Lane Visibility (near term) - Install green colored Pavement Markings at right tun Lane/bike Lane crossover points extending past bus bays. Consider full extension of green paint across intersection	Bike-Ped	Mid-Term
	Bicycle and Pedestrian Accommodation (mid-long term): Tighter radii at NE, SE and SW intersection quadrants	Bike-Ped	Mid-Term
	Increase distance between stop line and crosswalk @ Ulmerton Rd	Traffic Control	Short-Term
	Install pedestrian crossing signs (R9-3b and R10-15a) @ Ulmerton Rd	Bike-Ped	Short-Term
	Consider reduced Turning radius and removal of channelized medians @ Ulmerton Rd	Roadway	Long-Term

Short-Term *Less than 12 Months* Mid-Term *1-5 Years* Long-Term *>5 Years*

Figure 24: Site Focused Improvements

Figure 25: Area Focused Improvements



FORWARD PINELLAS

Pinellas County

49TH STREET SAFETY STUDY

APPENDIX A:
Detailed Safety Countermeasure Recommendations Map Series

Whether driving, biking, walking, or taking public transportation, everyone deserves to be safe while traveling on our roads.

49th Street Safety Study - South Focus Area - Preliminary Safety Recommendations

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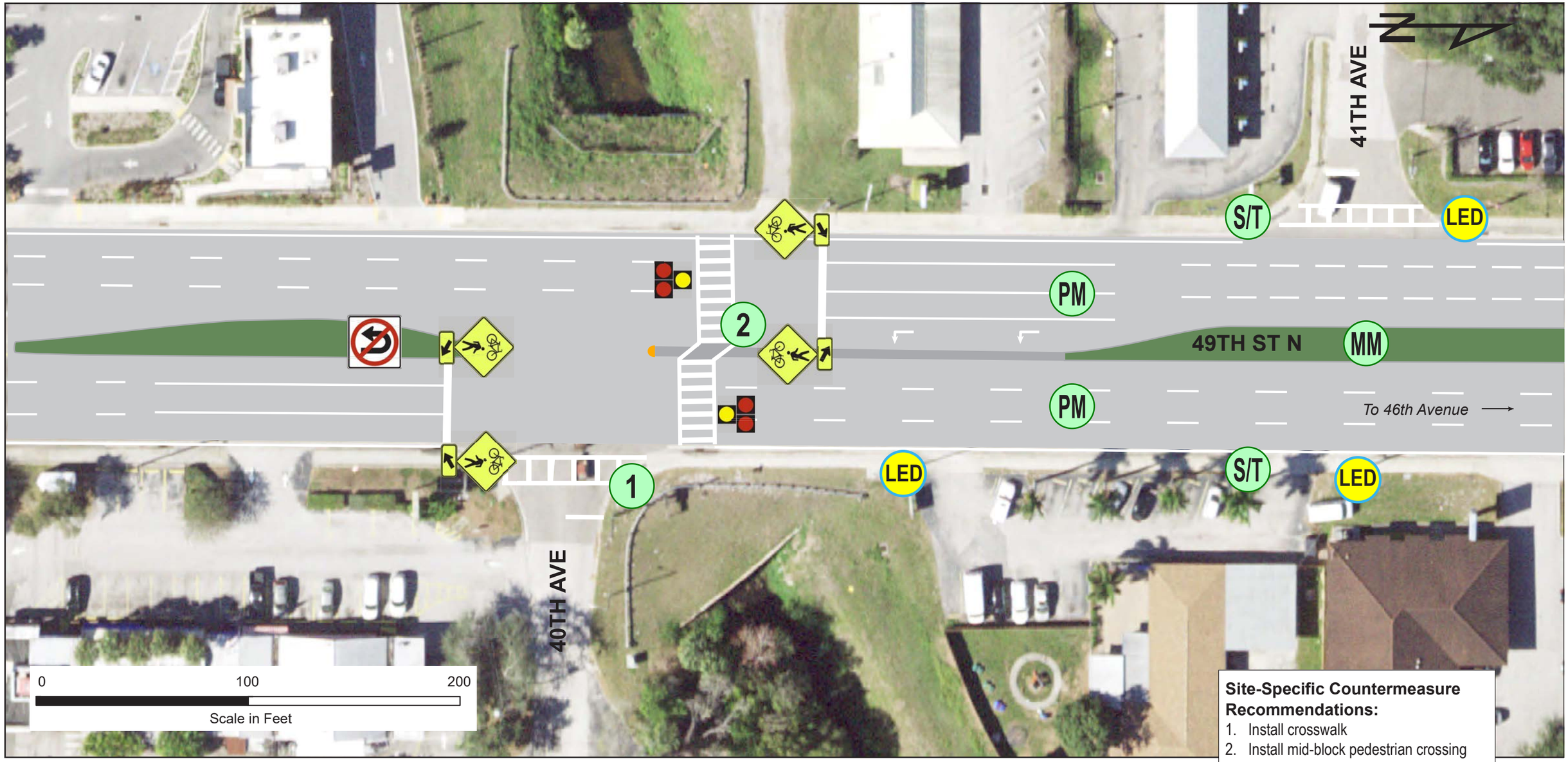

Site-Specific Countermeasure Recommendations:

1. Install crosswalk
2. Install mid-block pedestrian crossing

AREA-WIDE COUNTERMEASURE RECOMMENDATIONS

- MM — Median Modification
- DM — Driveway Modification
- LED — Upgrade Street Lighting to LED
- B/P LED — Intersection Bike/Ped Lighting
- LEAD PEDESTRIAN INTERVAL — Signal / Lead Pedestrian Interval
- PM — Pavement Marking Refresh
- S/T — Sidewalk/Transit ADA Standards

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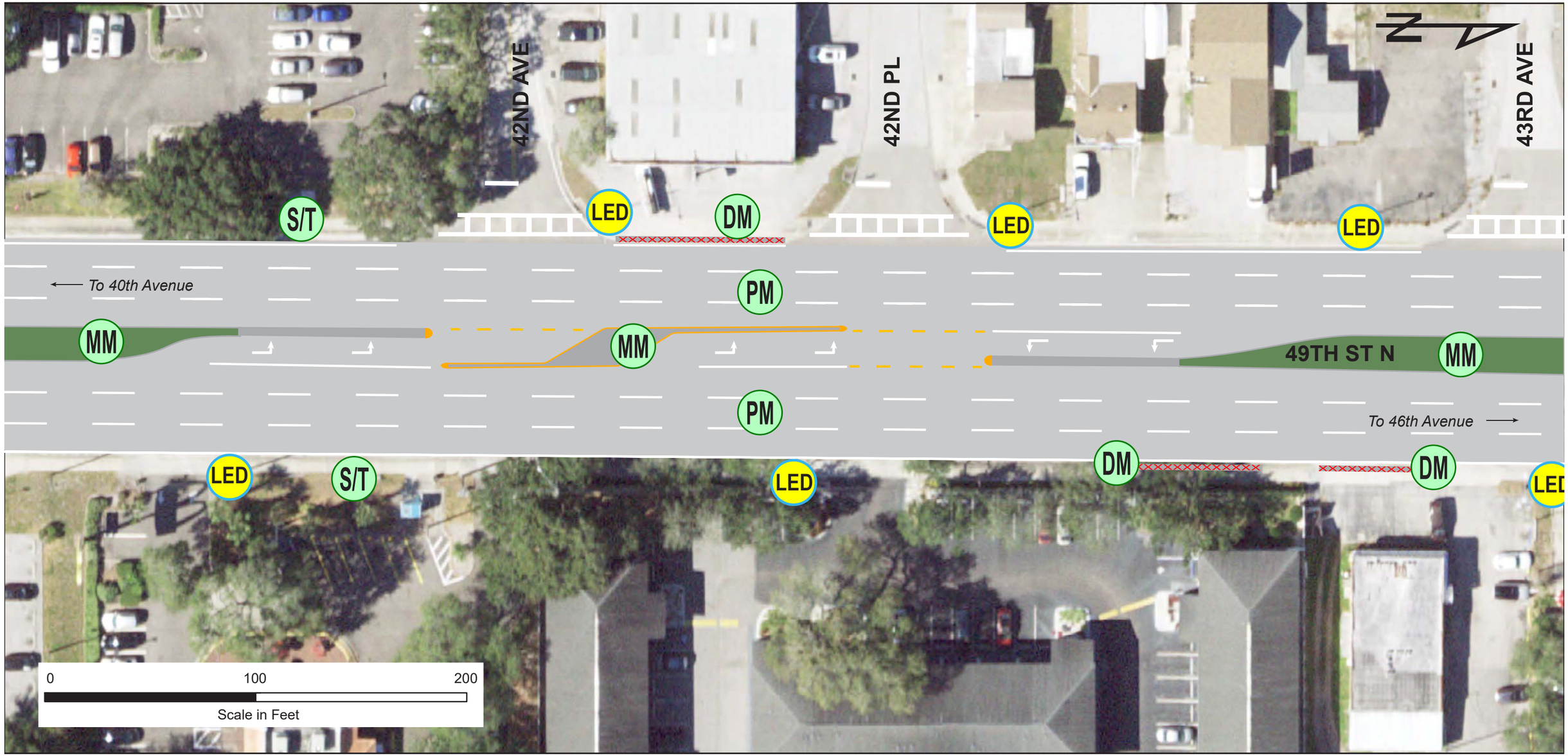

AREA-WIDE COUNTERMEASURE RECOMMENDATIONS

- MM — Median Modification
- DM — Driveway Modification
- LED — Upgrade Street Lighting to LED
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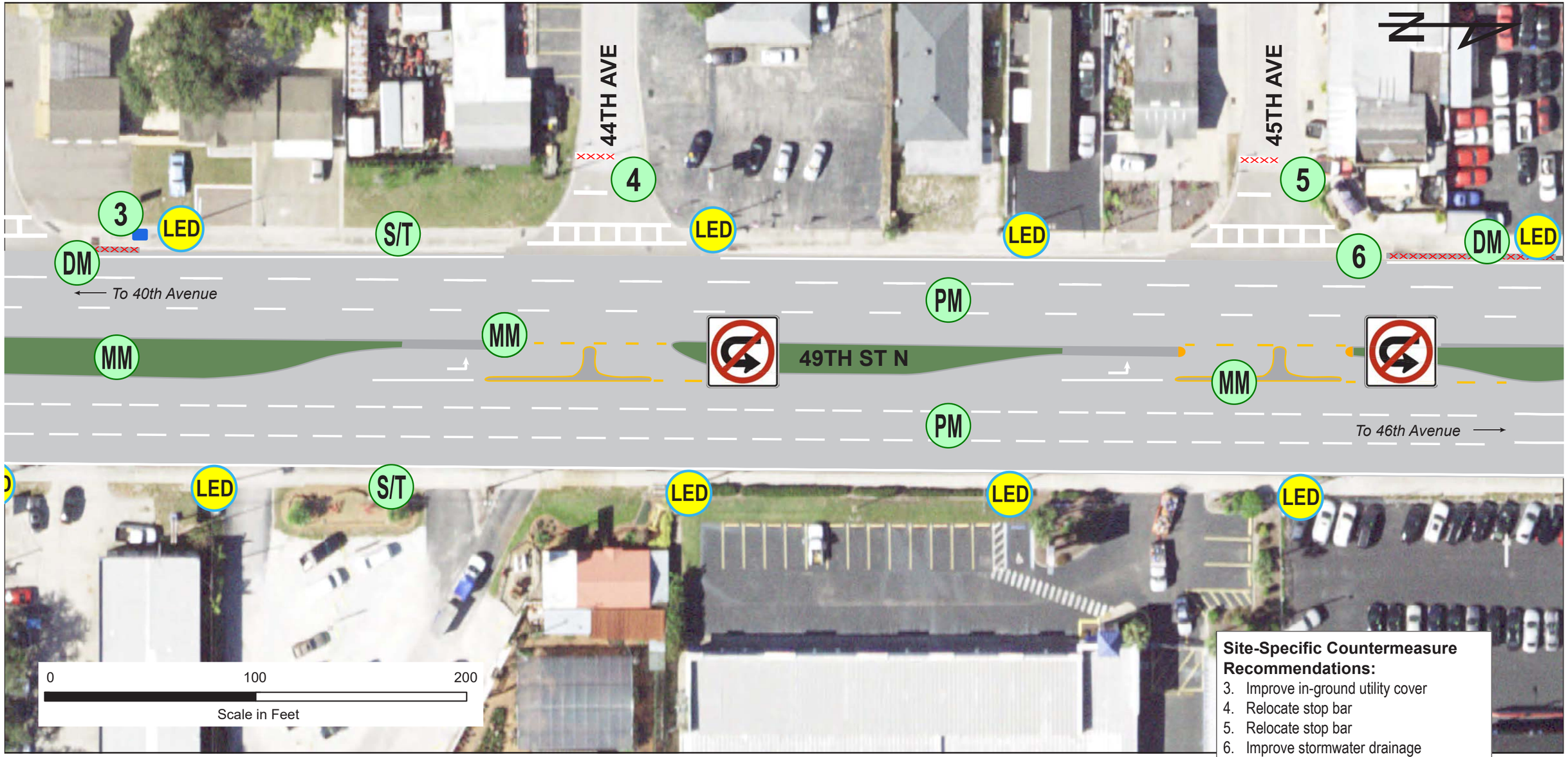

Site-Specific Countermeasure Recommendations:

3. Improve in-ground utility cover
4. Relocate stop bar
5. Relocate stop bar
6. Improve stormwater drainage

AREA-WIDE COUNTERMEASURE RECOMMENDATIONS

- MM — Median Modification
- DM — Driveway Modification
- LED — Upgrade Street Lighting to LED
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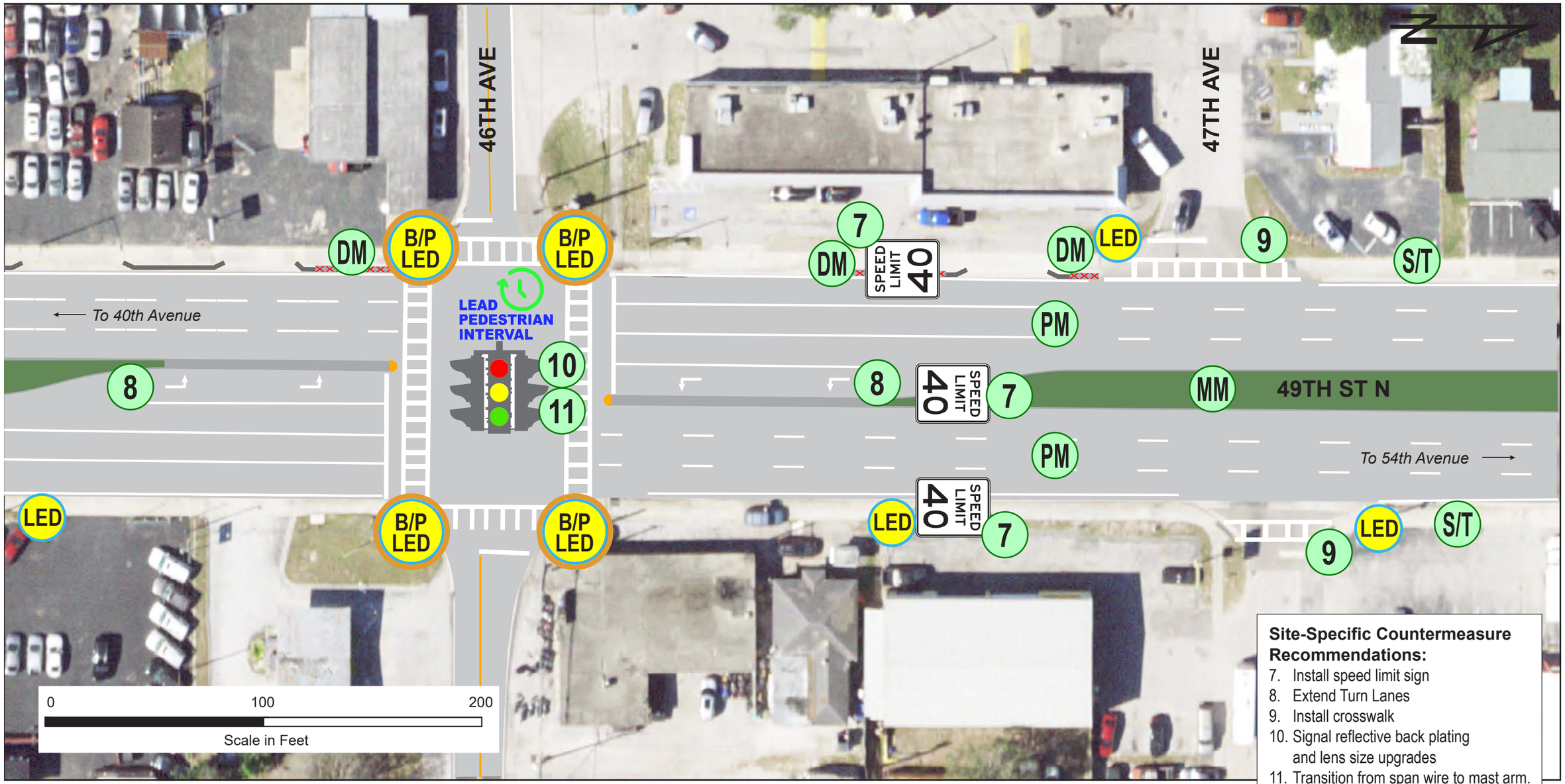

Site-Specific Countermeasure Recommendations:

7. Install speed limit sign
8. Extend Turn Lanes
9. Install crosswalk
10. Signal reflective back plating and lens size upgrades
11. Transition from span wire to mast arm.

AREA-WIDE COUNTERMEASURE RECOMMENDATIONS

- MM — Median Modification
- DM — Driveway Modification
- LED — Upgrade Street Lighting to LED
- B/P LED — Intersection Bike/Ped Lighting
- LEAD PEDESTRIAN INTERVAL — Signal / Lead Pedestrian Interval
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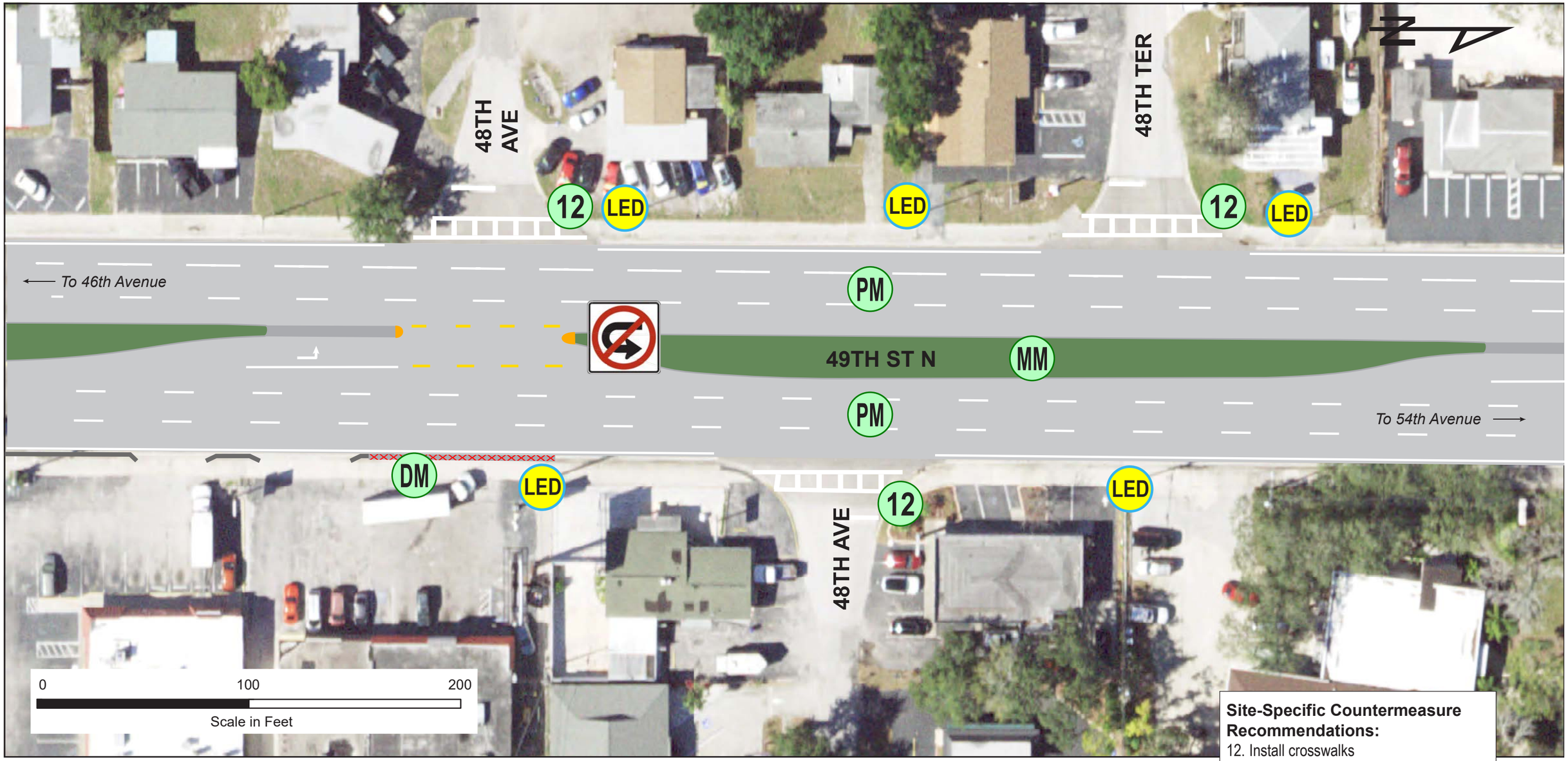

Site-Specific Countermeasure Recommendations:
12. Install crosswalks

AREA-WIDE COUNTERMEASURE IMPROVEMENTS

- MM Median Modification
- DM Driveway Modification
- LED Upgrade Street Lighting to LED
- B/P LED Intersection Bike/Ped Lighting
- LEAD PEDESTRIAN INTERVAL Signal / Lead Pedestrian Interval
- PM Pavement Marking Refresh
- S/T Sidewalk/Transit ADA Standards

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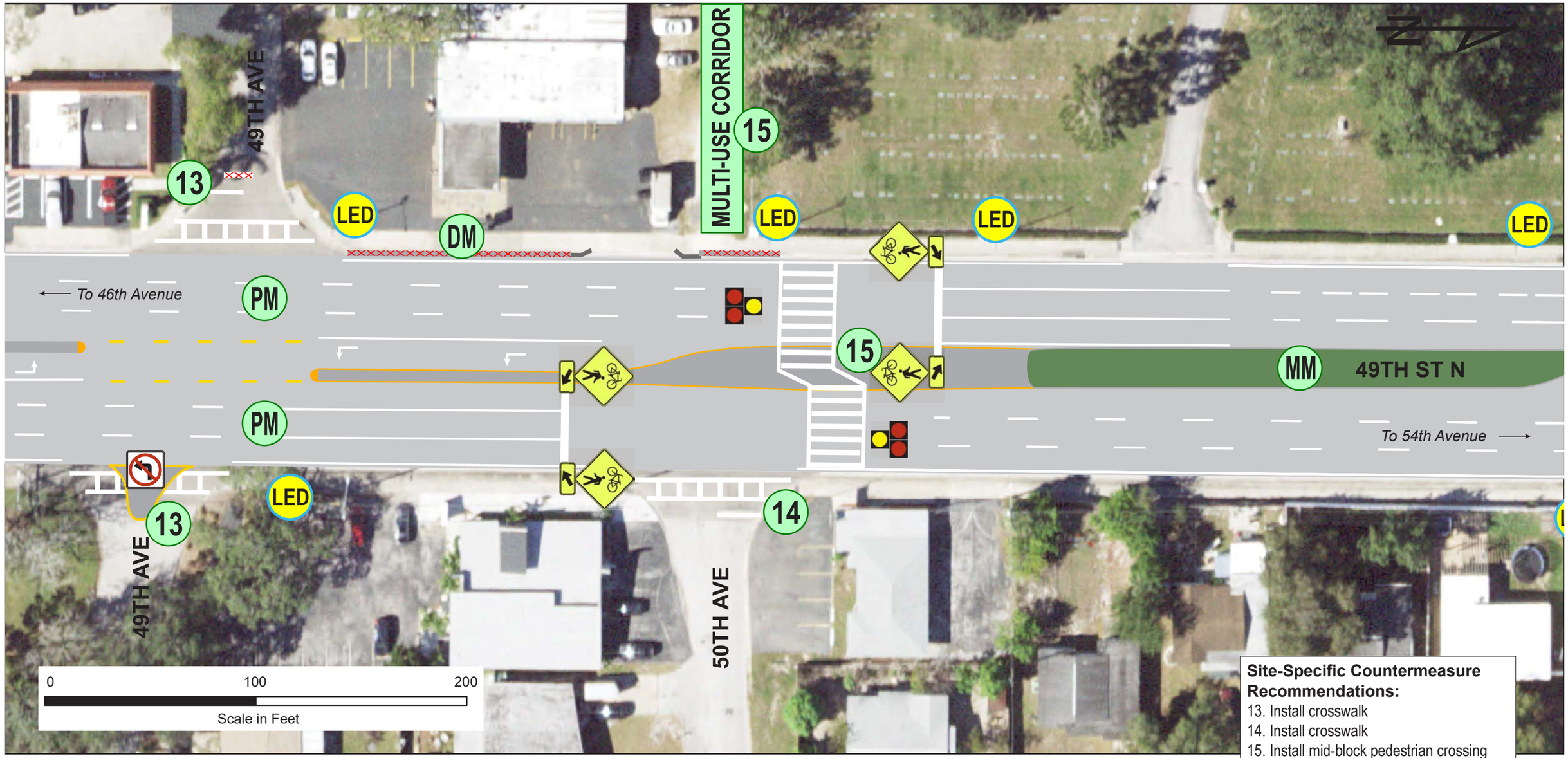

Site-Specific Countermeasure Recommendations:

13. Install crosswalk
14. Install crosswalk
15. Install mid-block pedestrian crossing

AREA-WIDE COUNTERMEASURE IMPROVEMENTS

- MM Median Modification
- DM Driveway Modification
- LED Upgrade Street Lighting to LED
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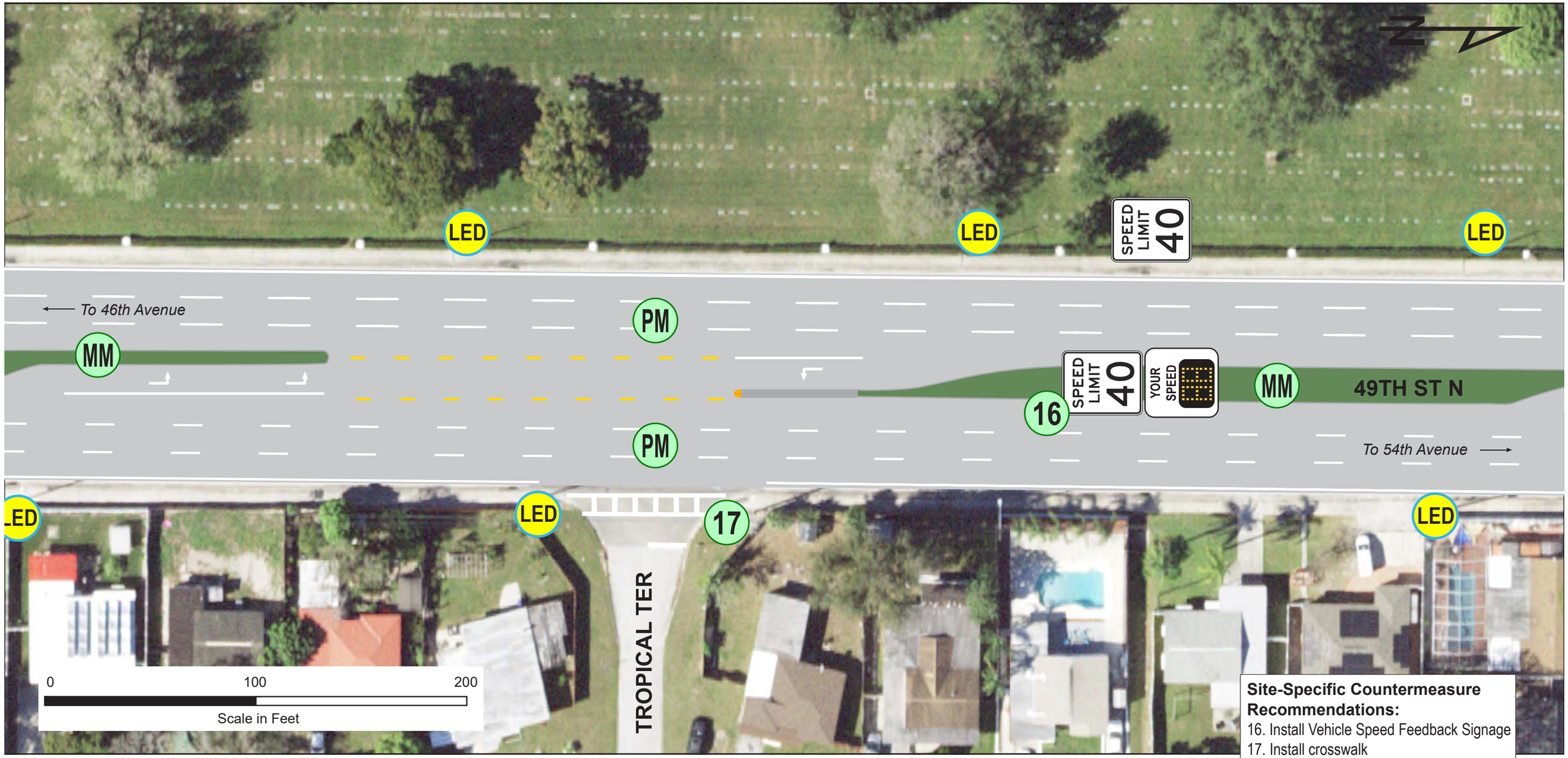

Site-Specific Countermeasure Recommendations:

16. Install Vehicle Speed Feedback Signage
17. Install crosswalk

AREA-WIDE COUNTERMEASURE IMPROVEMENTS

- MM Median Modification
- DM Driveway Modification
- LED Upgrade Street Lighting to LED
- B/P LED Intersection Bike/Ped Lighting
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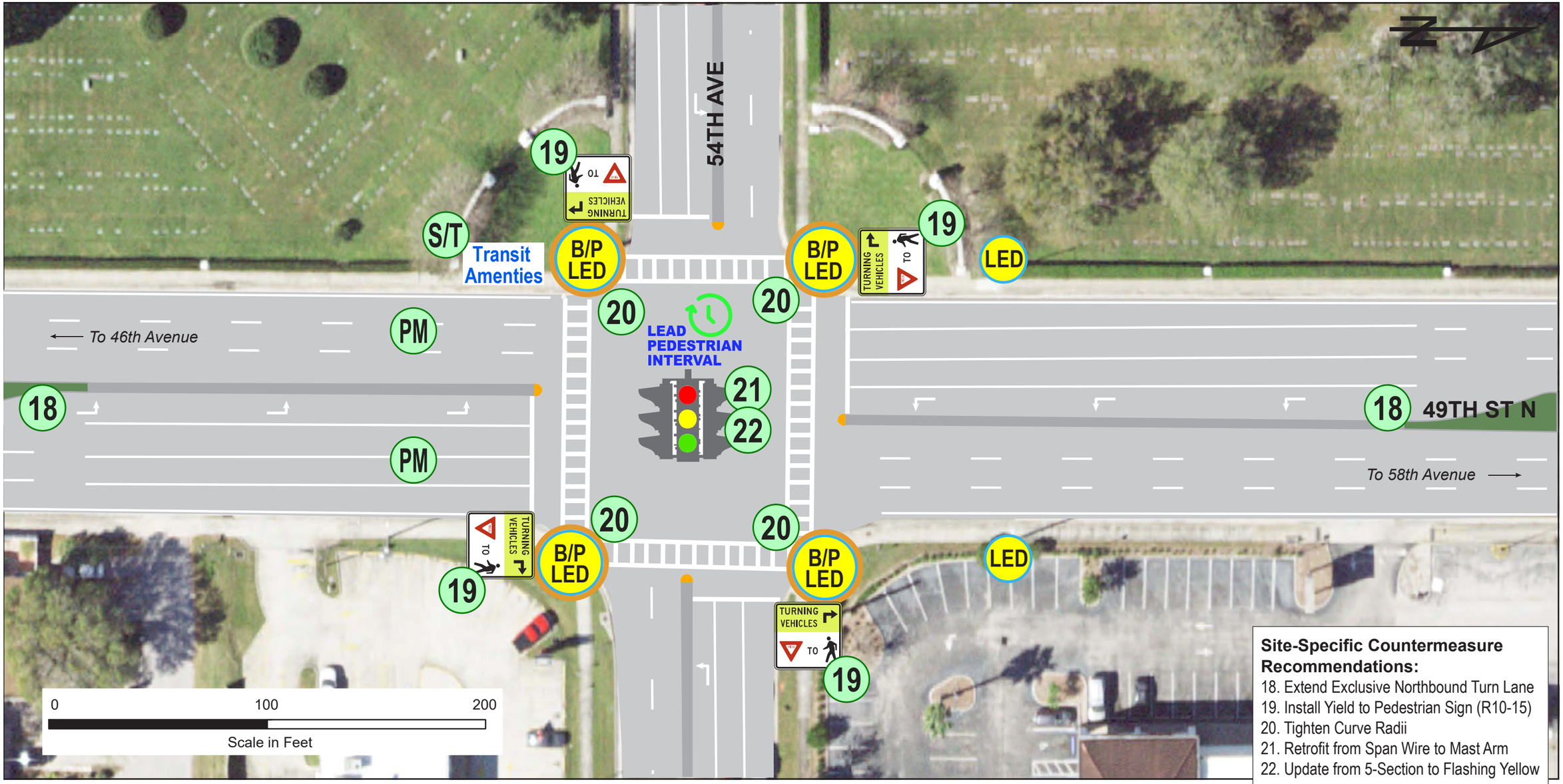

Site-Specific Countermeasure Recommendations:

18. Extend Exclusive Northbound Turn Lane
19. Install Yield to Pedestrian Sign (R10-15)
20. Tighten Curve Radii
21. Retrofit from Span Wire to Mast Arm
22. Update from 5-Section to Flashing Yellow

AREA-WIDE COUNTERMEASURE IMPROVEMENTS

- MM Median Modification
- DM Driveway Modification
- LED Upgrade Street Lighting to LED
- B/P LED Intersection Bike/Ped Lighting
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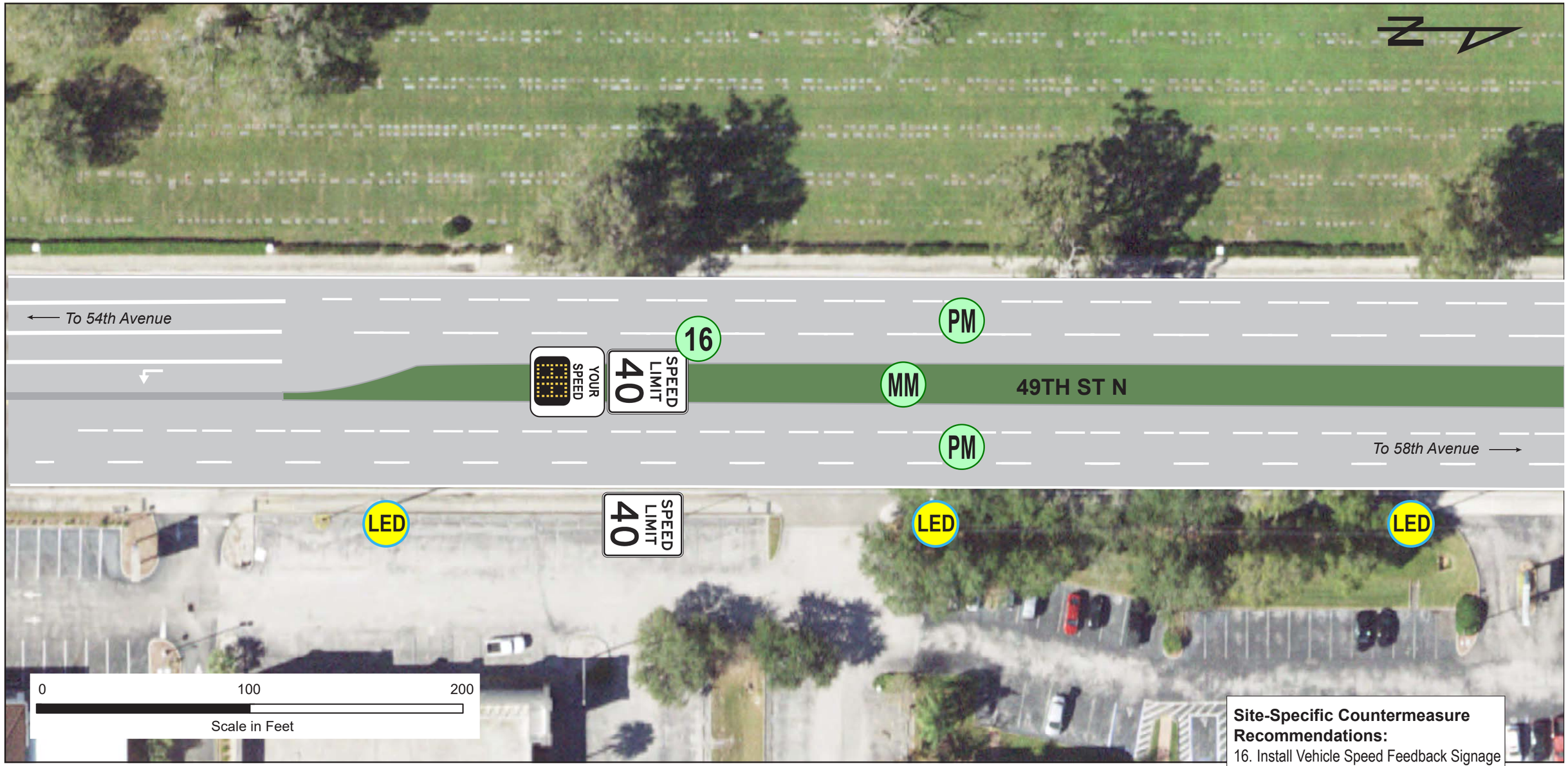

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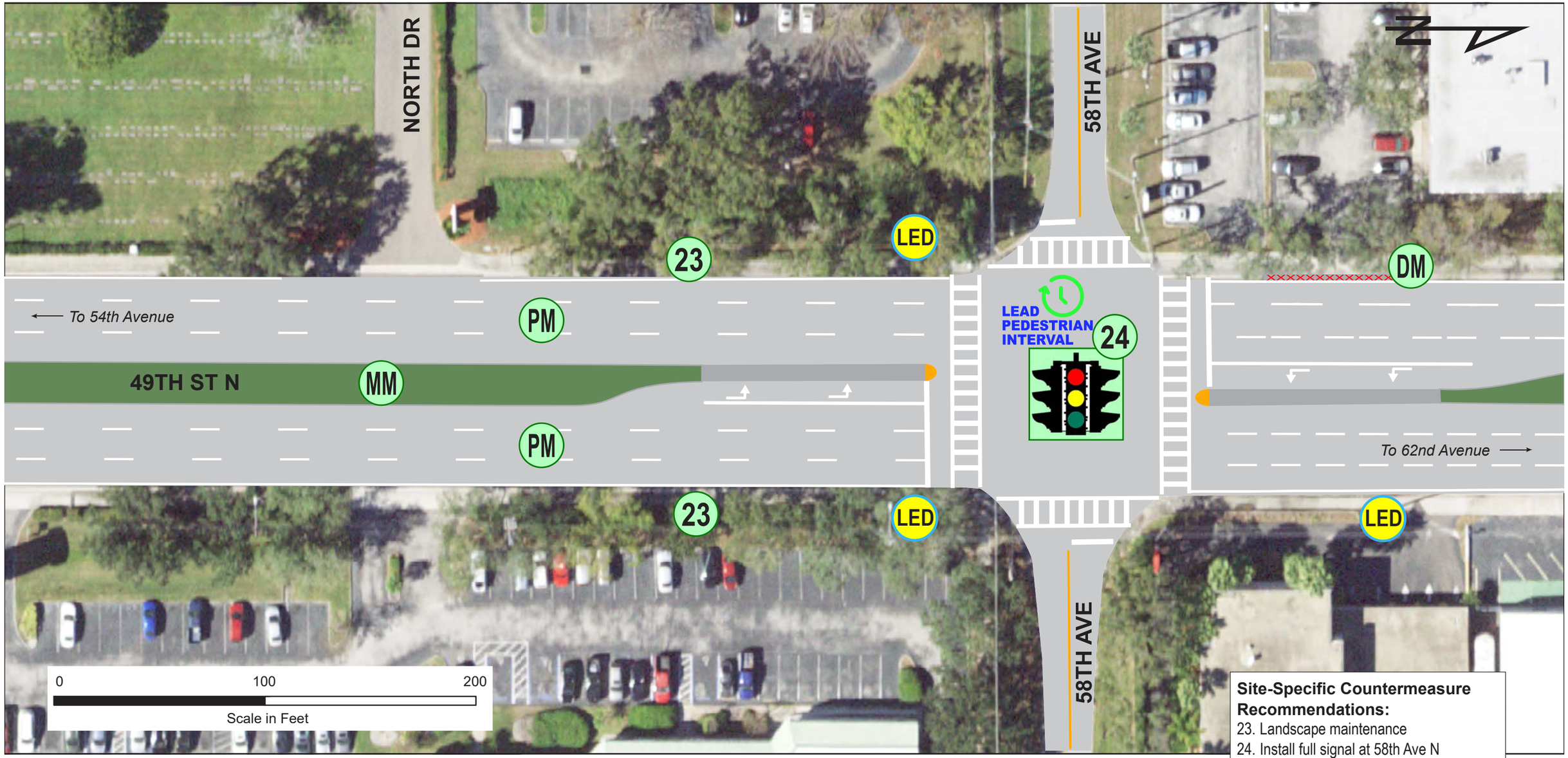

Site-Specific Countermeasure Recommendations:

23. Landscape maintenance
24. Install full signal at 58th Ave N

AREA-WIDE COUNTERMEASURE IMPROVEMENTS

- MM Median Modification
- DM Driveway Modification
- LED Upgrade Street Lighting to LED
- B/P LED Intersection Bike/Ped Lighting
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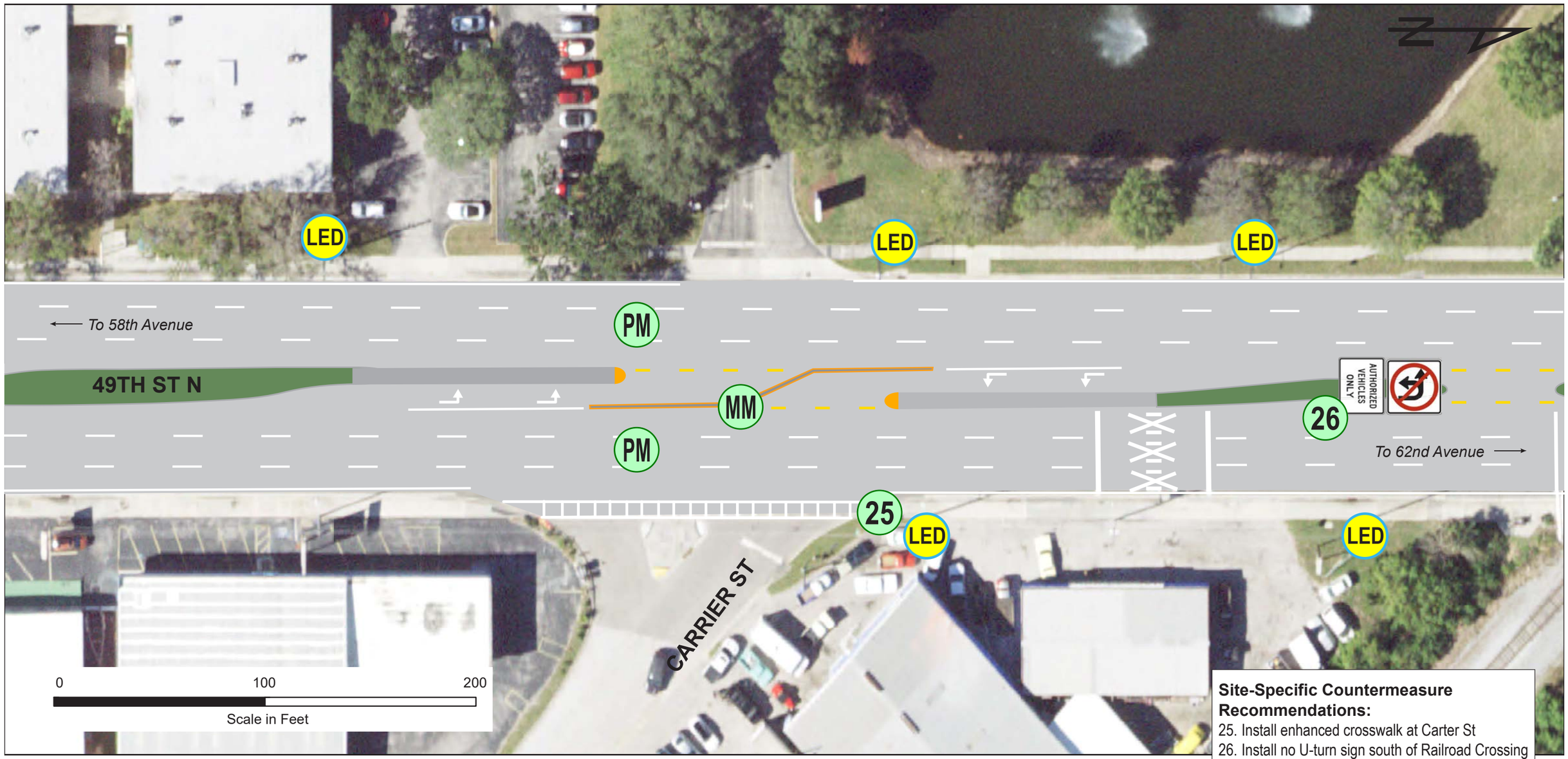

Site-Specific Countermeasure Recommendations:

25. Install enhanced crosswalk at Carter St
26. Install no U-turn sign south of Railroad Crossing

AREA-WIDE COUNTERMEASURE IMPROVEMENTS

- MM Median Modification
- DM Driveway Modification
- LED Upgrade Street Lighting to LED
- B/P LED Intersection Bike/Ped Lighting
- LEAD PEDESTRIAN INTERVAL Signal / Lead Pedestrian Interval
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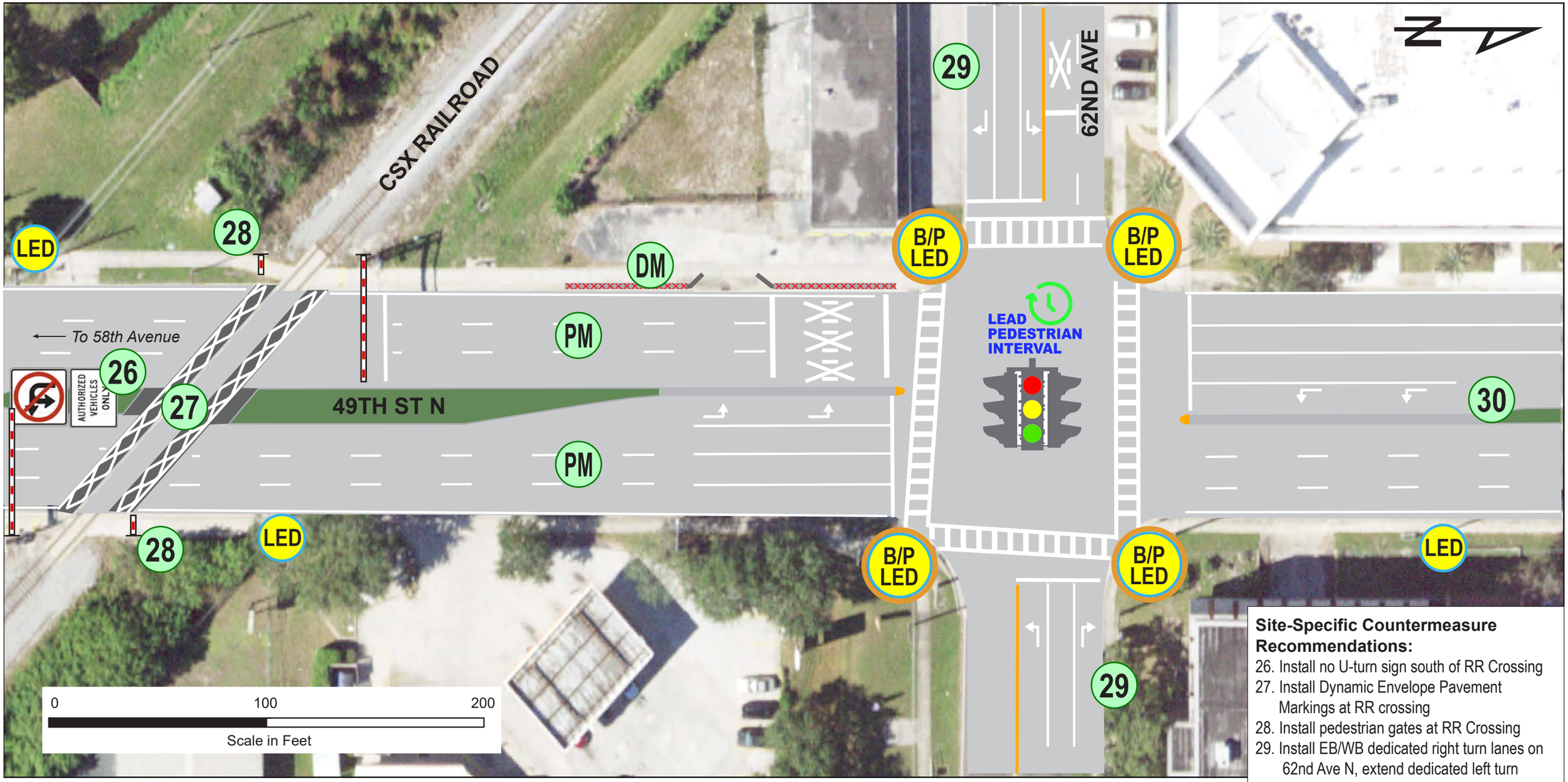

Site-Specific Countermeasure Recommendations:

26. Install no U-turn sign south of RR Crossing
27. Install Dynamic Envelope Pavement Markings at RR crossing
28. Install pedestrian gates at RR Crossing
29. Install EB/WB dedicated right turn lanes on 62nd Ave N, extend dedicated left turn lane storage.
30. Extend SB left turn lane storage on 49th St N

AREA-WIDE COUNTERMEASURE IMPROVEMENTS

- MM — Median Modification
- DM — Driveway Modification
- LED — Upgrade Street Lighting to LED
- B/P LED — Intersection Bike/Ped Lighting
- LEAD PEDESTRIAN INTERVAL — Signal / Lead Pedestrian Interval
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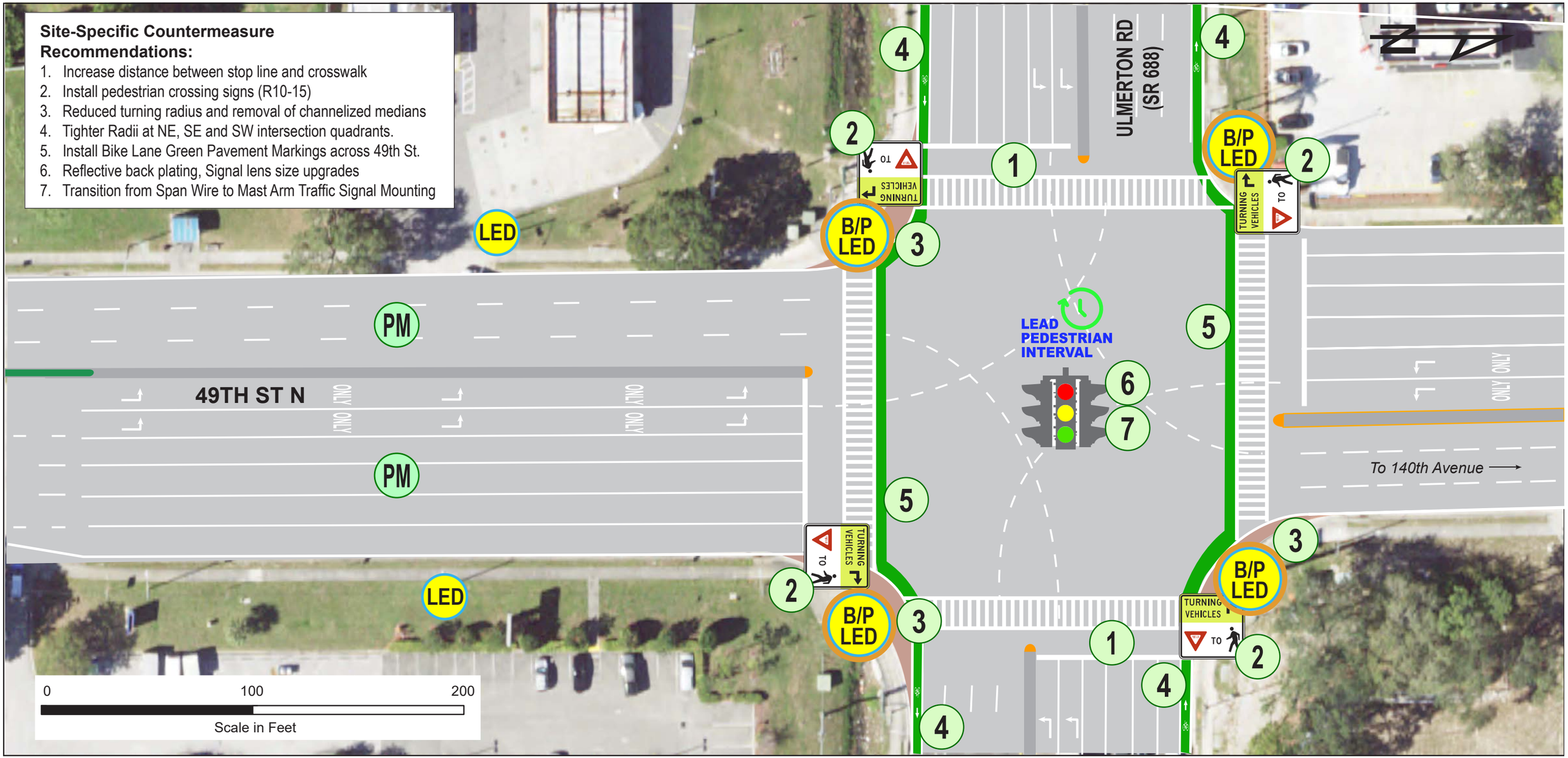

AREA-WIDE COUNTERMEASURE RECOMMENDATIONS

- MM Median Modification
- DM Driveway Modification
- LED Upgrade Street Lighting to LED
- B/P LED Intersection Bike/Ped Lighting
- LEAD PEDESTRIAN INTERVAL Signal / Lead Pedestrian Interval
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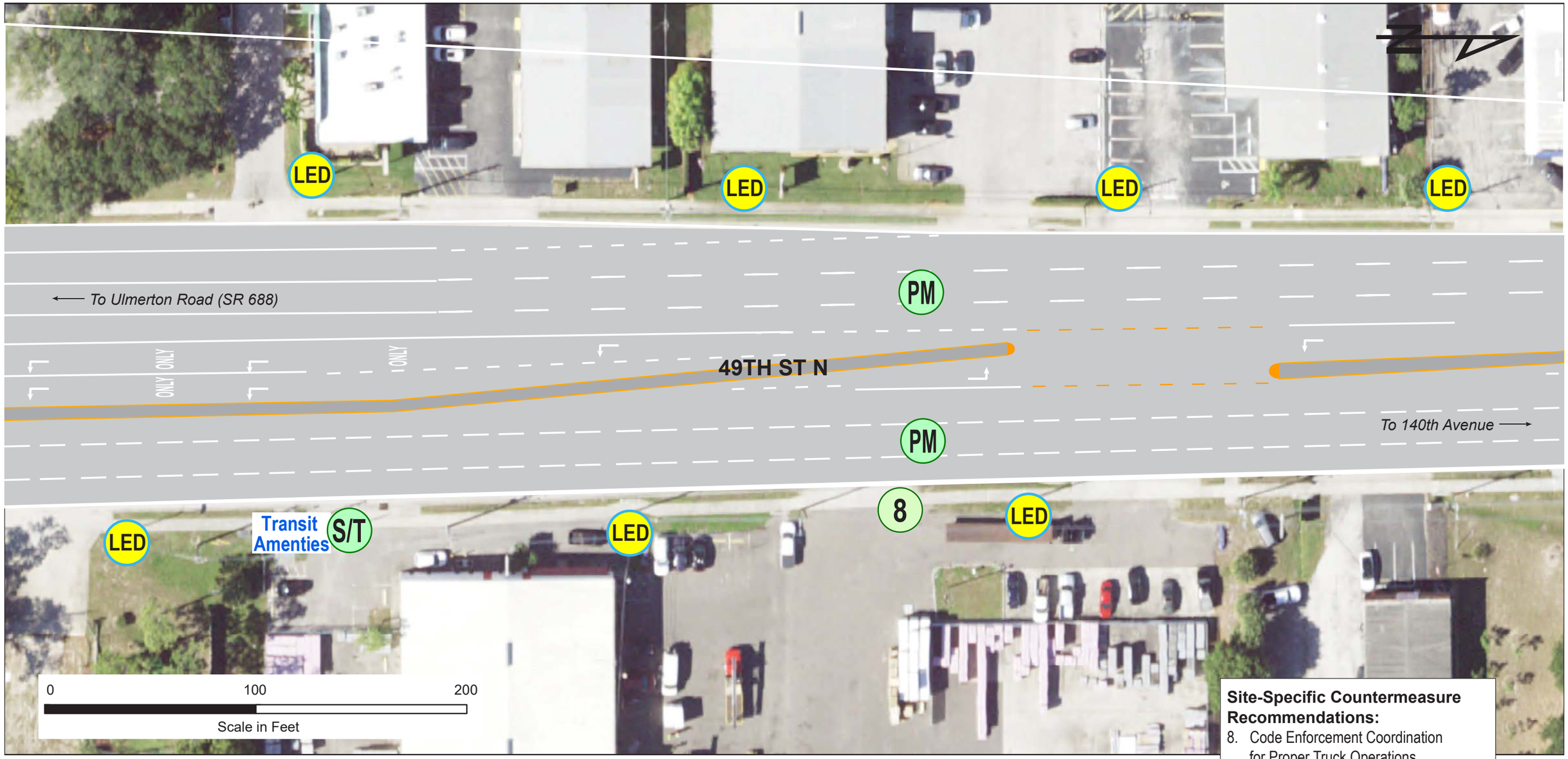

Site-Specific Countermeasure Recommendations:

8. Code Enforcement Coordination for Proper Truck Operations

AREA-WIDE COUNTERMEASURE RECOMMENDATIONS

- MM Median Modification
- DM Driveway Modification
- LED Upgrade Street Lighting to LED
- B/P LED Intersection Bike/Ped Lighting
- LEAD PEDESTRIAN INTERVAL Signal / Lead Pedestrian Interval
- PM Pavement Marking Refresh
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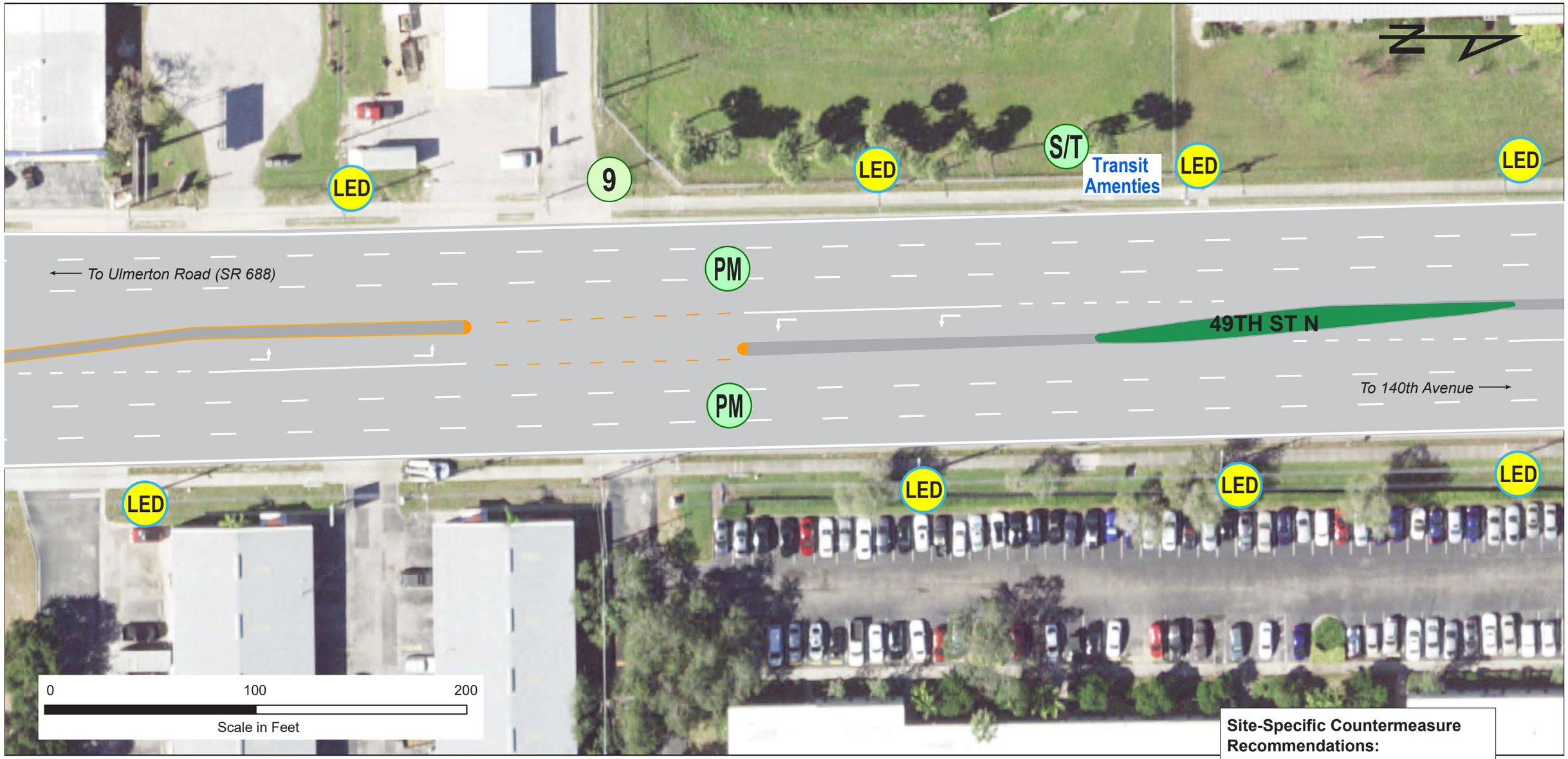

Site-Specific Countermeasure Recommendations:

9. Landscape Maintenance

AREA-WIDE COUNTERMEASURE RECOMMENDATIONS

- MM — Median Modification
- DM — Driveway Modification
- LED — Upgrade Street Lighting to LED
- B/P LED — Intersection Bike/Ped Lighting
- LEAD PEDESTRIAN INTERVAL — Signal / Lead Pedestrian Interval
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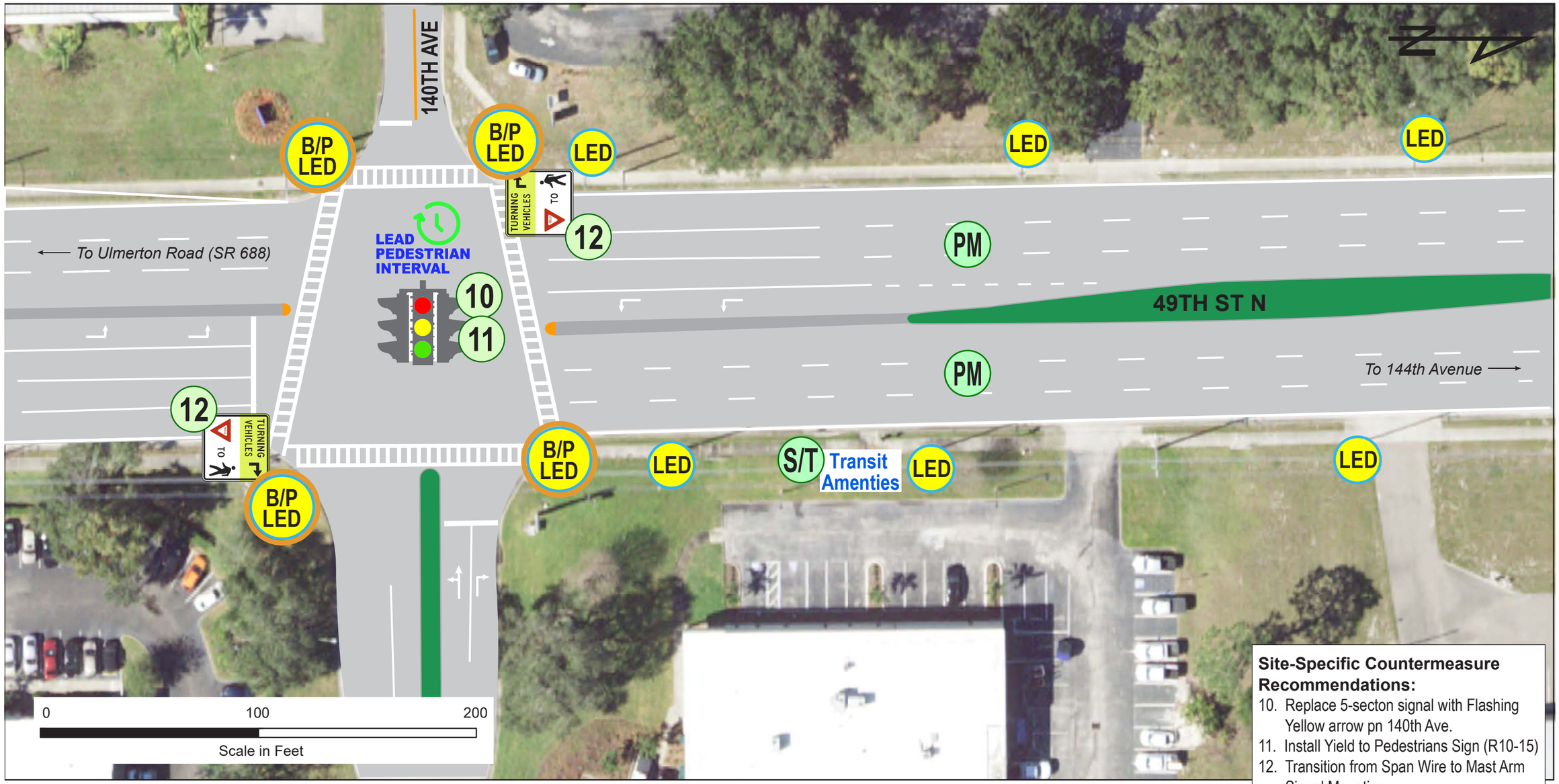

Site-Specific Countermeasure Recommendations:

10. Replace 5-secton signal with Flashing Yellow arrow pn 140th Ave.
11. Install Yield to Pedestrians Sign (R10-15)
12. Transition from Span Wire to Mast Arm Signal Mounting

AREA-WIDE COUNTERMEASURE RECOMMENDATIONS

- MM — Median Modification
- DM — Driveway Modification
- LED — Upgrade Street Lighting to LED
- B/P LED — Intersection Bike/Ped Lighting
- LEAD PEDESTRIAN INTERVAL — Signal / Lead Pedestrian Interval
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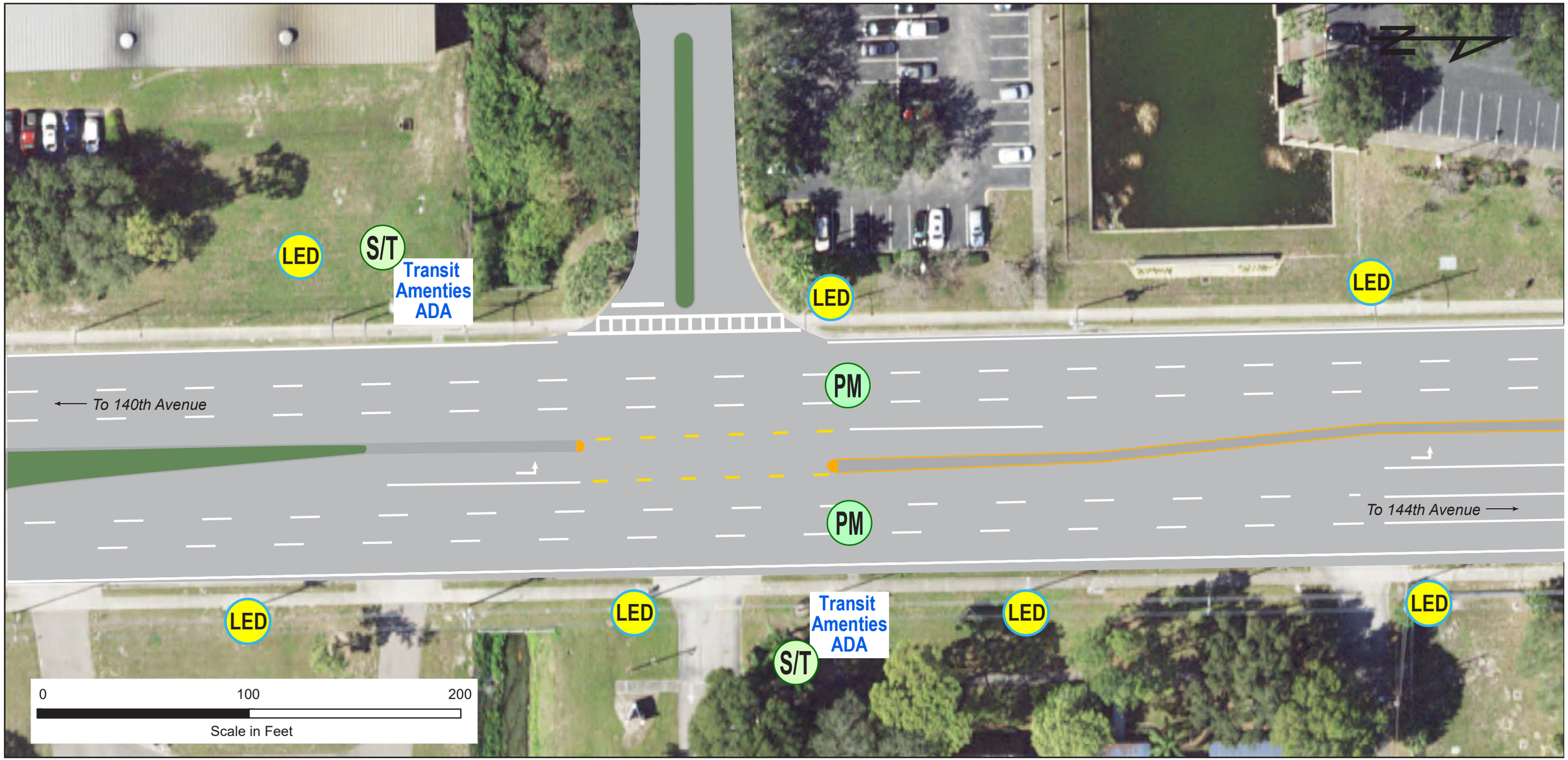

AREA-WIDE COUNTERMEASURE RECOMMENDATIONS

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- DM Driveway Modification
- LED Upgrade Street Lighting to LED
- B/P LED Intersection Bike/Ped Lighting
- LEAD PEDESTRIAN INTERVAL Signal / Lead Pedestrian Interval
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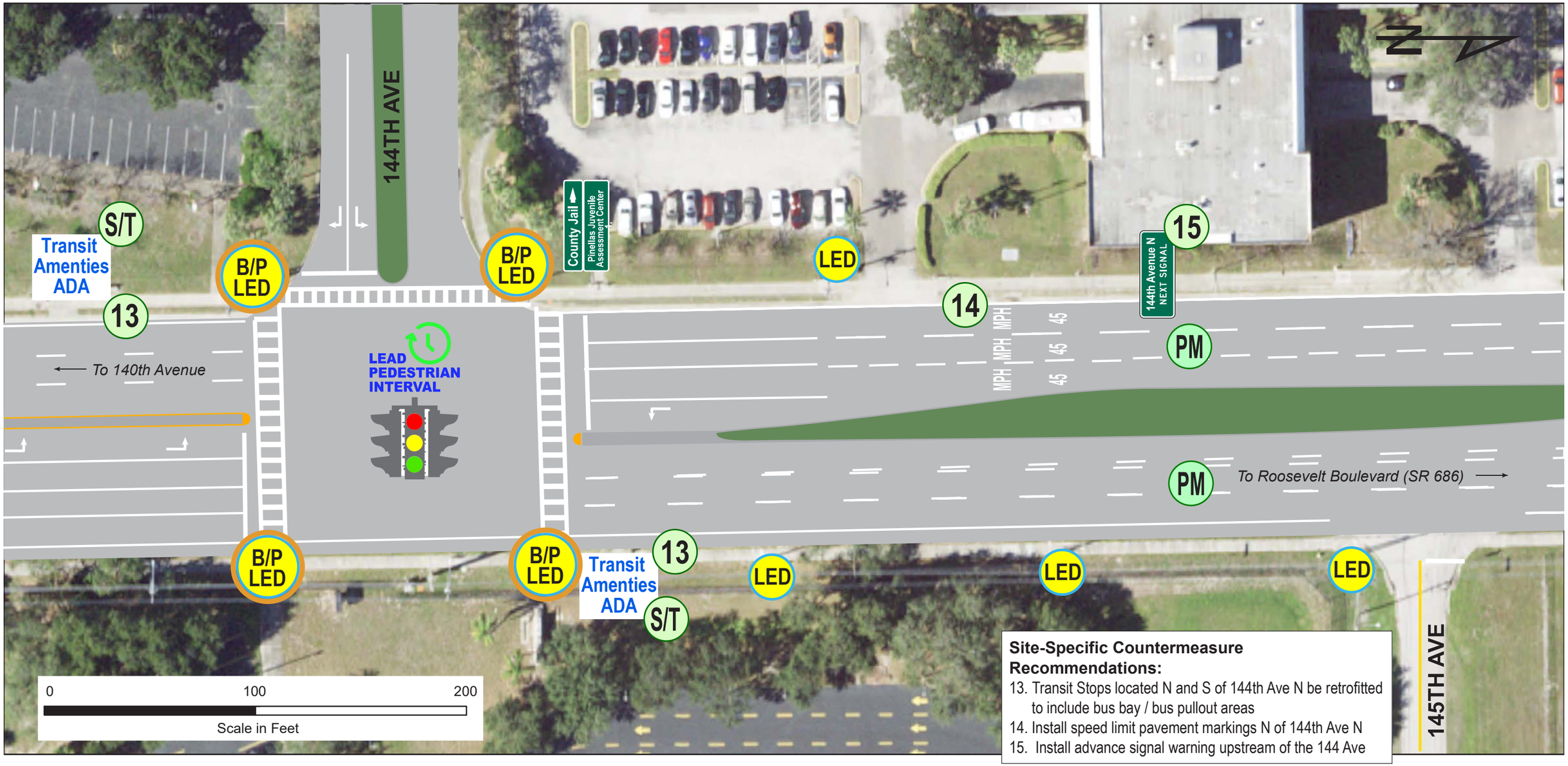

Site-Specific Countermeasure Recommendations:

13. Transit Stops located N and S of 144th Ave N be retrofitted to include bus bay / bus pullout areas
14. Install speed limit pavement markings N of 144th Ave N
15. Install advance signal warning upstream of the 144 Ave

AREA-WIDE COUNTERMEASURE RECOMMENDATIONS

- MM — Median Modification
- DM — Driveway Modification
- LED — Upgrade Street Lighting to LED
- B/P LED — Intersection Bike/Ped Lighting
- LEAD PEDESTRIAN INTERVAL — Signal / Lead Pedestrian Interval
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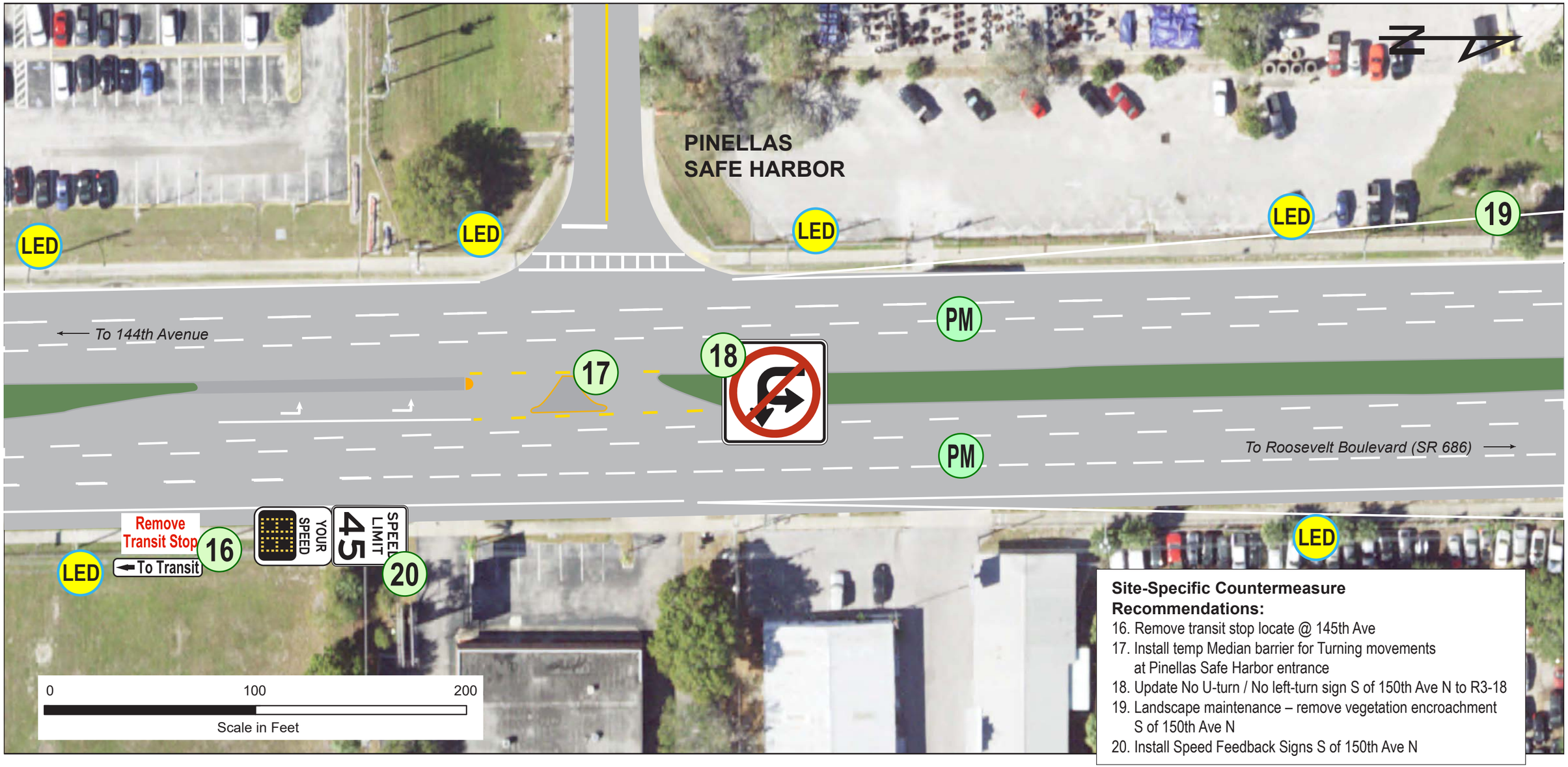

Site-Specific Countermeasure Recommendations:

16. Remove transit stop locate @ 145th Ave
17. Install temp Median barrier for Turning movements at Pinellas Safe Harbor entrance
18. Update No U-turn / No left-turn sign S of 150th Ave N to R3-18
19. Landscape maintenance – remove vegetation encroachment S of 150th Ave N
20. Install Speed Feedback Signs S of 150th Ave N

AREA-WIDE COUNTERMEASURE RECOMMENDATIONS

- MM Median Modification
- DM Driveway Modification
- LED Upgrade Street Lighting to LED
- B/P LED Intersection Bike/Ped Lighting
- LEAD PEDESTRIAN INTERVAL Signal / Lead Pedestrian Interval
- PM Pavement Marking Refresh
- S/T Sidewalk/Transit ADA Standards

49th Street Safety Study - North Focus Area - Preliminary Safety Recommendations

This is a conceptual-level graphic created for planning and discussion purposes only. It is not intended for use in design or construction.

Site-Specific Countermeasure Recommendations:

20. Install Speed Feedback Signs S of 150th Ave N
21. Repair damaged pull boxes @ Roosevelt Blvd
22. Landscape maintenance remove sand from Sidewalk – evaluate drainage at Roosevelt Blvd

AREA-WIDE COUNTERMEASURE RECOMMENDATIONS

- MM Median Modification
- DM Driveway Modification
- LED Upgrade Street Lighting to LED
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