# SCHOOL ROUTES ANALYSIS

# NEXT STEPS FOR IMPLEMENTATION


SPACE COAST TPO

AUGUST 2020

KITTELSON & ASSOCIATES

# School Routes Analysis

# Next Steps for Implementation & Future Studies

## August 2020


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*The preparation of this report has been financed in part through grant(s) from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the State Planning and Research Program, Section 505 [or Metropolitan Planning Program, Section 104(f)] of Title 23, U.S. Code. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.*

# Table of Contents

# Executive Summary

The Space Coast Transportation Planning Organization (SCTPO) with assistance from Kittelson & Associates, Inc. (KAI) documented existing conditions and developed Safe Routes to School (SRTS) recommendations for nine schools as part of the School Routes Analysis (SRA) project. The nine study schools on eight school campuses were selected by the cities of Melbourne and Palm Bay prior to this project. The analysis reviewed the 'study areas' that were identified based on walk zones and attendance boundaries around the nine study schools. The SRA project was intended to serve as a pilot to establish a study methodology that can be replicated at other schools within Brevard County.

This report summarizes the overall study process, recommendations, and identifies next steps towards implementation. The report also outlines how the SCTPO can continue to implement and develop similar SRA reports for other schools throughout Brevard County. Finally, the report includes three appendices. **Appendix A** list the recommendations by school, **Appendix B** summarizes the SRTS programs and policies, and **Appendix C** documents various funding sources that could be used to implement the recommendations.

## Study Purpose

The purpose of these SRA studies was to provide the SCTPO with a comprehensive analysis that documented the observed pedestrian and bicycle circulation routes adjacent to the eight school campuses, identify issues associated with student pedestrians and bicyclists within the study areas, and make recommendations for improvements. These eight initial school campuses were identified as pilot schools to develop the SRA study process that can be replicated in the future for other schools throughout the County.

## Study Process

Study areas were identified for each of the eight school campuses based on the respective school's walk zone and attendance boundary. As part of stakeholder engagement, a Technical Committee (TC) was established. The TC was comprised of representatives from the City of Melbourne, the City of Palm Bay, Brevard County Planning, Public Works, and Public Schools, and the Florida Department of Transportation (FDOT). The TC functioned as a sounding board for the Project Team and acted as liaisons for their respective agencies throughout the planning process.

The study process for the schools was divided into two broad phases: 1. Assessment; and 2. Implementation. As part of the Assessment Phase, existing conditions, crash data, and survey data were analyzed and mapped prior to the school coordination meeting for respective schools.

The school coordination meetings, comprising of relevant TC members and school administration, were conducted a day prior to the field reviews. Field reviews of the school study areas were conducted to observe current pedestrian and bicyclist behaviors.

As part of the Implementation Phase, a list of draft issues and recommendations were developed. Recommendations were based on the input received at school coordination meetings and field review observations. The draft list of recommendations was revised and finalized based on feedback received from TC members and respective school staff members. Planning-level cost estimates were calculated for the final recommendations. **Figure 1** graphically shows the study process.

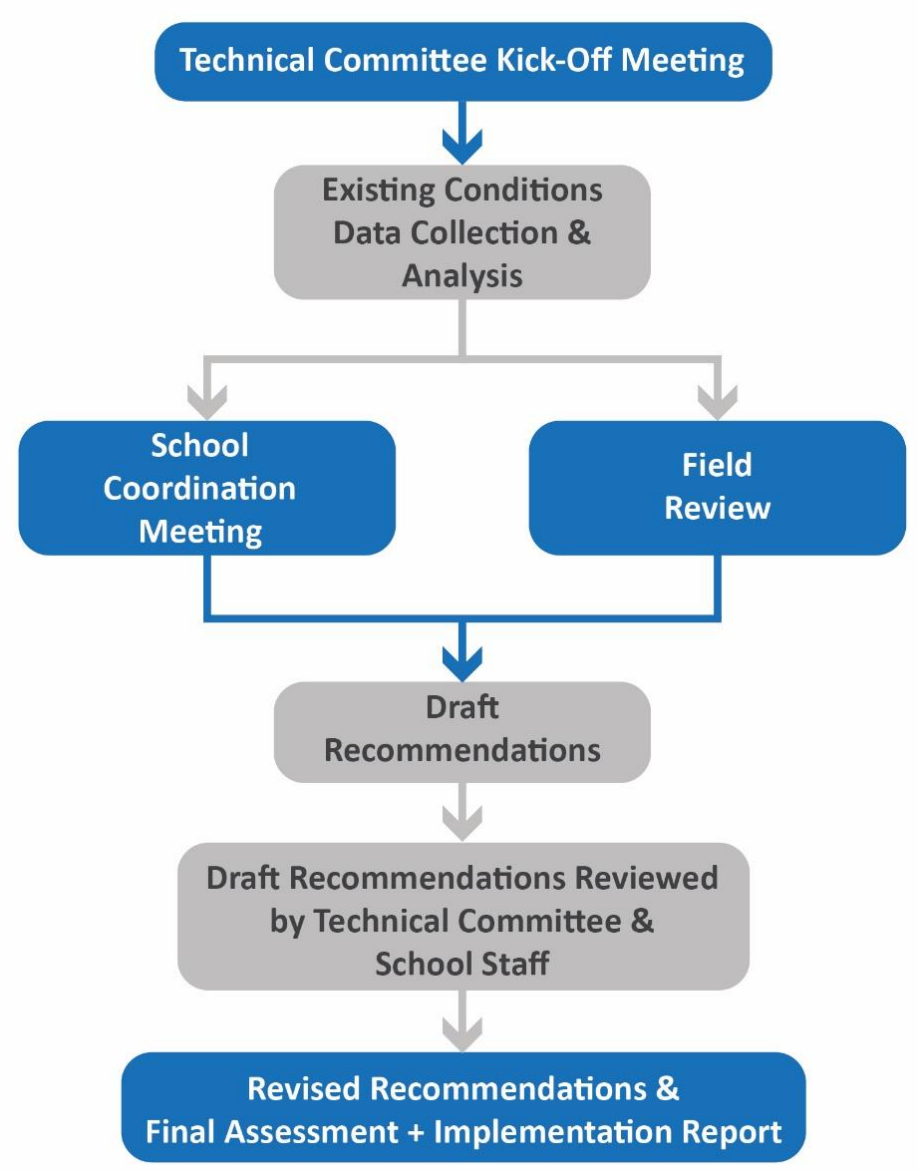



*Figure 1: Study Process*

# Implementation

The implementation section in the eight SRA reports lists and maps the recommendations identified for respective school campuses and study areas. The report includes the following details for each recommendation:

- Location
- Type
- Issue
- Recommendation
- Implementation time-frame
    - Maintenance
    - Near-Term
    - Long-Term
- Estimated project costs
- Right-of-way (ROW) and drainage or utility impact
- Responsible agency for implementation

Cost estimates were not prepared for projects where more information was needed, or further follow up study should be undertaken.

A one to two page summary of each recommendation is also included within the Implementation section of each report. The recommendation summary pages include additional information such as existing aerial imagery or photograph of the location and example images of recommended treatments.

The information that is provided in each of the SRA reports should be viewed as a starting point for future discussions and coordination with respective responsible agencies such as City of Melbourne, City of Palm Bay, Brevard County, and FDOT. The SCTPO will lead the coordination efforts and assist responsible agencies in identifying potential implementation mechanisms and funding sources to implement these recommendations.

Most of the recommendations identified are related to walking and bicycling infrastructure. Some recommendations identify locations to install traffic calming treatments, add new signs, re-time signals, and conduct routine maintenance and enforcement. Multiple feasibility studies are recommended to further examine the viability of building new trails, streets, and intersection improvements.

SRA reports include recommendation on the school campuses. However, Brevard County Schools or Odyssey Charter School will have to fund and implement these recommendations, since SRTS funding is not eligible to implement projects on school campuses.

Recommendations such as adding new parking restriction signs, re-timing signals, enforcement, and trimming overgrown vegetation, may be implemented through routine maintenance programs funded through local and state public works departments' operating budgets. Recommendations related to new infrastructure may be funded through state and local Capital Improvements Programs (CIPs) as well as other grant programs. SCTPO funds could be used to support conducting additional feasibility studies.

Apart from the state and local operating budgets and CIPs, walking and bicycling recommendations could be funded through multiple federal, state, and local grants and funding sources, as summarized in **Appendix C**. **Figure 2** illustrates the framework for implementation of recommendations.

**Table 1** summarizes number of recommendations identified for each school site. **Table 2** summarizes number of recommendations identified by type.

**Figure 3** and **Figure 4** display the school study areas and recommendations for the City of Melbourne.

**Figure 5** and **Figure 6** display school study areas and recommendations for the City of Palm Bay.

A complete list of the recommendations is listed in **Appendix A**.

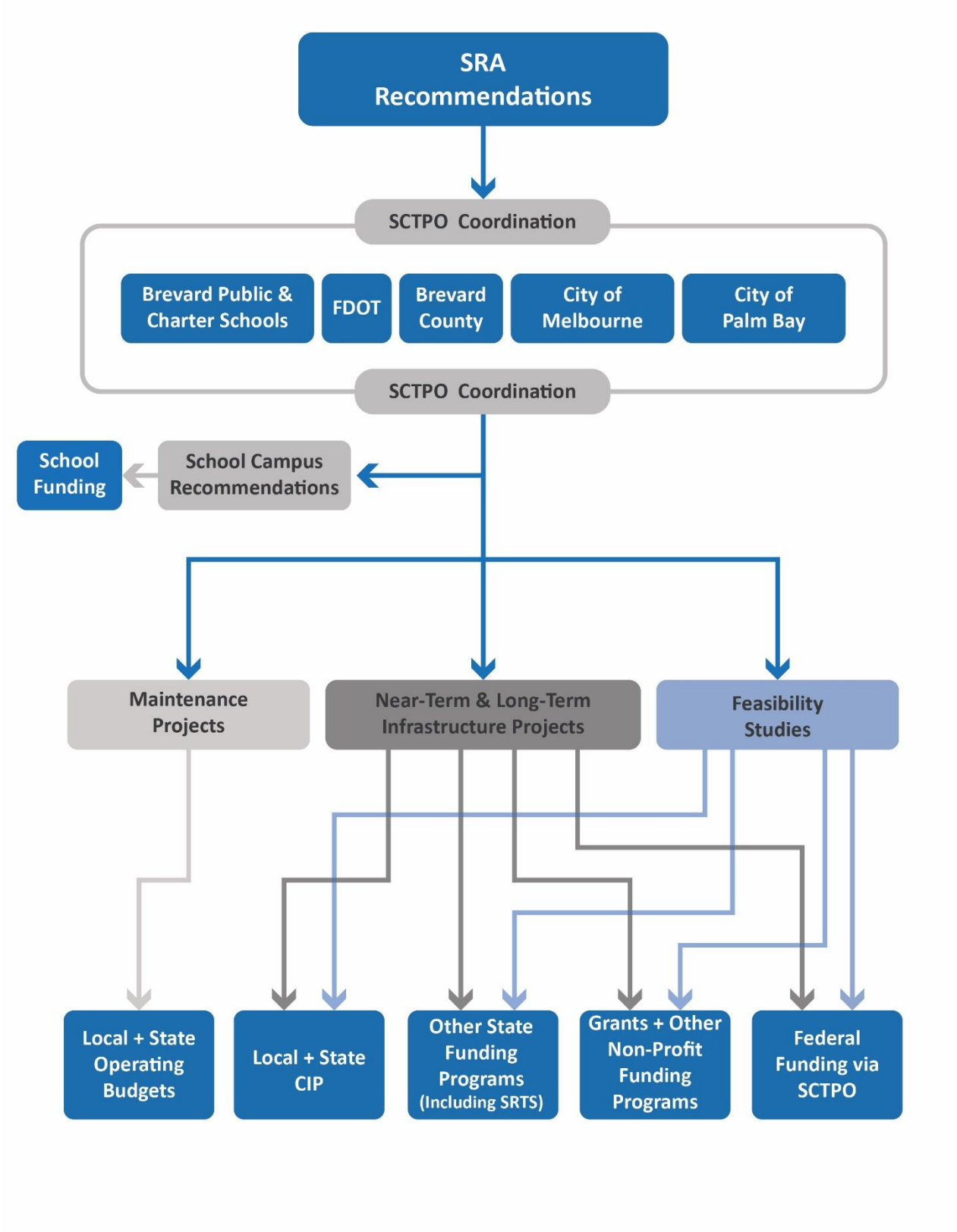


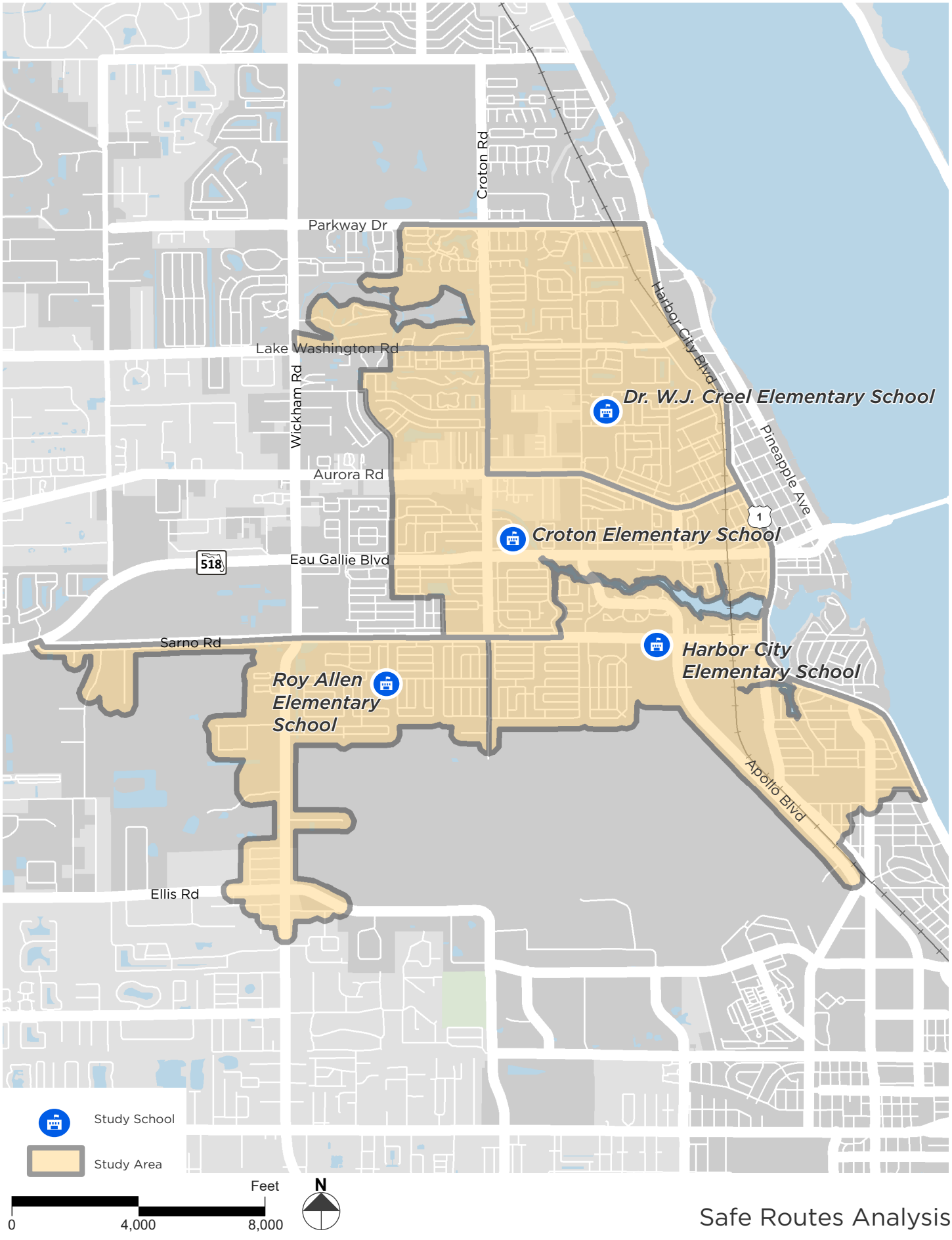

*Figure 2: Implementation Framework for Recommendations*

### *Table 1: Number of Recommendations by School*

| School Location | City | Number of Recommendations |
|---|---|---|
| Harbor City Elementary | Melbourne | 18 |
| Lockmar Elementary | Palm Bay | 20 |
| Roy Allen Elementary | Melbourne | 16 |
| Croton Elementary | Melbourne | 17 |
| Riviera Elementary | Palm Bay | 13 |
| Dr. W.J. Creel Elementary | Melbourne | 26 |
| John F. Turner Jr. Elementary and Southwest Middle | Palm Bay | 23 |
| Odyssey Charter | Palm Bay | 15 |
| TOTAL | | **148** |

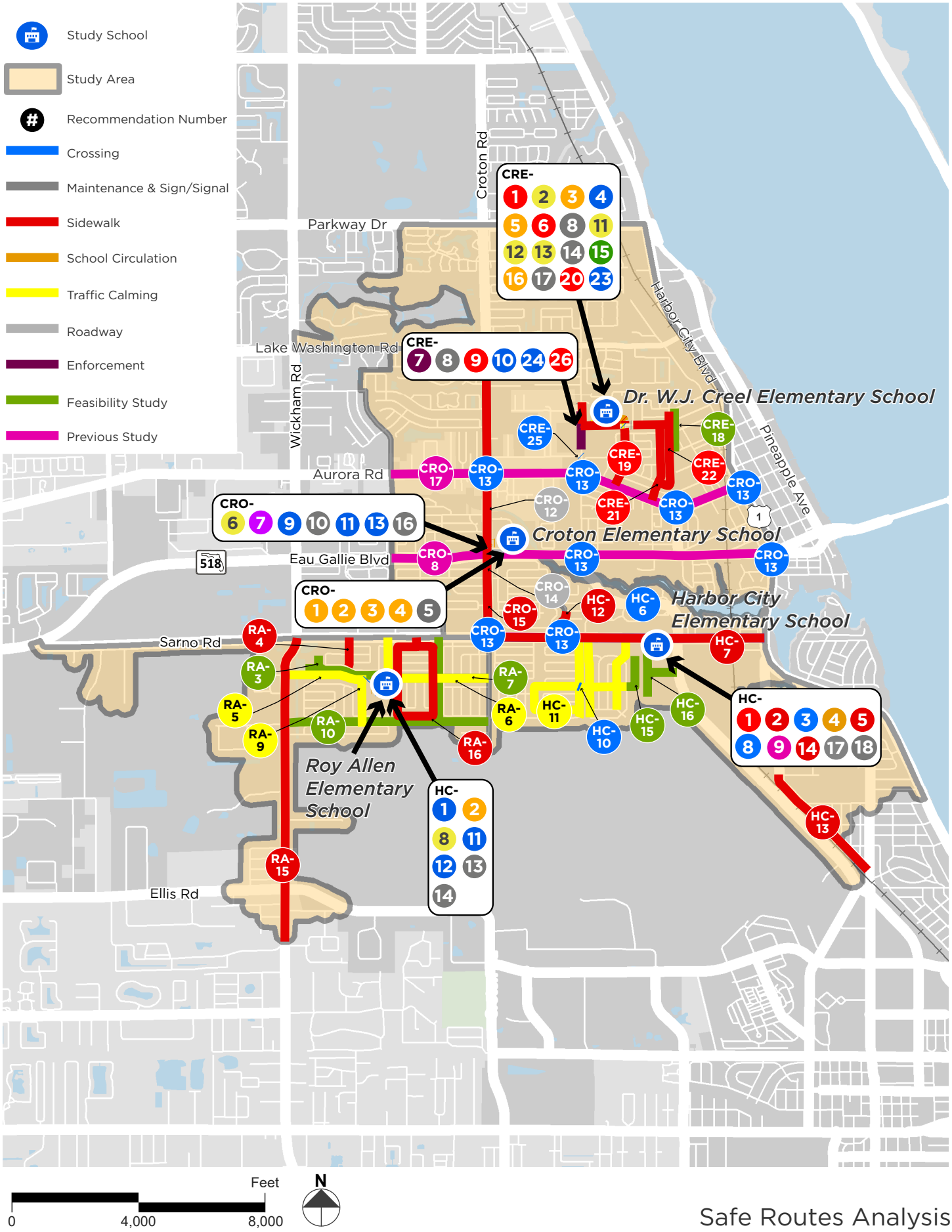
### *Table 2: Number of Recommendations by Type*

| Recommendation Type | Number of Recommendations |
|---|---|
| Sidewalk | 49 |
| Crossing | 34 |
| School Circulation | 15 |
| Sign/Signal | 15 |
| Traffic Calming | 12 |
| Feasibility Study | 11 |
| Previous Study | 4 |
| Maintenance | 3 |
| Enforcement | 2 |
| Roadway | 2 |
| Lighting | 1 |
| TOTAL | 148 |



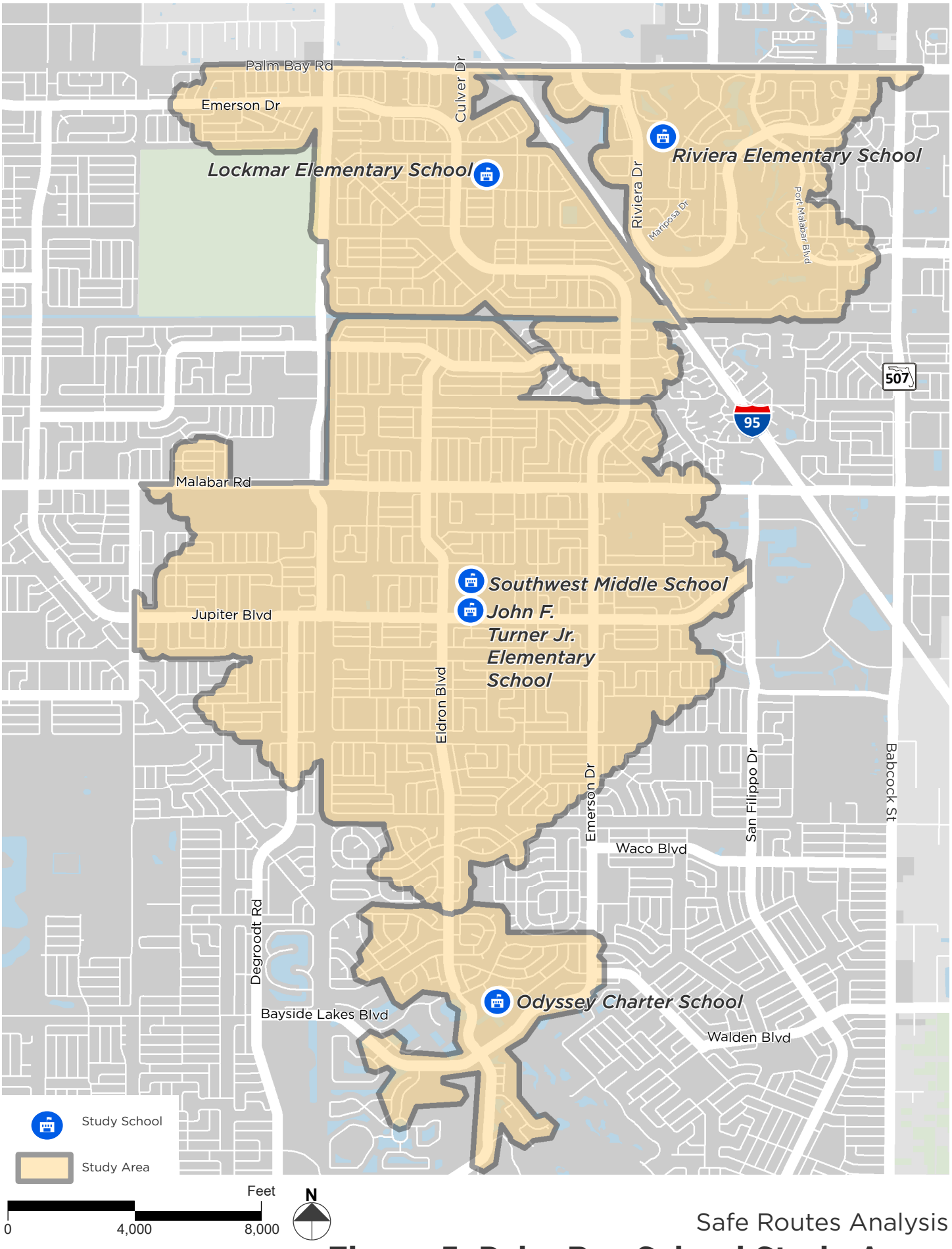

Safe Routes Analysis

**Figure 3. Melbourne School Study Areas**



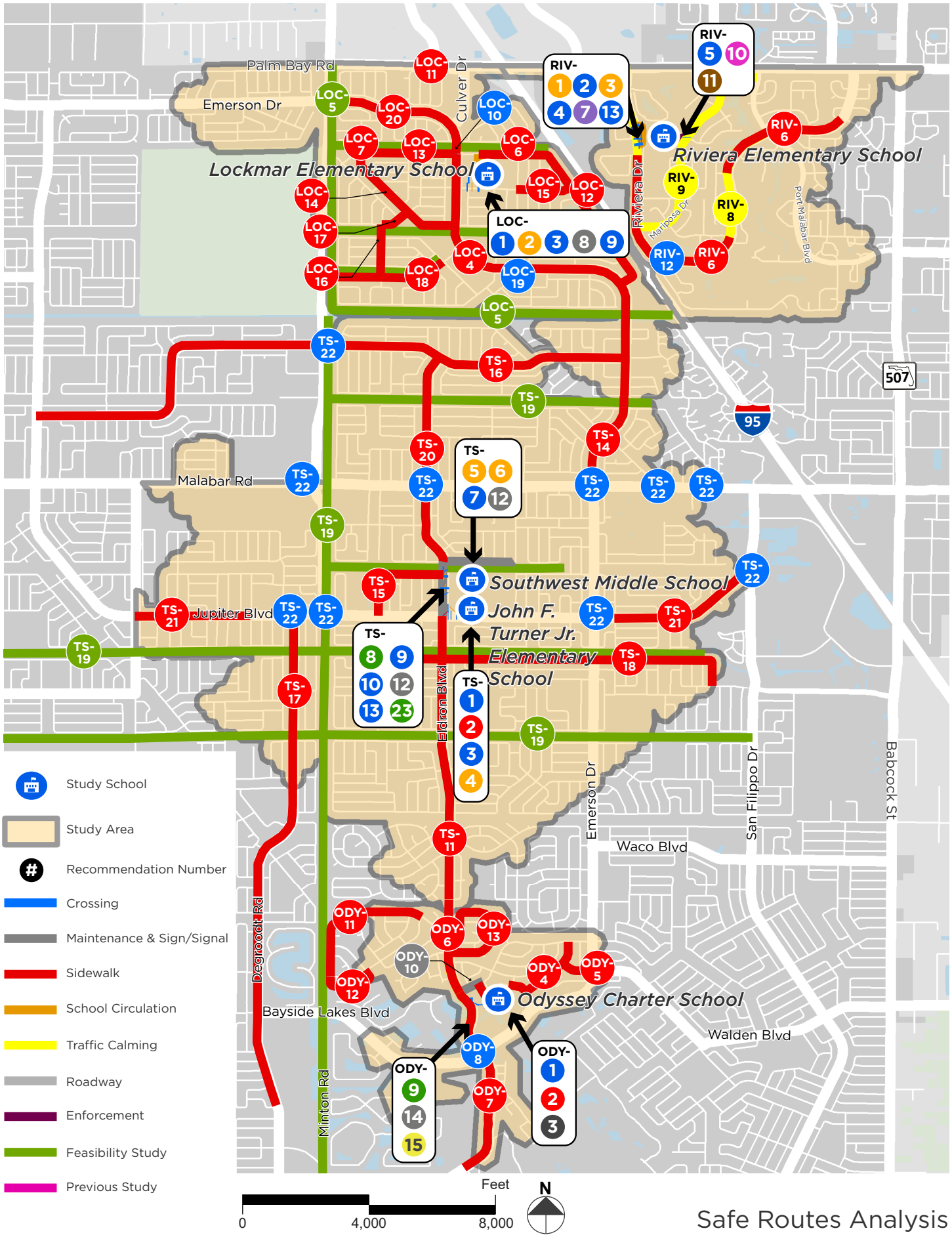

Safe Routes Analysis

**Figure 4. Melbourne Study School Areas: Recommendations**




Safe Routes Analysis

**Figure 5. Palm Bay School Study Areas**




Safe Routes Analysis

**Figure 6. Palm Bay Study School Areas: Recommendations**

# Future SRA Studies

The SRA project that studied the eight school campuses was intended to serve as a pilot to establish a study methodology that can be replicated at other schools throughout Brevard County. The SCTPO will present the SRA pilot project and gather feedback from the SRA TC, Bicycle, Pedestrian, and Trails Advisory Committee (BPTAC), Technical Advisory Committee (TAC), Citizens Advisory Committee (CAC), and the SCTPO Board. The feedback received will be used to refine the process for future SRA studies. The presentations to various SCTPO Committees and the Board is also intended to gauge interest from other jurisdictions to conduct similar studies for other schools. The SCTPO will meet with jurisdictions that express interest in conducting future SRA studies to understand goals and priorities to select schools.

Through coordination with implementing agencies, the SCTPO will monitor the implementation of the recommendations identified through the SRA project process. This will help guide the SCTPO in future studies.

The SCTPO will also develop a prioritization methodology to select and prioritize schools for future studies within the jurisdictions that have expressed interest. This methodology may evaluate multiple datasets within schools' walk zones and attendance boundaries such as demographics, crash history, safety concerns, traffic conditions, and existing/planned pedestrian and bicycling infrastructure.

**Figure 7** illustrates the framework for identifying and conducting future SRA studies.

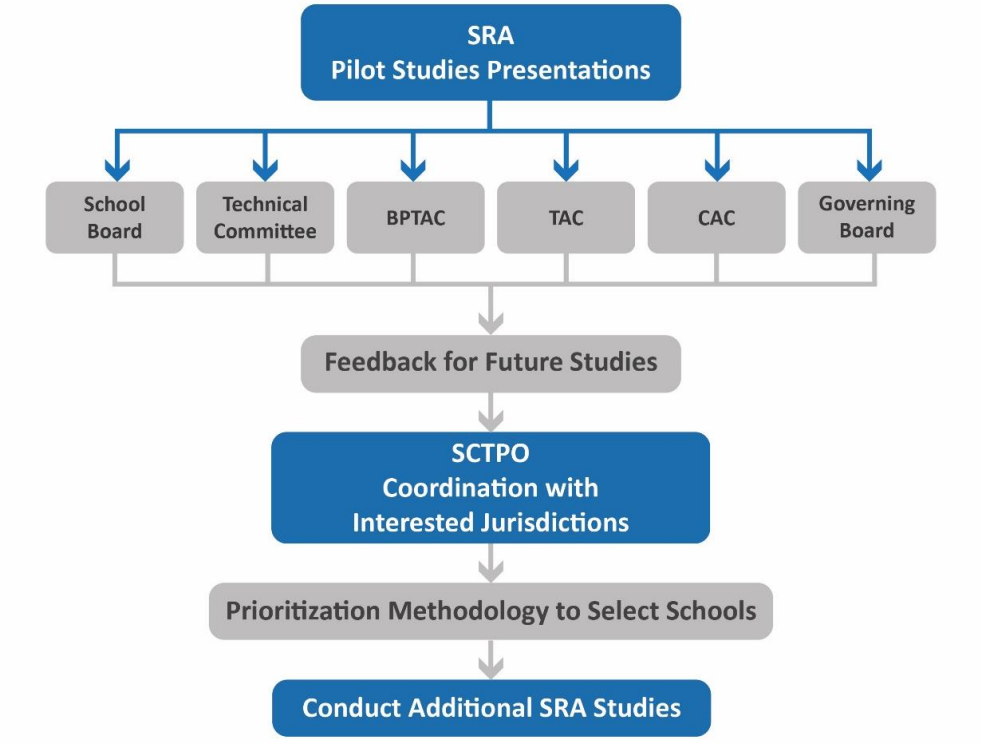



*Figure 7: Framework for Future SRA Studies*

# Appendix A: Recommendations Table (By School)

## *Table 1: Recommendations by School*

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| **Harbor City Elementary School** | | | | | |
| HC-1 | School Main Entrance | Build an 8 foot wide sidewalk connection from Sarno Road to the main school entrance door. | Sidewalk | Near-Term | <$10,000 |
| HC-2 | School Campus East Parking Lot | Extend the fenced walkway and mark a high visibility crosswalk across the parking lot. | Sidewalk | Near-Term | <$10,000 |
| HC-3 | School Campus Drop-Off/Pick-Up Loops | Re-stripe crosswalks as high-visibility crosswalks and add ADA compliant pedestrian ramps. | Crossing | Maintenance /Near-Term | <$10,000 |
| HC 4 | School Campus Drop-Off/Pick-Up Loops | Rework school internal circulation to push drop-off/pick-up point further south and extend the drop-off/pick-up loop to add more stacking space for cars. | School Circulation | Long-Term | Further study is required |
| HC 5 | School Driveways along Sarno Road | Construct right-in/right-out channelized islands at school driveways alongside recommendation No. 4. | Sidewalk (Driveways) | Near-Term | $15,000 to $20,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| HC 6 | Midblock Crossing across Apollo Boulevard near Hidden Harbor Drive | Install RRFB at the midblock crosswalk. | Crossing | Near-Term | $45,000 to $55,000 |
| HC-7 | Sarno Road from Croton Road to US 1 | Upgrade existing sidewalks to be ADA compliant along Sarno Road. | Sidewalk | Near-Term | Further study is required |
| HC-8 | Sarno Road from Croton Road to US 1, Croton Road from Sarno Road to End of Roadway, Garfield Street, Ixora Drive, and Within the Brevard County Driver License and Tax Collector Complex | Upgrade/install ADA compliant pedestrian ramps and re-stripe high-visibility crosswalk across all legs of the signalized intersections | Crossing | Near-Term | $65,000 to $75,000 |
| HC-9 | Sarno Road | Implement Sarno Road Corridor Study Recommendations – five lane cross-section with TWLTL, spot medians, access management, and 8 foot wide sidewalks on both sides. | Previous Study (Corridor) | Long-Term | $20,885,000. Further study is required to estimate the cost for access management |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| HC-10 | Sycamore Road/Cadillac Circle N and Ixora Drive Intersection | Upgrade/install ADA compliant pedestrian ramps and re-stripe high-visibility crosswalk across all legs. | Crossing | Near-Term | $10,000 to $15,000 |
| HC-11 | Ironwood Drive, Tupelo Drive, Ixora Drive, Cadillac Circle, and Sycamore Road | Install neighborhood traffic calming treatments such as speed cushions, speed humps, curb extensions, street trees, etc. | Traffic Calming | Near-Term | Further study is required |
| HC-12 | Bell Street from Sarno Road to Tynan Drive | Build a 5 to 6 foot wide sidewalk on the east side of Bell Street. | Sidewalk | Near-Term | $60,000 to $70,000 |
| HC-13 | Neiman Avenue from Lorraine Avenue to Babcock Street | Build a 5 to 6 foot wide sidewalk along both sides of Neiman Avenue | Sidewalk | Near-Term | $500,000 to $600,000 |
| HC-14 | Bus Stop at Sarno Road and Apollo Boulevard | Make an ADA compliant bus stop. Add bench and shelter. | Sidewalk (Transit) | Near-Term | $32,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| HC-15 | South and East of the School Campus | Conduct a feasibility study to build a 12 foot wide trail connection south of the school between the school campus and Sycamore Drive and Teak Drive intersection. | Feasibility Study (Trail) | Near-Term | Further study is required |
| HC-16 | South and East of the School Campus | Conduct a feasibility study to build a new roadway connection south of the school campus to connect to Apollo Boulevard and/or St. Michaels Place | Feasibility Study (Roadway) | Near-Term | Further study is required |
| HC-17 | Apollo Boulevard and Sarno Road Intersection | Install blank out signage for the south-bound right, east-bound right, and north-bound right turn lanes. These signs would show no right-turn-on-red when the conflicting crosswalk pedestrian push button is activated, but otherwise will stay blank. | Sign/Signal | Near-Term | $25,000 to $30,000 |
| HC-18 | Sarno Road | Install school zone speed limit flashing beacons on mast arms to replace existing signs on poles. | Sign/Signal | Near-Term | $155,000 to $185,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| **Lockmar Elementary School** | | | | | |
| LOC-1 | School Driveways | Install raised crosswalks or re-stripe high visibility crosswalk markings and upgrade pedestrian ramps to make them ADA compliant. | Crossing | Near-Term | $10,000 to $15,000 |
| LOC-2 | North School Driveway on Narragansett Street | Open the existing northern entrance gate for pedestrians and bicyclists to use. Add a bicycle rack at the gate entrance and staffing during AM and PM peak periods. | School Circulation | Near-Term | <$10,000 |
| LOC-3 | Crosswalk on southwest corner of the school building connecting school building to western parking lot | Move the crosswalk to align with the school building entrance sidewalk and add ADA compliant pedestrian ramps. | Crossing | Near-Term | <$10,000 |
| LOC-4 | Emerson Drive, from Narragansett Street to Forest Street | Build an 8 to 10 foot wide sidewalk/shared use path on the east/north side. | Sidewalk | Long-Term | $1,150,000 to $1,350,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| LOC-5 | Canals | Conduct a feasibility study to add paved trails along the canal ROWs. | Feasibility Study (Trail) | Near-Term | Further study is required |
| LOC-6 | Pembroke Avenue and Narragansett Street and Grogan Avenue | Build a pedestrian and bicycle bridge across the canal. | Sidewalk | Long-Term | Further study is required |
| LOC-7 | Pelican Drive and Narragansett Street; and Melody Avenue and Jade Lane | Build a pedestrian and bicycle bridge across the canal. | Sidewalk | Long-Term | Further study is required |
| LOC-8 | Emerson Drive and Pepper Street Intersection | Install blank out signage for all intersection approaches. These signs would show no right-turn-on-red when the conflicting crosswalk pedestrian push button is activated, but otherwise will stay blank. | Sign/Signal | Near-Term | $30,000 to $40,000 |
| LOC-9 | Emerson Drive and Pepper Street Intersection | Re-stripe crosswalks as high visibility crosswalks and upgrade pedestrian ramps to make them ADA compliant. | Crossing | Near-Term | $15,000 to $20,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| LOC-10 | Emerson Drive and Narragansett Street Intersection | Install high visibility crosswalks and upgrade pedestrian ramps across Narragansett Street to make them ADA compliant. | Crossing | Near-Term | $10,000 to $15,000 |
| LOC-11 | Armory Drive and Harwood Street and Culver Drive | Build an 8 to 10 foot wide sidewalk to connect Armory Drive and Harwood Drive intersection to Culver Drive. | Sidewalk | Near-Term | $15,000 to $20,000 |
| LOC-12 | Narragansett Street from School Bus Egress Driveway to Pembroke Avenue and Nevada Drive from Pembroke Avenue to Emerson Drive | Build a 5 to 6 foot wide sidewalk on the south and west side. | Sidewalk | Near-Term | $420,000 to $500,000 |
| LOC-13 | Narragansett Street from Pelican Drive to Emerson Drive | Build a 5 to 6 foot wide sidewalk on the south side. | Sidewalk | Near-Term | $170,000 to $200,000 |
| LOC-14 | Pelican Drive/Hyder Street from Narragansett Street to Emerson Drive | Build a 5 to 6 foot wide sidewalk on the east/north side. | Sidewalk | Long-Term | $250,000 to $290,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| LOC-15 | Pepper Street from Pembroke Avenue to Nevada Drive | Build a 5 to 6 foot wide sidewalk on north side. | Sidewalk | Near-Term | $100,000 to $120,000 |
| LOC-16 | Pebble Avenue from Nemo Circle to Nesbitt Street | Build a 5 to 6 foot wide sidewalk on east side. | Sidewalk | Long-Term | $110,000 to $125,000 |
| LOC-17 | Nemo Circle from Pebble Avenue to Pelican Drive | Build a 5 to 6 foot wide sidewalk on south side. | Sidewalk | Long-Term | $60,000 to $70,000 |
| LOC-18 | Nesbitt Street from Pineda Avenue to Neptune Drive | Build a 5 to 6 foot wide sidewalk on north side. | Sidewalk | Long-Term | $200,000 to $225,000 |
| LOC-19 | Emerson Drive and Pembroke Avenue Intersection | Install RRFB for the pedestrian crossing. | Crossing | Near-Term | $25,000 to $30,000 |
| LOC-20 | Emerson Drive, from Minton Road to Narragansett Street | Widen existing 6 foot sidewalk to an 8 to 10 foot shared use path. | Sidewalk | Long-Term | $470,000 to $550,000 |
| **Roy Allen Elementary School** | | | | | |
| RA-1 | School Campus | Re-stripe faded crosswalks as high visibility crosswalks. | Crossing | Maintenance | <$10,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| RA-2 | School Campus | Install signs for Drop-Off/Pick-Up loop. | School Circulation | Near-Term | $10,000 to $15,000 |
| RA-3 | Canal between Choctaw Drive and Fountainhead Boulevard | Conduct a feasibility study to add a paved trail connecting Jimmy Moore Park and Roy Allen Elementary School. | Feasibility Study (Trail) | Near-Term | Further study is required |
| RA-4 | Iroquois Avenue from Choctaw Drive to Sarno Road | Build 5 to 6 foot wide sidewalks on both sides. | Sidewalk | Near-Term | $115,000 to $130,000 |
| RA-5 | Fountainhead Boulevard from Wickham Road to Roy Allen Elementary School | Install traffic calming devices such as speed cushions, curb extensions, speed humps etc. | Traffic Calming | Near-Term | Further study is required |
| RA-6 | Fatzler Road from Osage Avenue to Croton Road | Install traffic calming devices such as speed cushions, curb extensions, speed humps etc. | Traffic Calming | Near-Term | Further study is required |
| RA-7 | Fatzler Road from Osage Avenue to Croton Road | Conduct a feasibility study to evaluate adding bike lanes and/or wider sidewalks | Feasibility Study (Bike Lanes/ Sidewalks) | Near-Term | Further study is required |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| RA-8 | Osage Avenue from Fatzler Road to Sarno Road | Install traffic calming devices such as speed cushions, curb extensions, speed humps, etc. | Traffic Calming | Near-Term | Further study is required |
| RA-9 | Dijon Drive from Corbusier Drive to Fountainhead Boulevard | Install traffic calming devices such as speed cushions, curb extensions, speed humps etc. | Traffic Calming | Near-Term | Further study is required |
| RA-10 | Canals south of Chartres Avenue, Quebec Avenue, Apache Drive, Montgomery Road, and between Cheyenne Avenue and Clark Avenue | Conduct a feasibility study to add paved trails along the canal ROWs. | Feasibility Study (Trail) | Near-Term | Further study is required |
| RA-11 | Fountainhead Boulevard and Roy Allen Drive | Add a crossing guard. | Crossing | Near-Term | Coordinate staffing |
| RA-12 | Fountainhead Boulevard and Roy Allen Drive | Install raised crosswalks or raised intersection or re-stripe as high visibility crosswalk markings and upgrade pedestrian ramps to make them ADA compliant. | Crossing | Long-Term | $10,000 to $100,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| RA-13 | School Zone | Evaluate existing extents of the school zone and re-sign new school zone | Sign/Signal | Near-Term | Further study is required |
| RA-14 | School Zone | Install flashing beacons for school zone reduced speed sign. | Sign/Signal | Near-Term | $10,000 to $15,000 |
| RA-15 | Wickham Road | Fill in gaps with 5 to 6 foot wide sidewalks on both sides. | Sidewalk | Long-Term | $800,000 to $925,000 |
| RA-16 | Loop - Cresthaven Parkway, Dakota Drive, Comanche Avenue, Cheyenne Avenue, Apache Drive | Build a 5 to 6 foot wide sidewalks on both sides. | Sidewalk | Long-Term | $815,000 to $950,000 |
| **Croton Elementary School** | | | | | |
| CRO-1 | Western Parking Lot | Expand the western parking lot north to the edge of the dry pond. | School Circulation | Long-Term | Further Study Required |
| CRO-2 | Eastern Parking Lot | Expand the eastern parking lot to the north and east. | School Circulation | Long-Term | Further Study Required |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| CRO-3 | Southwest Corner of the Campus Along Learning Lane | Remove black fencing from Learning Lane and Southern Croton Driveway intersection sight triangles. | School Circulation | Near-Term | <$10,000 |
| CRO-4 | South Side of the School Front Office | Replace bicycle parking rack. | School Circulation | Maintenance | <$10,000 |
| CRO-5 | School Property | Replace old signage. | Sign/Signal | Maintenance | <$10,000 |
| CRO-6 | Eau Gallie Boulevard and Croton Road Intersection | Conduct a feasibility study to add a westbound right turn lane at the Eau Gallie Boulevard/Croton Road intersection. | Roadway | Long-Term | Further Study Required |
| CRO-7 | Eau Gallie Boulevard and Croton Road Intersection | Implement FDOT Eau Gallie Boulevard and Croton Road Intersection Improvement Plan - Install "No Turn on Red" blank out signage active during school zone hours. Remove current "No Turn on Red" signage. | Previous Study (Intersection) | Near-Term | $25,000 to $30,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| CRO-8 | Eau Gallie Boulevard | Implement FDOT Eau Gallie Boulevard Multimodal Mobility and Safety Assessment recommendation - Adjust school zone to include the entire intersection. Update timing to include early day on Friday. Update signage and pavement markings to be consistent with the FDOT Speed Zoning Manual. | Previous Study (Corridor) | Near-Term | Further Study Required |
| CRO-9 | Eau Gallie Boulevard and Croton Road Intersection | Add a crossing guard at the southwest corner of intersection to maintain one crossing guard for each leg of the intersection. | Crossing | Near-Term | Coordinate Staffing |
| CRO-10 | Croton Road Just North of Eau Gallie Boulevard | Adjust school zone signs and pavement markings to be consistent with the FDOT Speed Zoning Manual. Adjust timing to include early release schedule on Friday. | Sign/Signal | Near-Term | Further Study Required |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| CRO-11 | Croton Road Just North of Shelby Drive | Construct a midblock crossing with RRFB, a median refuge, and appropriate signage. Add a crossing guard at this intersection. | Crossing | Near-Term | $750,000 to $870,000 for Midblock Crossing; Coordinate staffing for Crossing Guard |
| CRO-12 | Croton Road by Northwest Corner of the School Property | Remove the dead tree. | Maintenance | Maintenance | <$10,000 |
| CRO-13 | Signalized Intersections within the Study Area | Upgrade/install ADA compliant pedestrian ramps. | Crossing | Near-Term | $55,000 to $65,000 |
| CRO-14 | Croton Road | Maintain existing landscape to avoid sidewalks being blocked by completely overgrown weeds. | Maintenance | Maintenance | Routine Maintenance |
| CRO-15 | Croton Road | Widen sidewalk on one side to make it a 10 to 12 foot-wide shared use path to accommodate bi-directional bicycle traffic. | Sidewalk | Long-Term | $1,100,000 to $1,300,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| CRO-16 | Eau Gallie Boulevard and Croton Road Intersection; Croton Road and Aurora Road Intersection | Change signal timing to include a Leading Pedestrian Interval (LPI) during school zone times to reduce the number of vehicles turning right while students are crossing. | Sign/Signal | Near-Term | Labor Cost for Signal Technician |
| CRO-17 | Aurora Road | Implement recommendations from Aurora Road Corridor Study - 6 foot wide sidewalk on southern side; high visibility crosswalks and ADA improvements at intersections. | Previous Study (Corridor) | Long-Term | $29,690,000 |
| **Riviera Elementary School** | | | | | |
| RIV-1 | Bus loop and parent drop-off/pick-up loop | Switch the bus loop and parent drop-off/pick-up loop to provide more space for cars to stack during student drop-off/pick-up. | School Circulation | Near-Term | No Anticipated Cost |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| RIV-2 | Between bus loop driveway and parent drop-off/pick-up entrance driveway | Extend the concrete separator between the two southern driveways west to the crosswalk to prevent the northbound right turning vehicles from driving in the crosswalk while turning into the school. Construct a pedestrian ramp at the concrete separator to provide a connection for students traveling northbound along Riviera Drive to the school campus. | Crossing | Near-Term | <$10,000 |
| RIV-3 | Grass area between Riviera Drive and the staff/parent parking lot in front of the school | Add wooden "fairground style" fencing along the edge of the sidewalk to prevent vehicles from parking in the grass to drop-off/pick-up their student. | School Circulation | Near-Term | $15,000 to $20,000 |
| RIV-4 | School campus | Restripe the crosswalks to be high-visibility crosswalks. | Crossing | Near-Term | <$10,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| RIV-5 | Mariposa Drive and Mascot Street | Restripe crosswalks to be high-visibility crosswalks. Upgrade/install ADA compliant pedestrian ramps. Construct a raised intersection. | Crossing | Near-Term | $90,000 to $105,000 |
| RIV-6 | Riviera Drive from Tavernier Circle to just south of Craftsland Lane and Riviera Drive from just north of Lash Street to just south of Dawn Street | Build 5 to 6 foot wide sidewalks on both sides of roadway to fill in sidewalk gaps along Riviera Drive. | Sidewalk | Near-Term | $515,000 to $600,000 |
| RIV-7 | Riviera Drive just south of first school entrance/driveway | Construct a right turn lane for vehicles turning right into the bus loop and parent drop-off/pick-up loop to stack in. | Roadway | Near-Term | $305,000 to $360,000 |
| RIV-8 | Riviera Drive from Palm Bay Road to Port Malabar Boulevard | Add traffic calming elements along Riviera Drive. | Traffic Calming | Long-Term | Further Study Required |
| RIV-9 | Mariposa Drive from Riviera Drive to Port Malabar Boulevard | Add traffic calming elements along Mariposa Drive. | Traffic Calming | Long-Term | Further Study Required |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| RIV-10 | Sidewalk from Mariposa Drive to the eastern entrance to school | Add lighting along the sidewalk to increase visibility and safety. | Lighting | Long-Term | Further Study Required |
| RIV-11 | Sidewalk from Mariposa Drive to the eastern entrance to school | Clear understory vegetation in the vicinity of the sidewalk and increase enforcement for homeless camps near the sidewalk. | Enforcement | Near-Term | Clearing Vegetation is Routine Maintenance and Enforcement Requires Staff Coordination |
| RIV-12 | Mid-block crossing along Riviera Drive just west of Meadowbrook Road | Construct a RRFB at the mid-block crossing. | Crossing | Long-Term | $25,000 to $30,000 |
| RIV-13 | Driveways to school along Riviera Drive | Restripe crosswalks at the three driveways along the school to be high-visibility crosswalks. | Crossing | Near-Term | $15,000 to $20,000 |
| **Dr. W.J. Creel Elementary School** | | | | | |
| CRE-1 | School Entrance Driveway | Build an 8 foot wide sidewalk along the east side of the school entrance to the Palmwood Drive/Glenwood Drive intersection. | Sidewalk | Near-Term | $10,000 to $15,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| CRE-2 | Diamond Street | Install new speed humps along Diamond Street. | Traffic Calming | Near-Term | $30,000 to $35,000 |
| CRE-3 | Diamond Street | Install “Do Not Enter” signage along Diamond Street facing west. | School Circulation | Maintenance | $10,000 to $15,000 |
| CRE-4 | Between Surface Parking Lot and Drop-Off/Pick-Up Loop | Restripe the crosswalks to be high-visibility crosswalks from parking lot to the school's main entrance. | Crossing | Near-Term | <$10,000 |
| CRE-5 | Parent Drop-Off/Pick-Up Loop | Add pavement for a second travel lane along Diamond Street from the Palmwood Drive/Glenwood Drive intersection to where the paved parking begins on the south side of Diamond Street. | School Circulation | Near-Term | $265,000 to $310,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| CRE-6 | Southeast Corner of School Campus | The school has requested to relocate the existing fencing in the southeast corner of the school property to be moved from the front of the sidewalk (currently adjacent to Diamond Street) to be behind the sidewalk. | Sidewalk | Near-Term | $25,000 to $30,000 |
| CRE-7 | Stewart Road School Zone | Provide regular police enforcement along Stewart Road north of Aurora Road during school zone times. | Enforcement | Near-Term | Enforcement could be included as part of a regularly scheduled patrol. |
| CRE-8 | Stewart Road and Palmwood Drive School Zones | Change the 15 MPH speed zone signage from a static “from X time to X time” to a flashing beacon. Install more school zone signage intermittently along both Stewart Road and Palmwood Drive. | Sign/Signal | Near-Term | $45,000 to $55,000 |
| CRE-9 | Stewart Road and Palmwood Drive Intersection | Build an 8 foot wide sidewalk in the northeast corner where the “cow path” is currently located. | Sidewalk | Near-Term | <$10,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| CRE-10 | Stewart Road and Palmwood Drive Intersection | Add an ADA compliant pedestrian landing pad on the northwest corner to provide a waiting area for the marked east-west crosswalk. | Crossing | Near-Term | <$10,000 |
| CRE-11 | Palmwood Drive and Glenwood Drive Intersection | Extend the existing median toward the intersection to reduce vehicle turning speeds and reduce the corner curb return radii at the intersection. | Traffic Calming | Near-Term | $10,000 to $15,000 |
| CRE-12 | School Exit Driveway at Palmwood Drive | Reduce the corner curb radii on northeast and northwest corners. | Traffic Calming | Near-Term | <$10,000 |
| CRE-13 | School Exit Driveway at Palmwood Drive | Build a channelized raised median in the middle of Palmwood Drive at the school exit driveway to prevent eastbound vehicles along Palmwood Drive from making a left turn into the exit. The channelized median would permit for southbound left from the school exit. | Traffic Calming | Near-Term | $15,000 to $20,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| CRE-14 | Palmwood Drive and Glenwood Drive Intersection | Remove stop sign and stop bar for the southbound movement coming out of the school at Palmwood Drive/Glenwood Drive. | Sign/Signal | Near-Term | <$10,000 |
| CRE-15 | Palmwood Drive and Glenwood Drive Intersection | Perform a study to review changing the intersection into an all-way stop control intersection or a roundabout. This would help better control the conflicts between students using the east leg crosswalk and the east/west through movement traffic along Palmwood Drive. | Feasibility Study (Intersection Control) | Near-Term | Further study required |
| CRE-16 | Palmwood Drive and Glenwood Drive Intersection | Add a gateway feature for Dr. W.J. Creel Elementary School. | School Circulation | Near-Term | Specific gateway feature elements should be discussed with the School/School Board before an estimate is generated. |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| CRE-17 | Palmwood Drive School Zone | Replace the faded "End School Zone" signage along Palmwood Drive. | Sign/Signal | Maintenance | <$10,000 |
| CRE-18 | Along the Canal from Swan Street to the Dorcas Outreach Center for Kids (DOCK) | Conduct a feasibility study to add a paved trail connecting Swan Street and the DOCK. | Feasibility Study (Trail) | Near-Term | Further study required |
| CRE-19 | Glenwood Drive from Aurora Road to South of Palmwood Drive | Build a 5 to 6 foot wide sidewalk on the west side of the road to connect to existing sidewalk. | Sidewalk | Near-Term | $125,000 to $145,000 |
| CRE-20 | Palmwood Drive from Stewart Road to Cedarwood Drive | Build 5 to 6 foot wide sidewalks to fill gaps on both sides of the road. | Sidewalk | Near-Term | $235,000 to $275,000 |
| CRE-21 | Mosswood Drive from Aurora Road to Palmwood Drive | Build 5 to 6 foot wide sidewalks both sides of the road. | Sidewalk | Near-Term | $325,000 to $375,000 |
| CRE-22 | Cedarwood Drive/Pinewood Drive from Mosswood Drive to South of Swan Street | Build a 5 to 6 foot wide sidewalk on the south/east side of the road to connect to existing sidewalk. | Sidewalk | Near-Term | $175,000 to $205,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| CRE-23 | Palmwood Drive and Glenwood Drive Intersection | Restripe the east leg crosswalk to be a high-visibility crosswalk. Add a new high-visibility crosswalk on north and south legs and ADA compliant pedestrian ramps on all four corners. | Crossing | Maintenance | $15,000 to $20,000 |
| CRE-24 | Stewart Road and Julia Drive Intersection | Add a 5 to 6 foot wide sidewalk connection and an ADA compliant pedestrian landing pad from the edge of the road to the existing sidewalk on the east side of the road. | Crossing | Near-Term | <$10,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| CRE-25 | Stewart Road and Carlton Drive Intersection | Add a 5 to 6 foot wide sidewalk connection and an ADA compliant pedestrian landing pad from the edge of the road to the existing sidewalk on the east side of the road. Add stop bars and 'Stop Here for Pedestrian' signs on the northern and the southern approaches along Stewart Road in advance of the marked crosswalk. | Crossing | Near-Term | <$10,000 |
| CRE-26 | Stewart Road from Palmwood Drive to the Northern School Driveway | Widen the existing east side sidewalk from 5 feet to 8 feet. | Sidewalk | Long-Term | $60,000 to $70,000 |
| **John F. Turner Jr. Elementary and Southwest Middle School** | | | | | |
| TS-1 | Turner Elementary School Driveways | Install raised crosswalks or re-stripe high visibility crosswalk markings and upgrade pedestrian ramps to make them ADA compliant. | Crossing | Near-Term | $15,000 to $20,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| TS-2 | Northeast Corner of Jupiter Boulevard and Eldron Boulevard Intersection | Expand concrete waiting area for students to wait before crossing Jupiter Boulevard and Eldron Boulevard intersection in the afternoon after school dismissal. | Sidewalk | Near-Term | <$10,000 |
| TS-3 | Crosswalk across Drop-Off/Pick-Up Loop | Restripe the crosswalks to be high-visibility crosswalks and upgrade pedestrian ramps to be ADA compliant. | Crossing | Near-Term | <$10,000 |
| TS-4 | Bus Loop | Widen driveway and turning radii to accommodate bus turning movement. | School Circulation | Long-Term | $15,000 to $20,000 |
| TS-5 | Between Drop-Off/Pick-Up Loop Exit Driveway and Staff/Visitor Parking Lot Entrance Driveway | Extend the concrete separator between the two driveways and create a 12 foot wide pedestrian refuge island between the two driveways. Add 'Do Not Enter' signs on both sides of Drop-Off/Pick-Up Loop Exit Driveway. | School Circulation | Near-Term | <$10,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| TS-6 | Between Drop-Off/Pick-Up Loop Entrance Driveway and Bus Loop/Staff Parking Lot Driveway | Extend the concrete separator between the two driveways and create a 12 foot wide pedestrian refuge island between the two driveways. | School Circulation | Near-Term | <$10,000 |
| TS-7 | Southwest Middle School Driveways | Install raised crosswalks or re-stripe high visibility crosswalk markings and upgrade pedestrian ramps to make them ADA compliant. | Crossing | Near-Term | $15,000 to $20,000 |
| TS-8 | Jupiter Boulevard and Eldron Boulevard Intersection | Conduct an operational study to assess if the existing all-pedestrian phase can be extended to allow more crossing time. The extended all-pedestrian phase can be implemented before school begins in the morning and after school releases in the afternoon. The extended all-pedestrian phase could coincide with the posted school zone times. | Operational Study (Signal) | Near-Term | This estimate should just be labor for the signal tech to update the signal timings, no construction for this type of project |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| TS-9 | Jupiter Boulevard and Eldron Boulevard Intersection | Restripe crosswalks to be high-visibility crosswalks and upgrade pedestrian curb ramps to be ADA compliant. | Crossing | Near-Term | $15,000 to $20,000 |
| TS-10 | Jupiter Boulevard and Eldron Boulevard Intersection | Add a second crossing guard (previously there were two crossing guards, but currently there is only one). | Crossing | Near-Term | Dependent on how much the School Board/County pays for crossing guards. |
| TS-11 | Eldron Boulevard from Ruffin Circle to just South of Jupiter Boulevard | Build a 5 to 6 foot wide sidewalk path on the west side of the road. | Sidewalk | Long-Term | $535,000 to $625,000 |
| TS-12 | Eldron Boulevard from Jupiter Boulevard to Hatcher Street and Hatcher Street from Eldron Boulevard to Cownie Avenue | Install 'No Parking Any Time' signs on both sides of the road. | Sign/Signal | Near-Term | $90,000 to $105,000 |
| TS-13 | Mid-Block Crosswalk across Eldron Boulevard just North of Buzby Street | Restripe crosswalks to be high-visibility crosswalks and upgrade pedestrian curb ramps to be ADA compliant. Construct a RRFB at the mid-block crossing. | Crossing | Near-Term | $30,000 to $35,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| TS-14 | Emerson Drive from Malabar Road to Forest Street | Build an 8 to 10 foot wide sidewalk/shared use path on the east side of the road. | Sidewalk | Long-Term | $305,000 to $355,000 |
| TS-15 | Buzby Street/Dominican Avenue from Eldron Boulevard to Jupiter Boulevard | Build 5 to 6 foot wide sidewalks on both sides of the road. | Sidewalk | Long-Term | $380,000 to $445,000 |
| TS-16 | Americana Boulevard from Jupiter Boulevard to Emerson Drive | Build a 5 to 6 foot wide sidewalk on the north side of the road. | Sidewalk | Long-Term | $1,145,000 to $1,335,000 |
| TS-17 | Degroodt Road from Gamewell Road to Jupiter Boulevard | Build an 8 to 10 foot wide sidewalk/shared use path on the west side of the road. | Sidewalk | Long-Term | $1,595,000 to $1,860,000 |
| TS-18 | Brickell Street/Bloke Avenue from Caballero Avenue to Jaslo Street | Add a 4 to 5 foot wide advisory shoulder on both sides of the roadway. | Sidewalk | Near-Term | $70,000 to $85,000 |
| TS-19 | Canals | Conduct a feasibility study to add a paved trail along the canals. | Feasibility Study (Trail) | Near-Term | Cost estimates should be developed as part of the feasibility study. |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| TS-20 | Eldron Boulevard from Hatcher Street to Americana Boulevard | Build a 5 to 6 foot wide sidewalk on the east side of the road. | Sidewalk | Long-Term | $415,000 to $485,000 |
| TS-21 | Jupiter Boulevard from Garvey Road to just East of Saragassa Avenue and from just West of Cheltenham Avenue to San Filippo Drive | Build 5 to 6 foot wide sidewalks to fill the gaps on north side of the road. | Sidewalk | Long-Term | $480,000 to $560,000 |
| TS-22 | Signalized Intersections within the Study Area | Restripe crosswalks to be high-visibility crosswalks and upgrade pedestrian curb ramps to be ADA compliant. | Crossing | Near-Term | $125,000 to $145,000 |
| TS-23 | School Driveways along Eldron Boulevard | Conduct a feasibility study to add streetlights at the school driveways | Feasibility Study (Streetlights) | Near-Term | Cost estimates should be developed as part of the feasibility study. |
| **Odyssey Charter School** | | | | | |
| ODY-1 | Crosswalks on School Property | Re-stripe crosswalks as high-visibility crosswalks and add ADA compliant pedestrian ramps. | Crossing | Near-Term | $10,000 to $15,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| ODY-2 | Proposed New Staff Parking Lot Driveway on Raleigh Road | Add new pedestrian gate and 5 foot to 6 foot sidewalk to the school entrance. | Sidewalk | Near-Term | $45,000 to $50,000 |
| ODY-3 | Northeast Corner of Eldron Boulevard and the School Entrance | Trim hedges in front of the school sign to increase sight distance for vehicles turning onto Eldron Boulevard | Maintenance | Maintenance | Routine Maintenance |
| ODY-4 | Shrine Circle/Adview Road from just West of Gaskins Place to Raleigh Road | Build a 5 foot to 6 foot wide sidewalk on the south/east side. | Sidewalk | Long-Term | $160,000 to $190,000 |
| ODY-5 | Walden Boulevard from Adview Road to Emerson Drive | Build a 5 foot to 6 foot wide sidewalk on the south side. | Sidewalk | Long-Term | $55,000 to $65,000 |
| ODY-6 | Eldron Boulevard from Raleigh Road to Ruffin Circle | Build a 5 foot to 6 foot wide sidewalk on the west side. | Sidewalk | Long-Term | $185,000 to $215,000 |
| ODY-7 | Cogan Drive/Eldron Boulevard from Stonebriar Drive to Raleigh Road | Widen existing sidewalk to 10 foot to 12 foot shared use path on the east side. | Sidewalk | Long-Term | $730,000 to $850,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| ODY-8 | Eldron Boulevard and Bayside Lakes Boulevard Intersection | Install high visibility crosswalks and upgrade pedestrian ramps to make them ADA compliant. | Crossing | Near-Term | $15,000 to $20,000 |
| ODY-9 | Eldron Boulevard and Raleigh Road Intersection | Conduct an operational/warrant study to review changing the two-way stop control to an all way stop control or signal/roundabout. | Feasibility Study (Intersection Control) | Near-Term | Further Study Required |
| ODY-10 | Raleigh Road from Eldron Boulevard to Kansas Road | Install 'No Parking' signs on both sides of the roadway and increase enforcement. | Sign/Signal | Near-Term | $15,000 to $20,000 |
| ODY-11 | Abello Road from Hammock Road to Elmhurst Circle | Build a 5 foot to 6 foot wide sidewalk on south/east side of Abello Road the road. | Sidewalk | Long-Term | $275,000 to $320,000 |
| ODY-12 | Elmhurst Circle from Abello Road to Hammock Road | Build a 5 foot to 6 foot wide sidewalk on north/west side of Abello Road the road. | Sidewalk | Long-Term | $85,000 to $100,000 |
| ODY-13 | Birtle Lane/Operetta Avenue/Sauders Road from Eldron Boulevard to Eldron Boulevard | Build a 5 foot to 6 foot wide sidewalk on one side of the road. | Sidewalk | Long-Term | $240,000 to $280,000 |

| No. | Location | Recommendation | Type | Time-Frame | Cost Estimate |
|---|---|---|---|---|---|
| ODY-14 | Eldron Boulevard from just North of Bayside Lakes Shopping Center to just North of Raleigh Road | Adjust school zone speed limit to 15 MPH per guidance in the FDOT Speed Zoning Manual. | Sign/Signal | Near-Term | Further Study Required |
| ODY-15 | Eldron Boulevard from just North of Bayside Lakes Shopping Center to Abello Road | Add traffic calming devices such as speed humps, raised crosswalks, street trees, etc. | Traffic Calming | Near-Term | Further Study Required |

# Appendix B: Safe Routes to School Programs

# Appendix B: Safe Routes to School Programs

This section documents federal, national non-profit, and state-level SRTS programs.

## Federal Programs

Safe Routes to School (SRTS) is a nation-wide movement aimed at increasing the number of children that walk or bike to school. SRTS programs fund planning and implementation of projects, programs, and policies that promote safe bicycle and pedestrian access to schools. The SRTS Program was established in the fall of 2005 as part of SAFETEA-LU legislation, which created funding for the State Departments of Transportation to establish and administer SRTS Programs. The Program was funded at $1.162 billion for Federal fiscal years (FY) 2005-2012. The two types of projects eligible for Federal funding include infrastructure improvements and non-infrastructure programs such as education and enforcement initiatives. In addition to funding these types of projects, money is allocated to the creation of entities responsible for the coordination of these initiatives including a SRTS Coordinator, the National SRTS clearinghouse, and the SRTS task force. Florida has received a total of $58.2 million in funding from the U.S. DOT from FY 2005-2012.

U.S. DOT and FHWA established the National Center for Safe Routes to School (National Center) for bicycle and pedestrian research and tools. The National Center works closely with the Bicycle and pedestrian Information Center (PBIC) for research efforts, including the creation of a national guidance for establishing an SRTS programs.

The SRTS guide outlines the following eight steps to establish a successful program:

1. Bringing together stakeholders to discuss their concerns, interests, and the opportunities regarding SRTS in their communities.
2. Holding a kick-off meeting with stakeholders to establish a vision and action items for an SRTS program.
3. Collecting data to identify existing conditions and to establish a benchmark to track future progress.
4. Brainstorming solutions to existing issues with various stakeholders, including immediate short-term solutions to garner momentum and enthusiasm for the program.
5. Planning the program by establishing a timeline for implementation, and by creating strategies to refine the program over time.
6. Identifying funding sources to sustain the SRTS program.
    - Federal funding sources can include latest surface transportation spending authorization bills such as the FAST Act, EPA grants, Congestion Mitigation and Air Quality, Trail Program Funding, and other similar sources with dedicated funds for active transportation improvements.
    - State-led SRTS programs.

- Local jurisdiction funding for improvements to bicycle and pedestrian facilities.
- Private funds through sources such as developers, non-profits, and philanthropies.

7. Hosting regular events that showcase the SRTS program.
    - Programs such as International Walk to School Day or Walking Wednesday are a great way to showcase the SRTS program.
8. Evaluating the results of the SRTS program will highlight what areas of the program are working well and which need to be improved. Strategies that will ensure the long-term success of the Program include the following:
    - Identifying program champion(s).
    - Publicizing all the successes of the program and creating strong marketing campaigns to increase awareness about the program.
    - Encouraging broader policy changes that support children walking and bicycling to school.
    - Establishing a permanent committee to oversee the SRTS Program.

In 2012, the SRTS program was integrated with other bicycle and pedestrian initiatives into a new program called the Transportation Alternatives Plan (TAP). The transportation law behind this consolidation was known as MAP-21. This consolidation of programs resulted in no dedicated funding for the SRTS program. Each state is left to fund SRTS projects at their discretion. Although, there is no dedicated funding as part of MAP-21 for SRTS program, TAP funds can be used to implement typical SRTS type projects such as sidewalks, crosswalks, bike lanes, trail infrastructure, and SRTS programming across the country. In 2015, US Congress passed the FAST Act, making modifications to TAP which included securing five years of funding for typical SRTS type projects. The latest appropriations include $835 million available for the TAP in 2016. For Florida, TAP funding in FY 2016 was approximately $51 million. TAP projects require a 20 percent match from local project sponsors.

## National and Non-Profit Initiatives


The National Center is a leading agency for SRTS research and development in the United States. Using research-based evidence and professional development tools, training, and technical support, the National Center assists communities in creating a better environment for pedestrians and bicyclists. Initiatives undertaken by the National Center include the SRTS Program, Walk to School Day, Bike

to School day, and Vision Zero for Youth. The Center developed a centralized database and reporting system in 2006 to evaluate the impact on communities because of the Federal SRTS Program. Through data processing services offered to schools around the country from 2007-2016, the National Center created a standardized way of evaluating and benchmarking SRTS programs. Based on the research conducted, the National Center reported in 2016 an increase to about 17 percent of all school trips occurring by walking or bicycling between 2007-2008 and 2014.

The non-profit organization SRTS National Partnership (National Partnership) is another nation-wide organization working to advance policies for SRTS and the implementation of programs. The National Partnership's 2016 – 2021 Strategic Plan outlines the long-term goals and strategies. The four focus areas of the Strategic Plan are:

- Improving policies, programs, and infrastructure
- Advancing social equity
- Ensuring sustainability
- Partnering with organizations with the focus on SRTS.

Florida organizations that the National Partnership collaborates with include the Broward County MPO, the Florida Bicycle Association, Florida Traffic and Bicycle Safety Education Program, Green Mobility Network, and Walking School Bus Central Florida. The National Partnership advances not just the goals of SRTS but the goals of improving bicycling and walking around the county.

The National Partnership created best practices for state policies that improve the children's ability to safely walk and bike to school. Some of these best practices for policies are as follows:

- Adopt Complete Streets policies ensuring that local and state entities provide facilities for safely traveling through active modes of transportation and promote physical activity in and around neighborhoods and on school routes.
- Conduct traffic safety training that integrates SRTS principles into school curricula and promotes skills training for students.
- Strictly enforce traffic laws and develop mechanisms to garner funds through 'double-fine' zones or additional fees for running red lights in and around school zones to fund SRTS programs.
- Share school, community, and recreational facilities between the school districts and the communities to address childhood obesity and physical inactivity.
- Encourage legislation to create more funding for SRTS programs and policies.
- Encourage other state-wide and local plans to incorporate SRTS principles in goals, objectives, and strategies to address safety needs, including language to support funding for walking and bicycling improvements.

## State-Level


FDOT administers the SRTS Program in Florida. The Florida SRTS program's mission is to enable and encourage children in grades kindergarten through high school, including those with disabilities, to walk and bike to school. The Florida SRTS program focuses on making walking and biking to school safer and more appealing, as well as to facilitate the planning, development, and implementation of projects that will improve safety and reduce traffic, fuel consumption, and improve air quality in the vicinity of schools.

FDOT has developed a list of basic steps to follow when starting a local SRTS Program:

- Bringing together the right people that want to make walking and bicycling to school a realistic and safe alternative, including faculty, staff, parents, community leaders, and others that are also stakeholders in local SRTS programs.
- Gathering representatives from the "Five E's" (emphasis areas):
  - **Engineering –** creating safe infrastructure around schools that reduce vehicular speeds and potential conflicts between motorists, pedestrians, and bicyclists are performed by a local county or city engineer.
  - **Education –** teachers are champions for children and can teach about the broad range of transportation choices, lifelong importance of bicycle and walking, and overall safety skills.
  - **Encouragement –** PTA and school staff can plan and host events that promote walking and bicycling.
  - **Enforcement –** partnering with local law enforcement is important to ensure that traffic laws are obeyed around schools and initiating community enforcement like crossing guard programs.
  - **Evaluation –** a designated person or group of people should monitor and document outcomes and trends of the SRTS program to continually make improvements.
- Holding a kick-off meeting to explain the SRTS program, establish vision, goals, and objectives as well as bring overall awareness to community members about the program.
- Identifying specific solutions to the problems uncovered during the information gathering and data collection process.

- Creating a student travel survey/plan that answers the questions of where students currently walk and bike, where students would walk and bike if they could, and what changes need to be made. This plan can identify short-term solutions for immediate implementation and longer-term solutions that require additional planning.
- Regularly evaluating the program's success regularly will highlight the effectiveness of each strategy created for the program and indicate those that need modification to improve the program.

Another foremost resource available to help establish SRTS programs is the Florida SRTS Toolkit developed by the SRTS Program Initiative at the University of Florida. The toolkit includes the following components to establish an SRTS Program:

- Establish a School Traffic Safety Task Force.
- Include a bicycle and pedestrian safety component in the School Improvement Plan which includes identified safe routes, the roles and responsibilities of a safety committee, and an outline of a safety education curriculum.
- Survey all the students in the school at the start of a project or SRTS program to understand the various transportation modes students use to go to and from schools.
- Survey the built environment around the school to assess the condition of traffic, drop-off locations, sidewalks, crossings, and the overall safety of the existing routes from students' homes to schools.
- Survey the parents to understand their attitudes toward SRTS programs and their concerns for allowing their child or children to walk or bike to school.
- Draft a list of planned infrastructure and non-infrastructure improvements to present to the appropriate government entity for consideration of funding from various sources.
- Host a bicycle and pedestrian safety-focused workshop for all faculty and staff at schools, including crossing guards and other employees involved with the safety of children traveling to and from school.
- Host activities and events such as safety lessons for children, the Walking School Bus Program, and events like Walk to School Day as part of the SRTS program.

Regular surveying of students, parents, faculty, and staff is important to understand the successes and shortfalls of a SRTS program and to continually enhance the program. At the state level, Florida SRTS programs are funded and managed through the FDOT on a cost-reimbursement basis. All applications to fund the SRTS programs in the state are submitted to the FDOT District SRTS Coordinators. Projects are awarded through a competitive process at the local FDOT level. Applications must meet federal and state SRTS guidelines and are chosen based on cost-effectiveness. FDOT specifies that no more than five projects can be submitted at once from a single applicant during the 'Call for Applications' period. The program guidelines as listed

by FDOT provide further funding specifications, such as that the applicants will need to partner with Local Area Program (LAP) certified maintaining agencies (government agencies that enter into a legal agreement with FDOT), applicants must design and/or construct the project meeting all federal requirements, applicants must provide the initial funding for the project before it is reimbursed, and also maintain the completed infrastructure project. The common types of projects eligible for funding under both the Federal and Florida guidelines include:

- New sidewalks
- Sidewalk widenings
- Short pedestrian bridges
- Bike lanes
- Shared use paths
- Bike parking - racks/shelters/lockers on school campuses
- Crosswalks
- Traffic signs and signals
- Pedestrian Hybrid Beacon (PHB) or High-intensity activated crosswalk beacon (HAWK) signals

## SCTPO Bicycle & Pedestrian Education & Safety Program

The SCTPO is committed to bicycle and pedestrian education. The primary goal of these programs is to improve safety and reduce transportation-related injuries and deaths by educating bicyclists, pedestrians, and motorists on state traffic laws and the safe use of transportation infrastructure.

Some of the education programs offered by the SCTPO include:

- Bicycle Rodeos
- Safety Fairs and Exhibits
- Bicycle helmet program in partnership with the Florida Pedestrian and Bicycling Safety Resource Center
- Elementary School Programs – including the coordination of “boring” bicycle trailers for bike safety workshops with students
- National Walk to School Day – held the first Wednesday of October
- National Bike to School Day – held the first Wednesday of May
- Walking School Bus Program

# Appendix C: Implementation and Funding Sources

# Appendix C: Implementation and Funding Sources

This section provides an overview of existing funding sources that are regularly used to implement bicycle and pedestrian facilities, programs, and policies. The section is organized by categorizing programs based on its jurisdictional scale and scope – Federal, State, and Local. The programs outlined in this section are not meant to be an exhaustive list, but to provide a comprehensive understanding of potential resources and partners in the development of bicycling and pedestrian facilities. Many of the programs listed may or may not continue in the future depending on allocation of funds in federal, state, and local budgets. Hence, this list may require future updates depending on changes in legislation and respective budgets. Many programs listed are not exclusively targeted for funding and implementing bicycle and pedestrian facilities, but surface transportation in general. However, various types of bicycle and pedestrian facilities are eligible for funding under the listed funding sources. For some programs, standalone bicycle and pedestrian projects may not be competitive, unless part of larger infrastructure projects.

## Federal Programs

### U.S. Department of Transportation (U.S. DOT)

This section lists potential eligibility for pedestrian and bicycle projects under U.S. DOT surface transportation funding programs. Section 1404 of the Fixing America's Surface Transportation (FAST) Act to require federally-funded projects on the National Highway System to consider access for other modes of transportation and provides greater design flexibility to do so.

#### *Better Utilizing Investments to Leverage Development (BUILD) Grants*

The BUILD Transportation Discretionary Grant program provides funding opportunities to invest in road, rail, transit, and port projects. Previously known as Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grants, Congress has dedicated nearly $7.1 billion for ten rounds of National Infrastructure Investments to fund projects that have a significant local or regional impact. The eligibility requirements of BUILD allow project sponsors at the State and local levels to obtain funding for multi-modal, multi-jurisdictional projects that are more difficult to support through traditional U.S. DOT programs. BUILD can provide capital funding directly to any public entity, including municipalities, counties, port authorities, tribal governments, MPOs, or others in contrast to traditional Federal programs which provide funding to very specific groups of applicants (mostly State DOTs and transit agencies). The Consolidated Appropriations Act of 2019 made available $900 million for the BUILD grants.

For more information, visit the BUILD website at https://www.transportation.gov/BUILDgrants.

### *Infrastructure For Rebuilding America (INFRA) Grants*

The INFRA Grants program provides dedicated, discretionary funding for projects. INFRA advances a grant program established in the Fixing America's Surface Transportation (FAST) Act of 2015 and utilizes updated criteria to align projects with national and regional economic vitality goals and to leverage additional non-federal funding. The program will increase the impact of projects by leveraging federal grant funding and incentivizing project sponsors to pursue innovative strategies, including public-private partnerships. The INFRA grant program preserves the statutory requirement in the FAST Act to award at least 25 percent of funding for rural projects. In addition to providing direct federal funding, the INFRA program aims to increase the total investment by state, local, and private partners. INFRA grants may be used to fund a variety of components of an infrastructure project, however, the program is specifically focused on projects in which the local sponsor is significantly invested and is positioned to proceed rapidly to construction. In FY 2018, INFRA grants in the amount of nearly $1.5 billion were awarded to 26 projects. The INFRA program will make approximately $855-902.5 million available to projects in FY 2019.

For more information, visit the INFRA website at
https://www.transportation.gov/buildamerica/infragrants.

### *Transportation Infrastructure Finance and Innovation Act (TIFIA) Program*

The TIFIA program provides credit assistance for qualified projects of regional and national significance. Many large-scale, surface transportation projects – highway, transit, railroad, intermodal freight, and port access – are eligible for assistance. Eligible applicants include state and local governments, transit agencies, railroad companies, special authorities, special districts, and private entities. The TIFIA credit program is designed to fill market gaps and leverage substantial private co-investment by providing supplemental and subordinate capital.

For more information, visit the TIFIA website at
https://www.transportation.gov/buildamerica/programs-services/tifia/overview.

### *Federal Transit Administration (FTA) Programs*

Multiple FTA grant programs are able to help cities, towns, and rural areas invest in bicycle and pedestrian infrastructure as part of transit projects. Some of these programs are listed below:

- Metropolitan & Statewide and Nonmetropolitan Transportation Planning
- Urbanized Area Formula Program
- Bus and Bus Facilities Formula Grants
- Enhanced Mobility of Seniors and Individuals with Disabilities
- Formula Grants for Rural Areas

For more information, visit the FTA website at

https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/livable-sustainable-communities/fta-program-bicycle.

### *Congestion Mitigation and Air Quality Improvement (CMAQ) Program*

The CMAQ program was established under the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. The CMAQ program was implemented to support surface transportation projects and other related efforts that contribute air quality improvements and provide congestion relief. Administered by FHWA, the program has been reauthorized under every successive Transportation Bill up to and including the FAST Act in 2015. Through the close of the Moving Ahead for Progress in the 21st Century (MAP-21) period in 2015, the CMAQ program has provided more than $30 billion to fund over 30,000 transportation related environmental projects for State DOTs, MPOs, and other sponsors throughout the country. The FAST Act provides $2.3 to $2.5 billion in CMAQ funding for each year of the authorization, from 2016 through 2020.

For more information, visit the CMAQ website at
https://www.fhwa.dot.gov/environment/air_quality/cmaq/.

### *Surface Transportation Block Grant Program (STBG)*

The STBG provides flexible funding that may be used by States and localities for transportation projects. Funding can be used to preserve or improve performance on any Federal-aid highway, bridge, and tunnel projects on any public road. Pedestrian and bicycle infrastructure as well as transit capital projects, including intercity bus terminals, are also eligible for this grant program. Estimated funding for FY 2020 under STBG is little over $12 billion. For more information, visit the STBG website at https://www.fhwa.dot.gov/specialfunding/stp/.

### *Transportation Alternatives (TA)*

The FAST Act replaced the former Transportation Alternatives Program (TAP) with a set-aside of funds under the STBG. The TA Set-Aside authorizes funding for following programs and projects defined as transportation alternatives:

- On- and off-road pedestrian and bicycle facilities
- Infrastructure projects for improving non-driver access to public transportation and enhanced mobility
- Community improvement activities such as historic preservation and vegetation management

- Environmental mitigation related to stormwater and habitat connectivity
- Recreational trail projects
- Safe routes to school projects
- Projects for planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former divided highways

Estimated funding for FY 2020 for TA Set-Aside is little over $850 million. For more information, visit the TA website at https://www.fhwa.dot.gov/environment/transportation_alternatives/.

### *Federal Recreational Trails Program (RTP)*

The Recreational Trails Program (RTP) provides funds to the States to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. The RTP is an assistance program of the FHWA. Federal transportation funds benefiting recreation such as hiking, bicycling, in-line skating, equestrian use, cross-country skiing, snowmobiling, off-road motorcycling, all-terrain vehicle riding, four-wheel driving, or using other off-road motorized vehicles. The FAST Act reauthorized the RTP for Federal fiscal years 2016 through 2020 as a set-aside of funds from TA Set-Aside under STBG. Overall, at the federal level, over $82 million were apportioned in FY 2018. The amount set aside is equal to each the state's RTP apportionment.

For more information, visit the RTP website at https://www.fhwa.dot.gov/environment/recreational_trails/.

## State and Local Funding Programs

### Florida RTP

FDEP administers the state's RTP. Through Florida's RTP, FDEP matches and distributes federally funded competitive grants. These grants provide financial assistance to agencies of city, county, state, and other approved organizations for the development of recreational trails, trailheads, and trailside facilities. The program has been shifted from the OGT to FDEP's Land and Recreation Grants Section within the Division of State Lands. The FDEP administers the program in coordination with the U.S. DOT and the FHWA.

RTP grants require a minimum 20 percent local match. Maximum grant amount varies from $400,000 to $1 million depending on type of project.

For more information, visit the RTP website at https://floridadep.gov/lands/land-and-recreation-grants/content/rtp-assistance.

## Florida Community Trust (FCT) – Florida Forever Grant Program

FCT is a governmental land acquisition program administered by FDEP. FCT awards grants annually on a competitive basis to local governments and non-profit environmental organizations for community-based parks, open space, and greenways. FCT assists communities in protecting important natural resources, providing recreational opportunities, and preserving Florida's traditional working waterfronts. Florida Forever is FCT's premier conservation and recreation lands acquisition program. This local land acquisition grant program provides funding to local governments and eligible nonprofit organizations to acquire land for parks, open space, and greenways. As of 2018, more than 776,888 acres of land has been purchased with a little over $3 billion through the Florida Forever Grant Program.

For more information, visit the FCT website at https://floridadep.gov/lands/land-and-recreation-grants/content/fct-florida-communities-trust-home.

## PeopleForBikes Community Grant Program

The PeopleForBikes Community Grant Program provides funding for important projects that build momentum for bicycling in communities across the country. These projects include bike paths and rail trails, as well as mountain bike trails, bike parks, BMX facilities, and large-scale bicycle advocacy initiatives. Since 1999, this program has awarded 425 grants to non-profit organizations and local governments in all 50 states, the District of Columbia, and Puerto Rico.

The total grant amount has exceeded $3.5 million and has leveraged nearly $775 million in public and private funding.

For more information, visit the PeopleForBikes website at https://peopleforbikes.org/our-work/community-grants/.

## VISIT FLORIDA Grants

VISIT FLORIDA is the state's official tourism marketing corporation created in 1996. VISIT FLORIDA is not a government agency, but rather a nonprofit corporation that carries out the work of the Florida Commission on Tourism, which was created as a public-private partnership by the Florida Legislature in 1996. VISIT FLORIDA administers an advertising matching grants program to publicize the tourism advantages of the State of Florida. This

program is administered on behalf of the Florida Commission on Tourism, in cooperation with the Governor's Office of Tourism, Trade, and Economic Development. Notices of the grants program are sent out by the second Friday in March. Applicants may not receive an award in excess of $2,500. The total annual allocation for this program shall not to exceed $40,000.

For more information, visit the VISIT FLORIDA website at
https://www.visitflorida.org/resources/grants/advertising-matching-grant-program/

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