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# #GPC V-12: Safe Routes to School 2013 Infrastructure Plans

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# INTRODUCTION

The primary objective of the Safe Routes to School (SRTS) program is to encourage children, especially in grades K-8, to walk and cycle to school by making walking and cycling to school safer and more appealing. There are numerous benefits of the SRTS programs including reducing traffic congestion near schools, reducing childhood obesity and inactivity, and improving safety, mobility options and providing opportunities for healthy lifestyles for the communities in general.

The Miami-Dade County Metropolitan Planning Organization (MPO) initiated the *Safe Routes to School 2013 Infrastructure Plans* study with the following objectives:

- Continue the Miami-Dade County's SRTS program that was started in the early 2000s by developing SRTS infrastructure improvement plans for another 10 priority schools.
- Prepare the Florida Department of Transportation's (FDOT) Infrastructure Funding Application for the selected schools.
- Update the quantitative method developed in 2011 for prioritizing elementary and K-8 school for future SRTS infrastructure improvements.

## SRTS Program in Miami-Dade County

Miami-Dade County has been at the forefront of implementing SRTS programs since the early 2000s. The Miami-Dade County Public Schools (MDCPS), in coordination with the Miami-Dade County Public Works and Waste Management Department (PWWMD) and the Miami-Dade MPO so far have developed SRTS infrastructure improvement plans for approximately 75 schools. These 75 plans are at various stages of implementation (see Figure ES1). The infrastructure improvements are supplemented by the efforts of the University of Miami's WalkSafe™ program and MDCPS that focus on student education and encouragement on the benefits of walking and biking to school.

There are approximately 220 public elementary schools in Miami-Dade County. Every year, the MDCPS develops SRTS plans and seeks funding for about 10 schools. The focus of the Safe Routes to School 2013 Infrastructure Plans study is to develop SRTS infrastructure plans for 10 priority schools.

**Disclaimer**

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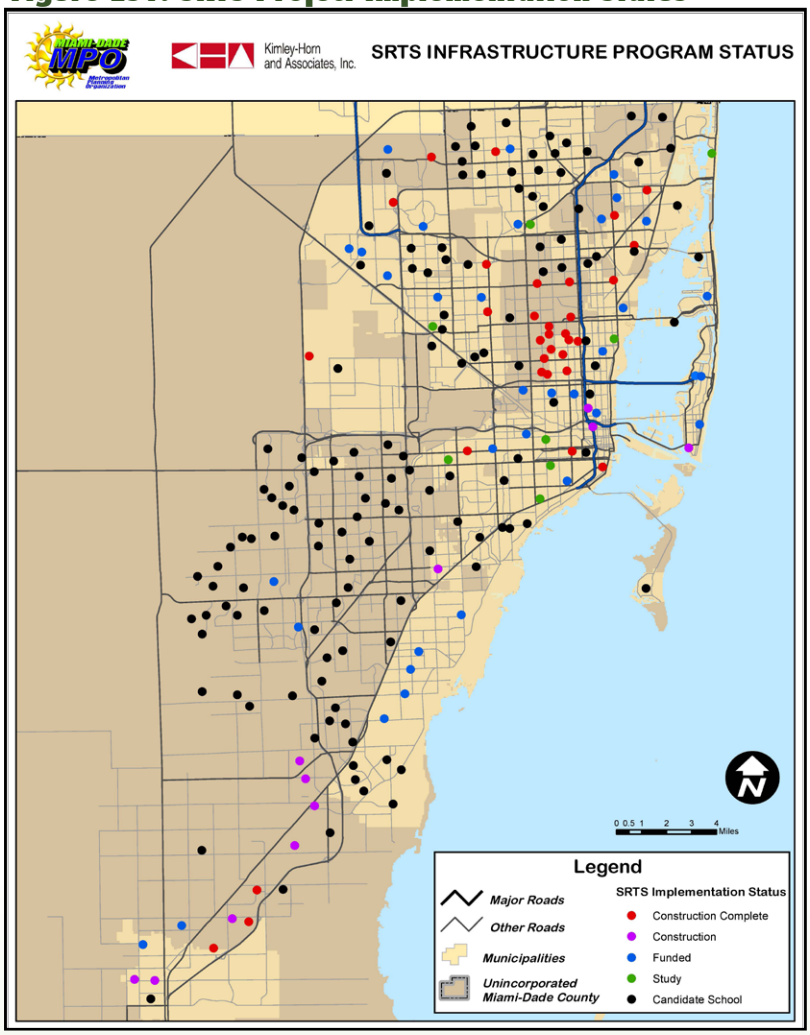
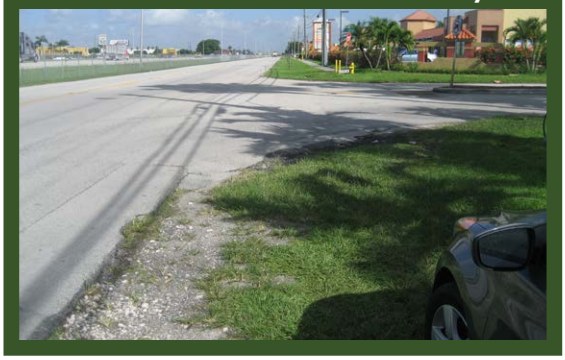
**Figure ES1: SRTS Project Implementation Status**




The following two photographs illustrate examples of infrastructure deficiencies identified along the proposed safe routes.

**Unpaved sidewalk along a potential pedestrian route to Hialeah Gardens Elementary**



**Location of proposed crosswalk on NW 141 Street near Nathan B. Young Elementary**

**Table ES1: Selected Schools for SRTS Improvements**

| School | Address | Municipality |
|---|---|---|
| Silver Bluff Elementary | 2609 SW 25 Avenue | Miami |
| Citrus Grove Elementary | 2121 NW 5 Street | Miami |
| Sunny Isles Beach K-8 Community School | 201 182 Drive | Sunny Isles Beach |
| Morningside Elementary | 6620 NE 5 Avenue | Miami |
| Shenandoah Elementary | 1023 SW 21 Avenue | Miami |
| Fairlawn Elementary | 444 SW 60 Avenue | Miami |
| James H. Bright Elementary | 2530 W 10 Avenue | Hialeah |
| Kinloch Park Elementary and Middle Schools | 4275 NW 1 Street | Miami |
| Hialeah Gardens Elementary | 9702 NW 130 Street | Hialeah Gardens |
| Nathan B. Young Elementary | 14120 NW 24 Avenue | Opa-Locka |

## SRTS RECOMMENDATIONS

The primary focus area for SRTS improvements is the street network within 0.5 miles of a school. While SRTS funding guidelines allow improvements within two miles of a school, improvements closer to a school generally have a greater benefit than improvements further away from a school. However, the study area was extended beyond 0.5 miles as needed.

The SRTS improvements were developed based on the guidelines developed by the Miami-Dade MPO, FDOT, and National Center for SRTS. The pedestrian and bicycle crash data, roadway and traffic characteristics, traffic control devices, and land uses were also considered to identify potential safe routes. Factors considered when identifying safe routes included:

- Route directness
- Potential student population served
- Input provided by school staff and parents
- Crash history
- Traffic volume, number of lanes, and speed limit
- Roadway surrounding and potential risk elements
- Existing traffic control devices and enforcement measures
- Right-of-way availability
- Implementation feasibility and cost

Common SRTS recommendations include sidewalks, crosswalks, school crossing signs, and pedestrian signal features at signalized crossings. Since SRTS is a federal grant program, recommendations were made for new or upgraded Americans with Disabilities Act (ADA) facilities for pedestrians within proposed safe routes. Existing signs and pavement markings that do not meet the current Manual on Uniform Traffic Control Devices (MUTCD) standards were recommended for replacement. Maintenance issues such as overgrown landscaping that reduces visibility of signs and signals, and damaged signs were also identified for notification to the appropriate agencies. Miami-Dade County's PWWMD staff reviewed cost estimates, since the County is typically responsible for implementation of SRTS improvements.

*For illustrative purposes a SRTS map and summary of recommendations for Nathan B Young Elementary School are included on page ES 4.*

| School | **Nathan B. Young Elementary** |
|---|---|
| Address | 14120 NW 24 Avenue, Opa-Locka, FL 33054 |
| Enrollment | 317 |
| Estimated students living within 0.5 miles | 126 |
| Estimated percent of students walking/biking | 75% |
| Recommendations | Speed humps, countdown pedestrian signals, sidewalks, crosswalks, signage, and ADA improvements |
| Cost | $82,000 |

**Safe Routes to School Map**

# SRTS GRANT APPLICATIONS

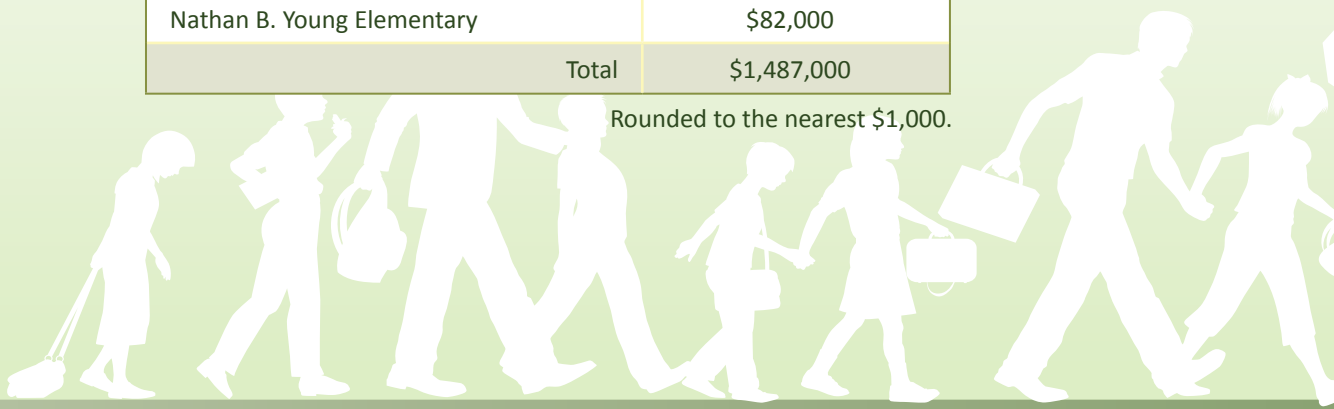
The SRTS program under MAP-21 is eligible for Transportation Alternative Program (TAP) funding. TAP funds are administered by the FDOT at district level. The application guidelines for SRTS projects under MAP 21 are identical to the FDOT guidelines established when projects were funded through a dedicated funding source under SAFETEA-LU.

Ten grant applications were submitted to the FDOT District Six requesting funding for the proposed SRTS infrastructure improvements. The total funding request of the 10 applications is approximately $1.5 million. A summary of the funding request is provided in Table ES2. The grant applications also identified education, encouragement, and enforcement strategies, which could complement engineering improvements, to implement a comprehensive SRTS program. Miami-Dade County is the implementation agency for these SRTS projects.

**Table ES2: Summary of SRTS Grant Request**

| School | Funding Request |
|---|---|
| Silver Bluff Elementary | $103,000 |
| Citrus Grove Elementary | $169,000 |
| Sunny Isles Beach K-8 Community School | $57,000 |
| Morningside Elementary | $138,000 |
| Shenandoah Elementary | $207,000 |
| Fairlawn Elementary | $177,000 |
| James H. Bright Elementary | $204,000 |
| Kinloch Park Elementary and Middle Schools | $175,000 |
| Hialeah Gardens Elementary | $166,000 |
| Nathan B. Young Elementary | $82,000 |
| Total | $1,487,000 |

Rounded to the nearest $1,000.



# PRIORITIZATION CRITERIA

During the Safe Routes to School Plans 2011 study, a quantitative method was developed for prioritizing elementary and K-8 schools for SRTS infrastructure improvements. A quantitative prioritization was introduced to remove the subjectivity and streamline the process of identifying schools with the greatest need for SRTS infrastructure improvements. The update of prioritization criteria consisted of the replacement of 'automobile ownership' within the school's attendance boundary with 'percentage of students eligible for free or reduced lunch.' The 'automobile ownership' data are available at Traffic Analysis Zone (TAZ) levels, whereas the 'percentage of students eligible for free or reduced lunch' data are available from MDCPS for each school. Therefore, 'percentage of students eligible for free or reduced lunch' was deemed a more school-specific and a potentially stronger indicator of income levels of parents that may contribute to the determination of student's travel mode to and from the school.

Table ES3 lists the updated prioritization factors.

**Table ES3: Prioritization Factors**

| Factor | Notes |
|---|---|
| Percent of students living within 0.5 miles | The proximity of student's residence to school is likely to impact the propensity to walk to school. Therefore, schools with a high proportion of students living within a 0.5-mile radius could gain greater benefits through SRTS infrastructure improvements. The percent of students living within 0.5 miles was estimated based on the information provided by MDCPS using its GIS resources. |
| Bicycle and pedestrian crashes | A high number of pedestrian and bicycle crashes may represent unsafe conditions and inadequate infrastructure. Crash data were obtained for the seven-year period between 2005 and 2011. |
| Juvenile pedestrian crashes | A history of juvenile pedestrian crashes may be an indicator of safety challenges experience by student pedestrians and could also be a potential factor in the parents' decision making on student's travel mode to school. Crash data were obtained for the seven-year period between 2005 and 2011. |
| Percent of students walking to school | SRTS improvements targeting schools with a high percentage of student pedestrians could encourage more students to walk to school and remove barriers that cause students to walk in less than ideal conditions. This information is collected by WalkSafe annually through surveys. |
| Traffic volume on the nearest major road | The presence of a nearby major street is likely to present a barrier for safe walking to school. Traffic data were obtained from the FDOT and Miami-Dade County. |
| Percent of students eligible for free or reduced lunch | Eligibility for free/reduced lunch program is considered to be a surrogate variable of income and hence a determining factor of student's travel model to school. This information was obtained from MDCPS. |

Similar to the 2011 study prioritization, 'percent of students walking to school' was assumed to be the most influential factor and was weighted by a factor of two. The other factors were unadjusted.

## Prioritization Results

The prioritization method was applied to 132 elementary and K-8 public schools. Based on the rankings, the schools were grouped into quartiles and mapped to visualize potential spatial distribution patterns (see Figure ES2). In general, the majority of first quartile schools (ranked 1-33) are located in the east and northeast portions of Miami-Dade County within the cities of Miami, North Miami and Miami Gardens. Several first quartile schools are located in the vicinity of the I-95 corridor. The second, third, and fourth quartiles include more sub-urban area schools (i.e., northwest, west and southwest areas).

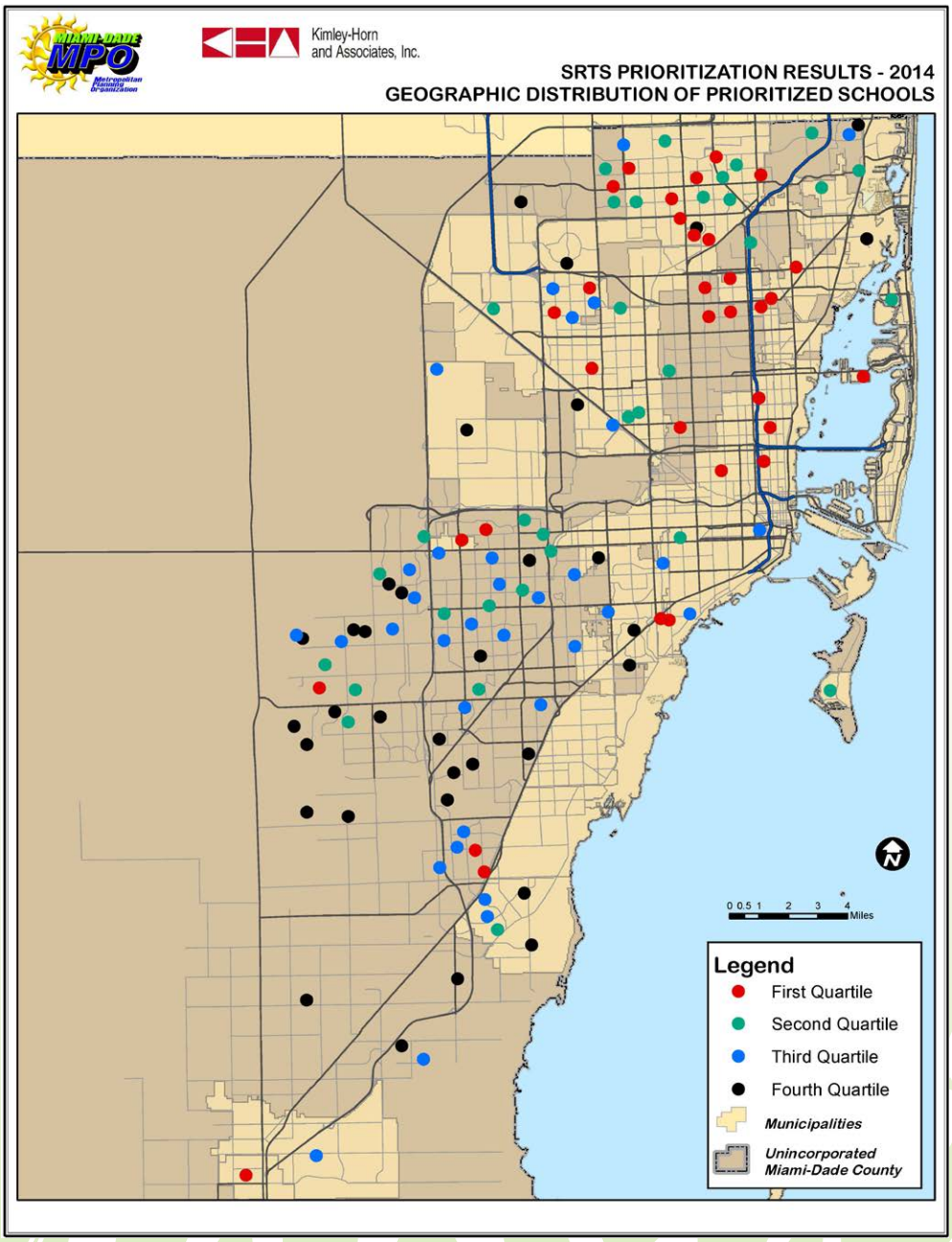



**Figure ES2: Prioritized Candidate Schools**