SAFE ROUTES TO SCHOOL PROGRAM

EXECUTIVE SUMMARY

Prepared for

Prepared by

Reynolds, Smith and Hills, Inc.

6161 Blue Lagoon Drive, Suite 200

Miami, Florida 33126

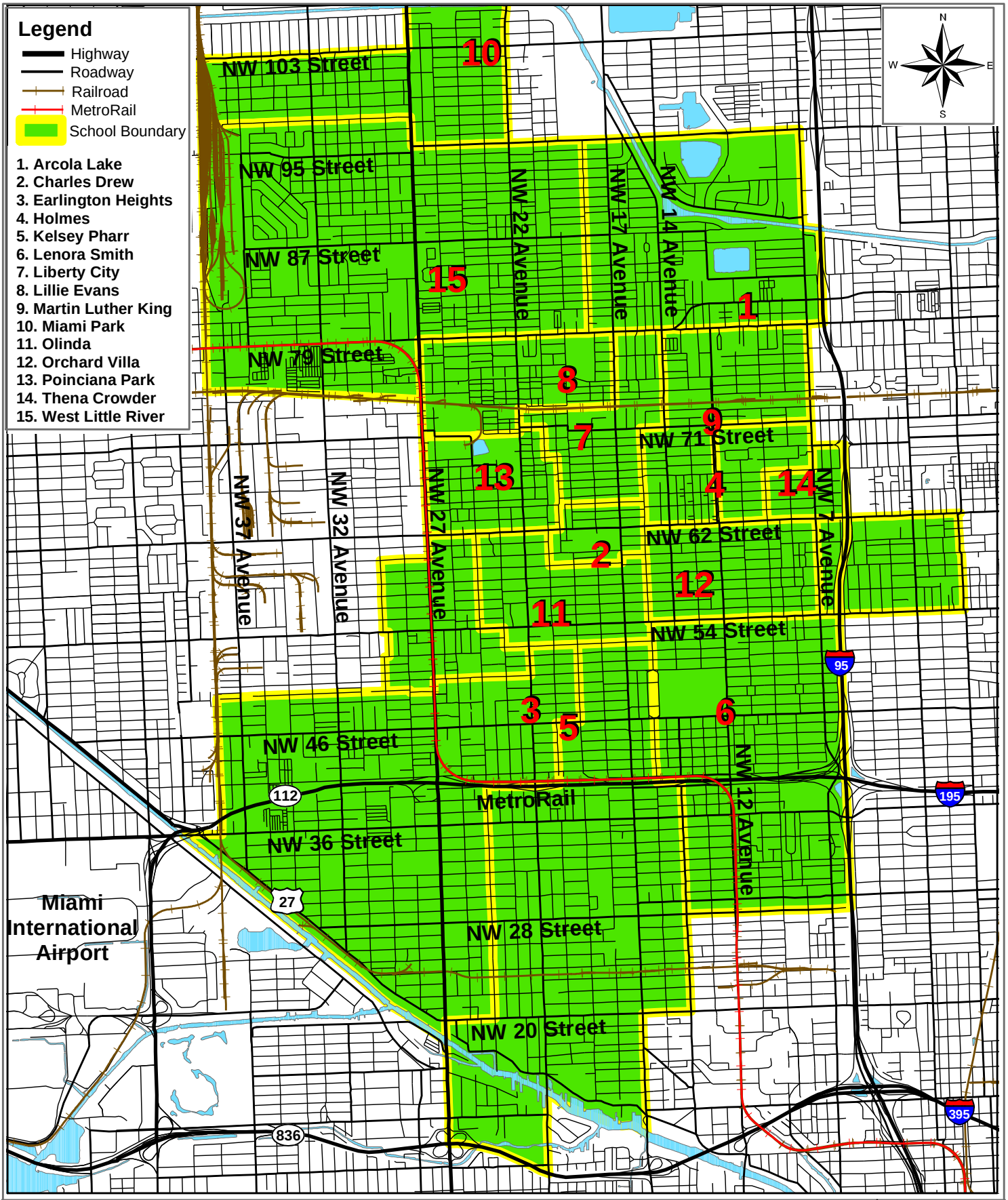
September 2005

This report documents the findings of a study to develop a procedure for establishing safe routes to school (SR2S) for elementary schools in Miami-Dade County. This study, that was commissioned by the Miami-Dade County Metropolitan Planning Organization (MPO), focuses on the engineering aspects of the safe routes to school program. The study involved developing SR2S for a pilot project consisting of 15 elementary schools in Miami-Dade County. The 15 schools selected for the pilot project are all located within the Liberty City area of Miami-Dade County. Figure 1 shows a listing of the schools and their location. These schools were selected for the pilot project based on the relatively high juvenile bicycle/pedestrian crash rates in the Liberty City area, as revealed from historical police crash records.

Study Advisory Committee

A study advisory committee (SAC) was established to aid in coordinating activities and gathering information from the various agencies that would be involved in developing a successful SR2S program. The SAC consisted of representatives from the following organizations:

- Miami-Dade County Public Schools, Department of Transportation
- Miami-Dade County Public Schools, Facilities
- Miami-Dade County Public Schools, Police Department
- Miami-Dade County, Public Works Department
- Miami-Dade County, Police Department
- City of Miami, Police Department
- City of Miami, Public Works Department
- Florida Department of Transportation, Traffic Operations
- Parents Teachers Association, President for each of the 15 pilot schools
- Metropolitan Planning Organization (MPO), Project Manager
- Reynolds Smith and Hills, Inc., Consultant Project Manager



Safe School Routes Project
School and School Zone Locations

Figure 1

Literature Review

A first step in the study was to conduct a research of SR2S programs. An extensive literature review was conducted to identify relevant issues, recommended practices and procedures for establishing SR2S programs. The literature review also involved case studies of successful SR2S programs both nationally and internationally. Important reference sources that were identified through the research included the following:

- Safe Routes to School, US Department of Transportation, National Highway Traffic Administration, 2002.
- School Trip Safety Program Guidelines, Institute of Transportation Engineers, 1984.
- Safe Ways to School (Toolkit), Florida Traffic and Bicycle Safety Education Program, University of Florida, 1996.
- How to Start Your Own Walk-to-School Bike-to-School Traffic reduction and Safety Program, Walk Boston, Massachusetts Highway Department, 2003.

Notable case studies of successful SR2S programs that were reviewed through the research, included the following:

- Marin County Safe Routes to School, California
- The Bronx Safe Routes to School Program, New York
- Greenest City Safe Routes to School Program, Toronto, Canada
- Sustrans Safe Routes to School, Hampshire, England

Some important findings that were revealed through the research were:

1. The overall goal of most SR2S programs was to improve the safety and health of children by promoting walking and cycling to and from school.

2. An integral component of all SR2S programs was the development of recommended safe routes for children to use when walking/cycling to school. This aspect was the focus of the study that was commissioned by the MPO. It is an on-going process involving the designation of safe routes, development of safe route maps, identification of deficiencies in the routes and developing and implementing improvements to the routes.
3. Successful SR2S programs have demonstrated an increase in walking/cycling to school following the introduction of the programs. Studies in Marin County, California and Green City, Toronto showed an increase of approximately 10% in students walking to school. In Marin County, cycling increased by approximately 5%.
4. The successful SR2S were developed jointly with the participation of local traffic agencies, police departments, school districts and parents.
5. The approaches to SR2S programs involve:
   - Engineering – this approach focuses on creating physical improvements to the infrastructure surrounding the school, reducing speeds and establishing safer crosswalks and pathways.
   - Enforcement - this approach uses local law enforcement and initiatives by private citizens to improve compliance with traffic laws and reduce crime.
   - Education - this approach teaches children important safety skills for walking/cycling and initiates driver safety campaigns.
   - Encouragement – this approach uses events and contests to entice students to walk and cycle to school.

Pilot Project – Data Collection

An extensive data gathering effort was conducted to identify pertinent neighborhood site characteristics for the 15 schools chosen for the pilot project. Data collected for each school included:

- *School Boundaries*: Information on the existing student attendance boundaries for each school – acquired from Miami-Dade Public Schools Attendance Boundary Committee.
- *Existing SR2S*: Existing safe routes maps were supplied by Miami-Dade County, PWD for each school in the pilot project. These maps were generally dated with inaccuracies in much of the data.
- *Traffic Characteristics*: Information on traffic volumes and vehicle classification that was available from the Florida Department of Transportation (FDOT), traffic monitoring stations or from Miami-Dade County's traffic monitoring program
- *Roadway Characteristics*: Information on roadway width (number of lanes), existing sidewalks, bike paths and pedestrian ramps (ADA compliant).
- *Traffic Control Devices*: Information on existing signals, pedestrian crosswalks, school zones, speed limits and traffic signs – acquired through field reviews and records from Miami-Dade County, Public Works Department
- *Crash Data:* Information on pedestrian crashes along neighboring roadways – acquired from police crash records.
- *Land Use*: Information on existing land uses, location of parks, fire stations, police stations and other prominent features within the neighborhood of each school – acquired from the Florida Geographic Data Library (FGDL), Miami-Dade County Information Technology Department and field reviews.

In addition to the above, a parent survey was conducted at each school to assess the proportion of students that walk/bicycle to school, the routes used by these students and factors that influence the parents' choice regarding whether or not their children walk/bicycle to school. A total of 7,138 survey forms were distributed to parents and 1,324 responses were received. The results from the survey indicate that, on average, approximately 1/3 of the student population walk/bicycle to school. Based on the survey, the most significant factors that would positively influence the parents' decision to allowing their children to walk/bicycle to school were:

1. Speed limits were strictly enforced in school speed zones (77% of respondents).
2. School speed zones were marked with flashing signals (77% of respondents).
3. Additional crossing guards were provided at busy intersections (76% of respondents).

Approximately 40% of the parents surveyed indicated that safe routes to school maps would positively influence their decision to let their children walk/cycle to school. Crime was also a significant consideration for several parents – 73% of those surveyed reported that a greater presence of police officers and safety monitors would positively influence their decision to allow their children to walk/bicycle to school.

Pilot Project – Evaluation of Alternative Routes

Alternative routes for walking/bicycling to school were developed for each of the elementary schools included in the Pilot project. The routes were evaluated based on a set of desirable criteria that were established for the project and the information gathered for each school neighborhood. An evaluation matrix was developed for this analysis. The criteria considered in the evaluation of the alternatives routes were as follows:

Major Criteria

- Major arterial crossings
- Vehicular speeds in adjacent travel lanes
- Proximity of adjacent traffic and/or physical barrier protection
- Major obstacles (e.g. railroad tracks and canals)
- Security concerns
- Pedestrian facilities, including ADA compliance
- Sight distance
- Traffic control devices

Other Criteria

- Number of driveways and street crossings
- Proximity of police stations or other prominent government/community building
- Street lighting
- Other criteria specific to the location

The alternative routes were evaluated against each criteria item and preliminary route selections were made based on how favorable the routes measured against the criteria. Greater emphasis was placed on items that were categorized as major criteria. In this pilot project, several potential routes were eliminated from consideration due to considerable security concerns. In other circumstances, recommendations were made to correct deficiencies and enhance the safety of pedestrians/bicyclists using the routes.

Pilot Project – SR2S Maps

Based on the evaluations conducted for the alternative routes, preliminary SR2S maps were prepared for each of the 15 pilot schools. These preliminary SR2S maps were distributed to the schools and members of the Study Advisory Committee for review and comments. The maps were modified, as necessary, based on feedback from the schools and the SAC. Final versions of the SR2S maps were subsequently prepared. Geographic Information Systems (GIS) technology was utilized throughout for the development and production of the maps. The designated safe routes are shown in Attachment A.

Pilot Project – Recommended Route Improvements

Field review was conducted along the designated safe routes for each pilot schools. The purpose of the field reviews was to identify/verify possible deficiencies along the routes. Recommendations were subsequently developed to address the deficiencies along the routes. The recommendations focused on relatively low cost improvements

including: installation of crosswalks, pedestrian signals, sidewalks, traffic signals, signage and removal of visual obstructions. The recommended improvements and cost estimates are shown in Attachment B.

SR2S – Procedure Manual

A procedure manual was developed based on the research conducted for this study and the experience gained from the pilot study for the 15 schools in Liberty City. The procedure manual defines the recommended methodology for developing SR2S in Miami-Dade County. Highlights of the procedure include:

- Establishing a Technical Advisory Committee
- Conducting user surveys
- Data collection and field reviews
- Evaluation of alternative routes
- Development of preliminary safe routes, reviews and final designation
- Production and distribution of SR2S maps
- Periodic reviews of safe routes

Endorsement from BPAC and TPC

The findings and recommendations from this study were endorsed by both the Bicycle/Pedestrian Advisory Committee (BPAC) and the Transportation Planning Council (TPC). Project presentations were made to these MPO committees on the following dates:

- BPAC meeting: April 27, 2005
- TPC meeting: May 9, 2005

Implementation

The intent of this study was to utilized the methodology developed in the procedure manual to establish SR2S for all elementary schools in Miami Dade County. Approximately 206 elementary schools are located within the County (including the 15 pilot schools). Based on the methodology adopted in the procedure manual, it is estimated that the cost of developing SR2S maps for the remaining 191 elementary schools in Miami-Dade County is approximately $2,000,000. Additional revenues would be required for mass production/distribution of the SR2S maps and implementing any necessary improvements to the designated safe routes.

SAFE ROUTES TO SCHOOL PROGRAM

EXECUTIVE SUMMARY

ATTACHMENT A

SR2S MAPS

Prepared for

MIAMI-DADE MPO Metropolitan Planning Organization

Prepared by

RS&H

Reynolds, Smith and Hills, Inc.

6161 Blue Lagoon Drive, Suite 200

Miami, Florida 33126

September 2005

ARCOLA LAKE ELEMENTARY SCHOOL

1037 NW 81 Street, Miami 33150

SAFE ROUTES TO SCHOOL

LEGEND

- School
- Safe Routes
- Streets
- Highways
- Railroad
- Attendance Boundary
- Parks
- Water
- Traffic Signals
- F Fire
- P Police

0 500 1,000 Feet

N

MIAMI-DADE COUNTY

Miami-Dade County Public Schools

MIAMI-DADE MPO Metropolitan Planning Organization

CHARLES R. DREW ELEMENTARY SCHOOL

1775 NW 60 Street, Miami 33142

SAFE ROUTES TO SCHOOL

LEGEND

- School
- Safe Routes
- Streets
- Highways
- Railroad
- Attendance Boundary
- Parks
- Water
- Traffic Signals
- Fire
- Police

0 250 500 Feet

N

MIAMI-DADE COUNTY

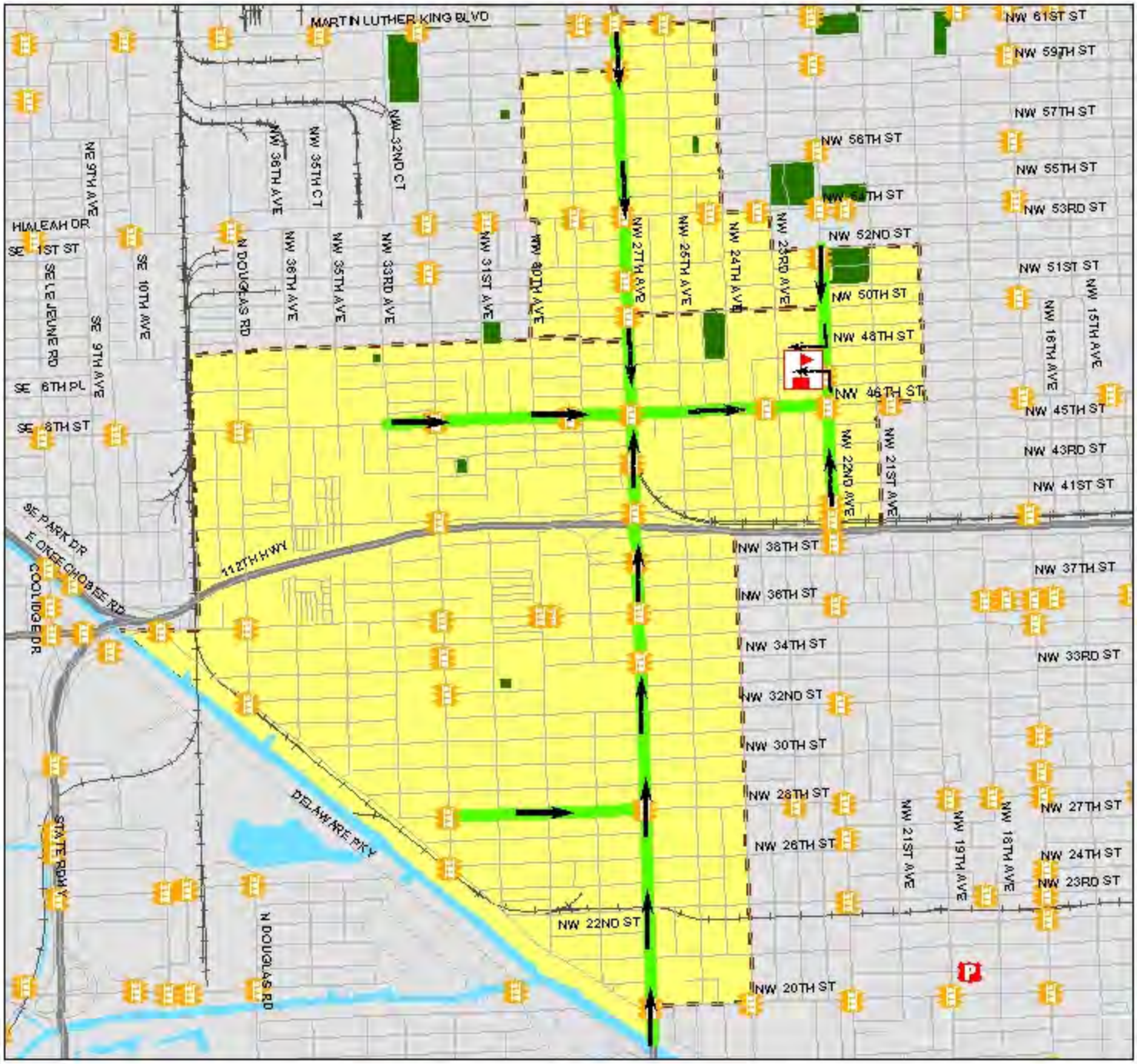
Miami-Dade County Public Schools

MIAMI-DADE MPO Metropolitan Planning Organization

EARLINGTON HEIGHTS ELEMENTARY SCHOOL

4750 NW 22 Avenue, Miami 33142

SAFE ROUTES TO SCHOOL



LEGEND

- School
- Safe Routes
- Streets
- Highways
- Railroad
- Attendance Boundary
- Parks
- Water
- Traffic Signals
- Fire
- Police

N

0 1,000 2,000 Feet

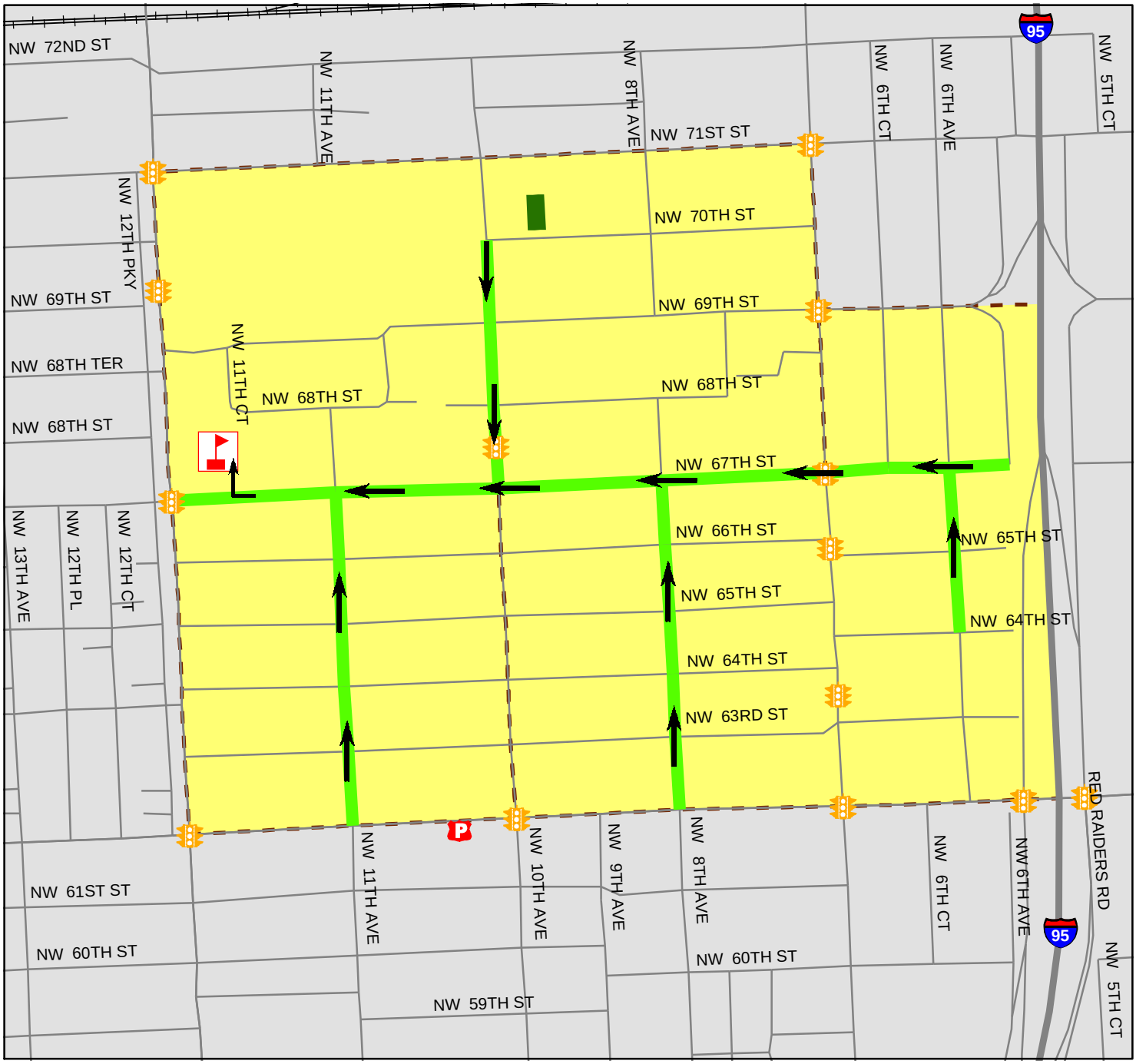
MIAMI-DADE COUNTY

Miami-Dade County Public Schools

MIAMI-DADE MPO Metropolitan Planning Organization

HOLMES ELEMENTARY SCHOOL
1175 NW 67 Street, Miami 33150

SAFE ROUTES TO SCHOOL



LEGEND

- School
- Safe Routes
- Streets
- Highways
- Railroad
- Attendance Boundary
- Parks
- Water
- Traffic Signals
- Fire
- Police

N

0 300 600 Feet

MIAMI-DADE COUNTY

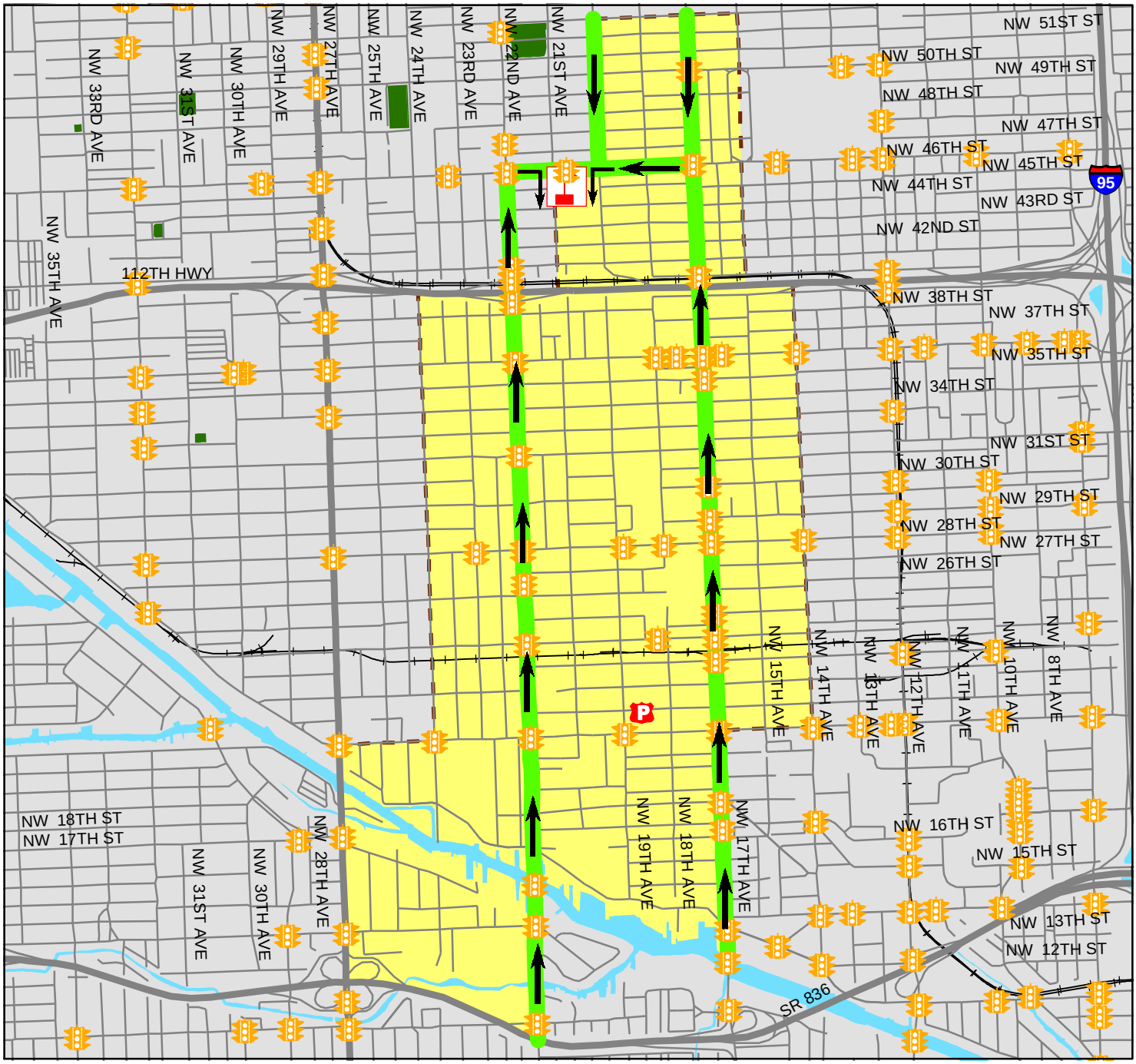
Miami-Dade County Public Schools

MIAMI-DADE MPO Metropolitan Planning Organization

KELSEY L. PHARR ELEMENTARY SCHOOL

2000 NW 46 Street, Miami 33142

SAFE ROUTES TO SCHOOL



LEGEND

- Schools
- Safe Routes
- Streets
- Highways
- Railroad
- Attendance Boundary
- Parks
- Water
- Traffic Signals
- Fire
- Police

0 0.2 0.4 Miles

N

MIAMI-DADE COUNTY

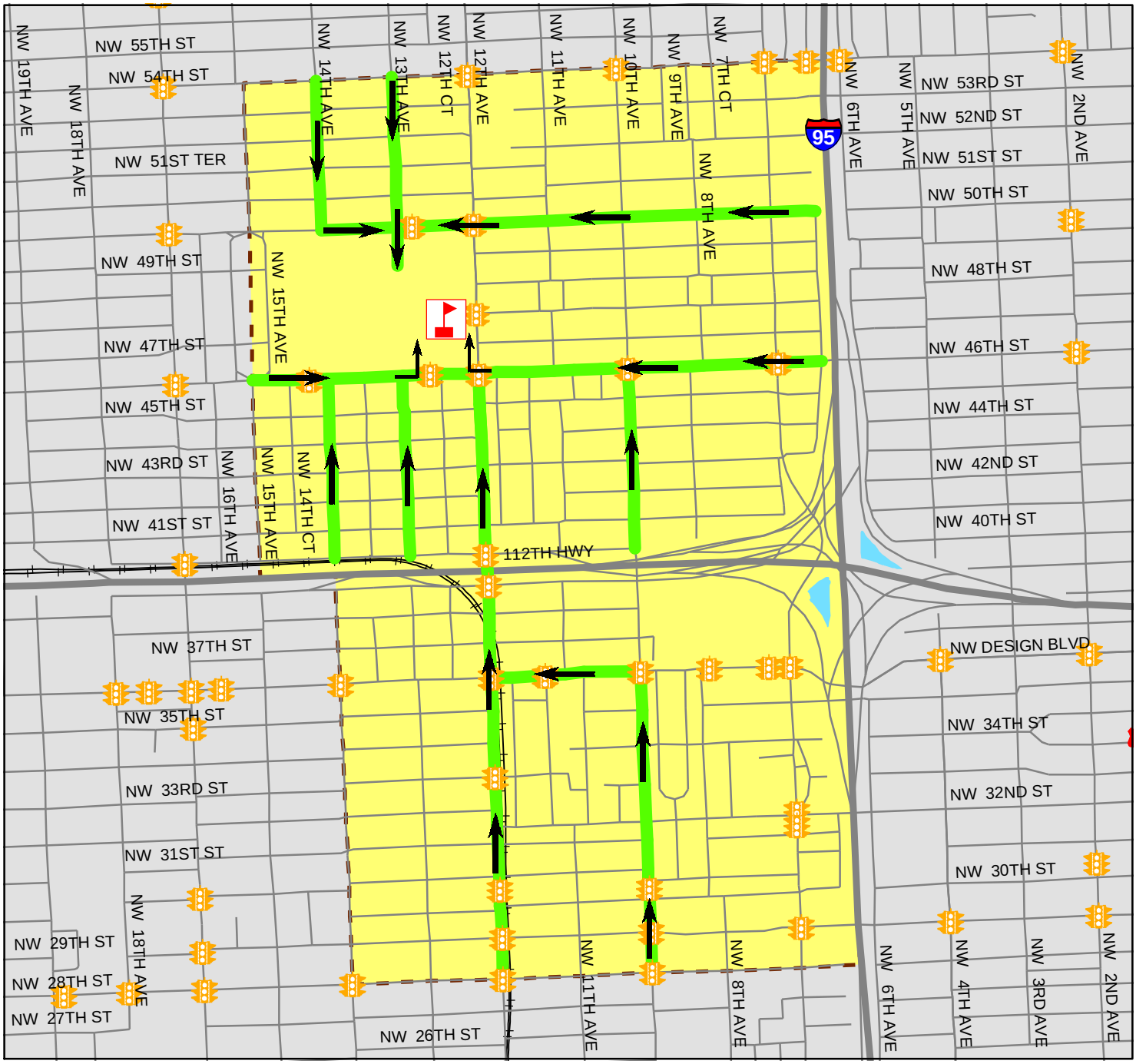
Miami-Dade County Public Schools

MIAMI-DADE MPO Metropolitan Planning Organization

LENORA B. SMITH ELEMENTARY SCHOOL

4700 NW 12 Avenue, Miami 33127

SAFE ROUTES TO SCHOOL



LEGEND

- School
- Safe Routes
- Streets
- Highways
- Railroad
- Attendance Boundary
- Parks
- Water
- Traffic Signals
- Fire
- Police

0 0.125 0.25 Miles

N

MIAMI-DADE COUNTY

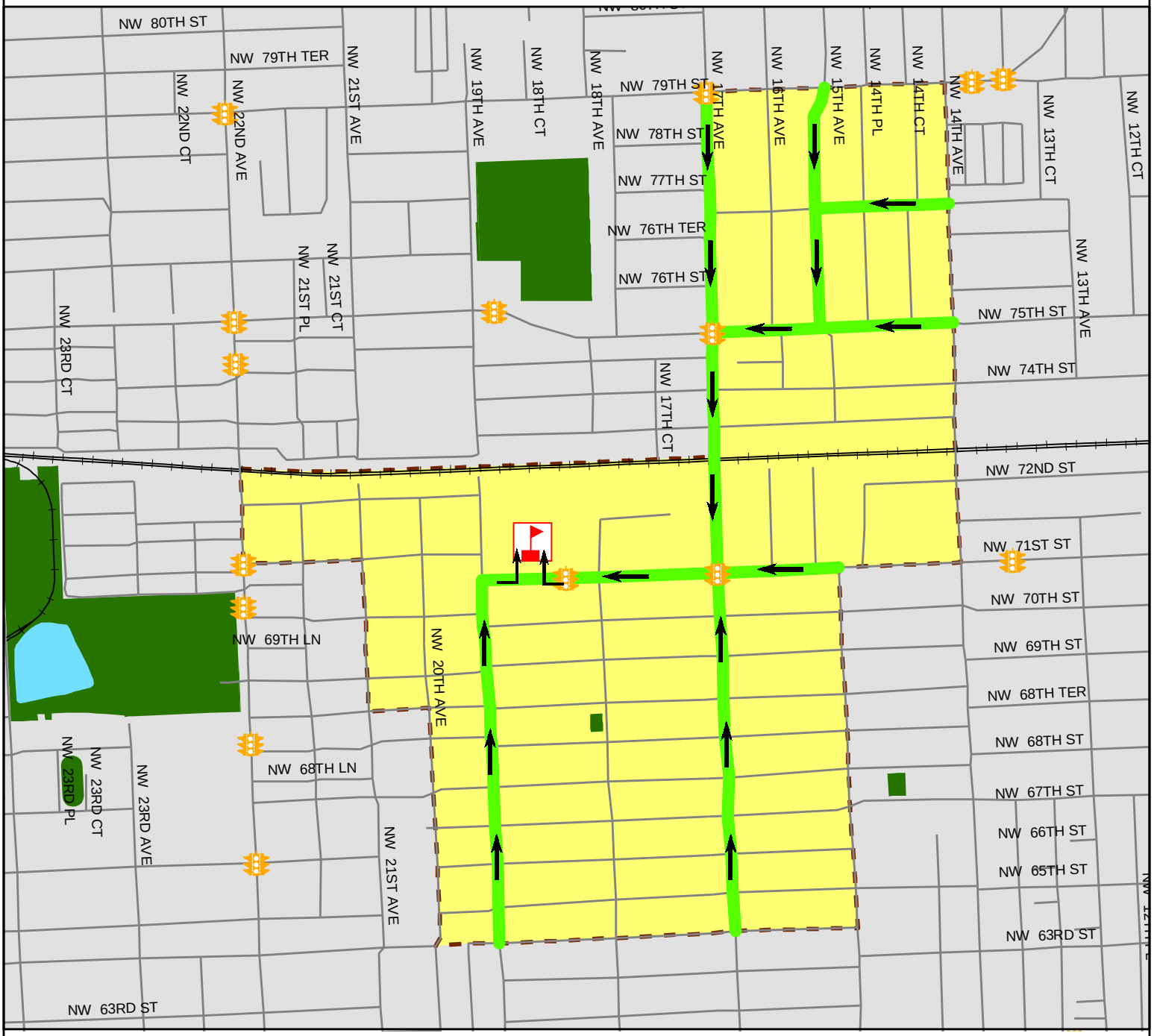
Miami-Dade County Public Schools

MIAMI-DADE MPO Metropolitan Planning Organization

LIBERTY CITY ELEMENTARY SCHOOL

1855 NW 71 Street, Miami 33147

SAFE ROUTE TO SCHOOL



LEGEND

- School
- Safe Routes
- Streets
- Highways
- Railroad
- Attendance Boundary
- Parks
- Water
- Traffic Signals
- Police
- Fire

N

0 400 800 1,600 Feet

MIAMI-DADE COUNTY

Miami-Dade County Public Schools

MIAMI-DADE MPO Metropolitan Planning Organization

LILLIE C. EVANS ELEMENTARY SCHOOL

1895 NW 75 Street, Miami 33147

SAFE ROUTES TO SCHOOL

LEGEND

- School
- Safe Routes
- Streets
- Highways
- Railroad
- Attendance Boundary
- Parks
- Water
- Traffic Signals
- Fire
- Police

N

0 400 800 Feet

MIAMI-DADE COUNTY

Miami-Dade County Public Schools

MIAMI-DADE MPO Metropolitan Planning Organization

MARTIN LUTHER KING ELEMENTARY SCHOOL

7124 NW 12 Avenue, Miami 33150

SAFE ROUTES TO SCHOOL

LEGEND

- School
- Safe Routes
- Streets
- Highways
- Railroad
- Attendance Boundary
- Parks
- Water
- Traffic Signals
- Fire
- Police

0 500 1,000 Feet

N

MIAMI-DADE COUNTY

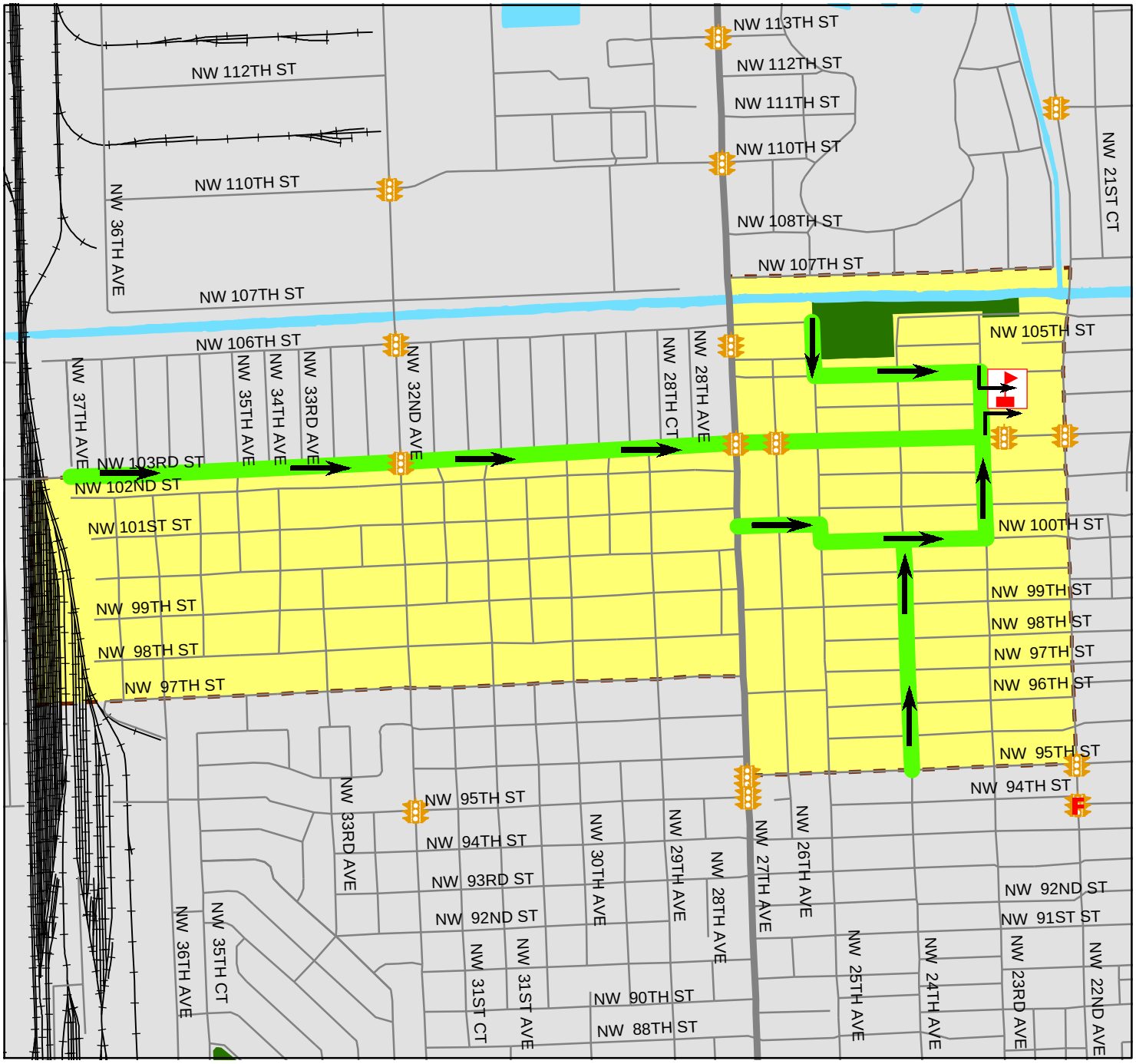
Miami-Dade County Public Schools

MIAMI-DADE MPO Metropolitan Planning Organization

MIAMI PARK ELEMENTARY SCHOOL

2225 NW 103 Street, Miami 33147

SAFE ROUTES TO SCHOOL



LEGEND

- School
- Safe Routes
- Streets
- Highways
- Railroad
- Attendance Boundary
- Parks
- Water
- Traffic Signals
- Fire
- Police

N

0 300 600 1,200 Feet

MIAMI-DADE COUNTY

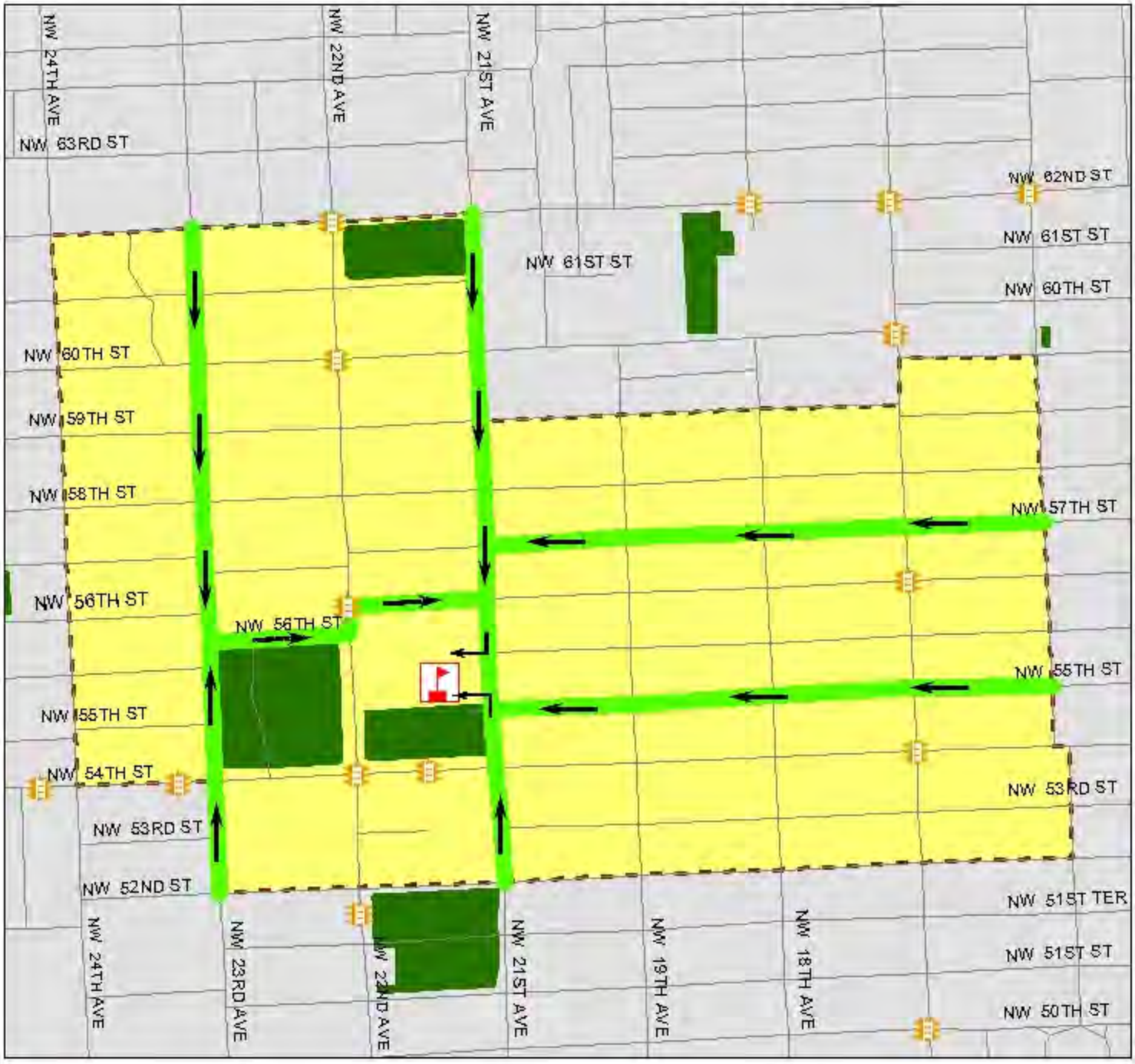
Miami-Dade County Public Schools

MIAMI-DADE MPO Metropolitan Planning Organization

OLINDA ELEMENTARY SCHOOL

5536 NW 21 Avenue, Miami 33142

SAFE ROUTES TO SCHOOL



LEGEND

- School
- Safe Routes
- Streets
- Highways
- Railroad
- Attendance Boundary
- Parks
- Water
- Traffic Signals
- Fire
- Police

N

0 350 700 Feet

MIAMI-DADE COUNTY

Miami-Dade County Public Schools

MIAMI-DADE MPO Metropolitan Planning Organization

ORCHARD VILLA ELEMENTARY SCHOOL

5720 NW 13 Avenue, Miami 33142

SAFE ROUTES TO SCHOOL

LEGEND

- Orchard Villa
- Safe Routes
- Streets
- Highways
- Railroad
- Attendance Boundary
- Water
- Parks
- Traffic Signals
- Fire
- Police

N

0 400 800 Feet

MIAMI-DADE COUNTY

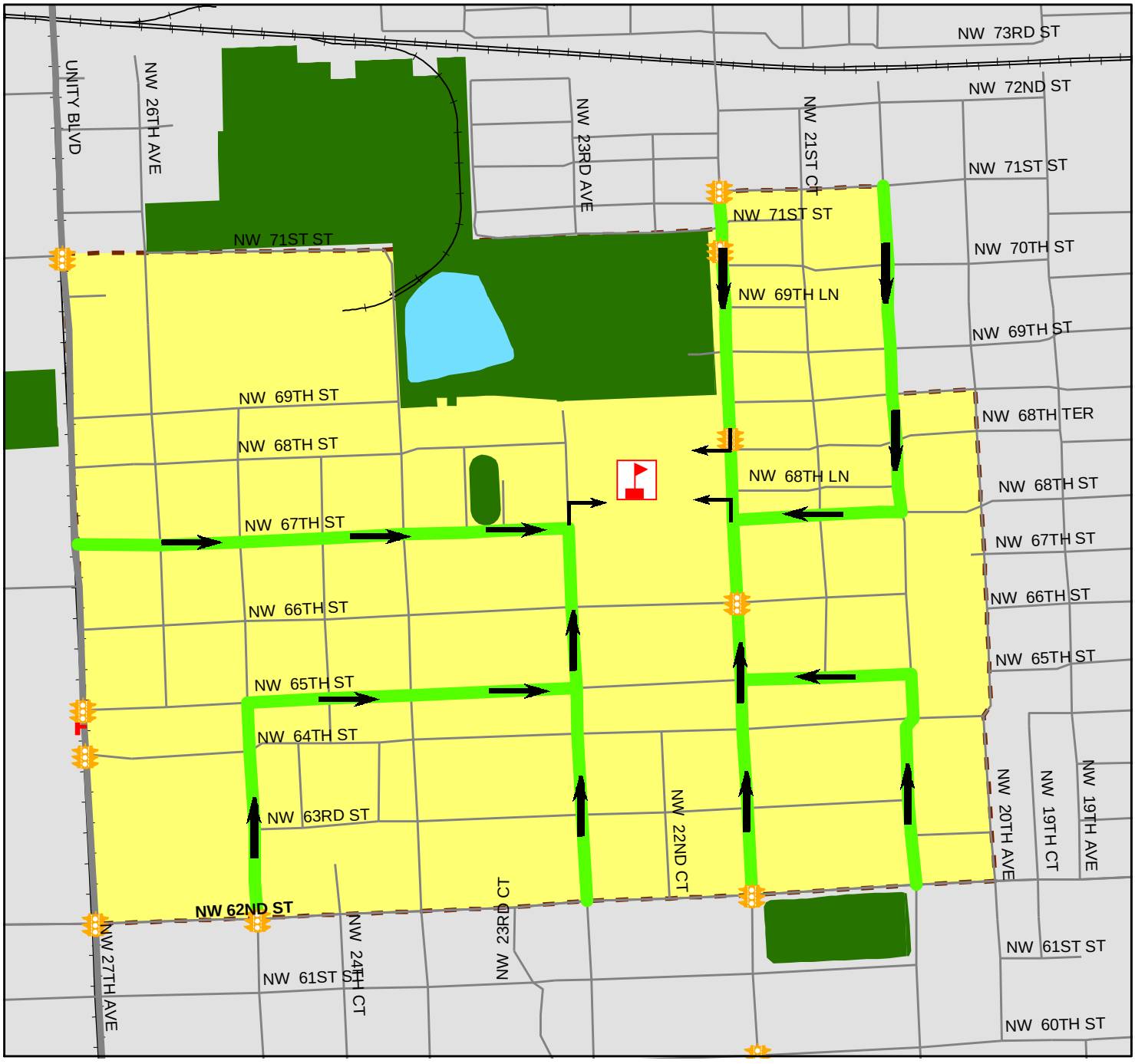
Miami-Dade County Public Schools

MIAMI-DADE MPO Metropolitan Planning Organization

POINCIANA PARK ELEMENTARY SCHOOL

6745 NW 23 Avenue, Miami 33147

SAFE ROUTES TO SCHOOL



LEGEND

- School
- Safe Routes
- Streets
- Highways
- Railroad
- Attendance Boundary
- Parks
- Water
- Traffic Signals
- Fire
- Police

N

0 300 600 Feet

MIAMI-DADE COUNTY

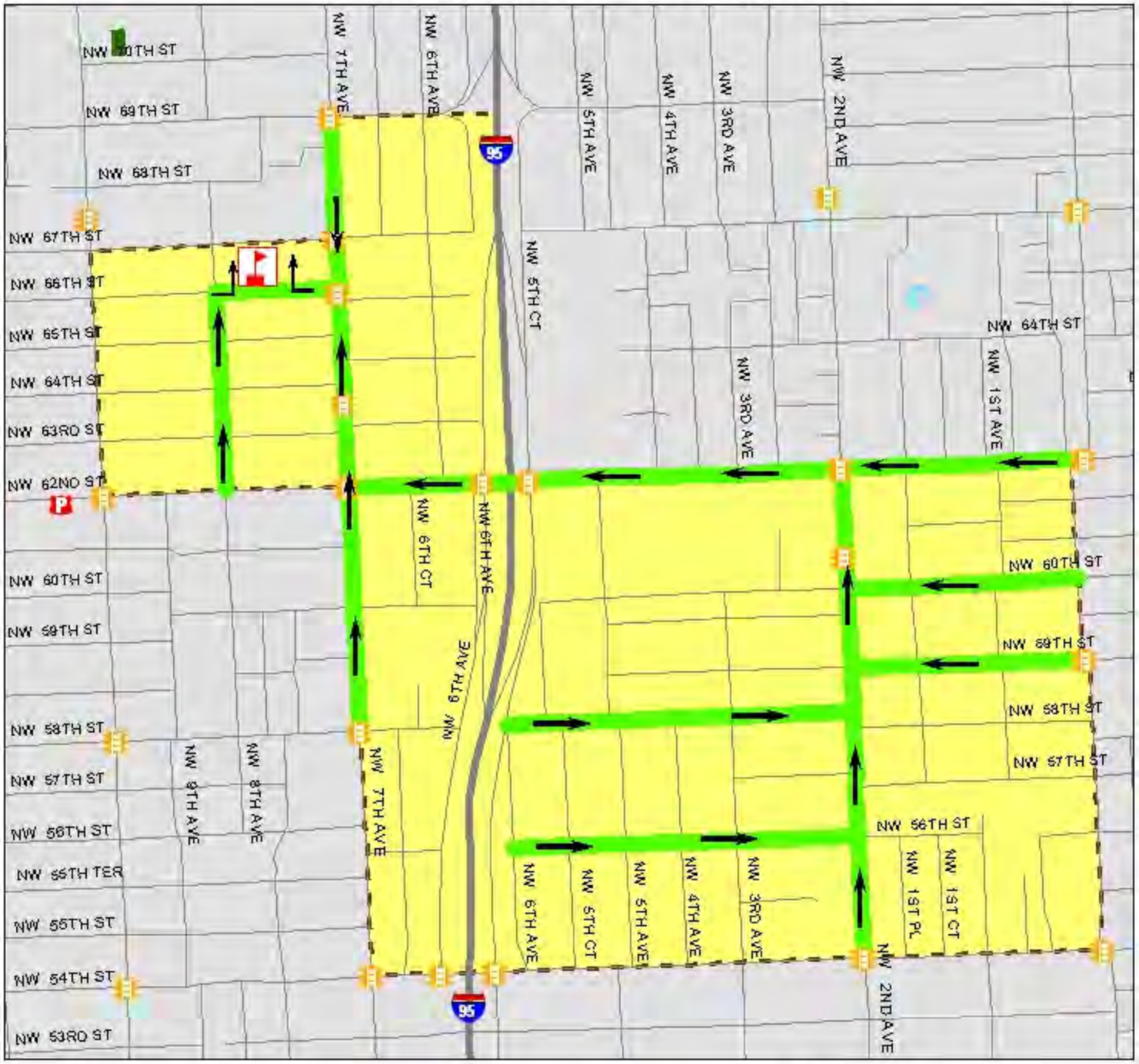
Miami-Dade County Public Schools

MIAMI-DADE MPO Metropolitan Planning Organization

THENA CROWDER ELEMENTARY SCHOOL

757 NW 66 Street, Miami 33150

SAFE ROUTES TO SCHOOL



LEGEND

- School
- Safe Routes
- Streets
- Highways
- Railroad
- Attendance Boundary
- Parks
- Water
- Traffic Signals
- Fire
- Police

0 400 800 Feet

N

MIAMI-DADE COUNTY

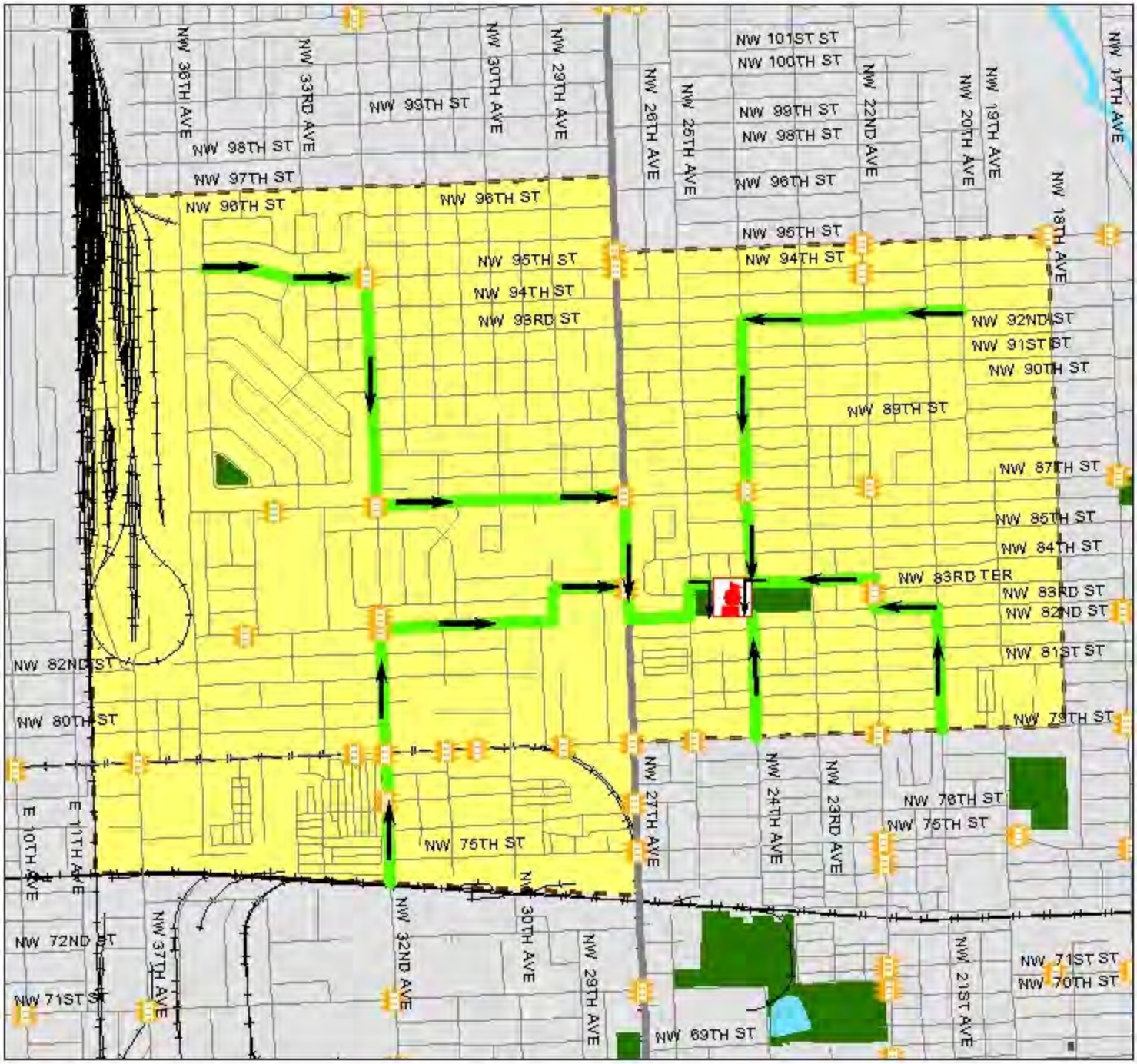
Miami-Dade County Public Schools

MIAMI-DADE MPO Metropolitan Planning Organization

WEST LITTLE RIVER ELEMENTARY SCHOOL

2450 NW 84 Street, Miami 33147

SAFE ROUTES TO SCHOOL



LEGEND

- School
- Safe Routes
- Streets
- Highways
- Railroad
- Attendance Boundary
- Parks
- Water
- Traffic Signals
- Fire
- Police

0 800 1,600 Feet

N

MIAMI-DADE COUNTY

Miami-Dade County Public Schools

MIAMI-DADE MPO Metropolitan Planning Organization

SAFE ROUTES TO SCHOOL PROGRAM

EXECUTIVE SUMMARY

ATTACHMENT B

COST ESTIMATES FOR RECOMMENDED IMPROVEMENTS

Prepared for

MIAMI-DADE MPO Metropolitan Planning Organization

Prepared by

RS&H

Reynolds, Smith and Hills, Inc.

6161 Blue Lagoon Drive, Suite 200

Miami, Florida 33126

September 2005

SAFE ROUTE TO SCHOOL
COST ESTIMATE FOR RECOMMENDED IMPROVEMENTS

School : Arcola Lake Elementary School

Location	Recommended Improvements	QTY	Unit	Unit Cost	Total
NW Little River Dr. btwn NW 95 St. to NW 7 Ave.	Install sidewalk	1200	feet	$32.00	$38,400.00
	Install high emphasis pedestrian crosswalk (NW 12 Ct, NW 11 Ct, NW 11 Ave, NW 8 Ave)	670	feet	$2.00	$1,340.00
NW 7 Ave. btwn NW Little River Dr. to NW 86 St.	Install high emphasis pedestrian crosswalk (NW Little River Dr, NW 86 St)	330	feet	$2.00	$660.00
NW 10 Ave. btwn NW 86 St. and NW 83 St.	Install high emphasis pedestrian crosswalk (NW 83 St)	165	feet	$2.00	$330.00
NW 10 Ct. btwn NW 79 St. and NW 81 St.	Install sidewalk	30	feet	$32.00	$960.00
NW 15 Ave. btwn NW 79 St. and NW 83 St.	Repair existing sidewalk	20	feet	$20.00	$400.00
	Install sidewalk	10	feet	$32.00	$320.00
NW 17 Ave. btwn NW 93 St. and NW 83 St.	Install high emphasis pedestrian crosswalk (NW 83 St through NW 93 St)	2580	feet	$2.00	$5,160.00
Prelimiary Total Cost					$47,570.00
Contingencies (20%)					$9,514.00
Mobilization (10%)					$4,757.00
Maintence of Traffic (10%)					$4,757.00
Grand Total Cost					$66,598.00

COST ESTIMATE FOR RECOMMENDED IMPROVEMENTS

School : Charles R. Drew Elementary School

Location	Recommended Improvements	QTY	Unit	Unit Cost	Total
NW 17 Ave. btwn NW 64 St. and NW 62 St.	Install high emphasis pedestrian crosswalk (NW 62 Ter. and NW 63 St.)	330	feet	$2.00	$660.00
NW 20 Ave. btwn NW 60 St. and NW 62 St.	Install high emphasis pedestrian crosswalk (NW 60 St.)	165	feet	$2.00	$330.00
NW 60 St. btwn NW 20 Ave. and School	Install high emphasis pedestrian crosswalk (NW 18 Ave.)	165	feet	$2.00	$330.00
NW 19 Ave. btwn NW 64 St. and NW 62 St.	Install sidewalk (NW 64 St. to NW 62 St.)	625	feet	$32.00	$20,000.00
	Install high emphasis pedestrian crosswalk (NW 62 Ter. and NW 63 St.)	330	feet	$2.00	$660.00
Prelimiary Total Cost					$21,980.00
Contingencies (20%)					$4,396.00
Mobilization (10%)					$2,198.00
Maintence of Traffic (10%)					$2,198.00
Grand Total Cost					$30,772.00

SAFE ROUTE TO SCHOOL
COST ESTIMATE FOR RECOMMENDED IMPROVEMENTS

School : Earlington Heights Elementary School

Location	Recommended Improvements	QTY	Unit	Unit Cost	Total
NW 22 Ave. btwn NW 52 St. and NW 46 St.	Install high emphasis pedestrian crosswalk (From NW 47 St. to NW 52 St.)	1165	feet	$2.00	$2,330.00
	Pedestrian signal head (NW 46 St.)	1	each	$600.00	$600.00
NW 46 St. btwn NW 22 Ave. to School	Install high emphasis pedestrian crosswalk (NW 23 Ave.)	165	feet	$2.00	$330.00
NW 22 Ave. btwn NW 41 St. and NW 46 St.	Install high emphasis pedestrian crosswalk (NW 44 St. and NW 45 St.)	330	feet	$2.00	$660.00
NW 46 St. btwn NW 27 Ave.and NW 22 Ave.	Install high emphasis pedestrian crosswalk (NW 23 Ave. and NW 24 Ave.)	330	feet	$2.00	$660.00
NW 46 St. btwn NW 33 Ave. and NW 27 Ave.	Install high emphasis pedestrian crosswalk (From NW 33 Ave. to NW 30 Ave.)	1065	feet	$2.00	$2,130.00
Prelimiary Total Cost					$6,710.00
Contingencies (20%)					$1,342.00
Mobilization (10%)					$671.00
Maintence of Traffic (10%)					$671.00
Grand Total Cost					$9,394.00

SAFE ROUTE TO SCHOOL
COST ESTIMATE FOR RECOMMENDED IMPROVEMENTS

School : Holmes Elementary School

Location	Recommended Improvements	QTY	Unit	Unit Cost	Total
NW 10 Ave. btwn NW 70 St. and NW 67 St.	Install high emphasis pedestrian crosswalk (NW 69 St. thru NW 67 St.)	500	feet	$2.00	$1,000.00
NW 67 St. btwn NW 5 Pl. and School	Install sidewalk	300	feet	$32.00	$9,600.00
	Install high emphasis pedestrian crosswalk (NW 6 Ave. thru NW 11 Ave.)	1030	feet	$2.00	$2,060.00
NW 6 Ave. btwn NW 64 St. and NW 67 St.	Install high emphasis pedestrian crosswalk (NW 6 5 St.)	165	feet	$2.00	$330.00
NW 8 Ave. btwn NW 62 St. and NW 67 St.	Install high emphasis pedestrian crosswalk (NW 63 St. thru NW 66 St.)	660	feet	$2.00	$1,320.00
NW 11 Ave. btwn NW 62 St. Ns NW 67 St.	Install sidewalk	300	feet	$32.00	$9,600.00
	Install high emphasis pedestrian crosswalk (NW 63 St. thru NW 66 St.)	660	feet	$2.00	$1,320.00
Prelimiary Total Cost					$25,230.00
Contingencies (20%)					$5,046.00
Mobilization (10%)					$2,523.00
Maintence of Traffic (10%)					$2,523.00
Grand Total Cost					$35,322.00

SAFE ROUTE TO SCHOOL
COST ESTIMATE FOR RECOMMENDED IMPROVEMENTS

School : Kelsey L. Pharr Elementary School

Location	Recommended Improvements	QTY	Unit	Unit Cost	Total
NW 19 Ave. btwn NW 52 St. and School	Install sidewalk	20	feet	$32.00	$640.00
	Install high emphasis pedestrian crosswalk (From NW 48 St. to NW 52 St.)	1000	feet	$2.00	$2,000.00
NW 46 St. btwn NW 17 Ave. and School	Install high emphasis pedestrian crosswalk (NW 17 Ave.)	400	feet	$2.00	$800.00
NW 17 Ave. btwn NW North River Dr. and NW 46 St.	Install high emphasis pedestrian crosswalk (NW 14 Ter, NW 16 St, NW 18 St, NW 18 Ter, NW 19 Ter, NW 20 St, NW 21 St, NW 21 Ter, NW 22 St, NW 23 St, NW 23 Ter, NW 24 St, NW 28 St, NW 29 St, NW 30 St, NW 31 St, NW 32 St, NW 33 St, NW 34 St, NW 35 St, NW 36 St, NW 37 St, NW 38 St, NW 39 St)	8790	feet	$2.00	$17,580.00
NW 22 Ave. btwn SR 836 and NW 46 St.	Install high emphasis pedestrian crosswalk (NW 11 St, NW 12 St, NW 13 St, NW 17 St, NW 18 St, NW 19 Ter, NW 22 St, NW 23 St, NW 30 St, NW 34 St, NW 43 St, NW 44 St, NW 45 St.)	4595	feet	$2.00	$9,190.00
	Install pedestrian signal heads	2	each	$600.00	$1,200.00
Prelimiary Total Cost					$31,410.00
Contingencies (20%)					$6,282.00
Mobilization (10%)					$3,141.00
Maintence of Traffic (10%)					$3,141.00
Grand Total Cost					$43,974.00

SAFE ROUTE TO SCHOOL
COST ESTIMATE FOR RECOMMENDED IMPROVEMENTS

School : Lenora B. Smith Elementary School

Location	Recommended Improvements	QTY	Unit	Unit Cost	Total
NW 50 St. btwn NW 6 Ct. and School	Install high emphasis pedestrian crosswalk (NW 6 Ct. through NW 12 Ave.)	1232	feet	$2.00	$2,464.00
NW 46 St. btwn NW 6 Ct. and School	Install high emphasis pedestrian crosswalk (NW 10 Ave.)	165	feet	$2.00	$330.00
NW 10 Ave. btwn NW 40 St. and NW 46 St.	Install high emphasis pedestrian crosswalk (NW 41 St. through NW 45 St.)	832	feet	$2.00	$1,664.00
NW 10 Ave. btwn NW 28 St. and NW 36 St.	Install high emphasis pedestrian crosswalk (NW 35 St. through NW 33 St. and NW 29 St.)	1065	feet	$2.00	$2,130.00
NW 36 St. btwn NW 10 Ave. and NW 12 Ave.	Install high emphasis pedestrian crosswalk (NW 11 Ct. and NW 11 Ave.)	330	feet	$2.00	$660.00
NW 12 Ave. btwn NW 36 St. and School	Install high emphasis pedestrian crosswalk (NW 36 St.)	400	feet	$2.00	$800.00
NW 12 Ave. btwn NW 36 St. and NW 28 St.	Install high emphasis pedestrian crosswalk (NW 35 St. through NNW 29 Ter.)	1232	feet	$2.00	$2,464.00
	Install pedestrian signal heads	16	each	$600.00	$9,600.00
NW 13 Ave. btwn NW 40 St. and NW 46 St.	Install sidewalk	100	feet	$32.00	$3,200.00
	Install high emphasis pedestrian crosswalk (NW 45 St. through NNW 41 St.)	832	feet	$2.00	$1,664.00
NW 14 Ave. btwn NW 40 St. and NW 46 St.	Install sidewalk	100	feet	$32.00	$3,200.00
	Install high emphasis pedestrian crosswalk (NW 45 St. through NNW 41 St.)	832	feet	$2.00	$1,664.00
NW 46 St. btwn NW 15 Ave. and School	Install high emphasis pedestrian crosswalk (NW 14 Ave. and NW 13 Pl.)	330	feet	$2.00	$660.00
NW 14 Ave. btwn NW 54 St. and NW 50 St.	Install high emphasis pedestrian crosswalk (NW 53 St. through NW 50 St.)	500	feet	$2.00	$1,000.00
NW 50 St. btwn NW 14 Ave. and NW 13 St.	Install high emphasis pedestrian crosswalk (NW 14 St. and NW 13 St.)	670	feet	$2.00	$1,340.00
NW 13 Ave. btwn NW 54 St. and School.	Install high emphasis pedestrian crosswalk (NW 53 St. through NW 50 St.)	500	feet	$2.00	$1,000.00
Prelimiary Total Cost					$33,840.00
Contingencies (20%)					$6,768.00
Mobilization (10%)					$3,384.00
Maintence of Traffic (10%)					$3,384.00
Grand Total Cost					$47,376.00

SAFE ROUTE TO SCHOOL
COST ESTIMATE FOR RECOMMENDED IMPROVEMENTS

School : Liberty City Elementary School

Location	Recommended Improvements	QTY	Unit	Unit Cost	Total
NW 17 Ave. btwn NW 79 St. and NW 71 St.	Install high emphasis pedestrian crosswalk (From NW 78 St. to NW 73 St.)	1015	feet	$2.00	$2,030.00
NW 15 Ave. btwn NW 79 St. and NW 75 St.	Install high emphasis pedestrian crosswalk (NW 77 Ter.)	165	feet	$2.00	$330.00
NW 75 St. btwn NW 15 Ave. and NW 17 Ave.	Install high emphasis pedestrian crosswalk (From NW 15 Ave. to NW 16 Ave.)	330	feet	$2.00	$660.00
NW 77 Ter. btwn NW 14 Ave and NW 15 Ave.	Install high emphasis pedestrian crosswalk (From NW 14 Ct. to NW 14 Pl.)	330	feet	$2.00	$660.00
NW 75 St. btwn NW 14 Ave and NW 15 Ave.	Install high emphasis pedestrian crosswalk (From NW 14 Ct. to NW 14 Pl.)	330	feet	$2.00	$660.00
Prelimiary Total Cost					$4,340.00
Contingencies (20%)					$868.00
Mobilization (10%)					$434.00
Maintence of Traffic (10%)					$434.00
Grand Total Cost					$6,076.00

SAFE ROUTE TO SCHOOL
COST ESTIMATE FOR RECOMMENDED IMPROVEMENTS

School : Lillie C. Evans Elementary School

Location	Recommended Improvements	QTY	Unit	Unit Cost	Total
NW 17 Pl. btwn NW 79 St. and NW 75 St.	Install sidewalk	1000	feet	$32.00	$32,000.00
	Repair existing sidewalk	350	feet	$1.50	$525.00
	Trim Vegetation	Lump Sum	Lump Sum	Lump Sum	$500.00
NW 27 Ave. btwn 20 Street and 46 Street	Install sidewalk	1500	feet	$32.00	$48,000.00
NW 75 St. btwn NW 17 Ave. and School	Install sidewalk	450	feet	$32.00	$14,400.00
NW 18 Ave. btwn NW 73 St. and NW 75 St.	Install sidewalk	1000	feet	$32.00	$32,000.00
NW 19 Ave. btwn NW 73 St. and School	Install sidewalk	600	feet	$32.00	$19,200.00
	Repair existing sidewalk	600	feet	$20.00	$12,000.00
NW 22 Ave. btwn NW 70 Ter. and NW 75 St.	Install high emphasis pedestrian crosswalk (NW 70 Ter. thru NW 75 St.)	1600	feet	$2.00	$3,200.00
NW 74 St. btwn NW 23 Ave. and NW 22 Ave.	Install sidewalk	900	feet	$32.00	$28,800.00
NW 76 St. btwn NW 21 Ave. and School	Install sidewalk	600	feet	$32.00	$19,200.00
	Install high emphasis pedestrian crosswalk (NW 19 Ave.)	165	feet	$2.00	$330.00
NW 19 Ave. btwn NW 79 St. and School	Install sidewalk	1000	feet	$32.00	$32,000.00
Prelimiary Total Cost					$242,155.00
Contingencies (20%)					$48,431.00
Mobilization (10%)					$24,215.50
Maintence of Traffic (10%)					$24,215.50
Grand Total Cost					$339,017.00

SAFE ROUTE TO SCHOOL
COST ESTIMATE FOR RECOMMENDED IMPROVEMENTS

School : Martin Luther King Elementary School

Location	Recommended Improvements	QTY	Unit	Unit Cost	Total
NW 75 St. btwn NW 10 Ave and NW 12 Ave.	Install high emphasis pedestrian crosswalk (NW 11 Ave.)	165	feet	$2.00	$330.00
NW 13 Ave. btwn NW 62 St. and NW 71 St.	Install high emphasis pedestrian crosswalk (NW 63 St, NW 65 St, NW 71 St)	580	feet	$2.00	$1,160.00
NW 14 Ave. btwn NW 62 St. and NW 71 St.	Install high emphasis pedestrian crosswalk (NW 65 St, NW 71 St)	416	feet	$2.00	$832.00
Prelimiary Total Cost					$2,322.00
Contingencies (20%)					$464.40
Mobilization (10%)					$232.20
Maintence of Traffic (10%)					$232.20
Grand Total Cost					$3,250.80

SAFE ROUTE TO SCHOOL
COST ESTIMATE FOR RECOMMENDED IMPROVEMENTS

School : Miami Park Elementary School

Location	Recommended Improvements	QTY	Unit	Unit Cost	Total
NW 103 Street btwn 37 Avenue and School	Install high emphasis pedestrian crosswalk (NW 32 Ave.)	400	feet	$2.00	$800.00
	Install high emphasis pedestrian crosswalk (NW 27 Ave.)	400	feet	$2.00	$800.00
Prelimiary Total Cost					$1,600.00
Contingencies (20%)					$320.00
Mobilization (10%)					$160.00
Maintence of Traffic (10%)					$160.00
Grand Total Cost					$2,240.00

SAFE ROUTE TO SCHOOL
COST ESTIMATE FOR RECOMMENDED IMPROVEMENTS

School : Olinda Elementary School

Location	Recommended Improvements	QTY	Unit	Unit Cost	Total
NW 21 Ave. btwn NW 62 St. and School	Install high emphasis pedestrian crosswalk (From NW 61 St. to NW 55 Ter.)	1165	feet	$2.00	$2,330.00
NW 57 St. btwn NW 15 Ave. and NW 21 Ave.	Install high emphasis pedestrian crosswalk (From NW 17 Ave. to NW 19 Ave.)	500	feet	$2.00	$1,000.00
NW 55 St. btwn NW 15 Ave. and NW 21 Ave.	Install sidewalk	45	feet	$32.00	$1,440.00
	Install high emphasis pedestrian crosswalk (From NW 17 Ave. to NW 19 Ave.)	500	feet	$2.00	$1,000.00
NW 21 Ave. btwn NW 52 St. and School	Install high emphasis pedestrian crosswalk (NW 53 St. and NW 55 St.)	330	feet	$2.00	$660.00
NW 23 Ave. btwn NW 52 St. and NW 56 St.	Install high emphasis pedestrian crosswalk (NW 53 St. and NW 55 Ter.)	330	feet	$2.00	$660.00
NW 23 Ave. btwn NW 62 St. and NW 56 St.	Install sidewalk	1225	feet	$32.00	$39,200.00
	Install high emphasis pedestrian crosswalk (From NW 61 St. to NW 56 St.)	1000	feet	$2.00	$2,000.00
Prelimiary Total Cost					$48,290.00
Contingencies (20%)					$9,658.00
Mobilization (10%)					$4,829.00
Maintence of Traffic (10%)					$4,829.00
Grand Total Cost					$67,606.00

SAFE ROUTE TO SCHOOL
COST ESTIMATE FOR RECOMMENDED IMPROVEMENTS

School : Orchard Villa Elementary School

Location	Recommended Improvements	QTY	Unit	Unit Cost	Total
NW 13 Ave. btwn NW 62 St. and NW 58 Ter.	Install high emphasis pedestrian crosswalk (NW 61 St. through NW 58 Ter.)	670	feet	$2.00	$1,340.00
NW 10 Ave. btwn NW 62 St. and NW 58 St.	Install high emphasis pedestrian crosswalk (NW 61 St. through NW 58 St.)	1000	feet	$2.00	$2,000.00
	Trim Vegetation	Lump Sum	Lump Sum	Lump Sum	$200.00
	Install pederstrian signal head (SE Corner of NW 10 Ave. and NW 58 St.)	1	each	$600.00	$600.00
NW 58 St. btwn NW 10 Ave. and School	Install high emphasis pedestrian crosswalk (NW 11 Ave. and NW 12 Ave.)	330	feet	$2.00	$660.00
NW 10 Ave. btwn NW 54 St. and NW 57 St.	Install high emphasis pedestrian crosswalk (NW 55 St. through NW 57 St.)	670	feet	$2.00	$1,340.00
NW 13 Ave. btwn NW 54 St. and School	Install high emphasis pedestrian crosswalk (NW 55 St. through NW 56 St.)	500	feet	$2.00	$1,000.00
NW 55 Ter. btwn NW 15 Ave. and NW 13 Ave.	Install high emphasis pedestrian crosswalk (NW 14 Ave.)	165	feet	$2.00	$330.00
NW 59 St. btwn NW 15 Ave. and NW 13 Ave.	Install high emphasis pedestrian crosswalk (NW 14 Ave.)	165	feet	$2.00	$330.00
Prelimiary Total Cost					$7,800.00
Contingencies (20%)					$1,560.00
Mobilization (10%)					$780.00
Maintence of Traffic (10%)					$780.00
Grand Total Cost					$10,920.00

SAFE ROUTE TO SCHOOL
COST ESTIMATE FOR RECOMMENDED IMPROVEMENTS

School : Poinciana Park Elementary School

Location	Recommended Improvements	QTY	Unit	Unit Cost	Total
NW 22 Ave. btwn NW 71 St. and School	Install high emphasis pedestrian crosswalk (NW 68 St. and NW 69 St.)	330	feet	$2.00	$660.00
NW 21 Ave. btwn NW 71 Ter. and NW 68 St.	Install sidewalk	180	feet	$32.00	$5,760.00
	Install high emphasis pedestrian crosswalk (From NW 71 St to NW 68 St.)	830	feet	$2.00	$1,660.00
NW 68 St. Btwn NW 21 Ave and School	Install sidewalk	1000	feet	$32.00	$32,000.00
	Install high emphasis pedestrian crosswalk (NW 22 Ave.)	400	feet	$2.00	$800.00
	Install pedestrian crossing sign	2	each	$250.00	$500.00
NW 22 Ave. btwn NW 71 St. and School	Install high emphasis pedestrian crosswalk (NW 68 St. and NW 69 St.)	330	feet	$2.00	$660.00
NW 21 Ave. btwn NW 62 St. and NW 65 St.	Install high emphasis pedestrian crosswalk (NW 64 St. and NW 63 St.)	330	feet	$2.00	$660.00
NW 65 St. btwn NW 21 Ave. and NW 22 Ave.	Install sidewalk	1200	feet	$32.00	$38,400.00
NW 22 Ave. btwn NW 65 St. and School	Install high emphasis pedestrian crosswalk (NW 65 St. and NW 66 St.)	500	feet	$2.00	$1,000.00
NW 22 Ave. btwn NW 62 St. and NW 65 St.	Install high emphasis pedestrian crosswalk (From NW 63 St. to NW 66 St.)	670	feet	$2.00	$1,340.00
NW 23 Ave. btwn NW 62 St. and School	Install high emphasis pedestrian crosswalk (From NW 67 St. to NW 63 St.)	830	feet	$2.00	$1,660.00
NW 25 Ave. btwn NW 62 St. and NW 65 St.	Install high emphasis pedestrian crosswalk (From NW 65 St. to NW 63 St.)	420	feet	$2.00	$840.00
NW 65 St. btwn NW 25 Ave. and NW 23 Ave.	Install high emphasis pedestrian crosswalk (From NW 25 Ave. to NW 23 Ave.)	670	feet	$2.00	$1,340.00
NW 67 St. btwn NW 27 Ave. and School	Install sidewalk	560	feet	$32.00	$17,920.00
	Install high emphasis pedestrian crosswalk (From NW 26 Ave. to NW 23Ct.)	670	feet	$2.00	$1,340.00
Prelimiary Total Cost					$106,540.00
Contingencies (20%)					$21,308.00
Mobilization (10%)					$10,654.00
Maintence of Traffic (10%)					$10,654.00
Grand Total Cost					$149,156.00

SAFE ROUTE TO SCHOOL
COST ESTIMATE FOR RECOMMENDED IMPROVEMENTS

School : Thena Crowder Elementary School

Location	Recommended Improvements	QTY	Unit	Unit Cost	Total
NW 7 Ave. btwn NW 69 St. and NW 66 St.	Install high emphasis pedestrian crosswalk (NW 67 St. and NW 66 St.)	800	feet	$2.00	$1,600.00
NW 62 St. btwn N. Miami Ave. and NW 7 Ave.	Install high emphasis pedestrian crosswalk (N Miami Pl, N Miami Ct, NW 1 Ct, NW 1 Pl, NW 2 Ave, NW 2 Pl, NW 3 Ave, NW 3 Ct, NW 4 St.)	1065	feet	$2.00	$2,130.00
	Trim Vegetation	Lump Sum	Lump Sum	Lump Sum	$500.00
	Install push buttons	4	each	$140.00	$560.00
NW 7 Ave. btwn NW 62 St. and NW 66 St.	Install high emphasis pedestrian crosswalk (NW 62 St. through NW 66 St.)	965	feet	$2.00	$1,930.00
NW 60 St. btwn N Miami Ave. and NW 2 Ave.	Install high emphasis pedestrian crosswalk (NW 1 Pl. and NW 1 Ave.)	330	feet	$2.00	$660.00
NW 59 St. btwn N Miami Ave. and NW 2 Ave.	Install high emphasis pedestrian crosswalk (NW 1 Pl. and NW 1 Ave.)	300	feet	$2.00	$600.00
NW 2 Ave. btwn NW 59 St. and NW 62 St.	Install high emphasis pedestrian crosswalk (NW 60 St, NW 59 St. and NW 59 Ter.)	500	feet	$2.00	$1,000.00
NW 2 Ave. btwn NW 54 St. and NW 59 St.	Install high emphasis pedestrian crosswalk (NW 56 St, NW 57 St. and NW 58 St.)	500	feet	$2.00	$1,000.00
NW 58 St. btwn NW 6 Ave. and NW 2 Ave.	Install high emphasis pedestrian crosswalk (NW 5 Ct. and NW 5 Ave.)	330	feet	$2.00	$660.00
NW 7 Ave. btwn NW 58 St. and NW 62 St.	Install high emphasis pedestrian crosswalk (NW 60 St.)	165	feet	$2.00	$330.00
NW 8 Ave. btwn NW 62 St and NW 66 St.	Install high emphasis pedestrian crosswalk (NW 63 St, NW 65 St. and NW 66 St.)	500	feet	$2.00	$1,000.00
Prelimiary Total Cost					$11,970.00
Contingencies (20%)					$2,394.00
Mobilization (10%)					$1,197.00
Maintence of Traffic (10%)					$1,197.00
Grand Total Cost					$16,758.00

SAFE ROUTE TO SCHOOL
COST ESTIMATE FOR RECOMMENDED IMPROVEMENTS

School : West Little River Elementary School

Location	Recommended Improvements	QTY	Unit	Unit Cost	Total
NW 93 Street btwn 20 Avenue and 24 Avenue	Install sidewalk	450	feet	$32.00	$14,400.00
	Install high emphasis pedestrian crosswalk (NW 22 Ave.)	400	feet	$2.00	$800.00
	Install pedestrian crossing sign	2	each	$250.00	$500.00
NW 24 Avenue btwn 93 Street and School	Install sidewalk	240	feet	$32.00	$7,680.00
	Install high emphasis pedestrian crosswalk (NW 87 St.)	400	feet	$2.00	$800.00
	Trim Vegetation	Lump Sum	Lump Sum	Lump Sum	$500.00
NW 83 Street btwn 21 Avenue and 22 Avenue	Repair existing sidewalk	165	feet	$1.50	$247.50
NW 24 Avenue btwn 79 Street and 82 Street	Trim Vegetation	Lump Sum	Lump Sum	Lump Sum	$500.00
	Install sidewalk	300	feet	$32.00	$9,600.00
NW 82 Street btwn 24 Avenue and 25 Avenue	Trim Vegetation	Lump Sum	Lump Sum	Lump Sum	$500.00
	Remove Garbage/Debris	Lump Sum	Lump Sum	Lump Sum	$500.00
NW 83 Street btwn 32 Avenue and 29 Avenue	Install sidewalk	750	feet	$32.00	$24,000.00
	Trim Vegetation	Lump Sum	Lump Sum	Lump Sum	$500.00
	Remove Garbage/Debris	Lump Sum	Lump Sum	Lump Sum	$500.00
NW 84 Street btwn 29 Court and 27 Avenue	Install sidewalk	800	feet	$32.00	$25,600.00
NW 27 Avenue btwn 84 Street and 83 Street	Install high emphasis pedestrian crosswalk (NW 83 St.)	400	feet	$2.00	$800.00
NW 83 Street btwn 27 Avenue and 25 Avenue	Install sidewalk	200	feet	$32.00	$6,400.00
NW 95 Steet btwn 35 Court and 32 Avenue	Install sidewalk	1200	feet	$32.00	$38,400.00
	Install high emphasis pedestrian crosswalk (NW 32 Ave.)	400	feet	$2.00	$800.00
NW 87 Street btwn 32 Avenue and 27 Avenue	Install high emphasis pedestrian crosswalk (NW 27 Ave.)	400	feet	$2.00	$800.00
Prelimiary Total Cost					$133,827.50
Contingencies (20%)					$26,765.50
Mobilization (10%)					$13,382.75
Maintence of Traffic (10%)					$13,382.75
Grand Total Cost					$187,358.50