



CITY OF FORT MYERS

FINAL REPORT



City-Wide Traffic Calming Comprehensive Plan Consultant

July 11, 2003



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SECTION 1 EXECUTIVE SUMMARY

SECTION 1 – EXECUTIVE SUMMARY

The City-Wide Traffic Calming Comprehensive Plan Consultant project for the City of Fort Myers was a cooperative effort between City officials, City staff, the Consultant (McMahon Associates, Inc.) team and, most importantly, the residents of the five (5) wards. Traffic calming is the process by which residential neighborhood streets are reclaimed by residents through the use of roadway treatments, or improvements, that affect driver behavior and encourage non-residential traffic to use the main roadways that were designed for higher vehicle volumes and speeds. The various types of traffic calming treatments are listed and explained throughout this report. Photographs of the various treatments are located on the last page of **Appendix H**.

The recommended conceptual traffic calming plan summarized in this report is the culmination of successful completion of all of the principal tasks and activities of this traffic calming project. The appendices contain supporting documents that supplement this report. Also included with this report is the critique of the existing City Traffic Calming Manual, Section 7. These documents are all complimentary in their support of one another and references are made to them throughout this document.

The project began with meetings with City officials and Ward Council members, and was followed by an extensive and multifaceted data collection program. The findings from this program were presented to the individual ward steering committees, where community comments and recommendations were received. After the collection of supplemental data, a second steering committee meeting was held to present the suggested conceptual traffic calming plan. It was at this meeting that this plan was accepted by the committee. Once accepted, a public workshop meeting was advertised and held separately for each ward through the respective Council member's staff, to present the suggested conceptual plan. This meeting encouraged and solicited written comments from the attending general public to measure their acceptance of the plan. Both written and verbal comments from the citizenry were overwhelmingly positive, and indicated an acceptance of all of the ward plans. The result was the recommended conceptual traffic calming plans, listed on **Maps 23 through 34** that was presented to the City Council and unanimously adopted on June 2, 2003.

The general location and type of traffic calming treatments are identified, by phase, on the recommended conceptual traffic calming plans for each ward and McGregor Boulevard. McGregor Boulevard was treated as a separate area, similar to a ward, because of its unique relationship with many of the wards and the fact that it is a part of more than one individual ward’s infrastructure. Each ward, including McGregor Boulevard, has separate plans that list Phase I, Phase II, and/or Phase III treatments. Phase I treatments are those treatments that can be implemented within two years. Treatments that can be implemented within three to four years, but require more planning, are listed as Phase II treatments. Finally, Phase III treatments include those that involve major infrastructure improvements and planning through the City’s Capital Improvement Plan, and will require an estimated implementation time of five or more years.

Estimated probable construction costs were calculated for each ward and McGregor Boulevard. Costs were evaluated based on a range of low and high estimates, to provide an average for the wards, and delineate by phase. Treatments have a wide range due to the potential for varying design elements. **Table 1** below presents these costs.

**TABLE 1
OPINION OF PROBABLE CONSTRUCTION COST**

WARD	PHASE I Avg. Cost	PHASE II Avg. Cost	PHASE III Avg. Cost	Totals by Ward
Ward 1	\$164,250	\$390,000	-----	\$554,250
Ward 2	\$343,500	\$50,000	-----	\$393,500
Ward 3	\$612,500	-----	-----	\$612,500
Ward 4	\$247,250	\$488,500	-----	\$735,750
Ward 5	\$68,000	\$253,500	\$300,000	\$621,500
McGregor	\$30,000	-----	\$5,875,000	\$5,905,000
Totals	\$1,465,500	\$1,182,000	\$6,175,000	\$8,822,500

The implementation of these plans will enhance the quality of life for the various neighborhoods, make the roadways safer for both pedestrian and residential traffic, and effectively address the issues identified by each ward.

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SECTION 2 INTRODUCTION

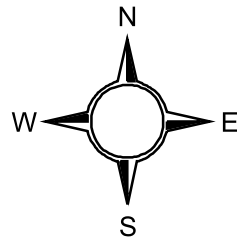
SECTION 2 – INTRODUCTION

The City of Fort Myers is located in the central section of Lee County, Florida. More specifically, it is located on the south side of, and along, the Caloosahatchee River, and has multiple crossings of that river into the neighboring City of Cape Coral, on the north side of the river. The City has a population of approximately 46,000 permanent residents, and is comprised of approximately 33 square miles. The City functions as a strong mayoral, City Council form of government.

In August of 2001, the City of Fort Myers requested qualifications and letters of interest from qualified consultants to provide professional traffic engineering services for what was called a City-Wide Traffic Calming Comprehensive Plan Consultant project. In December of 2001, the City awarded the project to the McMahon Associates, Inc. team that included two local firms: Johnson Engineering and Cella & Associates. The City-Wide Traffic Calming Comprehensive Plan Consultant project comprises all five City Wards. This study incorporated the revised ward boundaries, from the City's November 2001 redistricting, and is presented in **Map 1**. The five wards, and their respective Council representative members, are listed below:

- Ward 1 – Tammy Hall
- Ward 2 – Veronica S. Shoemaker
- Ward 3 – Dr. Ann Knight
- Ward 4 – Michael A. Flanders
- Ward 5 – Randall P. Henderson, Jr.

Ward 1, shown in **Map 2**, is located in the northern portion of the City. It is basically a residential area, and is bisected by a two-way arterial, Palm Beach Boulevard, also known as SR-80. Commercial and retail properties are located along the Palm Beach Boulevard corridor, while the majority of the surrounding areas north and south of this arterial are residential. The southwestern portion of the ward includes the Downtown Area of Fort Myers, and is where City and County facilities are located.

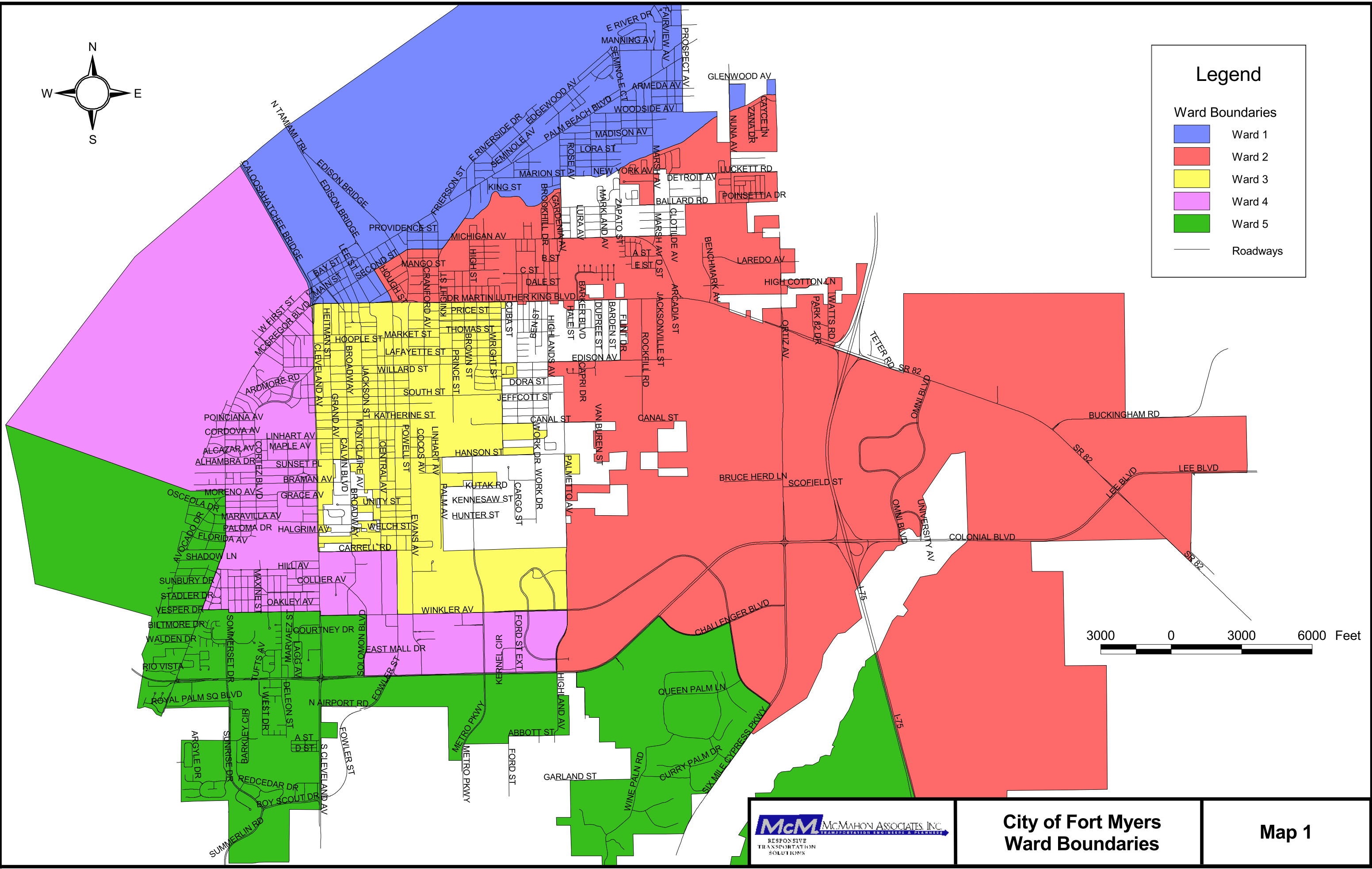


Legend

Ward Boundaries

- Ward 1 (Blue)
- Ward 2 (Red)
- Ward 3 (Yellow)
- Ward 4 (Purple)
- Ward 5 (Green)

Roadways (Black line)



City of Fort Myers
Ward Boundaries

Map 1

Legend

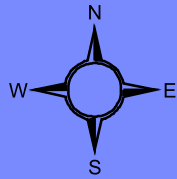
Ward Boundary



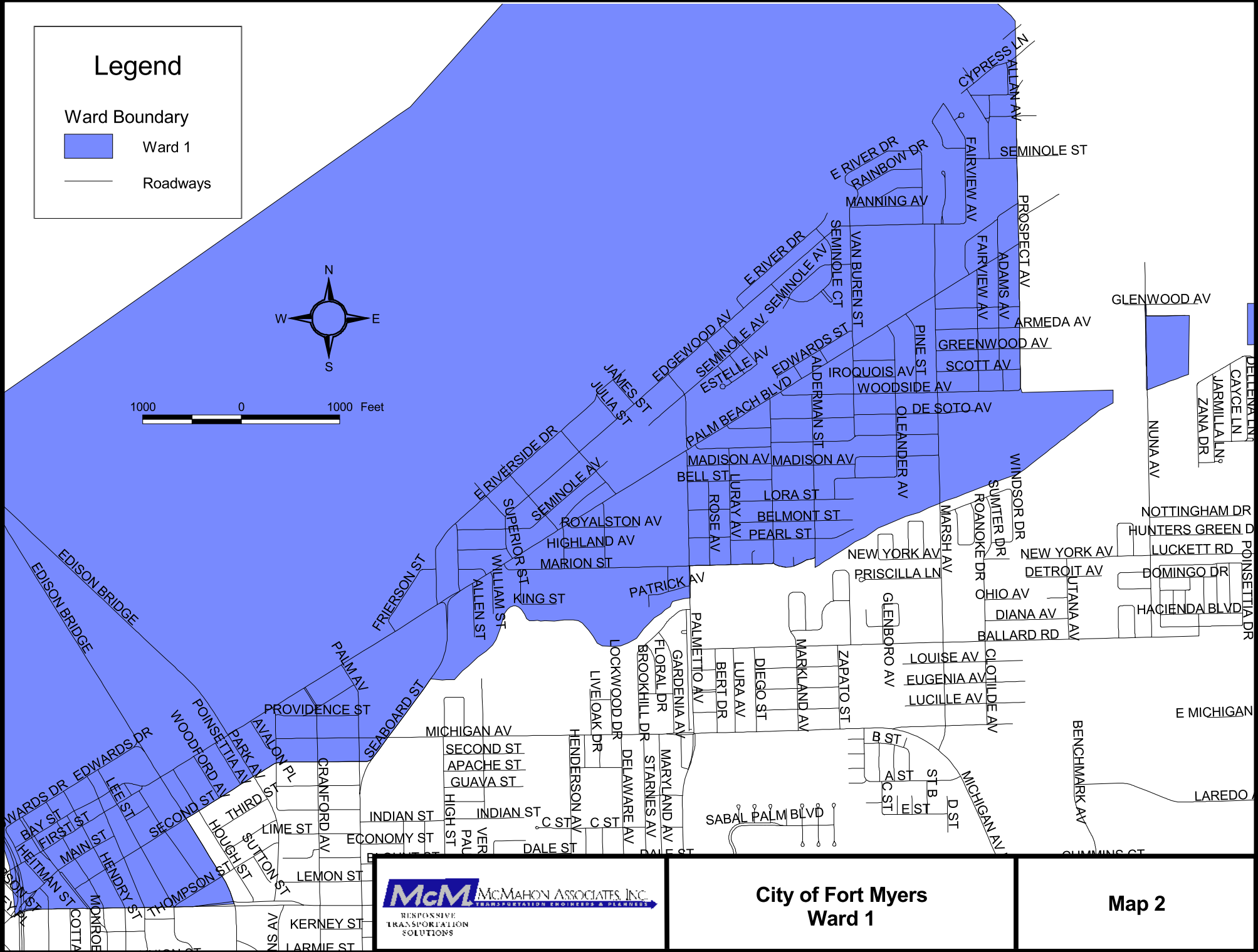
Ward 1



Roadways



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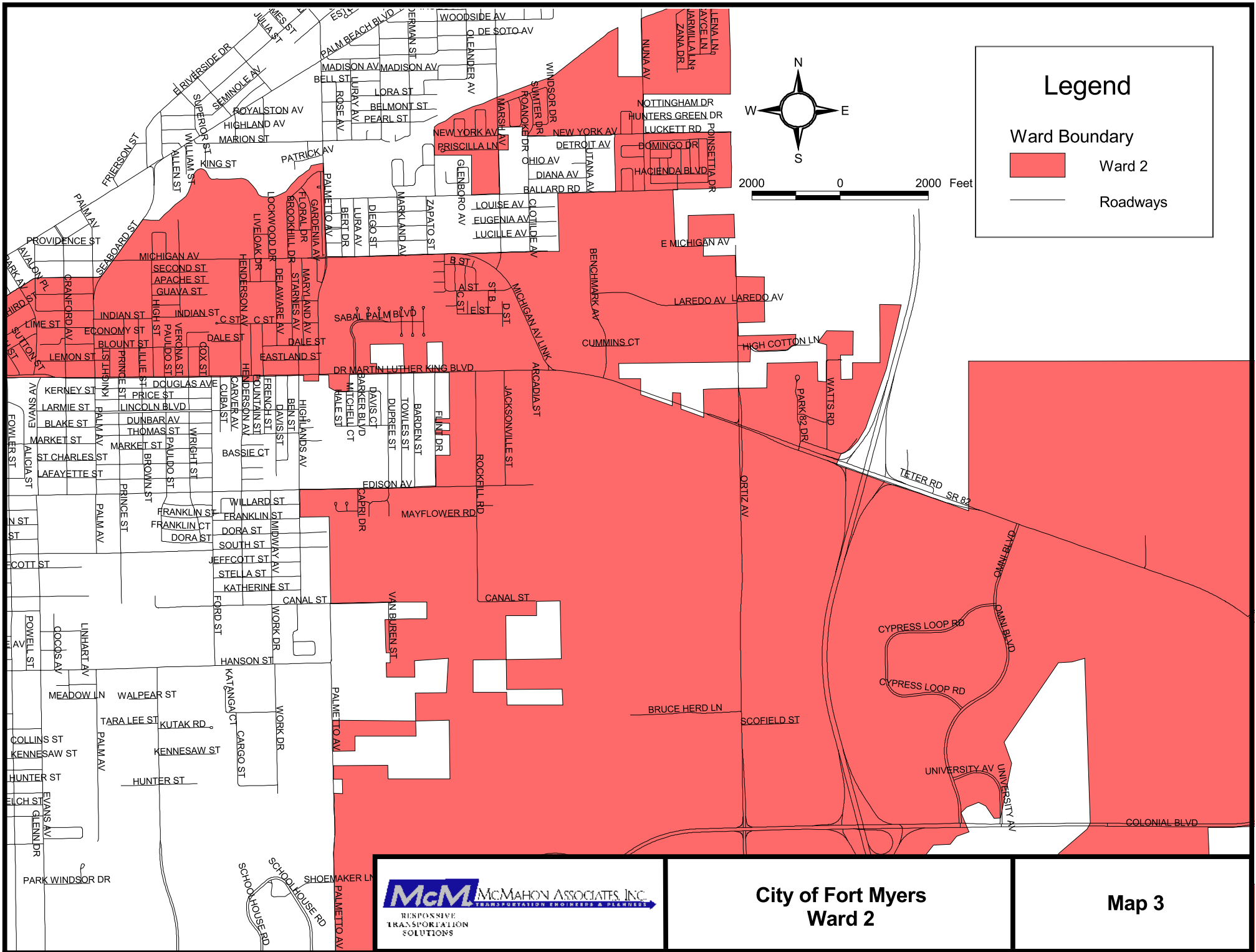
**City of Fort Myers
Ward 1**

Map 2

Ward 2, shown in **Map 3**, is located primarily in the center of the City, and extends eastwardly beyond Interstate 75 (I-75), and in some areas, beyond State Road 82 (SR-82). Ward 2 is primarily rural immediately to the east and west of I-75. The developed areas are located in the northwestern section of the ward, contain a mix of sprawling residential and isolated pockets of commercial/retail uses, and are served by a grid network street system. The commercial/retail uses are located along the major east-west and north-south arterials, which bisect the area, including SR-82, Dr. Martin Luther King, Jr. Boulevard. Ward 2 is the largest of all five wards in terms of land acreage. The balance of the northern and central areas of the ward consists primarily of residential uses.

Ward 3, shown in **Map 4**, is also located in the central section of the City, and is directly west of Ward 2. It is the only ward completely surrounded on all sides by other ward boundaries. Its roadway network system generally consists of a grid system. This ward is comprised of a mix of residential and commercial/retail uses, the latter located along the major east-west and north-south arteries. This ward still contains a large amount of unincorporated property that will, in all likelihood, eventually be annexed into the City.

Ward 4, shown in **Map 5**, is located in the southwestern portion of the City, and is bounded on the west by the Caloosahatchee River. It is primarily a residential community, with the exception of some commercial and retail uses on West First Street, near the Caloosahatchee River, along its northern boundaries. Ward 4 abuts Ward 2 with Cleveland Avenue (US-41) as the dividing line. Like Ward 3, it shares the same grid roadway network, which facilitates cross-traffic across both wards' boundaries. Cleveland Avenue is a major north-south arterial roadway, and is, for most of its length, five lane undivided with a center left-turn lane, controlled by traffic signals at key intersections. This particular corridor serves the southerly part of the commercial district within the City of Fort Myers. Ward 4 also contains McGregor Boulevard. This major north-south roadway carries a significant volume of daily traffic.



Legend

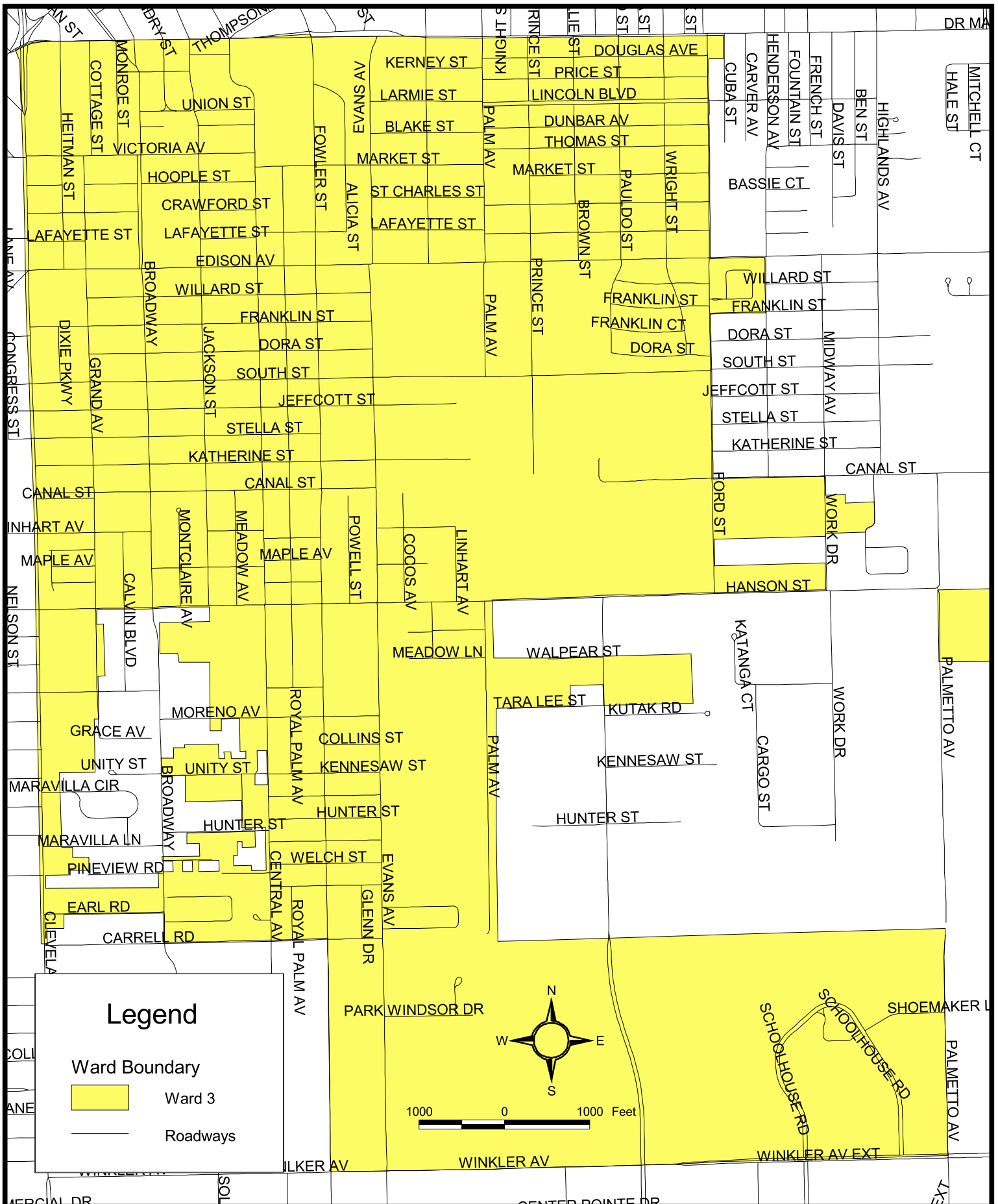
Ward 2
 Roadways

2000 0 2000 Feet

McM McMAHON ASSOCIATES, INC.
TRANSPORTATION ENGINEERS & PLANNERS
 RESPONSIVE
 TRANSPORTATION
 SOLUTIONS

City of Fort Myers
Ward 2

Map 3

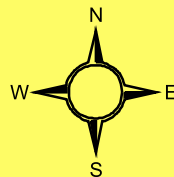


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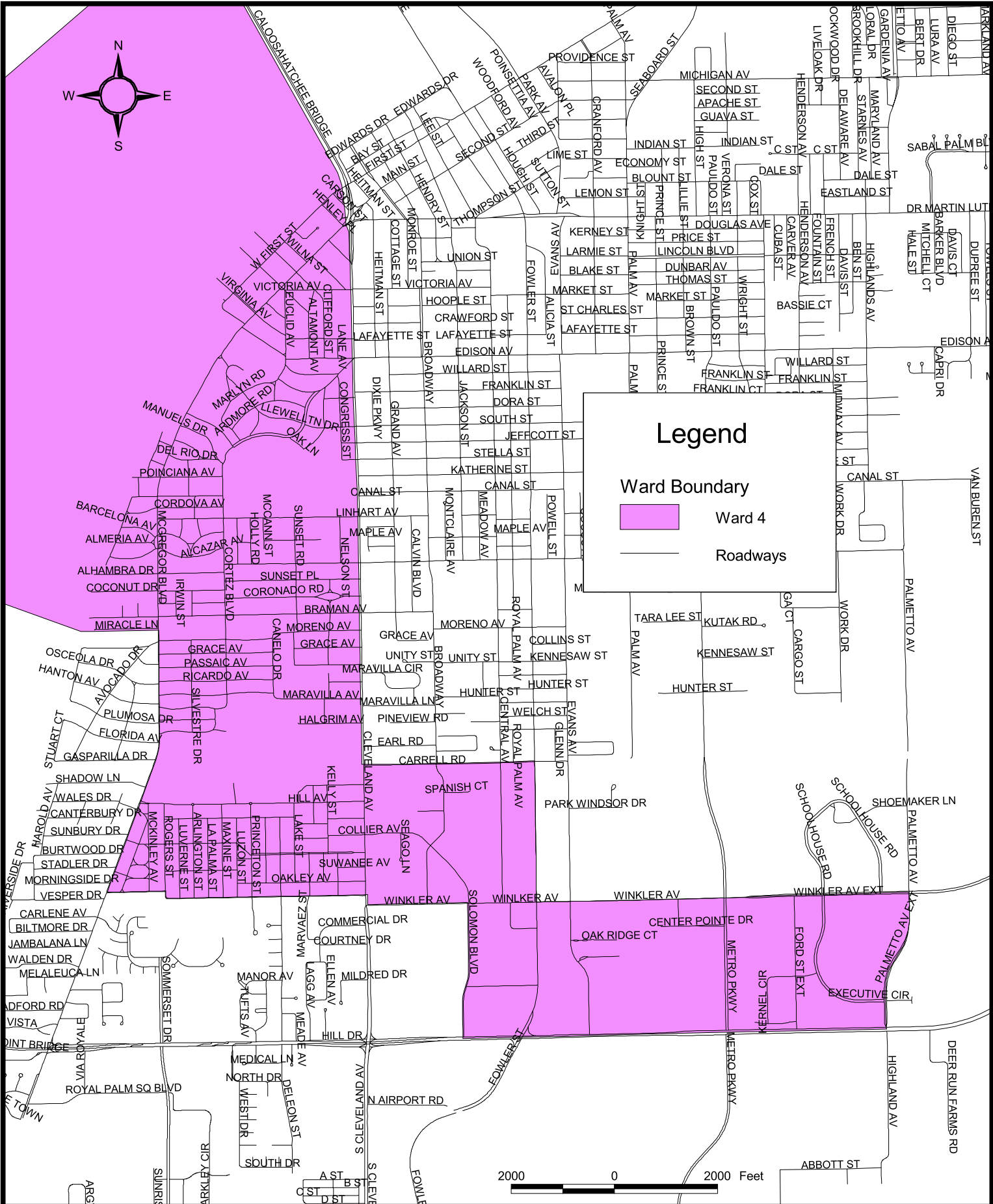
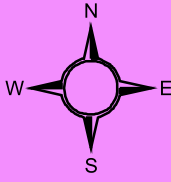
Ward Boundary

Ward 3

Roadways



1000 0 1000 Feet



Lastly, Ward 5 is shown in **Map 6**, and is located in the extreme southwest portion, and along the southerly boundary, of the City of Fort Myers. This ward is predominantly residential. It also contains a number of major roadways, including McGregor Boulevard, a portion of Cleveland Avenue, and Colonial Boulevard (SR-884). Colonial Boulevard services the Midpoint Bridge, which crosses the Caloosahatchee River from east to west, and extends into the bedroom community of Cape Coral to the west. Commercial and retail facilities are located along Colonial Boulevard.

As the project unfolded it became clear that McGregor Boulevard was an arterial roadway that traversed two (2) wards, Ward 4 and 5. Overall, the arterial roadway also services the entire City. Throughout this document you will notice that McGregor Boulevard was treated as a separate entity, not unlike a ward.

The traffic calming study area, however, for all wards, focused primarily on the residential communities within each ward. It was the residents of these wards, or stakeholders, as they are commonly referred to in traffic calming projects, who participated with City staff and Council members to outline and identify the traffic issues facing their communities. A series of meetings were held between the stakeholders and the Consultant team during the course of the project to identify and understand the various traffic issues that were facing each neighborhood, to provide feedback on improvement alternatives, and finally, to gain consensus on true recommended solutions.

Primarily, traffic calming involves adding physical features to a roadway to alter driver behavior and perception. A number of traffic calming features, or treatments, can be used, and were presented to the residents at all of the various meetings. McMahan Associates utilized these alternative treatments, referred to as the traffic calming toolkit, to educate residents on their use and their related benefits in slowing traffic down, whether real or perceived.

The recommended conceptual traffic calming plan presented at the end of this report is a direct result of the successful completion of the five-step plan executed by the City and the

Consultant team. It began with meetings with the Mayor, other City officials and staff and ward Council members. Once data was collected and analyzed, the findings were presented to the individual ward steering committees. Once this committee developed the suggested conceptual traffic calming plan, it was presented to the residents at a series of public workshop meetings. Comments from these meetings were used to develop the recommended conceptual traffic calming plans.

The recommended conceptual traffic calming plan summarized in this report is the culmination of successful completion of all of the principal tasks and activities of this traffic calming project. The appendices contain supporting documents that supplement this report. Also included with this report is the critique of the existing City Traffic Calming Manual, Section 7. These documents are all complimentary in their support of one another and references are made to them throughout this document.



SECTION 3 THE PLAN

SECTION 3 – THE PLAN

For several years, residents of the five wards in the City of Fort Myers have complained to their local representatives about traffic problems. Issues have varied from ward to ward. However, specific problems that have been common to each ward include speeding vehicles, stop-sign running, cut-through traffic, and safety for pedestrians, especially to school children. In response to complaints from residents, the City of Fort Myers commissioned this City-Wide Comprehensive Traffic Calming Study that included a series of ward meetings held during the late summer and early fall of 2002. The ward meetings sought to determine the location and severity of the traffic problems based on inputs from the residents. At the meetings, alternative traffic calming techniques were presented to resolve the traffic problems specific to each ward.

Origin of the Plan

Prior to the new City-Wide Comprehensive Traffic Calming Plan, the City of Fort Myers used speed humps at specific locations in the City where speeding problems had been reported by residents. At many of the problem locations, the installation of the speed humps decreased the number of speeding vehicles. However, traffic on these streets where the speed humps were installed also found alternative routes, which did not have speed humps. The diversion of vehicles from the traffic-calmed streets to these other streets only transferred the speeding problem to other roadways adjacent to the traffic-calmed streets. In response to increased complaints from the residents on the non-traffic-calmed streets, the City elected to seek professional assistance of a transportation consulting firm, and McMahon Associates Inc. was hired by the City to provide this assistance.

Steps of the Plan

During the summer of 2002, McMahon Associates began to put a plan of action together. The action plan consisted of a five-step process. The first step involved developing a list of potential trouble spots or problematic locations based on information received from City officials and ward representatives. For each listed location, engineers from the consulting team performed windshield surveys of the reported problems, collected speeding samples using a

radar gun, and conducted stop-sign running surveys, including several school locations which were listed as having circulation and safety problems.

The second step involved the conducting of several traffic calming committee meetings within each ward, intended to help educate the participating residents on traffic calming and assist in the selection of specific traffic calming techniques. McMahon Associates used a presentation at the first meeting to describe what traffic calming was, its effectiveness, and the alternative measures contained in the traffic calming tool kit. The tool kit is simply all of the traffic calming treatments that can be used to address traffic issues. A copy of the presentation is provided in **Appendix I**. In addition to the presentation, aerial maps were provided that depicted the street system of each ward, the problem areas that were originally reported by City officials and ward representatives, and the specific areas that were determined to be speeding and stop-sign-running hot spots, based on the collected and analyzed data. The residents who attended the first meeting were asked to provide comments and suggestions regarding the contents of the maps, including any additional areas that should be added to the list as problem areas.

The third step was the development of a preliminary conceptual traffic calming plan, listing the locations of specific traffic calming measures based on the suggestions of the residents. At the second ward committee meeting, the residents were presented with an updated conceptual plan of their ward that included their comments from the first meeting and additional traffic calming measures suggested from the Consultant's analysis of the additional speeding and stop-sign-running data that was collected. The residents were asked to review the updated plans, comment on the proposed traffic calming techniques, and provide alternatives to the plan, including any additional techniques. The resulting suggested conceptual traffic calming plan would be prepared for presentation to the general public at a public workshop.

The fourth step in the process involved conducting individual public workshops for each ward. The workshops were conducted to receive feedback from ward residents concerning the suggested conceptual traffic calming plans. The public workshops were open to all ward residents, and were advertised through mailings.

The fifth step in the process was the creation of the recommended conceptual traffic calming plan. The plan was divided into phases by implementation of a time line, and was developed in response to several factors. First and foremost was the need of immediate improvement of pedestrian and motorist safety within each neighborhood. These treatments, along with other treatments that could be implemented in a relatively short period of time, were initially designated as Phase I treatments. All other treatments, which included those which would require a moderate to extended period to implement, were initially designated as Phase II treatments. In certain cases, Phase II treatments were identified as being an alternative treatment to a Phase I treatment, in the event that the Phase I treatment proved to be ineffective.

Subsequent to the public workshops, and as the plan was in the final steps of development, a third phase was created. Phase III consists of major roadway and intersection improvements, which may require capital improvement planning and a more considerable timeline for implementation. They included separating McGregor Boulevard as an individual project, due to the significance of the proposed recommendations and the fact that it traverses two wards, Wards 4 and 5.

In conjunction with the phasing plans, the study also developed cost estimates for each solution. An opinion of probable construction costs of the proposed traffic calming techniques in each ward was developed. The treatments within each specific phase were also grouped by their priority. Following the development of the prioritization schedule, the Consultant team synthesized all ward inputs and produced a recommended conceptual traffic calming plan. This plan was presented to City Council, at a regularly scheduled public hearing for public scrutiny, on June 2, 2003, and was unanimously adopted.



SECTION 4 DATA COLLECTION/ANALYSIS

SECTION 4 – DATA COLLECTION/ANALYSIS

The traffic calming planning process requires an analysis of the public's (e.g., residents) perceptions of traffic problems, including speeding, cut-through traffic, stop-sign running, and high traffic volumes on City streets. Traffic engineers and planners can measure these problems, but the measured problems will not always equate to the public's perception of the problem. Further, for the purposes of traffic calming studies, it is not necessary to collect large amounts of data related to each problem. In many cases, excessive amounts of data would be superfluous, and not necessary to properly analyze a particular problem. Generally useful empirical traffic data can be acquired by sampling and observing conditions for relatively short periods of time. These conditions include stop-sign-controlled intersection operations and speeding along local roadways. For other conditions, such as school operations and cut-through traffic, data can be effectively collected through windshield surveys. Accident histories and traffic control device inventories are typically catalogued by, and available from, local government agencies. All of this data, in combination, is then utilized by experienced transportation professionals to evaluate whether or not actual conditions coincide with the perceived problems.

EXISTING CONDITIONS

The City's major roadway infrastructure includes a number of major state roadways. These roadways include I75, Dr. Martin Luther King, Jr. Boulevard, Colonial Boulevard, Cleveland Avenue and Palm Beach Boulevard. These roadways are primarily arterials designed to carry large volumes of traffic at relatively high rates of speed. The application of traffic calming treatments will not apply to these arterials, but rather to local roadways and collector roadways where warranted. Each of the wards has their own unique roadway infrastructure and land use characteristics.

In Ward 1, Palm Beach Boulevard, a two-way multilane arterial, which bisects the ward in a northeast to southwest direction, is the most significant roadway in the Ward 1 network. Edgewood Avenue is a collector roadway in the northwestern section of the ward, and runs north of, and parallel to, Palm Beach Boulevard. The other principal roadways in Ward 1 are generally

north to south, and include Marsh Avenue, Veronica Shoemaker Boulevard (formerly Palmetto Avenue), and Seaboard Street.

This ward also includes two of the three bridges that connect Fort Myers to neighboring Cape Coral on the west side of the Caloosahatchee River, the Caloosahatchee Bridge and the Edison Bridge. The conversion of West First Street, on the southwestern end of the ward, from a two-way to one-way roadway in conjunction with Seaboard Street, has created traffic issues for residents of historic Dean Park.

Ward 2 includes I-75 and Dr. Martin Luther King, Jr. Boulevard in its boundaries. The developed areas of the ward are characterized by a grid network of streets, including Dr. Martin Luther King, Jr. Boulevard and Ortiz Avenue. North to south collector roadways include Veronica Shoemaker Boulevard, Marsh Avenue, and Michigan Avenue Link. Michigan and Edison Avenues are the east to west collector roadways.

Ward 3's roadway network system generally consists of a grid system. Arterial roadways within this ward include Cleveland Avenue, Fowler Avenue, and Dr. Martin Luther King, Jr. Boulevard. The principal north to south roadways within this ward include Evans Avenue, Ford Street, and Prince Street, while principal east to west roadways include Edison Avenue, South Street, Canal Street, Hanson Street, and Winkler Avenue.

Ward 4 abuts Ward 2 with Cleveland Avenue as the dividing line. Like Ward 3, it has a similar grid roadway network, which facilitates cross-traffic across both wards' boundaries. As indicated previously, Cleveland Avenue is a major arterial roadway and is, for most of its length, five lane undivided, with a center left-turn lane and multiple traffic signals.

McGregor Boulevard and Cleveland Avenue are the major north to south arterial roadways. McGregor Boulevard is a two-lane roadway, and includes a two-way center left-turn lane for most of its length. North to south collector roadways include Cortez Boulevard and First Street. East to west collectors include Linhart, Braman, Hill, Jefferson and Winkler Avenues.

Lastly, Ward 5 contains a number of major roadways, including McGregor Boulevard, a portion of Cleveland Avenue, and Colonial Boulevard. As indicated previously, Colonial Boulevard services the Midpoint Bridge, which crosses the Caloosahatchee River and extends over into the bedroom community of Cape Coral to the west.

Principal east to west roadways in this ward include Winkler Avenue and Royal Palm Square Boulevard. The north to south principal roadway is De Leon Street. The Georgetown neighborhood located in the southwestern end of the ward has a well-known access issue that focuses on McGregor Boulevard.

The City provided a list of existing traffic control devices and speed hump locations and Lee County provided crash data to the Consultant team. A visual inspection of the stop signs in each ward determined whether they were single, two-way, three-way, or four-way stops. Locations that had been reported as speeding and stop-sign-running problem areas were also catalogued. Additional field visits were made to collect speeding and stop-sign-running data. From the data, hot spot locations were determined. The resulting data was utilized in the development of an existing conditions map.

City Representative Meetings

Once familiar with the general roadway network and traffic characteristics within each ward, the next step in assessing the existing conditions within each ward involved meeting with City staff and the Council member for each ward. Each Council member specified areas of concern based on their personal knowledge or known complaints of citizens. These comments were organized into a spreadsheet format, and are contained in **Appendix A**. This information provided the initial basis for the focus of data collection efforts. The minutes of these meetings are contained in **Appendix B**. A list of the reported problem areas, by ward, was compiled, and engineers were sent out to field examine these problems. The problems identified through field examination, plus those problems identified by City staff and Council members, are presented below by ward and include a brief discussion.

Ward 1

- Dean Park – speeding, stop-sign running, and cut-through traffic.
- Pine Street – speeding.
- Public Schools – traffic circulation and queuing.

It was reported that the residents of the Dean Park neighborhood complain about several problems, including speeding, stop-sign running, and cut-through traffic. Speeding was cited as a problem primarily for Cranford Avenue and Michigan Avenue. Stop-sign running was reported as a problem for the north/south streets, which have stop signs. The absence of stop signs on the east/west roads was cited as the reason for the presence of many speeding vehicles. Residents also mentioned that the addition of stop signs on Palm Avenue did not help slow vehicles. Cut-through traffic was reported as a problem on Providence Street, due to heavy traffic volumes. Cut-through traffic traveling north/south was also reported as a problem on Cranford Avenue.

Several of the Dean Park residents also asserted that the reason for traffic problems in Dean Park was due to the changes in First and Second Streets from two-way streets to one-way pairs. Residents stated that they did not have as many traffic problems when First and Second Streets were each two-way roadways. Some of the Dean Park residents believe that when the streets were converted from two-way to one-way, a significant number of vehicles sought short cuts through their neighborhood. Several of the residents believe that, if the one-way pairs were changed back to two-way streets, then many of the traffic problems in their neighborhood would be eliminated. Another problem reported by Dean Park residents not directly related to neighborhood roadways is the difficulty in making left turns onto First Street from Cranford Avenue, during the AM peak period rush hour.

In Ward 1, south of Palm Beach Boulevard, Pine Street and Polk Street were reported as having speeding problems. Engineers conducted windshield surveys of the two roads in July and again during the month of November. Although no speeding vehicles were actually captured on radar during the site visits, the repeated citizen complaints suggest the likelihood that speeding is a problem.

A field visit was made to the Edgewood Renaissance Academy on Edgewood Avenue during the month of August, after school had opened, to observe operations. Observations indicated that westbound drivers attempt left turns into the school drop-off driveway when security is busy directing eastbound traffic. There is no signage to prevent the left-turn movement at that location. Proper signage should be provided to prevent conflicts. Congested traffic was especially observed during the morning, when parents dropped off their children.

Ward 2

- Michigan Avenue – vehicle conflicts where it intersects with Michigan Avenue Link.
- A, B, C, D, and E Streets in the Michigan Housing Development – speed humps.
- Brookhill Drive and Gardenia Avenue – speeding and cut-through traffic.
- Sabal Palm Boulevard – speeding.
- Adult Community School on Blount Street – traffic circulation and parking.
- Public Schools – traffic circulation and queuing.

A reported problem area in Ward 2 involved conflicts between westbound vehicles on Michigan Avenue and Michigan Avenue Link at their intersection. Observations made at the intersection captured westbound vehicles on Michigan Avenue attempting to cut in front of cars headed westbound on Michigan Avenue Link, even though a yield sign cautions them to give the right-of-way to Michigan Avenue Link traffic. In some instances, vehicles were observed making this movement without yielding and creating a dangerous situation by not leaving enough room between their car and the oncoming vehicle. Although there is sufficient sight distance to see approaching westbound vehicles on Michigan Avenue Link from Michigan Avenue, the yield conflicts raise safety concerns at this intersection.

In Ward 2, there is a group of streets designated as A, B, C, D, and E Streets, located in the Michigan Housing Development to the west and south of Michigan Avenue Link. A number of the streets have speed humps. A field review of the speed humps indicated that they are the older design speed humps. The absence of reflective pavement markings and reflective pavement markers (RPMs) result in poor speed hump visibility. In addition to their poor visibility, advanced warning signs are not provided for every speed hump. While the speed

humps may help slow vehicles at their locations, they are not spaced properly. The end result is that speeding is calmed only for the immediate area of the speed hump, and not for the whole street. The placement of additional speed humps at properly spaced intervals, with more effective pavement marking, would help improve their effectiveness.

While speed humps have been proven to help reduce vehicular speeds, they can also encourage traffic to divert to other roadways to avoid them. For example, according to residents, the speed humps that were installed on Brookhill Drive have diverted speeding vehicles to Gardenia Avenue, an adjacent local street. The residents complained that Gardenia Avenue did not have a speeding problem prior to the installation of the speed humps on Brookhill Drive.

Residents from Sabal Palm Boulevard reported that there is a speeding problem on the section of their road that is directly north of Dr. Martin Luther King, Jr. Boulevard, before the bend in the road.

The Adult Community School is located between Indian Street, Raleigh Street, Blount Street, and High Street in Ward 2. Residents have reported problems with parking and adjacent street congestion. The field observations, made by the Consultant team, supported their complaints. During the evening classes, around 7:00 PM, school-related traffic was observed to be very heavy, causing congestion. Student vehicles desiring to park were observed to exceed parking capacity. Also, the Dunbar Community School, located on High Street, was observed to have traffic circulation problems. The busiest time occurred during the AM peak period. Traffic flow on High Street was observed to be detrimentally affected by the school-related traffic.

Ward 3

- Lincoln Boulevard – speeding.
- Dunbar Avenue – speeding.
- St. Charles Street – speeding.
- Lafayette Street – speeding.
- Stars Recreation Center – pedestrian and vehicle circulation.
- Public Schools - traffic circulation and queuing.

Speeding problems on several east/west roadways were reported for Ward 3. The roadways included Lincoln Boulevard, Dunbar Avenue, St. Charles Street, and Lafayette Street. During the field visits to collect speed data in July 2002, a few residents suggested that the north/south streets had a more serious speeding problem than the east/west roadways. Since the Consultant's engineers were already in the field collecting speed data, they collected samples for Pauldo Street, to verify the residents' complaints. When the steering committee meetings were held for this ward, the McMahon Associates engineers asked the participating residents if they believed that the speeding problem was primarily on the north/south-oriented roadways instead of the east/west-oriented roadways. The residents responded by selecting the north/south roadways. Based on recommendations from the residents attending the meetings, speeding samples were collected for selected north/south streets, including Wright Street, in August 2002 and Grand Avenue in February 2003.

Field visits were also made to the Stars Recreation Center, to examine potential circulation, traffic volume, and pedestrian problems. Visits were conducted in the afternoon time period, after school, when teenagers were expected to use the center. After a few visits, no major problems were observed. The observations do not necessarily mean that a problem does not exist. Friday or Saturday afternoon/evening hours may exhibit operational problems that were not present during the hours that the observation teams were in the area of the recreation center. However, since the Consultant's engineers did not visit the site on Friday or Saturday evening, this report assumes that the resident's complaints are legitimate. Circulation observations were also made at the Fort Myers Middle Academy on Central Avenue. Buses were observed circling the school until there was enough room for them to enter the bus lane to drop off the students.

Ward 4

- McGregor Boulevard at Barcelona, Almeria, and Alcazar Avenues – pedestrian crossing.
- Public Schools – traffic circulation and queuing.

In Ward 4, there were requests identifying the need for a pedestrian crossing at McGregor Boulevard adjacent to three streets, Barcelona Avenue, Almeria Avenue, and Alcazar Avenue.

McGregor Boulevard was also a concern of itself due to the inability of drivers to safely exit the side streets and driveways due to the high volume of traffic on this roadway.

At three schools in Ward 4, Edison Park Elementary School, Fort Myers High School, and Allen Park Elementary School, observations indicated that traffic circulation problems did exist for each. Edison Park Elementary School is located on Euclid Avenue. Traffic on this street did get backed up during the morning due to the resulting school and tourist attraction traffic. Visitors to the Edison Ford Estate were seen parking in school parking lot. For the Fort Myers High School, circulation was adversely affected when parents dropped off and picked up the students. Traffic circulation was also a problem for about 20 minutes due to school buses entering and leaving, in spite of the three bus ramps. The problem is that the number of buses exceeds the capacity of the drop-off area. A similar bus problem was observed for Allen Park Elementary School where the bus lane was not large enough to accommodate all of the buses that arrived at similar times. The school was not designed to handle the number of buses it presently services.

Ward 5

- Sam Fleischman Park – cut-through traffic.
- De Leon Street south of Colonial Boulevard – northbound capacity.
- Royal Palm Square Boulevard near YMCA – pedestrian safety.
- Meade Avenue – cut-through traffic.
- Georgetown Frontage Road – cut-through traffic.
- McGregor Boulevard near the McGregor Café – widening to three lanes.
- Evans Avenue south of Colonial Boulevard at Eye Care Center – pedestrian crossing.
- Mathew Road and Barkley Circle east of Summerlin Road – queuing.
- Public Schools – traffic circulation and queuing.

Sam Fleischman Park is located at the southern end of De Leon Street, south of Colonial Boulevard, with a connection to Matthew Drive near the water department station. Residents at the first ward meeting stated that cars and trucks, some trucks as large as semi-trucks, use the park as a short cut to avoid the congested major roadways. Windshield observations, conducted

during the month of July 2002, proved that the park does experience cut-through traffic. Vehicles were observed using the park as a short cut, providing support for the residents' claims.

De Leon Street was reported to have congestion problems for northbound traffic south of Colonial Boulevard. According to the complaints received by the City, the problem is due to a high number of right-turning vehicles. The problem was reported to exist for most of the daylight hours, with increased severity during peak hours.

The Colonial Boulevard and De Leon Street intersection consists of two northbound lanes, one left-turn lane and one shared-through lane and right-turn lane. Citizen complaints indicated that northbound through vehicles waiting for the green signal phase frequently block the northbound vehicles attempting to make a right-turn. The blockage results in lengthy queues. The queues extend far enough south of Colonial Boulevard to block vehicular movements from surrounding businesses, including the 7-11 convenience store, medical offices on Medical Lane, and the Southwest Florida College parking lot. The queuing problem is increased by northbound vehicles from the Bowling Green subdivision and patrons of the sports activities, including baseball fields and swimming pool, at Sam Fleischman Park, attempting to reach Colonial Drive via De Leon Street. Colonial Boulevard also contributes to this problem, due to significant eastbound volumes entering the intersection at De Leon Street during PM peak periods, and blocking traffic on De Leon Street when it has the green phase. This saturated traffic condition at the intersection compounds traffic problems on De Leon Street.

At Royal Palm Square Boulevard, near the YMCA, concern for pedestrian safety was listed as a problem. The complaints provided to the City indicated that it is dangerous for pedestrians to cross Royal Palm Square Boulevard at the designated crosswalk. Apparently, people from the businesses across the street from the YMCA try to cross the street to use the Y's facilities. Speeding vehicles were cited as the cause of the problem.

There were reports of pedestrian safety problems at the crossing on Evans Avenue at the Eye Care Center, located south of Winkler Avenue in the 4100 block. According to employees working at the Eye Care Center, employees frequently have to carry paperwork back and forth

across Evans Avenue between the Eye Care Center and businesses located across the street. Various businesses on both sides of Evans Avenue are interrelated, and generate a significant number of pedestrian crossings on Evans Avenue, just south of Winkler Avenue. A bus stop located in the vicinity of this area increases the number of pedestrian crossings on this roadway. Due to the frequent business-related pedestrian activity crossing Evans Avenue, conflicts between pedestrians and vehicles are more likely to occur.

Queuing problems were reported for westbound vehicles on Mathew Drive at its intersection with Summerlin Road. During the PM peak period rush hour, a significant number of vehicles were reported in the westbound queue at the traffic signal, blocking the various business driveways closest to Summerlin Road.

Orangewood Elementary School is the only school in Ward 5 that was scheduled for field observation of potential traffic circulation problems. The parental child drop-off and pick-up circulation did not indicate any serious problems during observation. However, bus circulation problems were observed because the bus ramps could not accommodate all the buses without causing congestion problems.

All the above areas of listed concern were initially investigated through windshield surveys to assess their existence and severity area. Spot-speed studies and stop-sign-running studies were conducted on those roadways that suggested the need for further study.

THE SPEED STUDY

As mentioned previously, the data collection for the initially reported speeding and stop-sign-running problem areas conducted in July 2002. After a series of ward meetings with residents, new problem areas were added to the problem area list. In August 2002, supplemental speeding and stop-sign-running data was collected to address the new reported problem areas. In the following months, additional ward meetings were held to present the speeding and stop-sign-running survey results to residents. The ward meetings culminated in public workshop meetings for each ward. Many of the public workshop participants reported yet additional speeding problem areas. Again, in February 2003, another field trip was conducted to perform windshield

surveys and collect additional speeding samples for problem areas that had not been visited, analyzed, or reported previously.

The speed studies were conducted with the use of a radar gun, to capture the speeds of vehicles on roadways reported to have speeding problems. The radar gun was calibrated before each field visit, to ensure that accurate data was collected. The raw speed data is provided in **Appendix C**.

In addition to ensuring the accuracy of the radar gun, the Consulting team's engineers that collected the speeding samples positioned themselves as inconspicuously as possible at each location, to prevent motorists from suspecting that speed surveillance by radar was in use. The team used ordinary looking vehicles that were frequently parked off the road or behind obstructions. The radar gun was held behind the dashboard until it was lifted up and aimed at an oncoming vehicle, to prevent the gun from setting off radar detectors. The team that performed this work also moved frequently from location to location, never spending a lengthy period of time at any one sampling location, to prevent motorists from becoming aware of their presence.

Speed data was generally collected for a period of time ranging between 15 to 30 minutes at every location, with 20 minutes being the norm. The busier the street, the less time it took to collect the required speeding samples. For statistical purposes, the desired sample size consisted of at least 25 samples. This number of samples is necessary to provide confidence that the analysis will produce satisfactory results. The absolute minimum recommended sample size, which provides some confidence that the analysis results will be consistent, is five samples. Sample sizes smaller than five generally will not produce satisfactory results.

From the speed data collected for this study, most roadways had sufficient volume to provide at least the desirable 25 data samples. However, some of the local streets had very low volumes. For example, several local roadways, including Sabal Palm Boulevard in Ward 2, Alhambra Drive and Llewellyn Drive in Ward 4, and both St. Charles Street and Lafayette Street in Ward 3 had sample sizes ranging from three to seven samples. Although the size of the

samples was marginal, the data collection methodology accepted the fact that for such low volume roadways, the practical sample size would be necessarily small.

Vehicle speeds were captured primarily during the mid-week (Tuesday, Wednesday, Thursday) off-peak periods and also for the AM and PM peak hours. “Speeding” vehicles were divided into two groups, vehicles traveling between (1) “five to nine” and (2) “10 or more” miles per hour over the posted speed limit. Any vehicle exceeding the speed limit by 10 or more miles per hour was considered to be a “significant speeding” situation. **Table 2** provides a list of all sampled locations by roadway, roadway segment, posted speed limit (for streets without a posted limit, by Florida statutes, the speed limit is 30 miles per hour), and indicates whether or not vehicles were exceeding the speed limit by 10 or more miles per hour.

The results from the speed studies indicate that 28 of the 52 reported problem locations, or 54 percent, experienced speeding vehicles traveling 10 or more miles per hour over the posted speed limit. The tables containing the percentages of speeding vehicles for reported problem locations are provided in **Appendix D**. The resulting data support the comments made by residents at the various ward meetings that traffic calming is necessary to reduce the number of speeding vehicles, improve safety, and preserve a sense of neighborhood.

**TABLE 2
SPEEDING PROBLEM FIELD STUDY RESULTS**

Roadway	Segment	Posted Speed Limit	Speeding (Yes / No)	Time of Day (Approximate)
Ward 1				
Edgewood	Southwest of Tarpon Street	30	Yes	4:00 PM
Edgewood	Southwest of Palmetto Avenue	30	No	----
E. Riverside Drive	Between Seaboard & Tarpon Streets	30	Yes	9:20 AM & 5:05 PM
Polk Street	North of Lora Street	30	Yes	9:45 AM
Washington Avenue	West of Polk Street	30	No	----

Ward 2				
Cranford Street	North of Lime Street	30	Yes	8:15 AM
Palm Avenue	At Economy Street	30	Yes	9:25 AM & 2:30 PM
Marsh Avenue	At Priscilla Lane	30	Yes	9:15 AM & 4:50 PM
Marsh Avenue	South of Eugenia Avenue	30	Yes	11:20 AM & 2:10 PM
Palmetto Avenue	South of "C" Street	30	No	----
High Street	North of Blount Street	30	No	----
Brookhill Drive	At Lantana Street	30	No	----
Michigan Avenue	At Brookhill Drive	30	Yes	10:15 AM & 4:00 PM
Michigan Avenue	East of Raleigh Street	30	Yes	10:40 AM & 4:25 PM
Sabal Palm Boulevard	At First Curve to the North	30	No	----
Raleigh Street	North of Mango Street	30	Yes	10:35 AM

Ward 3				
Broadway	South of Jeffcott Street	30	Yes	10:35 AM
Broadway	At Dora Street	30	Yes	3:30 PM
Jackson Street	South of Edison Avenue	30	No	----
Jackson Street	North of Dora Street	30	Yes	2:55 PM
Pauldo Street	At St. Charles Street	30	No	----
Wright Street	At Price Street	30	Yes	7:55 AM
Wright Street	At St. Charles Street	30	Yes	9:55 AM
St. Charles Street	West of Wright Street	30	No	----
South Street	At Broadway	30	No	----
Lafayette Street	At Pauldo Street	30	No	----
Lincoln Boulevard	At Brown Street	30	No	----

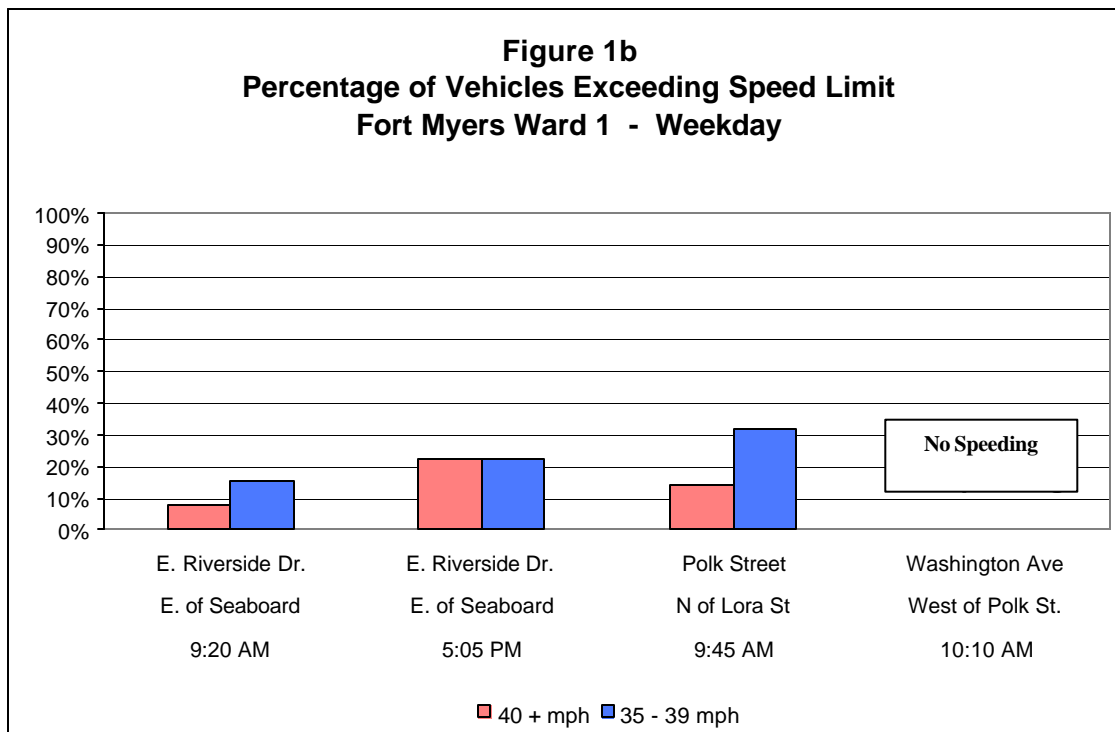
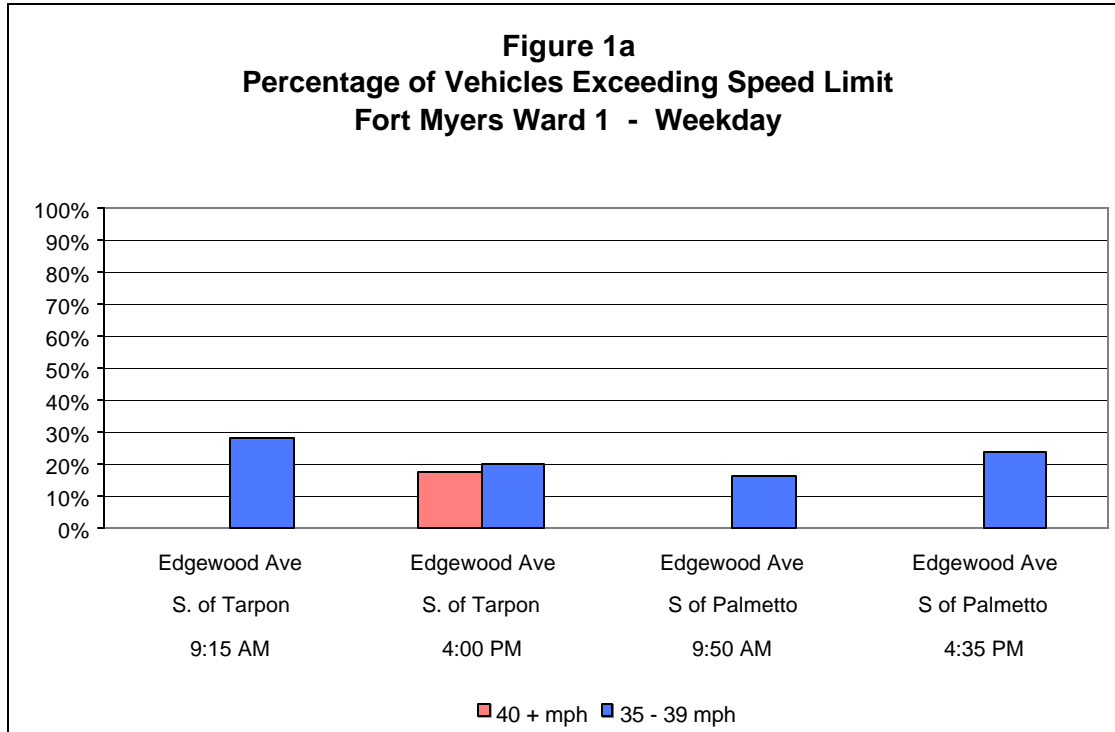
**TABLE 2 (Cont.)
SPEEDING PROBLEM FIELD STUDY RESULTS**

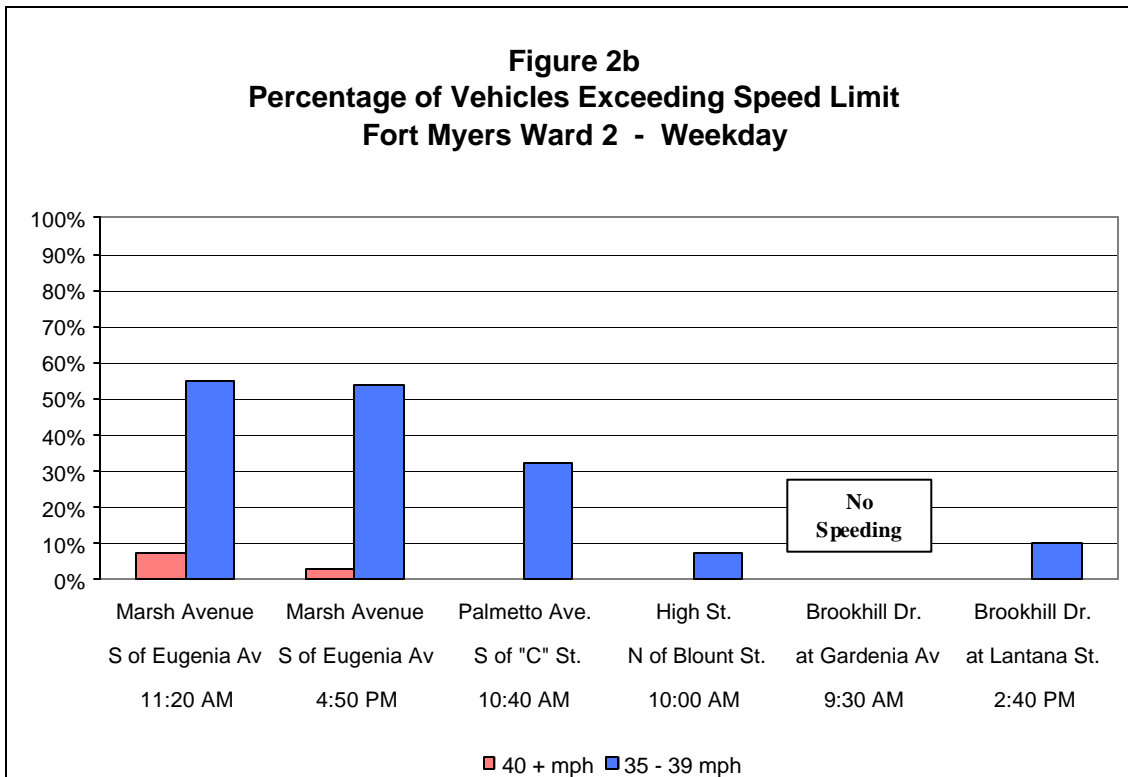
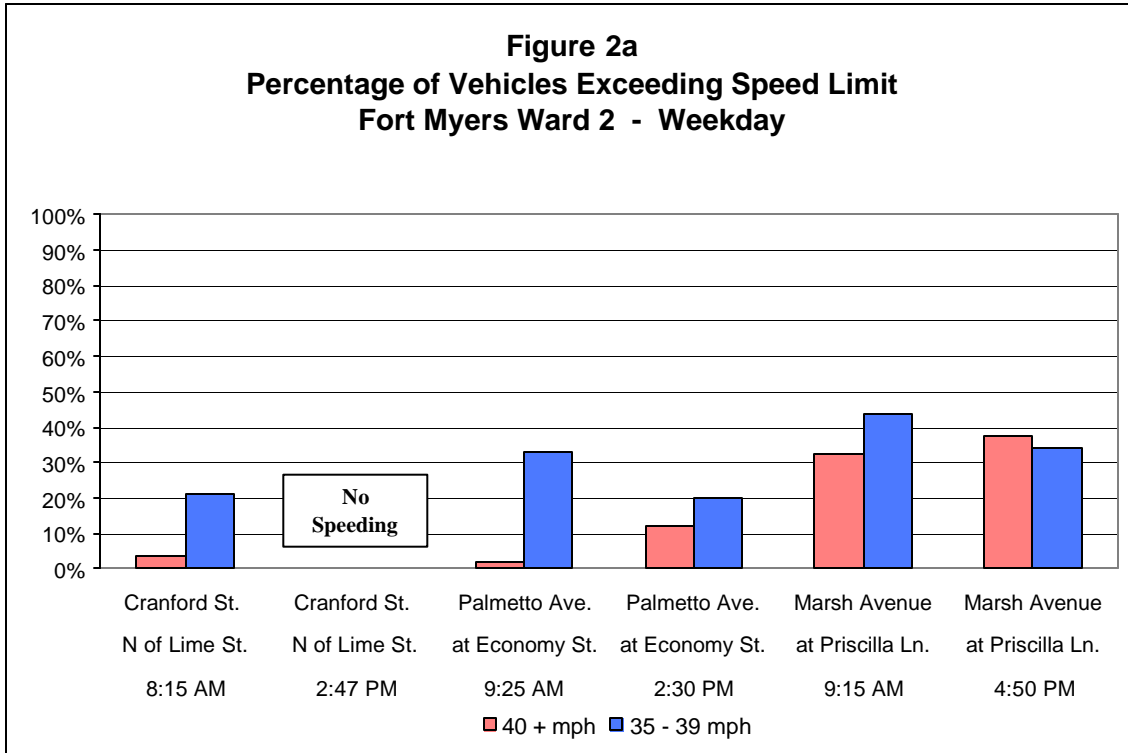
Roadway	Segment	Posted Speed Limit	Speeding (Yes / No)	Time of Day (Approximate)
St. Charles Street	At Brown Street	30	No	----
Lafayette Street	Between Palm Avenue & Ford Street	30	No	----
Grand Avenue	South of Franklin Street	30	No	----
Grand Avenue	South of Jeffcott Street	30	Yes	11:40 AM
Ward 4				
McGregor Boulevard	At Barcelona Avenue	35	Yes	2:45 PM
McGregor Boulevard	At Country Club	35	No	----
West First Street	West of Virginia Avenue	30	Yes	11:45 AM & 4:25 PM
Hill Avenue	At Golfview Avenue	30	Yes	3:20 PM
Jefferson Avenue	East of Hanover Street	30	Yes	2:30 PM
Linhart Avenue	East of Cortez Boulevard	30	No	----
Linhart Avenue	At Gladiola Drive	30	No	----
Braman Avenue	East of Cortez Boulevard	30	Yes	9:05 AM
Braman Avenue	At Nelson Street	30	Yes	12:05 PM
Moreno Avenue	Between McGregor & Cortez Blvds.	30	Yes	9:45 AM
Maravilla Avenue	Between McGregor & Cortez Blvds.	30	Yes	2:25 PM
Hanson Street	Between Cortez Blvd. & Sunset Road	30	Yes	8:00 AM & 11:45 AM
Llewellyn Avenue	East of Cortez Boulevard	30	No	----
Llewellyn Avenue	West of Cortez Boulevard	30	No	----
Linhart Avenue	East of McGregor Boulevard	30	Yes	2:10 PM
Hanson Street	East of Cortez Boulevard	30	No	----
Alhambra Drive	East of McGregor Boulevard	30	No	----
Altamont Avenue	North of Lafayette Street	30	No	----
Moreno Avenue	Between McGregor & Cortez Blvds.	30	Yes	9:45 AM
Ward 5				
Winkler Avenue	At La Palma Street	30	No	----
De Leon Street	South of Colonial Boulevard	30	Yes	4:20 PM

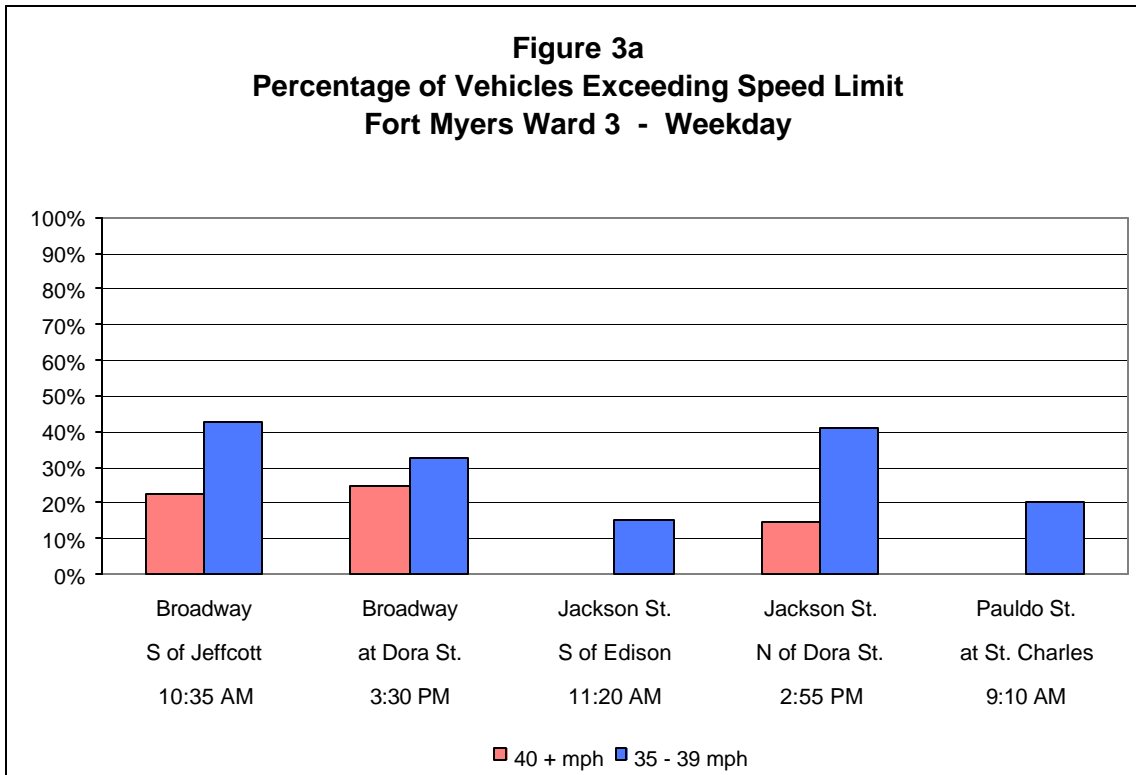
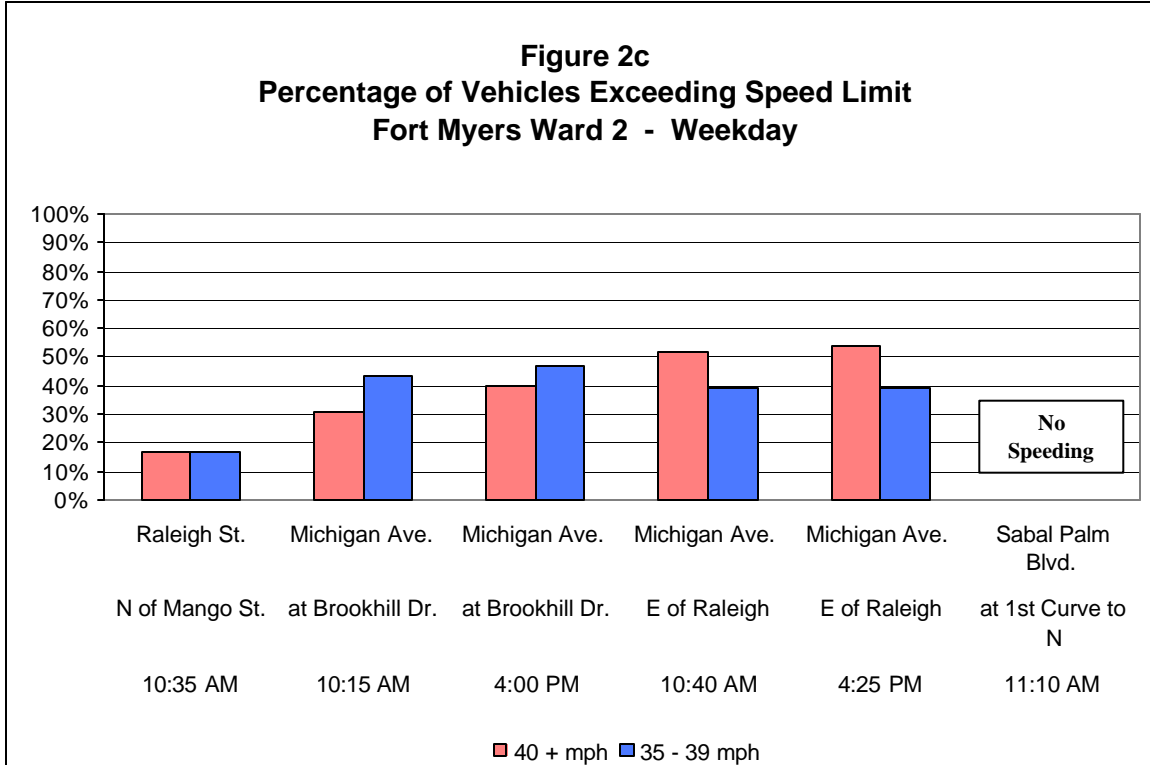
The actual percentages of speeding vehicles, were divided into the same two speeding groups, (1) “five to nine,” and (2) “greater than 10” miles per hour over the speed limit, and are geographically presented in **Figures 1a** and **1b** for Ward 1; **Figures 2a – 2c** for Ward 2; **Figures 3a – 3c** for Ward 3; **Figures 4a – 4c** for Ward 4; and **Figure 5** for Ward 5. In Figures 1a through 5, the absence of a block for either or both “speeding groups” at a specific location denotes that no speeding was measured at all for that group of that location. The percentages shown in the figures for each location and for each “speeding” group are based upon the total samples at each location for each time period (i.e., at Edgewood Avenue, south of Tarpon Street, at 4:00 PM, approximately 20 percent of vehicles sampled exceeded the speed limit by five to nine miles per hour, and 19 percent by 10 or more miles per hour. The streets where vehicles exceeded the speed limit by 10 or more miles per hour are presented in **Table 3**.

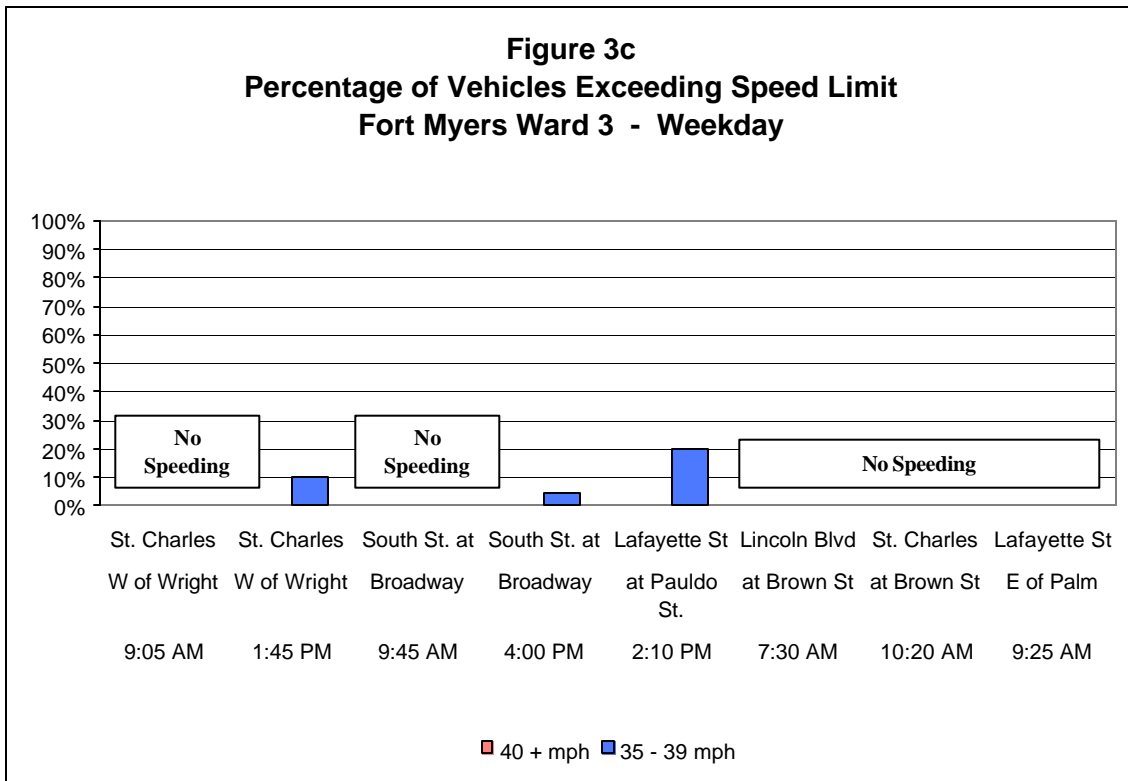
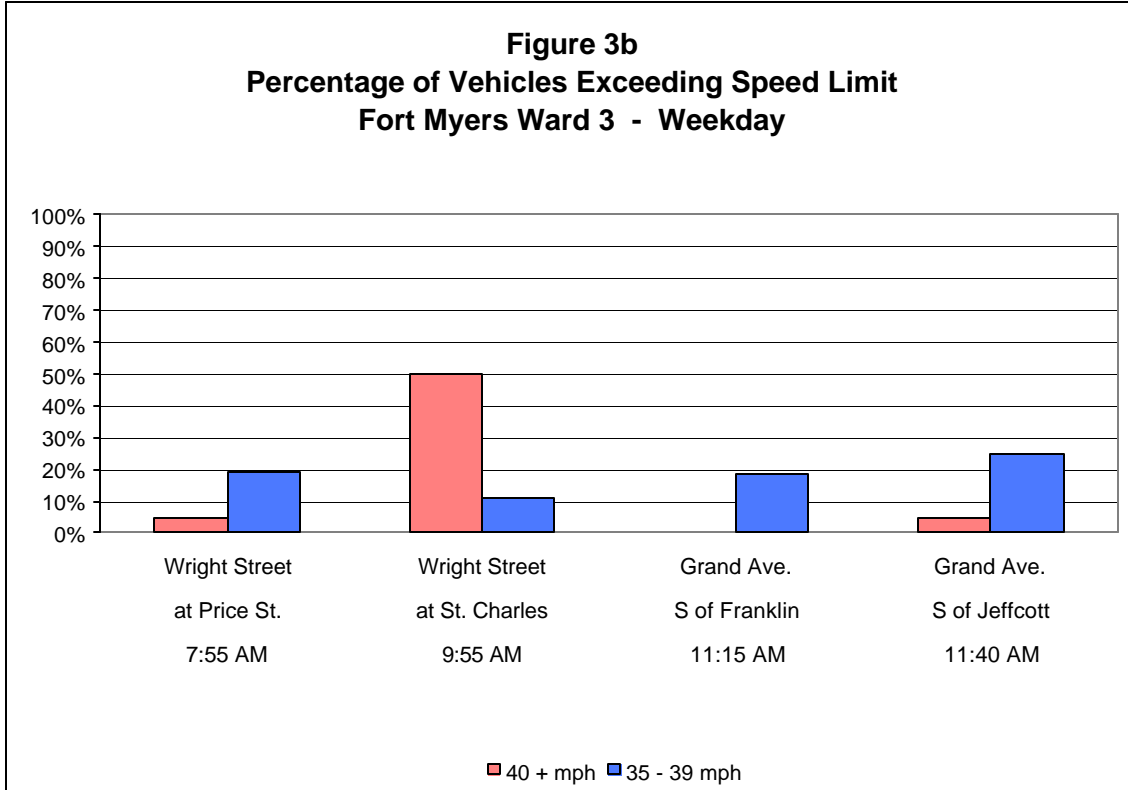
When there are several roadways with an excessive speeding problem, 10 or more miles per hour over the speed limit, it is not uncommon for someone to suggest that the speed limit should be increased. The logic behind this premise is that if a large percentage of vehicles are continuously exceeding the speed limit, then the speed limit may be too low. However, according to standard transportation engineering practice, speed limits are set based on the 85th percentile speed of a roadway or section of a roadway.

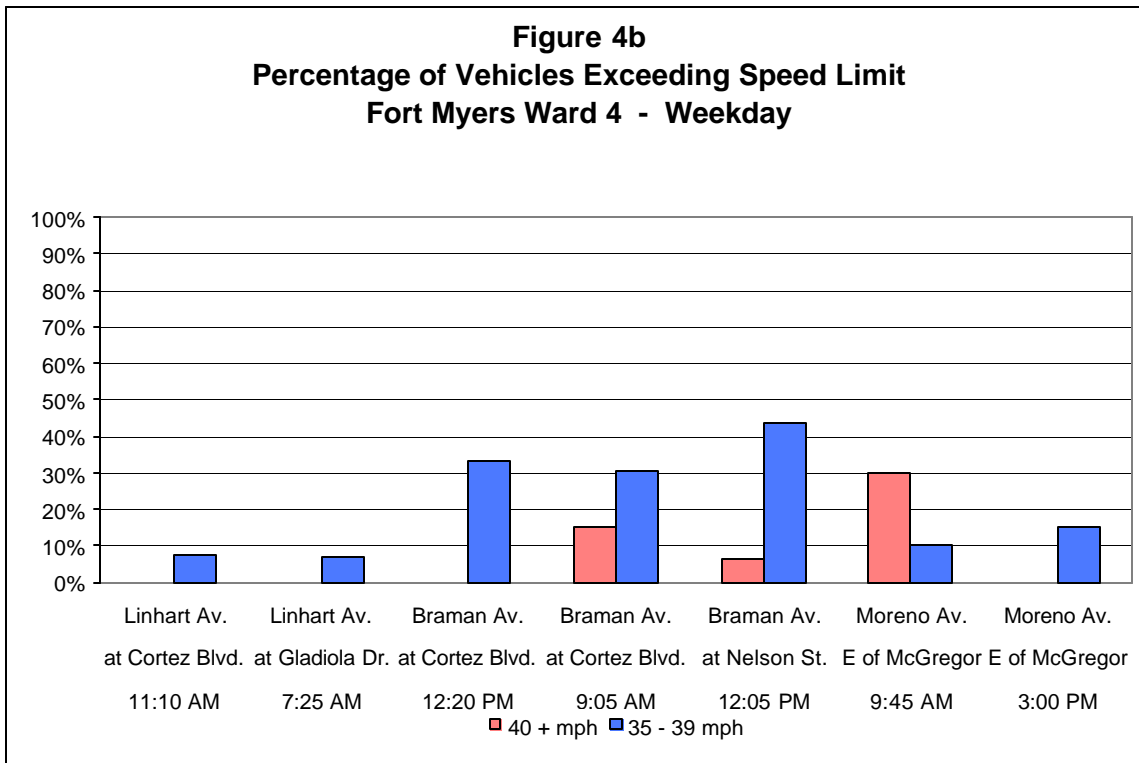
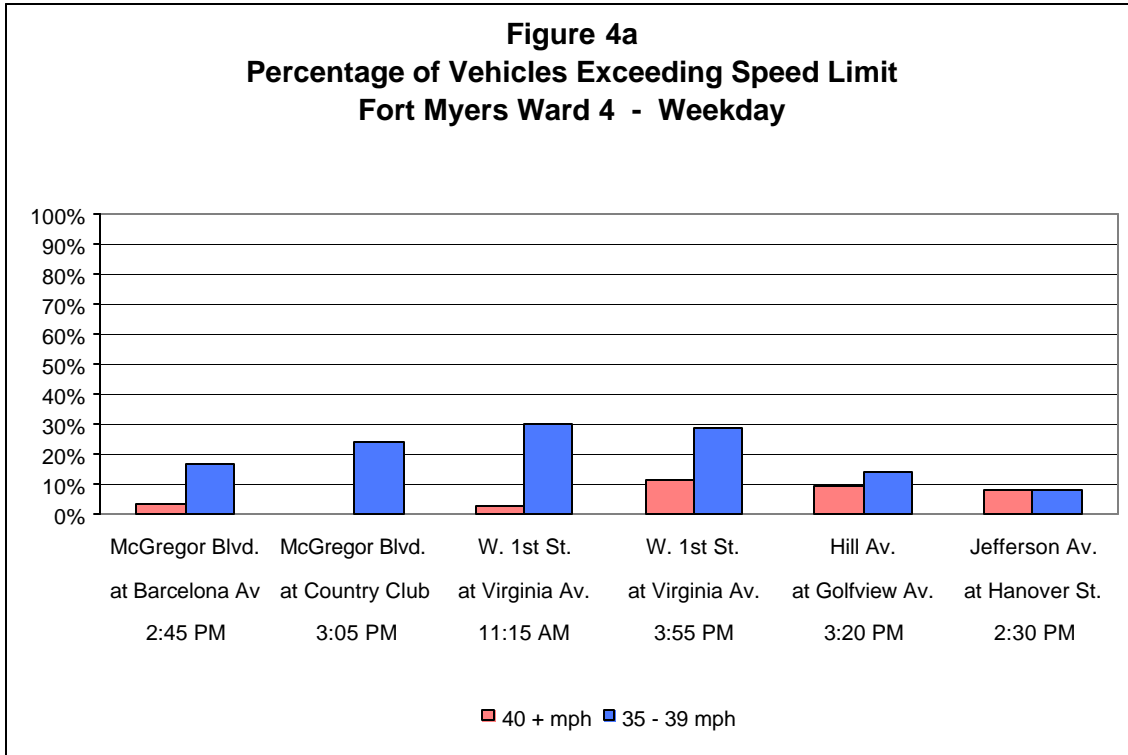
At the same time that speed data was collected by a team of McMahon Associates engineers and planners, a second McMahon Associates team examined stop-sign operations at locations that were reported to have stop-sign-running problems. The procedures and results from the stop-sign-running data collection and analysis are presented in the following section of the report.











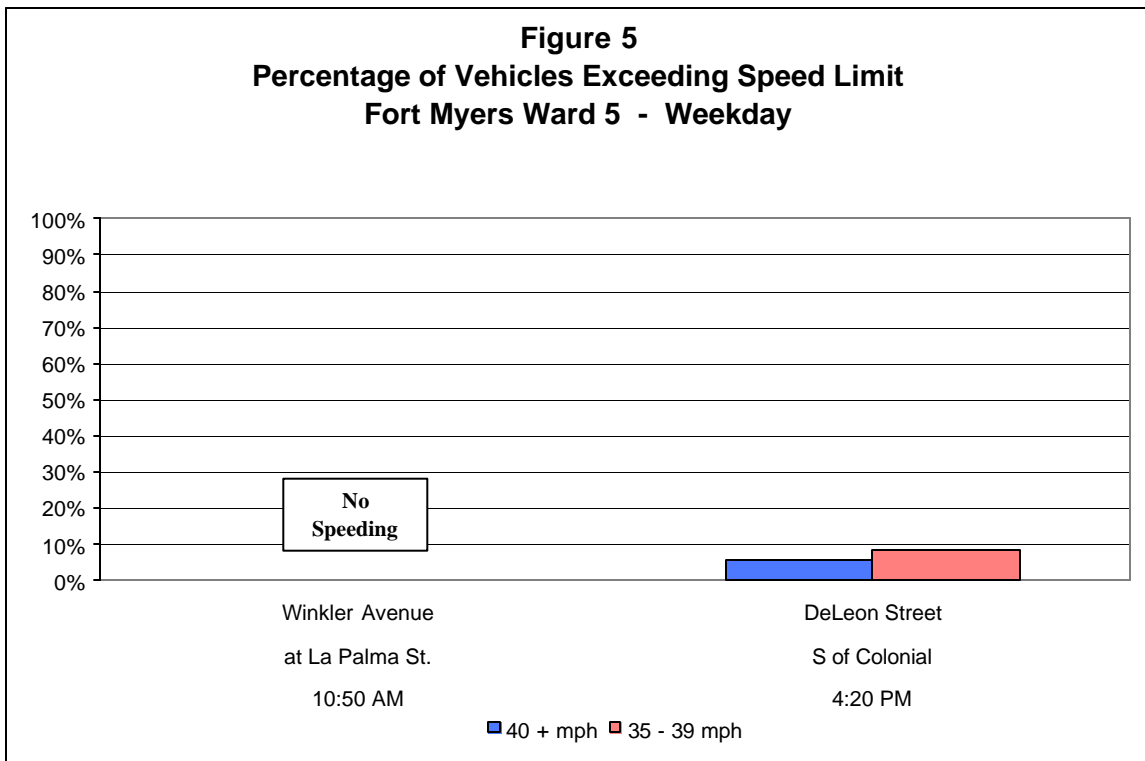
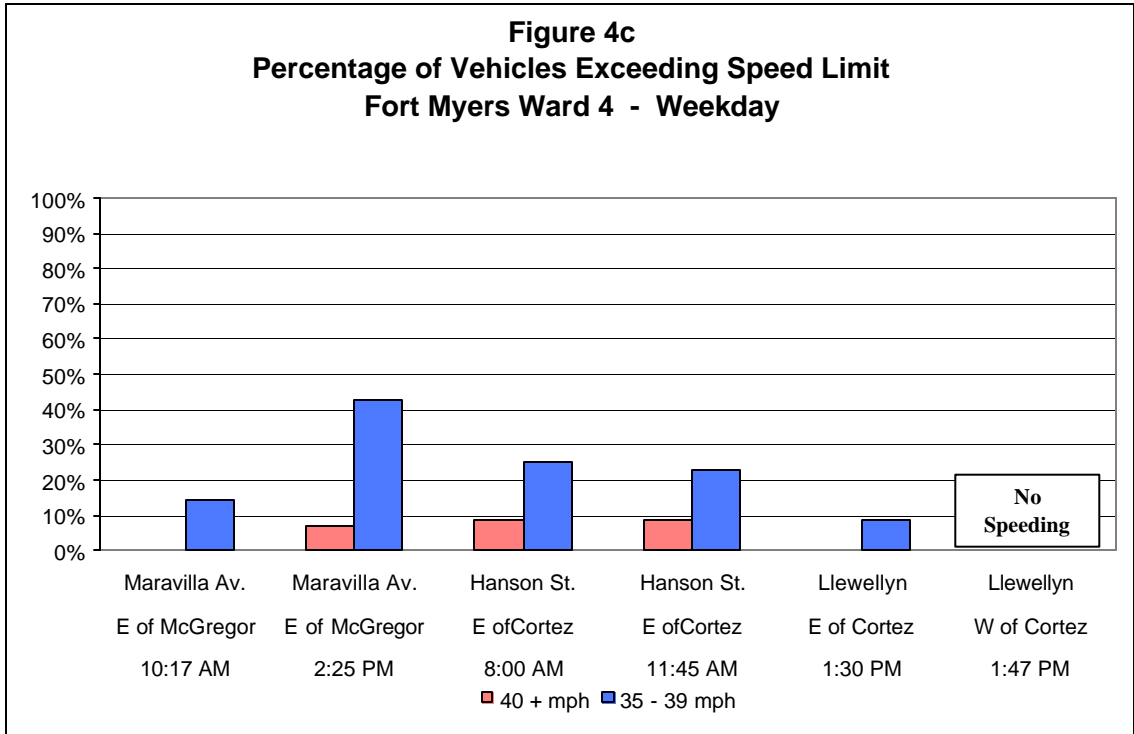


TABLE 3

PERCENTAGE OF VEHICLES EXCEEDING THE POSTED SPEED LIMIT BY 10 OR MORE MILES PER HOUR

Ward	Roadway	AM/PM	Location	Posted or Default Speed Limit	Percent > 10 MPH Over Posted Limit
Ward 1	Edgewood Avenue	PM	South of Tarpon Street	30	17.8%
	E. Riverside Drive	PM	East of Seaboard Street	30	22.2%
	Polk Street	AM	North of Lora Street	30	14.3%
Ward 2	Marsh Avenue	AM	At Priscilla Lane	30	32.6%
	Marsh Avenue	PM	At Priscilla Lane	30	37.5%
	Marsh Avenue	AM	S of Eugenia Avenue	30	7.0%
	Marsh Avenue	PM	S of Eugenia Avenue	30	3.2%
	Raleigh Street	AM	N of Mango Street	30	16.7%
	Michigan Avenue	AM	At Brookhill Drive	30	30.4%
	Michigan Avenue	PM	At Brookhill Drive	30	39.4%
	Michigan Avenue	AM	East of Raleigh Street	30	51.9%
	Michigan Avenue	PM	East of Raleigh Street	30	53.6%
Ward 3	Broadway	AM	South of Jeffcott Street	30	22.4%
	Broadway	PM	At Dora Street	30	25.0%
	Jackson Street	PM	North of Dora Street	30	14.8%
	Wright Street	AM	At Price Street	30	4.8%
	Wright Street	PM	At St. Charles Street	30	50.0%
	Grand Avenue	AM	South of Jeffcott Street	30	4.5%
Ward 4	McGregor Blvd.	PM	At Barcelona Avenue	35	3.1%
	W. First Street	AM	W of Virginia Avenue	30	2.5%
	W. First Street	PM	W of Virginia Avenue	30	11.1%
	Hill Avenue	PM	At Golfview Avenue	30	9.5%
	Jefferson Avenue	PM	East of Hanover Street	30	8.3%
	Braman Avenue	AM	East of Cortez Blvd.	30	15.4%
	Braman Avenue	PM	At Nelson Street	30	6.3%
	Moreno Avenue	AM	E of McGregor Blvd.	30	30.0%
	Maravilla Avenue	PM	E of McGregor Blvd.	30	7.1%
	Hanson Street	AM	East of Cortez Blvd.	30	8.3%
	Hanson Street	PM	East of Cortez Blvd.	30	8.6%
	Linhart Avenue	PM	E of McGregor Blvd.	30	16.7%
Ward 5	De Leon Street	PM	S of Colonial Blvd.	30	5.4%

STOP SIGN RUNNING

Stop-sign-running data was collected at 15 individual locations on Monday, July 22, 2002 and Tuesday, July 23, 2002. One location was surveyed twice, bringing the total number of samples to 16. The reason for the double sampling is explained later in this section. The Council members, City officials, and residents selected the locations based on problems that had been reported to them. The data collection locations included two-way, three-way, and four-way stop-sign-controlled intersections. The locations, by ward, are included as **Table 4:**

**TABLE 4
PROBLEMATIC STOP-SIGN-CONTROLLED INTERSECTION LOCATIONS**

	Street	Cross-Street	Stop Control
Ward 1	Cranford Avenue	at Rhode Island Avenue	2- way
	Cranford Avenue	at Providence Street	2- way
	Cranford Avenue	at Michigan Avenue	4- way
Ward 2	No Reported Locations		
Ward 3	Broadway	at Canal Street	4- way
	Broadway	at Victoria Avenue	3- way
	Royal Palm Avenue	at Edison Avenue	2- way
Ward 4	Jefferson Avenue	at De Leon Street	4- way
	Jefferson Avenue	at Princeton Street	4- way
	Hill Avenue	at Marvaez Street	4- way
	Braman Avenue	at Sunset Road	4- way
	Braman Avenue	at Cortez Boulevard	4- way
	Hanson Street	at Sunset Road	4- way
	Cortez Boulevard	at Linhart Avenue	4- way
	Maravilla Avenue	at Cortez Boulevard	2- way
	Moreno Avenue	at Cortez Boulevard	2- way
Ward 5	No Reported Locations		

At each of the reported stop-sign-running locations, a team of McMahon Associates engineers and planners collected data for time periods that varied from 15 to 30 minutes. Three criteria were used to define non-stopping vehicles: (1) vehicles that rolled through the stop-sign (never actually coming to a complete stop), (2) vehicles that did not stop until they were in the middle of the intersection, and (3) vehicles that never slowed down for the stop-sign, but proceeded through the intersection as if it did not have stop control.

Four-way stop-controlled intersections were monitored in both directions to determine which direction had the highest percentage of non-stopping vehicles. For example, field

observations indicated that at some locations where there was sufficient line of sight from the side street, vehicles appeared to proceed through the stop-sign without stopping because they apparently could see that no vehicles were approaching on the cross street. The results from the data collection and follow-up analysis are provided in **Table 5**.

Table 4 lists the percentage of vehicles not stopping (by all three criteria) at an intersection during the AM and PM hours. As shown in the table, two locations were visited twice during the AM hours, Hanson Street at Sunset Road and Cortez Boulevard at Linhart Avenue. These two sites were sampled twice because on Monday, July 22, 2002, the data collection team arrived at the site too close to lunchtime. In order to eliminate the possibility of influencing the data by including data samples collected too close to potential traffic impacts from the lunch hour, it was decided to return to the site the next morning and re-sample the location.

**TABLE 5
STOP-SIGN-RUNNING DATA/ANALYSIS RESULTS**

Location	Travel Direction	Stop Control	AM Observations		PM Observations	
			1st	2nd	1st	2 nd
Ward 1						
Cranford Avenue at Rhode Island Avenue	EB / WB	2-way	0 %	----	----	----
	NB / SB		46%	----	----	----
Cranford Avenue at Providence Street	EB / WB	2-way	0%	----	----	----
	NB / SB		14%	----	----	----
Cranford Avenue at Michigan Avenue	EB / WB	4-way	50%	----	37%	----
	NB / SB		27%	----	71%	----
Ward 3						
Broadway at Canal Street	EB / WB	4-way	19%	----	25%	----
	NB / SB		33%	----	22%	----
Broadway at Victoria Avenue	EB / WB	3-way	32%	----	33%	----
	NB / SB		31%	----	23%	----
Royal Palm Avenue at Edison Avenue	NB / SB	2-way	50%	----	35%	----

TABLE 5 (Continued)
STOP-SIGN-RUNNING DATA ANALYSIS RESULTS

Location	Travel Direction	Stop Control	AM		PM	
			1st	2nd	1st	2 nd
Ward 4						
Jefferson Avenue at De Leon Street	EB / WB	4-way	63%	----	----	----
	NB / SB		59%	----	----	----
Jefferson Avenue at Princeton Street	EB / WB	4-way	74%	----	----	----
	NB / SB		29%	----	----	----
Hill Avenue at Marvaez Street	EB / WB	4-way	69%	----	----	----
	NB / SB		60%	----	----	----
Braman Avenue at Sunset Road	EB / WB	4-way	61%	----	----	----
	NB / SB		46%	----	----	----
Braman Avenue at Cortez Boulevard	EB / WB	4-way	44%	----	----	----
	NB / SB		46%	----	----	----
Hanson Street at Sunset Road	EB / WB	4-way	41%	45%	----	----
	NB / SB		50%	25%	----	----
Cortez Boulevard at Linhart Avenue	EB / WB	4-way	61%	47%	----	----
	NB / SB		71%	88%	----	----
Maravilla Avenue at Cortez Boulevard	EB / WB	2-way	38%	----	----	----
	NB / SB		----	----	----	----
Moreno Avenue at Cortez Boulevard	EB / WB	2-way	8%	----	----	----
	NB / SB		----	----	----	----

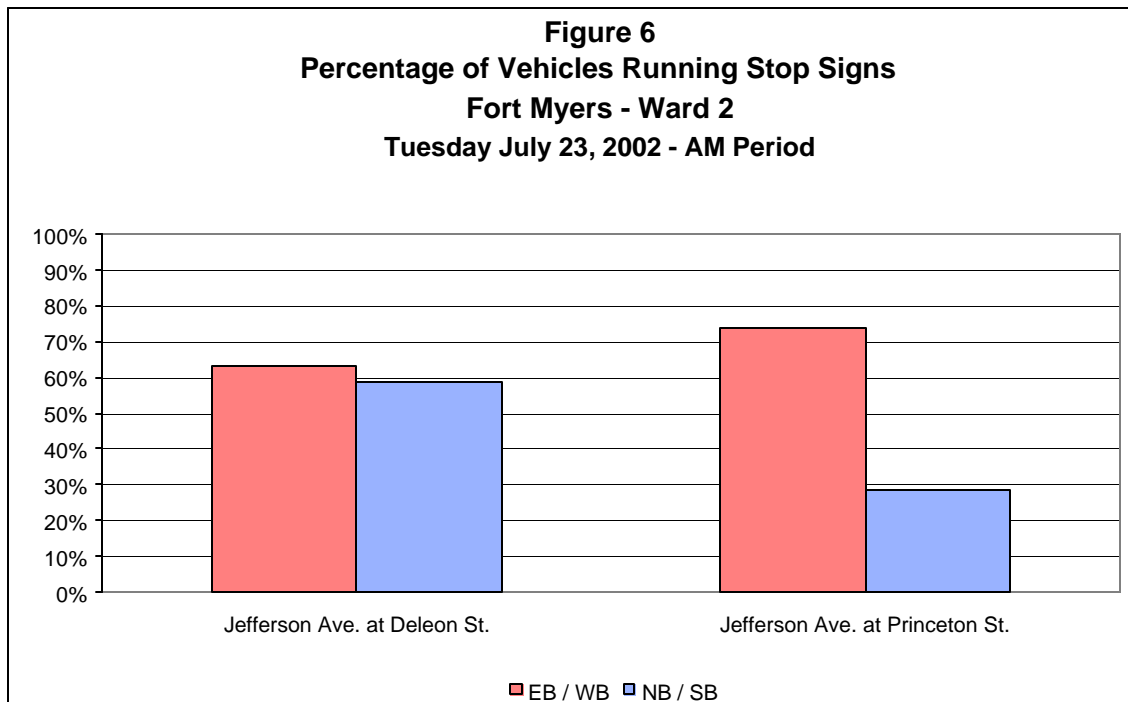
The results of the survey verified that certain intersections have serious stop-sign-running problems. At six of the 16 surveyed intersections, all four-way stop intersections, more than half of the vehicles, 60 percent or more, entering the intersection from either the east/west or north/south directions, failed to make a complete stop. The non-stopping percentage was as high as 88 percent (Cortez Boulevard at Linhart Avenue NB/SB). The high percentage of non-stopping vehicles indicates that stop-sign control is not effective at several locations. The intersections with the most serious stop-sign-running problem included:

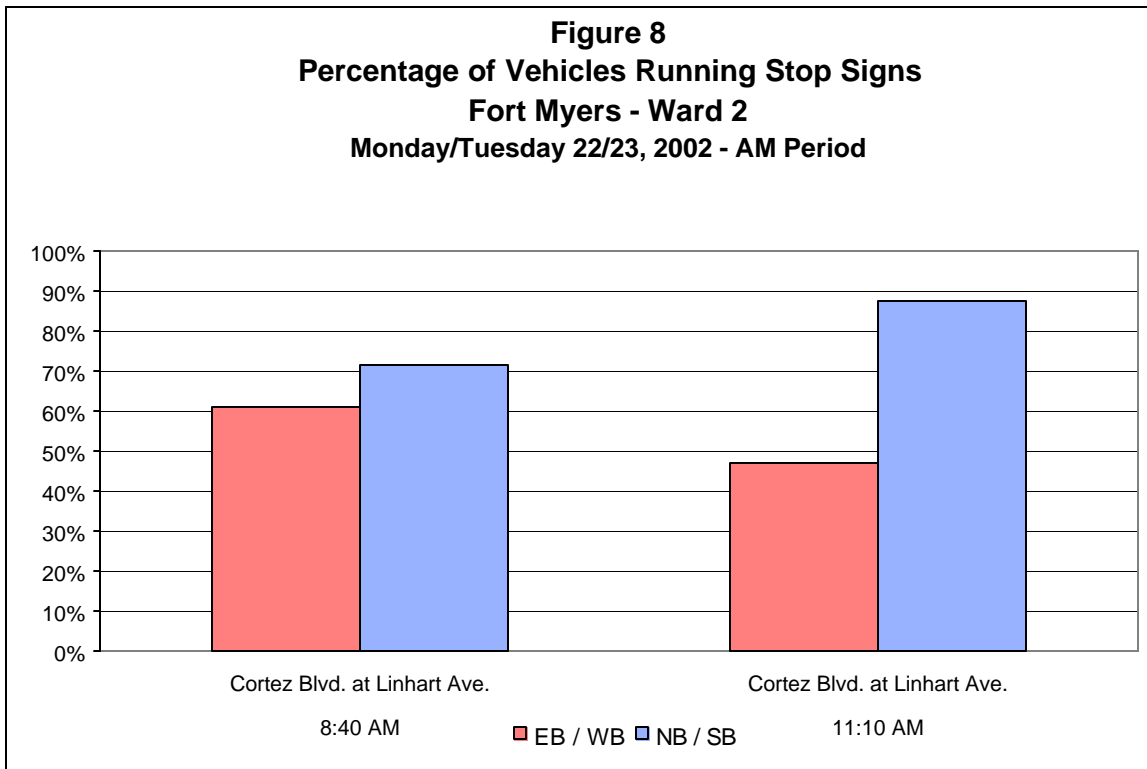
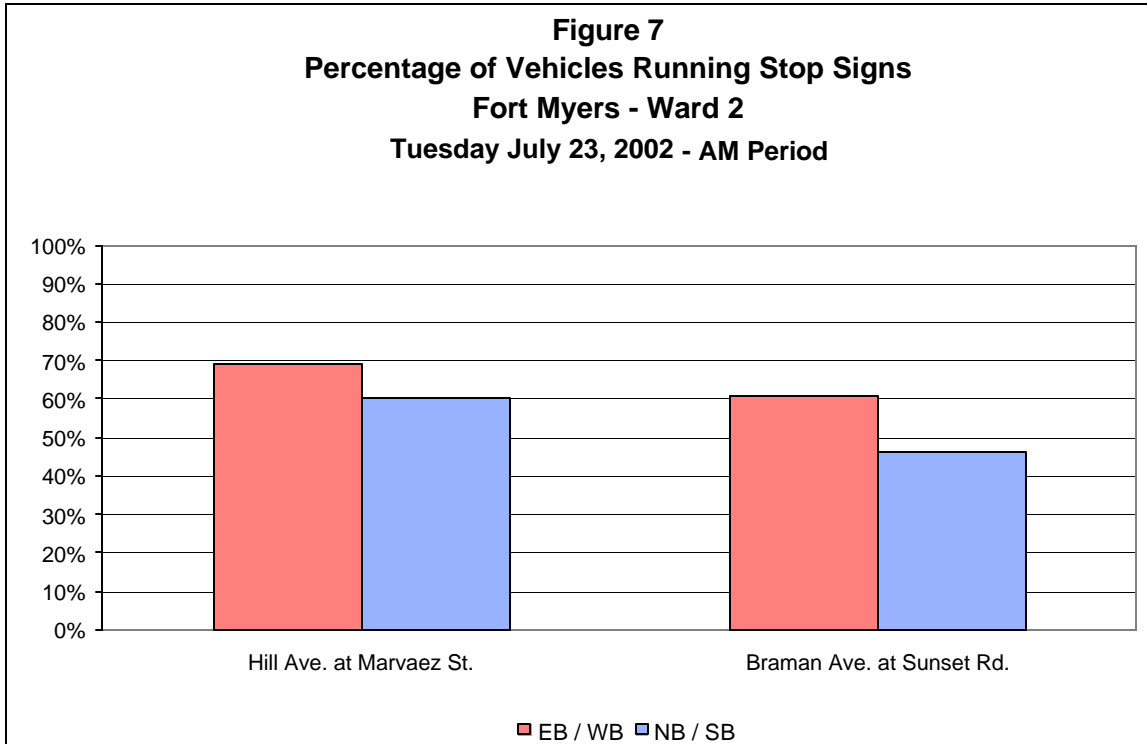
- Cranford Avenue at Michigan Avenue Ward 1
- Jefferson Avenue at De Leon Street Ward 4
- Jefferson Avenue at Princeton Street Ward 4
- Hill Avenue at Marvaez Street Ward 4

- Braman Avenue at Sunset Road Ward 4
- Cortez Boulevard at Linhart Avenue Ward 4

As indicated in Table 4, five of the six sampled intersections with the highest percentages of stop-sign-running vehicles are located in Ward 4. The sole exception is the intersection of Cranford Avenue and Michigan Avenue in Ward 1.

Figures 6 through 8 depict the non-stopping vehicle percentages for the five Ward 4 intersections with the most serious non-stopping problems. The stop sign running data is provided in **Appendix E** and the analysis of this data is presented in **Appendix F**.





Stop-Sign Placement/Control

Stop-sign-running problems at four-way intersections can often be attributed to the fact that an all-way stop-controlled intersection is not required or warranted. This type of intersection is often created at the request of neighbors that want to address speeding problems. The *Manual on Uniform Traffic Control Devices* (MUTCD) provides warrants for the implementation of an all-way stop-controlled intersection. The existence of this type of controlled intersection has the potential to promote stop-sign running, cause accidents, and desensitize drivers to stop-signs in general. Many of the neighborhoods in Fort Myers have a local roadway grid network. That is, north/south and east/west streets exist in a checkerboard pattern. A good example of this is the Lovejoy Community in Ward 3.

Lovejoy is a neighborhood bounded by Cleveland Avenue and Evans Avenue to the west and east, respectively, and Edison Avenue and Hanson Street to the north and south, respectively. The roadways are in a grid pattern. All of the north/south roads are required to stop only at their intersections with Edison Avenue and Canal Street, and not at the seven other intersections in between. The east/west streets, on the other hand, are required to stop at every intersection with the north/south roadways.

The stop-sign placement in this neighborhood promotes speeding on the north/south roadways and stop-sign running on the east/west roadways. The City should study the area and consider the utilization of a basket-weaving (i.e., every other intersection) stop-sign placement design, which is typically used in grid roadway networks. The present design promotes excessive delays for east/west drivers. Thus, encouraging stop-sign running. By installing stop-signs at every other intersection, or in an alternating pattern, in both north-south and east-west directions, this pattern will help to equalize the delay for all drivers, north/south and east/west, and reduce both stop-sign running and speeding.

In an effort to reduce stop-sign-running problems reported by residents, the McMahon Associates team recommends that the City conduct a stop-sign warrant study for stop-controlled intersections, to determine if stop signs are necessary. If the study indicates that many intersections do not, in fact, meet the stop-sign warrants, it is recommended that non-warranted

stop-signs be removed as part of the Phase I traffic calming. For intersections that have been determined to require some form of traffic calming during Phase II, the intersections that had stop-signs removed would then receive a traffic calming treatment.

The summarized stop-sign-running data was presented to the participants of the committee meetings and public workshop meetings, along with the speed data. The meetings were designed to present the results to the residents and seek their inputs concerning what they wanted to do to reduce or eliminate the problems. Since the series of meetings were held over several months, it was common for residents that had not been to any of the previous meetings to show up and suggest other problem areas that they wished examined. Based on their concerns and comments, McMahon Associates conducted additional data collection in August 2002, October 2002, and February 2003. In addition to the extra field visits to collect more data, McMahon Associates received an historical crash data summary report, which was used to determine which intersections reported the highest crash rates, thereby warranting traffic calming treatments.

ACCIDENT HISTORY

Historical crash data is utilized in traffic engineering practice to identify problematic roadway locations. Vehicular accidents that are reported and investigated by law enforcement officials are documented by municipal, county, and state agencies. This type of data is typically catalogued by these enforcement agencies and shared with local governments. Crash data for this project was supplied by the Lee County Department of Transportation and reviewed to identify high accident frequency locations. This data, which was provided in a spreadsheet format, is contained in **Appendix G**, and includes a listing of all accident crash locations that experienced four or more vehicular accidents per year.

The roadways are listed in descending ranking order based on the year 2001 crash rates. The next two columns list all the roadway names and the corresponding cross street, or in the case of an interchange location, the expressway ramp. The next column includes the number of crashes on each roadway reported from 1998 through 2001. The last two columns list the 2001

daily volumes and the 2001 crash rate. The latter section of the list does not provide accurate crash rate data because of the absence of 2001 number of crashes.

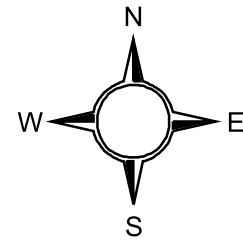
Initial inspection of the list indicated a large number of accident locations; however, the list included accident locations in areas that surround the City of Fort Myers. The information included parts of North Fort Myers and Cape Coral, as well as areas within unincorporated Lee County. Furthermore, those roadways that were located within the City of Fort Myers were either state or county roadways, or major roadway arterials, not local streets. Since, the main focus of traffic calming is to modify driver behavior on local residential streets, calming high accident intersection locations on major streets will only encourage increased use of local streets as short cuts.

Since the crash data analysis did not yield data supporting the need for traffic calming on local streets, the crash data did not prove to be useful in fine-tuning, or making small improvements to the traffic calming plan. However, some of the additional observations that were collected in August and October 2002 and February 2003 did yield useful data that justified adding some additional traffic calming treatments to the plan for certain locations in each ward.

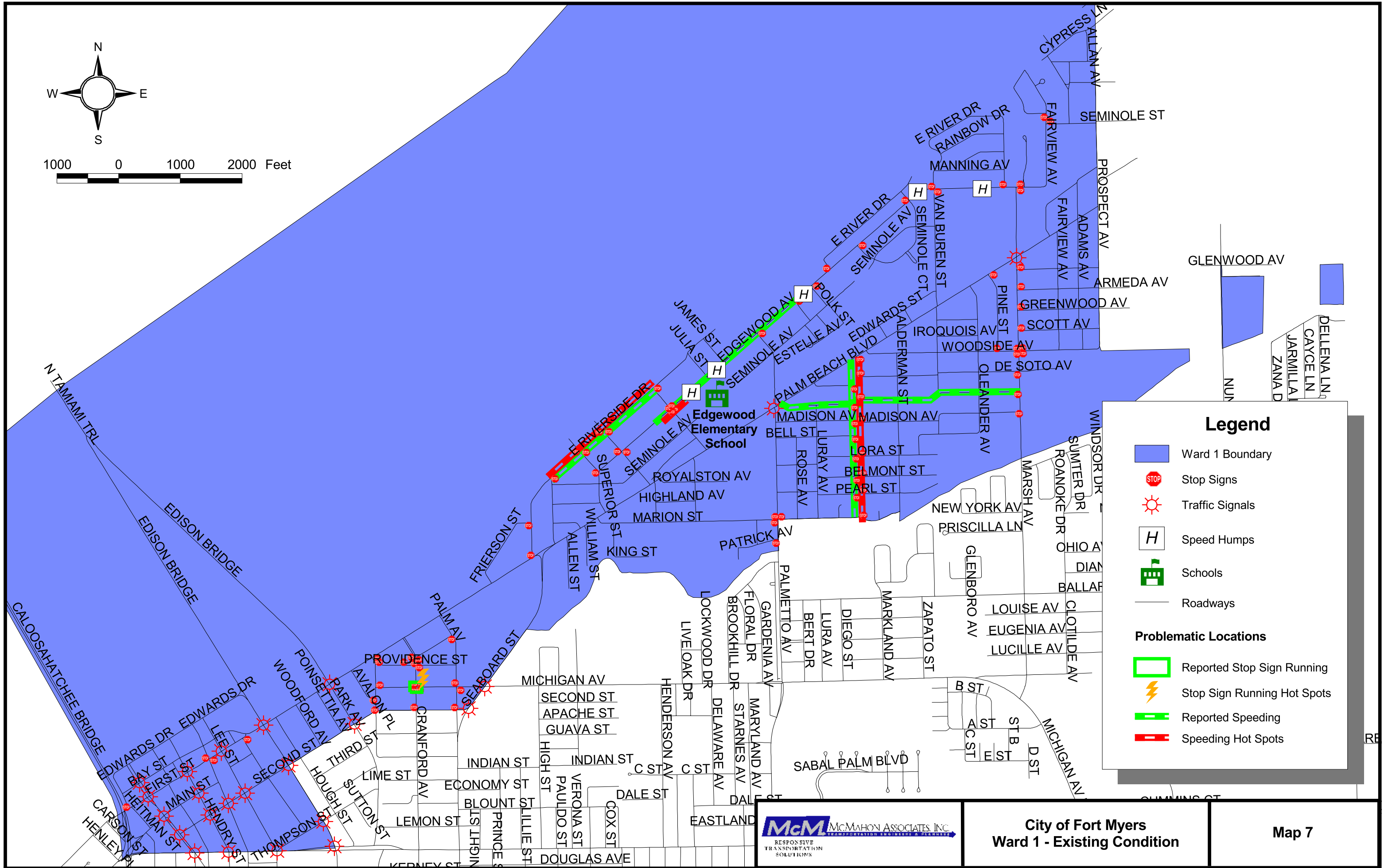
Existing Conditions Findings

The analyses of the speeding data, stop-sign-running data, other safety problems, and school circulation patterns for each ward in the City of Fort Myers indicated that the problems reported by the residents are real, and at many locations they are serious enough to warrant the implementation of a comprehensive traffic calming plan. Speeding and stop-sign-running problem areas in Wards 1 through 5 are provided on **Maps 7 through 11** and include the stop-sign and signalized intersection locations in the vicinity of roadways that were studied. Earlier (preliminary) versions of these maps were utilized during the traffic calming steering committee meetings to present the findings of the field observations and to assist the ward representatives in designing their plans. This process is explained in more detail in the following section of the report.

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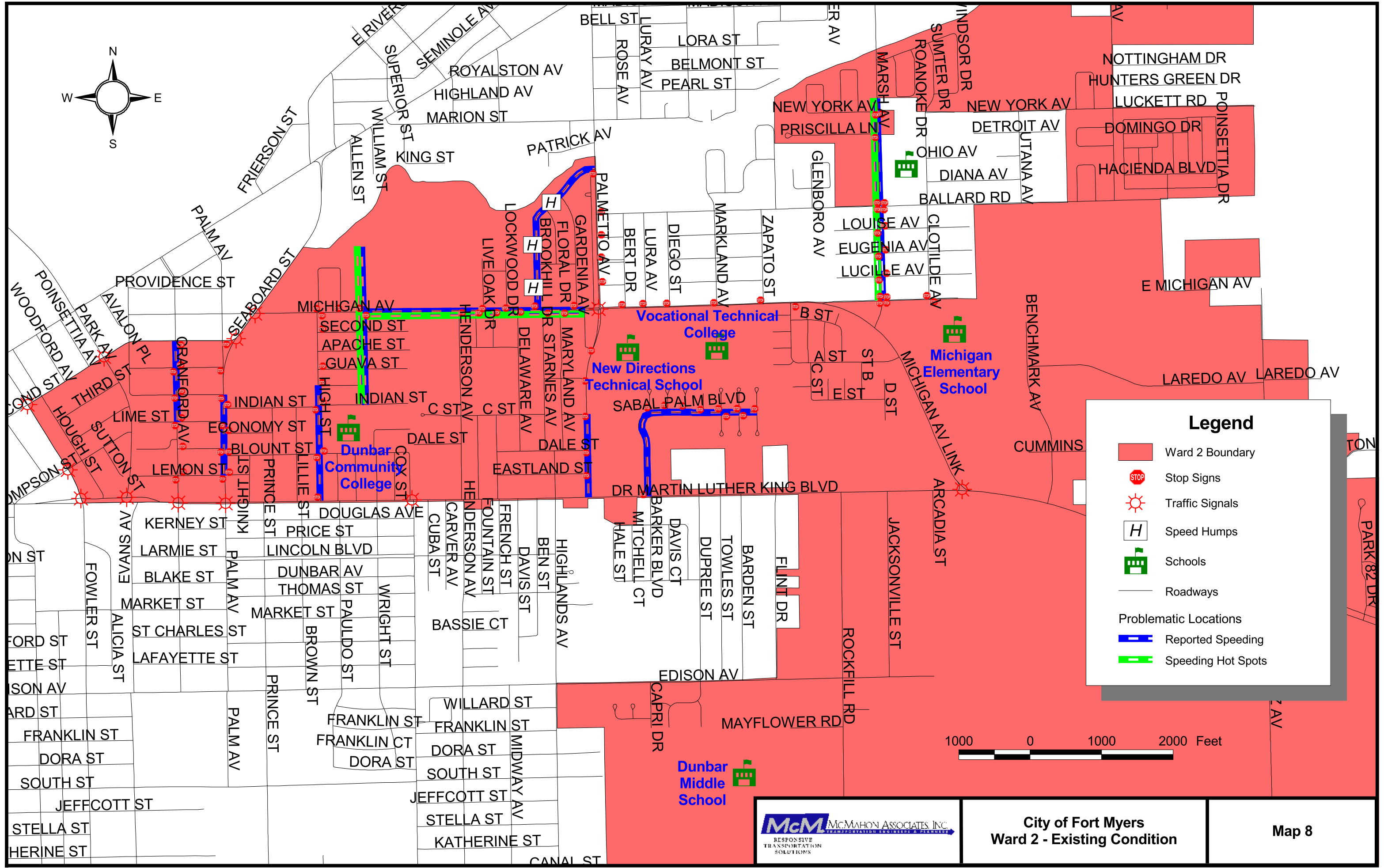
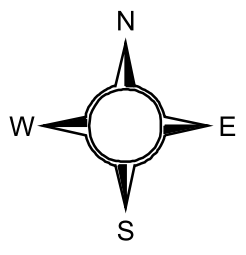
Legend

- Ward 1 Boundary
 - Stop Signs
 - Traffic Signals
 - Speed Humps
 - Schools
 - Roadways
- Problematic Locations**
- Reported Stop Sign Running
 - Stop Sign Running Hot Spots
 - Reported Speeding
 - Speeding Hot Spots



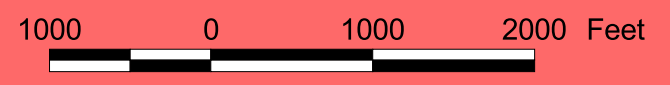
City of Fort Myers
Ward 1 - Existing Condition

Map 7



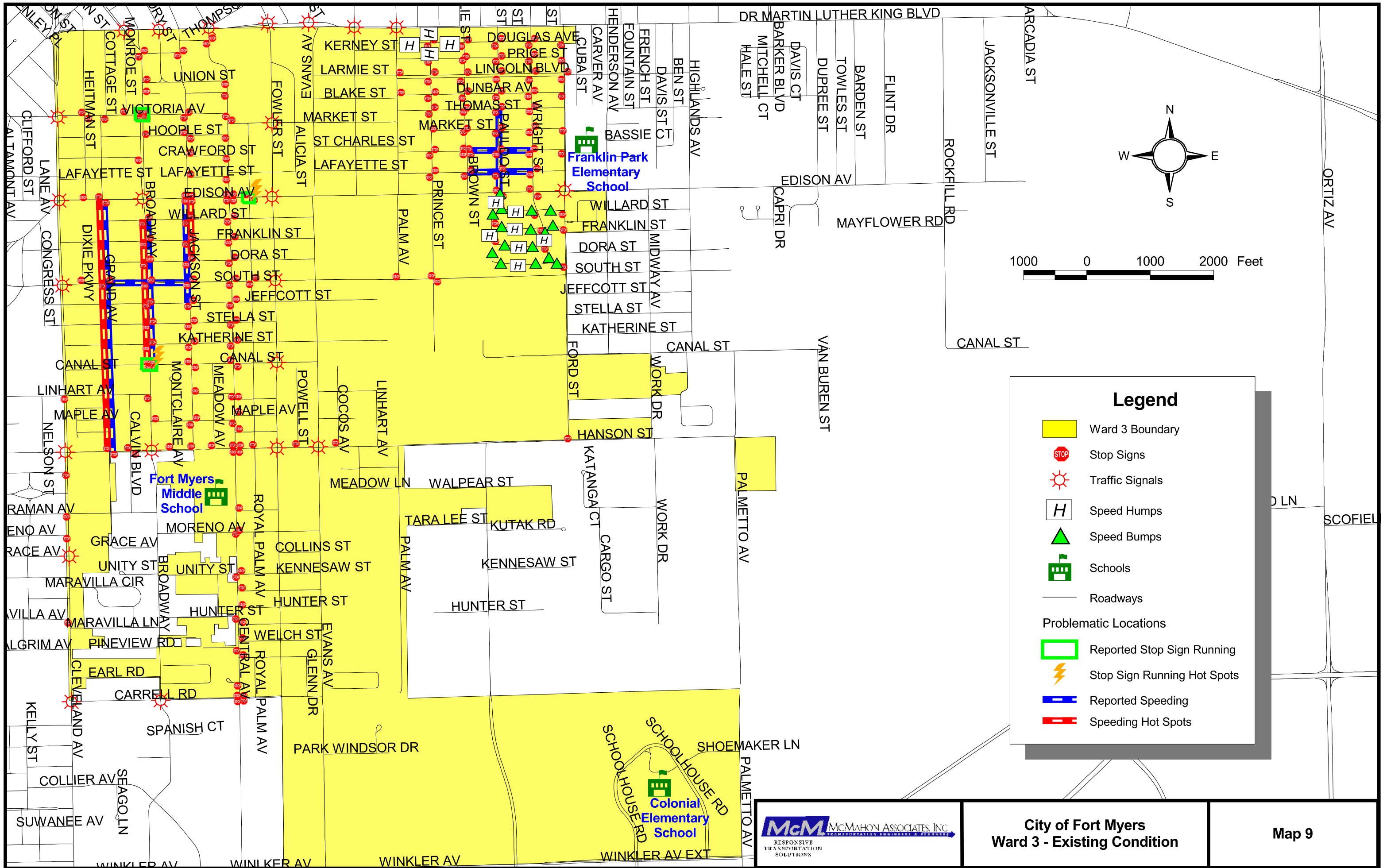
Legend

- Ward 2 Boundary
- Stop Signs
- Traffic Signals
- Speed Humps
- Schools
- Roadways
- Problematic Locations
 - Reported Speeding
 - Speeding Hot Spots














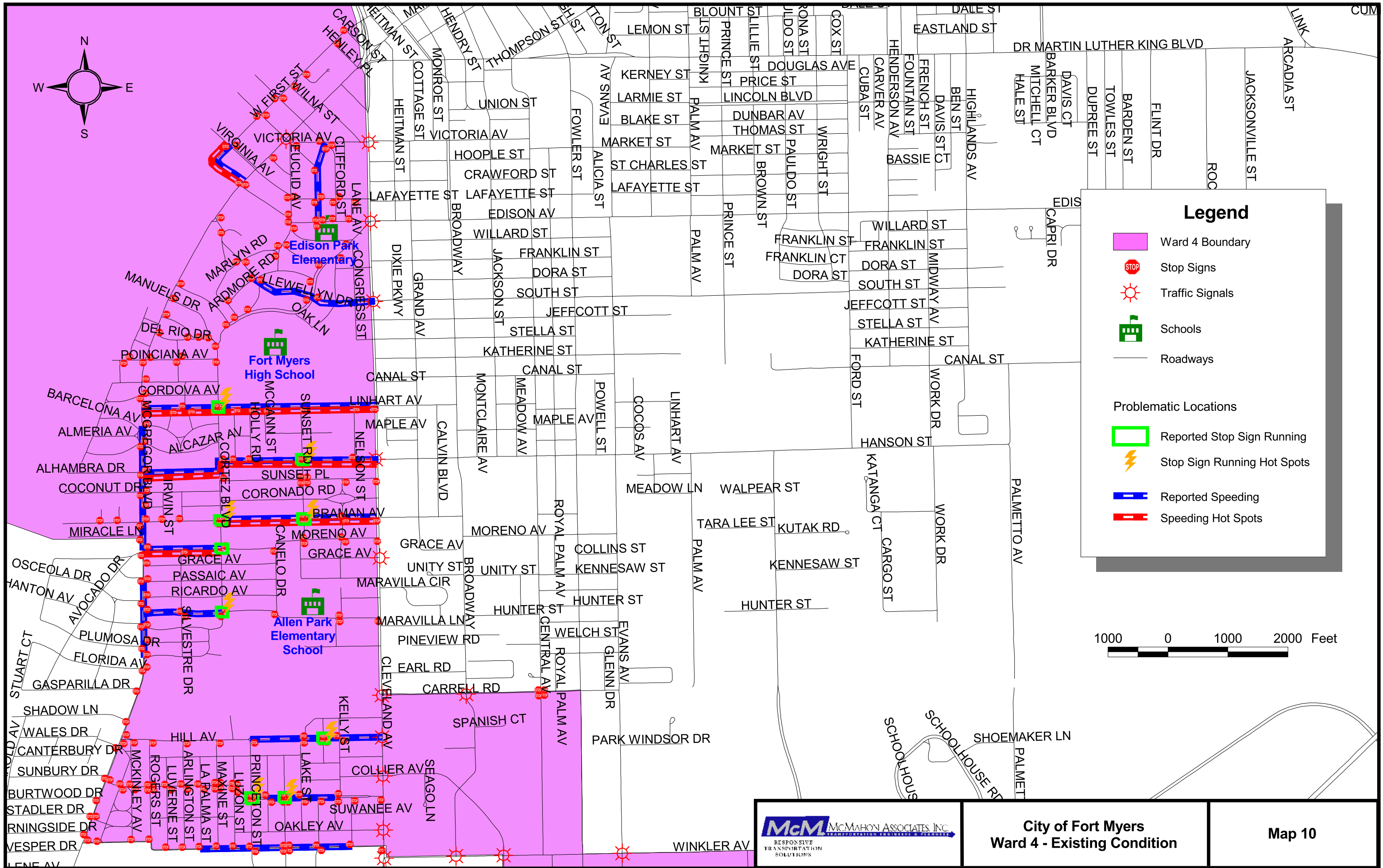
City of Fort Myers
Ward 2 - Existing Condition

Map 8



Legend

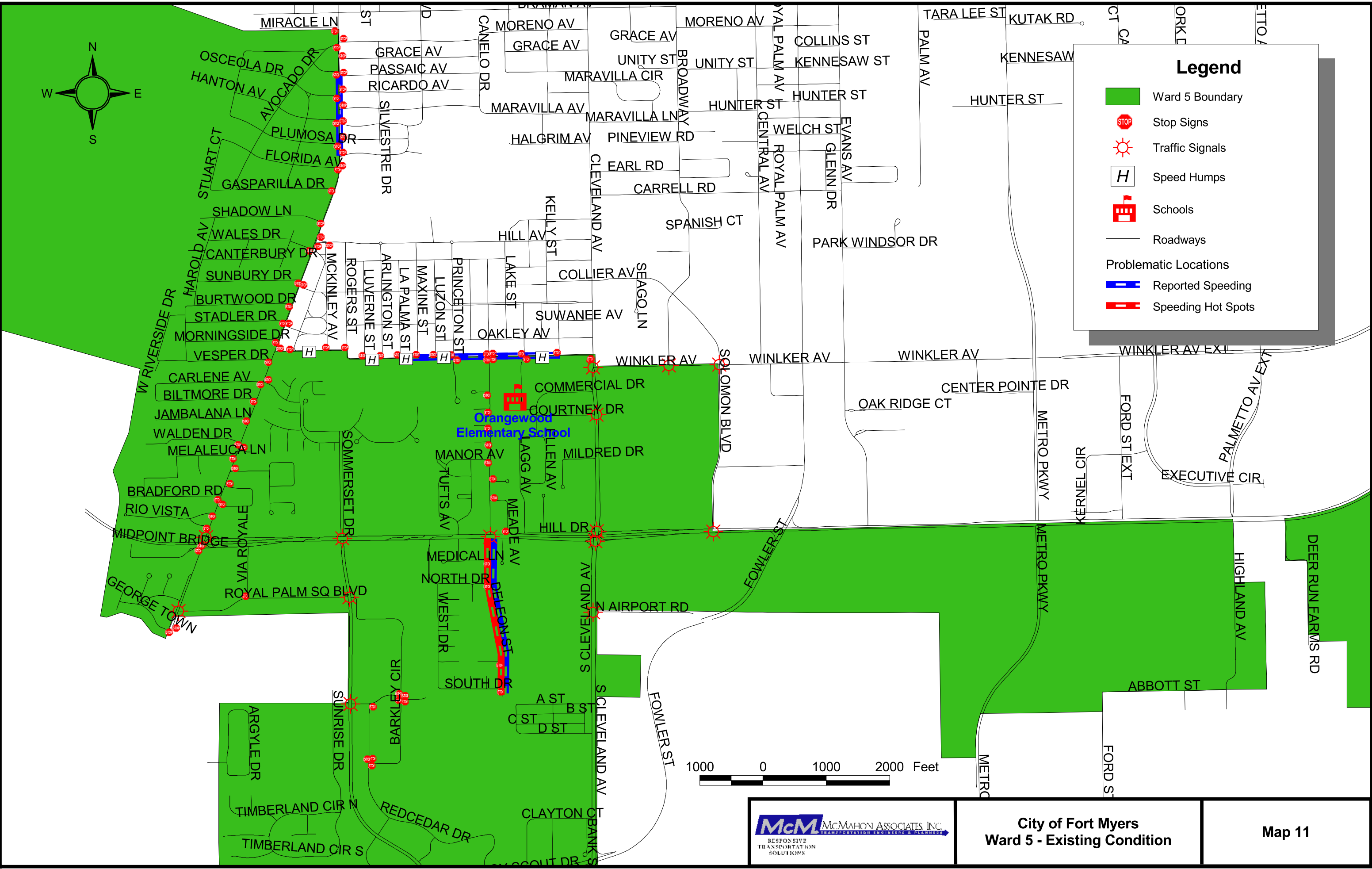
-  Ward 3 Boundary
-  Stop Signs
-  Traffic Signals
-  Speed Humps
-  Speed Bumps
-  Schools
-  Roadways
- Problematic Locations**
-  Reported Stop Sign Running
-  Stop Sign Running Hot Spots
-  Reported Speeding
-  Speeding Hot Spots





Legend

- Ward 5 Boundary
- Stop Signs
- Traffic Signals
- Speed Humps
- Schools
- Roadways
- Problematic Locations
 - Reported Speeding
 - Speeding Hot Spots



City of Fort Myers
Ward 5 - Existing Condition

Map 11



SECTION 5 STEERING COMMITTEE MEETINGS & PUBLIC WORKSHOPS

SECTION 5 – STEERING COMMITTEE MEETINGS AND PUBLIC WORKSHOPS

A major portion of the development of the traffic calming plan for the City-Wide Traffic Calming Comprehensive Consultant Plan required a two-step process of meetings with the citizenry of each ward. The first set of ward meetings was conducted with a small group of citizens designated as the Steering Committee. The second set of meetings was the Public Workshops that included all of the ward residents.

In addition to the steering committee and the public workshop meetings, the Consultant team spent a great deal of time with each individual City Council member and all City department heads, including Police and Fire, and other Lee County representatives, to understand all the issues for each of the respective wards and the traffic calming needs within each ward and the City of Fort Myers.

STEERING COMMITTEE

The first set of meetings that were held with ward residents were through a specially constituted Steering Committee for this project. Each ward Steering Committee was comprised of the Council member for the ward and a select group of residents within the ward who, over time, provided specific comments and identified problematic locations that needed to be addressed as part of the project. Following this series of developmental meetings that took place with the steering committee, a suggested conceptual traffic calming plan was formalized. These conceptual traffic calming plans were then later used in presentations at the overall public workshop meetings that were held for each ward.

On occasion, because of the fact that certain wards had multiple homeowners associations or civic groups, there were several Steering Committee meetings held in each ward. Additionally, these multiple Steering Committee meetings created the need for two rather than a single public workshop meeting. Other reasons for two public workshop meetings included the fact that some traffic calming plans for one ward had a significant impact beyond the specific ward boundaries, such as the overall traffic calming plan for McGregor Boulevard.

Each Steering Committee meeting was coordinated with the administrative assistant of each Council member, in terms of membership and attendance by residents and other stakeholders within each ward. Prior to commencing each meeting, the Consultant team coordinated with City staff to establish the location, date and time of the meeting. These details were focused upon to ensure that the Steering Committee meetings would have broad attendance, since this body, along with the Consultant team and City staff, would be jointly developing the suggested conceptual traffic calming plan. The Steering Committee identified both problematic traffic locations and the particular traffic issues facing their neighborhood.

The approach used to conduct these meetings was divided into two levels. Level 1 was Education, and Level 2 was Plan Development. The process began with a PowerPoint presentation educating the group on what traffic calming is.

“Traffic Calming is the combination of mainly physical measures that reduce the negative effects of motor vehicular use and alter driver behavior to improve conditions for non-motorized street users.”

During the presentation of the educational process, the Consultant team illustrated, as a developmental tool, alternative traffic calming measures or treatments through a “traffic calming tool kit.” This tool kit contained 12 particular measures, or treatments, which produce traffic calming results, and which were suggested to have application to the specific traffic conditions identified within each neighborhood.

A double-sided laminated tool kit sheet was used as a visual aid, and included a listing of the treatment names on one side and a photographic example of each treatment on the other side. The two sides of this visual aid are presented in **Figure 9** and **Figure 10**. Following the presentation on the education of traffic calming and the use of the traffic calming tool kit, which described pro’s and con’s of each of the 12 features, the meeting took on a different shape. It next functioned primarily as a design workshop.

Traffic Calming Tool Kit

- 
- ◆ Chokers
 - ◆ Chicanes
 - ◆ Median Islands
 - ◆ Directional Restrictions
 - ◆ Street Closures
 - ◆ Roundabouts
 - ◆ Speed Humps
 - ◆ Traffic Control Devices
 - ◆ Roadway Narrowing
 - ◆ Textured Crosswalks/ Brick Pavers
 - ◆ Gateway Signs

Traffic Calming Tool Kit



◆ Chokers



◆ Chicanes



◆ Directional Restrictions/ Channelization



◆ Roadway Narrowing



◆ Street Closures



◆ Mid-Block Median



◆ Speed Humps



◆ Gateway Signs



◆ Roundabouts



◆ Textures Crosswalks/ Brick Pavers



◆ Traffic Control Devices

The Consultant team brought conceptual traffic calming plans for the respective wards and placed them on tables. The Consultant also used a chalkboard or easel to describe the problematic locations that had been identified to date for each ward. Then, the team of ward residents serving as the Steering Committee, Council member(s), City staff, and the Consultant team assigned potential traffic calming features or treatments to ameliorate the identified problems at specific locations. These meetings actually put the committee members into the position of becoming temporary traffic engineers/planners for a day. They were provided the tools and the wherewithal to understand traffic calming and its effects, and utilize the tools to provide traffic calming in their neighborhood.

Summary/Presentation of Traffic Calming Treatments

A description of the various treatments in the traffic calming tool kit, presented in Figures 9 and 10, is provided below, including the characteristics and benefits of each measure. The alternative treatments are as follows:

Chokers	Roadway Narrowing
Chicanes	Directional Restrictions
Median Islands	Forced Turn Channelization
Street Closures	Traffic Control Devices
Roundabouts	Textured Crosswalks/Brick Pavers
Speed Humps	Gateway Sign

1. **Chokers** use curb extensions, or ‘bulb-outs,’ to narrow a roadway at an intersection. Chokers help shorten the pedestrian crossing distance. They also can be used for landscaping. Chokers help reduce speeds at intersections, as well as mid-block locations. They can also help designate and protect on-street parking. They improve pedestrian safety by shortening the distance pedestrians have to traverse to cross a street.
2. **Chicanes**, or changes in the horizontal alignment, redesign a straight section of a road to include a narrow landscaped intrusion into the roadway. The landscaped intrusions can be designed as alternating patterns. The advantage of a chicane is that it produces

- a perception of a narrowed roadway in conjunction with a winding or curvilinear alignment of the road. This artificial bend, or bends, in the roadway can result in a two-lane road narrowing to a single-lane road or a two-lane road appearing to either change direction or become narrower, or both. The end result is reduced speeds and volumes of vehicles.
3. **Median Islands** consist of a landscaped island in the middle of the roadway. The design involves widening a roadway slightly to provide room for the island. When completed, vehicles must slow down to negotiate the island and narrow lane width. Median islands can also provide a temporary refuge for pedestrians attempting to cross the road.
 4. **Street Closures** use a physical barrier to eliminate all traffic movements. The barrier can be landscaped to improve its appearance. The barrier effectively prevents traffic from proceeding down a street. Through traffic that would normally attempt to use the roadway is forced to find an alternative route.
 5. **Roundabouts** consist of a circular island that is normally designed for an intersection with more than two roads approaching it. Roundabouts generally are landscaped islands with a variety of other enhancements that may include water fountains, special plantings, or statues or other objects. A roundabout promotes efficient vehicular movement, eliminating the need for stop-signs or traffic signals. Roundabouts are normally designed to promote slower vehicle speeds. The roundabout has generally been credited with reducing vehicular conflicts and improving pedestrian safety. However, due to the regular occurrence of drivers that are not familiar with roundabouts, it is very important that roundabouts employ proper advanced warning signage, roundabout signage, sufficient lighting, and pavement markings to ensure the safety of both motorists and pedestrians.

6. **Speed Humps** differ from speed bumps in that they consist of a wide raised section of pavement that is much longer, longitudinally than a speed bump. Many speed humps are several inches high and several feet in length. The design naturally restricts vehicle speeds. While some vehicles may be able to traverse a speed bump quickly, speed humps are virtually impossible to drive over quickly. The end result is reduced vehicle speeds. They are most effective in neighborhoods with schools and high pedestrian activity. Frequency and placement of speed humps will be established from the Institute of Transportation Engineers (ITE), *Trip Generation*, 6th ed. guidelines. Each location will be specifically evaluated based on prevailing conditions such as intersecting roads, existing driveways, etc. Field conditions need to be evaluated prior to specific design for placement.

7. **Roadway Narrowing** involves narrowing a straight stretch of roadway significantly at certain points to produce an uncomfortable feeling for speeding motorists. The desired effect is similar to chokers. However, roadway narrowing is usually used somewhat midway between intersections. The narrowed roadway causes motorists to slow down to a comfortable speed.

8. **Directional Restrictions** are accomplished by placing a physical barrier in the roadway, typically a raised island, to prevent specific vehicular movements. They are frequently used to redirect traffic at intersections. For example, a barrier, or raised island, at an intersection approach can prevent traffic from making left-turns, or a diagonal diverter across the entire intersection can restrict the through movements on both roads. The benefits of this treatment are reduced traffic volumes.

9. **Forced-Turn Channelization** uses a barrier to force vehicles to change direction. Channelization is often used to block a roadway, redirecting traffic from one roadway to another. The benefits include eliminating cut-through traffic and slowing vehicles.

10. **Traffic Control Devices** include a broad category of measures intended to control traffic. Examples include pavement markings, barricades, temporary signals, traffic cones (bright orange cones, vertical flexible markers, etc.), and variable-message signs, to name a few. Traffic control devices are often used to redirect traffic and slow vehicles.

11. **Textured Pavement and Crosswalk/Brick Pavers** consist of redesigning crosswalks from a smooth asphalt or concrete surface to a surface that is irregular. This can be accomplished with inlaid bricks, brick pavers, or stamped textured surfaces. The end result is a textured surface, and/or crosswalk, which is distinguishable from the adjacent pavement surfaces, thereby encouraging motorists to slow down. The obvious benefit is increased safety for pedestrians.

12. **A Gateway Sign** is a monument sign typically identifying the limits of a residential neighborhood. They are typically located within a raised median and are used on local streets adjacent to a major street to indicate to drivers that they are entering a neighborhood area where speeds are low.

The implementation of any of the aforementioned traffic calming techniques, or a few of them in combination, at specific locations on neighborhood roadways should reduce or eliminate most reported traffic problems attributable to speed, vehicle conflicts and through traffic intrusions on local streets. Traffic calming techniques provide a method of modifying a roadway to make it less efficient at transporting large numbers of vehicles and also affect the speeds at which vehicles can travel. The techniques provide a long-term method for redirecting traffic to more efficient thoroughfares. The end result of a comprehensive traffic calming plan is the restoration of a sense of identity and safety for the roads in a neighborhood. The streets become safer for all residents, including children and adults.

The development of the suggested conceptual traffic calming plan in each ward section was a direct result of the following series of meetings. As stated earlier, several of the wards had

multiple meetings to address their traffic calming issues. **Tables 6 and 7** summarize all of the ward/citizen meetings held for this project, including dates.

**TABLE 6
MEETINGS WITH COUNCIL MEMBERS & CITY DEPARTMENTS**

Ward/Department	Name	Date
1	Tammy Hall, Councilwoman	April 3, 2002
2	Veronica S. Shoemaker, Councilwoman	April 3, 2002
3	Dr. Ann Knight, Councilwoman	April 24, 2002
4	Michael A. Flanders, Councilman	April 3, 2002
5	Randall P. Henderson, Jr. Councilman	April 3, 2002
Public Works	Emmette Waite	April 4, 2002
Operations & Maintenance	Albert Abdo, Jr.	April 4, 2002
Community Development	Christine Hurley	April 4, 2002

**TABLE 7
WARD/STEERING COMMITTEE**

Ward/Association	Date	Place
1	July 25, 2002	Riverside Community Center
5	August 15, 2002	Gulfcoast Church of Christ
Dean Park (Ward 1)	August 27, 2002	Riverside Community Center
4	August 29, 2002	Golfview Substation
3	September 12, 2002	Stars Complex
2	September 24, 2002	Shady Oaks Community Center
5	October 15, 2002	Gulfcoast Church of Christ
3	October 16, 2002	Stars Complex
2	October 17, 2002	Shady Oaks Community Center
1	October 29, 2002	Riverside Community Center
4	October 30, 2002	Golfview Substation

Below, by ward, are summarized highlights of the meeting discussions.

Ward 1

- Meeting with Councilwoman Tammy Hall.
- Primary concern: West First Street; Palm Beach Boulevard; Dean Park; Woodford Park; north-south roadways: Evans Avenue and Cranford Road.
- Edgewood Avenue.

On July 25, 2002, the team held the first Ward 1 Steering Committee meeting. This meeting began with an introduction, an overview of the traffic calming educational process that includes a review of the tool kit, a neighborhood overview, and key streets/areas that were initially included in the evaluations. Not discussed in this first meeting was the Dean Park Historic Area; this exclusion was conducted at a subsequent meeting, and will be discussed later. The meeting concluded with a listing of possible traffic calming solutions, which were discussed and tabulated in the minutes of this meeting. This was the first time the treatments were introduced to the committee. The minutes of meetings for the entire ward Steering Committees are located in Appendix B. The following are key points from the meeting:

Key Streets/Areas:

- Edgewood Avenue.
- Marsh Avenue.
- Palm Beach Boulevard.
- Dean Park.
- Evans Avenue.
- Cranford Avenue.

Other Areas Discussed:

- Riverside Drive (cut-through traffic).
- Stop-sign running: Cranford Avenue at Rhode Island; Cranford Avenue at Providence.
- Renaissance Elementary School: Along Edgewood Avenue at Tarpon Street; significant pedestrian school drop-off/pick-up issues.

On October 29, 2002, the second Ward 1 Steering Committee meeting was held at the Riverside Community Center. Below are key discussions from that meeting:

Key Issues:

- At this meeting, the treatments were presented in two phases, Phase I and Phase II. At the time, they were either short-term (Phase I) or long-term (Phase II) treatments, respectively. Overall, most of the traffic calming features that were discussed from the first meeting and presented in this meeting was generally agreed to by the residents.

Dean Park (Ward 1):

Dean Park is an historic community within Ward 1, located generally in the southwest quadrant of the ward. This area-specific meeting was held on August 27, 2002 and, like the others, began with an introductory educational presentation on traffic calming and then continued with discussions with the residents about the concerns in their specific Dean Park neighborhood. Below is a list of their key issues:

- First Street (cut-through traffic). Since this particular association is bordered by Palm Beach Boulevard, and West First Street in the downtown area, this particular community faces a great deal of cut-through traffic from these major arteries, which was of major concern to the residents at these meetings.
- Billy Creek Bridge (an access to the neighborhood, immediately from Palm Beach Boulevard).

Other Areas Discussed:

- Cranford Avenue and Providence Street.
- Stop-signs at Palm Avenue.
- Michigan Avenue – traffic volumes and speeding.

Ward 5

On August 15, 2002, a Ward 5 Steering Committee meeting was held at the Gulfcoast Church of Christ. This meeting began with the introduction of the traffic calming educational process, a neighborhood overview, and key streets/areas that were initially included in the evaluation. The meeting concluded with a listing of possible traffic calming solutions that were discussed and tabulated in the minutes of this meeting. The following are key points from the meeting:

Key Issues:

- McGregor Boulevard: Speeding and center left-turn lane, as there are numerous incidents of traffic using this lane as a passing lane; left turns without protection; lack of pedestrian crosswalks along McGregor Boulevard at key intersections.
- Hill and Winkler Avenues.
- De Leon Street at Colonial Boulevard: cut-through traffic from Matthew Road to Sam Fleischman Park.

Other Areas:

- Georgetown, Royal Palm Square Boulevard and Winkler Avenue.
- Summerlin Road and Colonial Boulevard.
- Colonial Boulevard at Lagg Avenue.

On October 15, 2002, the second Ward 5 Steering Committee meeting was held, again at the Gulfcoast Church of Christ. This meeting began with the introduction of the traffic calming educational process, a neighborhood overview, and key streets/areas that were initially included in the evaluation. The meeting concluded with a listing of possible additional traffic calming solutions that were discussed and tabulated in the minutes of meeting. The following are key points from the meeting:

Key Issues:

- West First Street. (Note: This particular street used to be located in Ward 1, and is now located in Ward 5, due to the relocation of ward boundary lines in late fall 2002.)
- Meade Avenue at Colonial Boulevard.
- Georgetown. At this particular meeting, the Georgetown community/association neighborhood was discussed at length. It was decided, due to the complexity of their entryways to McGregor Boulevard, specifically related to their neighborhood, to hold a supplemental meeting just to discuss the Georgetown resident community's concerns and issues. These concerns and issues are discussed later in this report.

Ward 4

On August 29, 2002, Ward 4 held its first Steering Committee meeting at Golfview Substation. This meeting began with the introduction of the traffic calming educational process, a neighborhood overview, and key streets/areas that were initially included in the evaluation. The following are key streets/areas that were discussed and included in this Ward Steering Committee meeting:

Key Issues:

- Linhart Avenue: Speeding and cut-through traffic between McGregor Boulevard and Cleveland Avenue.
- Cortez Boulevard, for its entire length.
- Hanson Street.
- McGregor Boulevard.

Other Areas Discussed:

- Braman Avenue.
- Hill Avenue.
- Winkler Avenue.
- Jefferson Avenue.
- West First Street.

- Allen Park.
- Edison Park.

On October 30, 2002, the second Ward 4 Steering Committee meeting was held, again at the Golfview Substation. This meeting began with the introduction of the traffic calming educational process, a neighborhood overview, and key streets/areas that were initially included in the evaluation. The meeting concluded with a listing of additional possible traffic calming solutions that were discussed and tabulated in the minutes of the meeting. The following are key issues that were discussed at this ward Steering Committee meeting:

Key Issues:

- Raised intersections and mid-block island, incorporating pedestrian crossings in general were accepted as a treatment that would maximize the effectiveness and safety of traffic calming in the neighborhood.
- There was some discussion about the Edison Park area needing some treatments along Llewellyn Drive, and at its access along Menlo Road at its intersection with McGregor Boulevard. Other areas of Edison Park would not need to be evaluated, since there was another Consultant working for the City in and around the area of the hospital.
- A chicane or horizontal alignment treatment will be used at a couple of locations.
- It was agreed that speed humps would be effective along Winkler Avenue, with the caveat that a standard design treatment will be provided to the City which includes increased frequency, visible pavement markings, and signing as part of the standard for this treatment.
- Along McGregor Boulevard, there was serious opposition regarding the option to widen the facility in the northern corridor where two lanes exist. The widening was proposed not to provide three lanes, but to more or less providing a landscaped median treatment. The reason for the median suggestion was the present discontinuity in median treatments along McGregor Boulevard, which causes driver uncertainty. A proposed plan for McGregor Boulevard would consist of a consistent

boulevard theme, bordered along its median edges by valley curb and in its central area combining stamped/textured pavement materials. At periodic locations, landscaped medians would alternatively be provided. Pedestrian/vehicle crossings would be located at specific intersections to 1) provide refuge for turning vehicles and/or pedestrians, and 2) to provide access for U-turns to access adjacent properties that may be denied access with this proposed median plan.

Ward 3

On September 12, 2002, Ward 3 held its first Steering Committee meeting at the Stars Complex. This meeting began with the introduction of the traffic calming educational process, a neighborhood overview, and key streets/areas that were initially included in the evaluation. The discussions in this ward focused primarily on speeding issues and stop-sign-running problems. The following is a list of major reported concerns:

Key Issues:

- Prince Street: between Lincoln Boulevard and Dunbar Street.
- Wright Street: between Lincoln Boulevard and Edison Avenue.
- Brown Street and Pauldo Street.
- Cranford Avenue between Edison Avenue and Dr. Martin Luther King, Jr. Boulevard.
- The entire Lovejoy Community: bounded by Hanson Street, Edison Avenue, Cleveland Avenue, and Evans Avenue would be evaluated.

On October 16, 2002, the Ward 3 Traffic Calming Committee (ward/citizen)/Steering Committee Meeting met for the second time at the Stars Complex. This meeting began with the introduction of the traffic calming educational process, a neighborhood overview, and key streets/areas that were initially included in the evaluation. The meeting concluded with a listing of possible additional traffic calming solutions that were discussed and tabulated in the minutes of the meeting. The following are the key issues that were discussed and included in this second Ward Steering Committee meeting:

Key Issues:

- After review of discussions from the previous meeting, it was discussed that a combination of speed humps and raised intersections, or flat-top-plateaued intersections, would be primarily used to ameliorate traffic calming issues. Generally, the citizens in attendance agreed with this outcome, and these treatments and discussions from this meeting were used in preparation of the suggested conceptual traffic calming plan and presentation at the public workshop.

Ward 2

On September 24, 2002, Ward 2 held its first Steering Committee meeting at the Shady Oaks Community Center. This meeting began with the introduction of the traffic calming educational process, a neighborhood overview, and key streets/areas that were initially included in the evaluation. The following are key issues that were discussed and included in this ward Steering Committee meeting:

Key Issues:

- It was suggested that most neighborhoods receive gateway signs to identify and distinguish their neighborhood from commercial/retail centers within the ward.
- Brookhill Drive: speeding problem with traffic diverted from Gardenia Avenue.
- High Street: evaluate speed humps where they were installed and their resulting problems.
- Dupree Street: between Edison Avenue and Dr. Martin Luther King, Jr. Boulevard.
- New York Avenue: in the vicinity of Utana Avenue and Nuna Avenue.
- Michigan Avenue: several speeding issues with traffic traveling south or north off the roadway to adjacent neighborhoods streets; Raleigh Avenue, Indian Street, High Street.

On October 17, 2002, the second Steering Committee meeting was held for Ward 2, again, at the Shady Oaks Community Center. This meeting began with the introduction of the traffic calming educational process, a neighborhood overview, and key streets/areas that were

initially included in the evaluation. The meeting concluded with a listing of possible traffic calming solutions that were discussed and tabulated in the minutes of the meeting. The following are the key issues that were discussed and included in this Ward Steering Committee meeting:

Key Issues:

- Brookhill Drive: speed humps and/or mid-block medians proposed in the Gardenia Avenue area.
- Marsh Avenue: mid-block medians in the vicinity of the Lee Middle School.
- Intersection of Michigan Avenue/Michigan Avenue link: a cul-de-sac was proposed at this intersection to provide safety and realignment of the existing T-type intersection.
- Second Street: an improved dead end street closure treatment will be provided in the vicinity near Ford Street. This is due to traffic cutting through the adjacent cemetery to get to Michigan Avenue.

Each of the wards, because they had at least two (2) meetings, had their plans revised at different levels. The plans were divided into Phase I – Short-Term and Phase II – Long-Term treatments. The plans include a legend that identifies the symbols for each of the treatments used. The symbol on the plan, while not to scale, is a graphical representation of where a treatment would be generally placed along the corridor. Since this is a concept plan and not a design plan, engineering details, surveyed information, and complete construction plans would need to be prepared following this study, in order for the City to use this report and implement the traffic calming features.

The hard work conducted through the Steering Committees provided the basis for the development of the suggested conceptual traffic calming plans. The materials used for each of the ward's Steering Committee meetings are located in **Appendix H**. It was these plans, along with other graphic presentations, that were presented to the general public at the Public Workshops.

PUBLIC WORKSHOPS

Public workshops were held for each ward individually, to present the suggested conceptual traffic calming plans to residents. The workshops were designed to elicit input from citizens at large concerning the locations and type of traffic calming treatments recommended in each ward. To achieve that goal, the meeting room was organized into specific areas. The areas included the following: a greeting table at the entrance, a PowerPoint presentation with available seating for viewing, discussion tables, and a comment card response collection box. A separate view screen was used by Cella and Associates to display a special software program that arranged recorded comments for viewing by the attending public. A hard copy of the presentation is provided in **Appendix I**.

The area near the main entrance of the room contained the greeting table, where residents were asked to sign the attendance form by personnel from McMahon Associates. Every participant was given a handout packet that included the meeting agenda, a map showing the locations of the proposed traffic calming treatments, and a comment card for residents to fill out. Appendix I contains the standard meeting materials and includes the contents of the handout packet, sign-in list, and zonal comments cards.

As the participants left the greeting table, a nearby PowerPoint presentation explained the traffic calming process. The presentation described the concepts of traffic calming, the steps involved in the process, and provided a brief explanation of the various types of traffic calming techniques that could be used to resolve speeding, stop-sign running, and cut-through traffic problems. A description of the benefits of each treatment was included in the slide show. The presentation was designed so that it ran in a continuous loop. If residents arrived after the workshop meeting had started, they could sit and wait for the presentation to begin again, to view the complete presentation. The length of the presentation was approximately four minutes.

Beyond the PowerPoint presentation area, tables were set up for discussion sessions. Due to the large size of the wards, every ward was divided into two zones. The zonal maps are presented in **Appendix K Maps 12 through 22** depict the phased conceptual plans for each

ward and for McGregor Boulevard. The suggested conceptual traffic calming plans for each zone were placed on separate tables.

Most of the plans also made reference to special intersection details and are designated as SID on the plans. Examples of these details include the Barcelona roundabout on McGregor Boulevard and the reconfiguration of the Sam Fleischman Park parking lot. Other details were created to better convey specific treatments, such as the closing of Michigan Avenue via a cul-de-sac. This was accomplished through the use of graphical details incorporating the use of aerial photographs. Treatments were sketched onto these aerial photos. These details are included in **Appendix L**.

General treatment details were also prepared. There were many concerns expressed about the design of the proposed speed humps. Concerns were also raised about driveway accessibility with the implementation of a mid-block median and chicane treatments. Plan view drawings were prepared to address these concerns. The portion of the traffic calming tool kit that included photographs of the various treatments was enlarged and mounted for display. These details and the tool kit are presented in Appendix L.

After subsequent coordination with the City, as a result of input from residents in Dean Park, specifically on Cranford Avenue, the Ward 1 suggested conceptual plan was altered to reflect their comments. Similarly the treatments for Meade Avenue in the Ward 5 suggested conceptual plan were revised to reflect residents' concerns raised to the City. These changes are incorporated into the final suggested conceptual plans, which are Maps 12-22. These plans were modified based upon resident input and subsequent field reviews. While there was no specific data collected on these particular streets, several field reviews and windshield surveys were conducted to allow the engineer/planner the opportunity to review these additional locations.

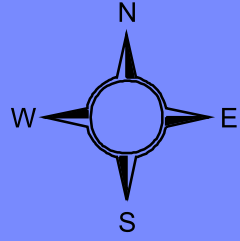
ZONE 2

ZONE 1

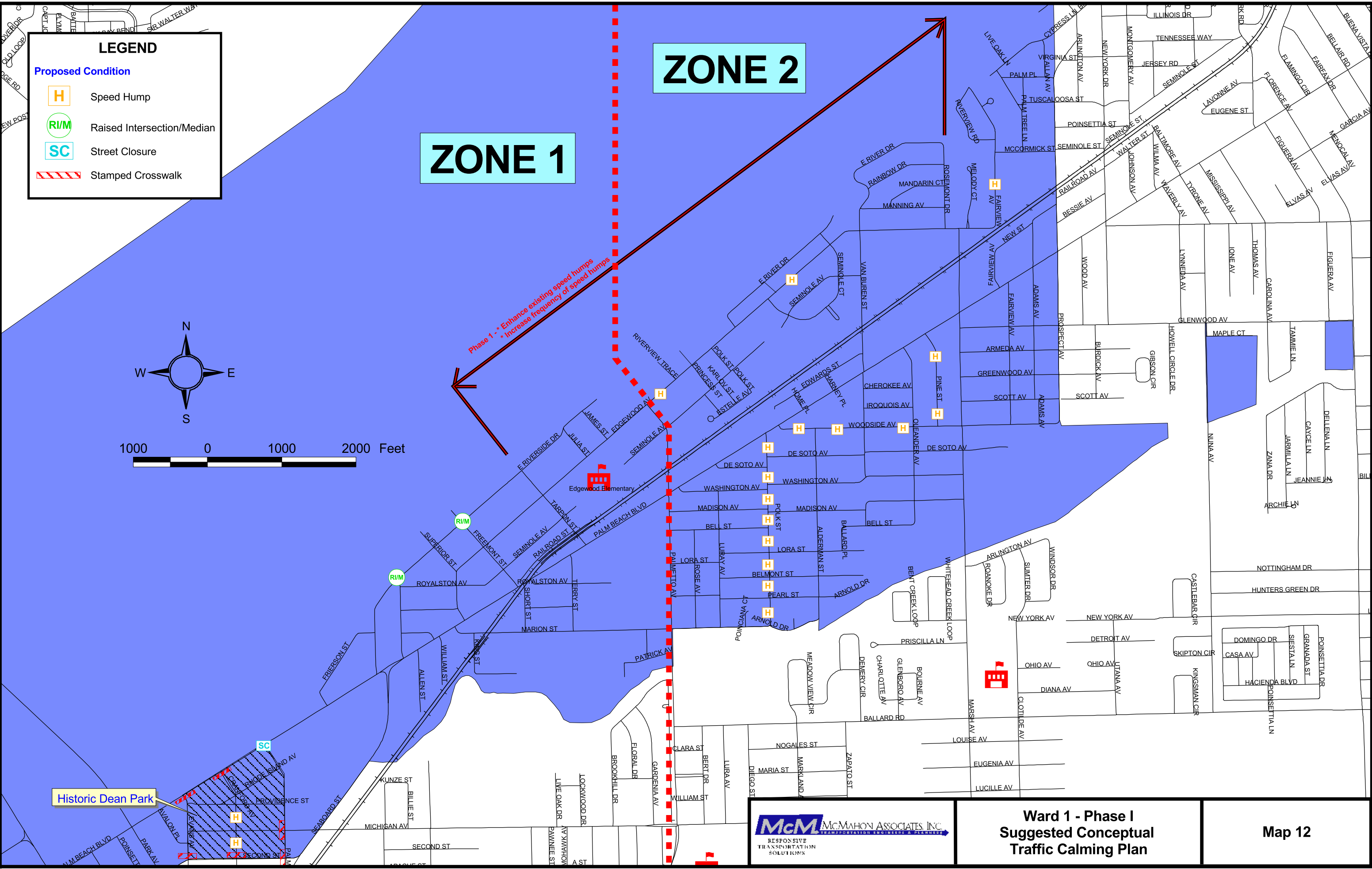
LEGEND

Proposed Condition

- Speed Hump
- Raised Intersection/Median
- Street Closure
- Stamped Crosswalk



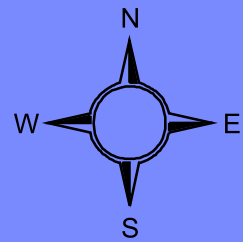
Phase 1 - * Enhance existing speed humps
* Increase frequency of speed humps



LEGEND

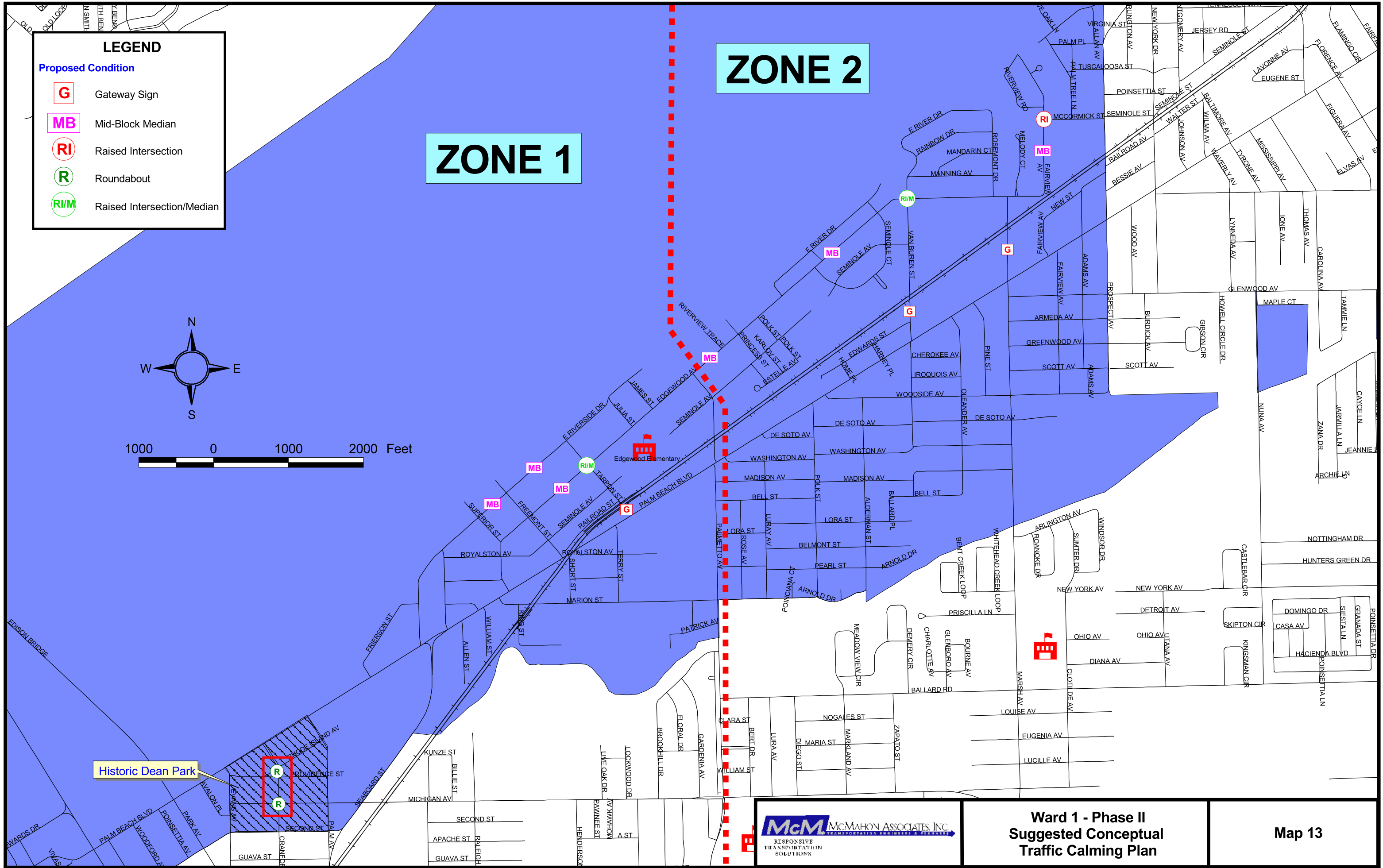
Proposed Condition

- G** Gateway Sign
- MB** Mid-Block Median
- RI** Raised Intersection
- R** Roundabout
- R/M** Raised Intersection/Median



ZONE 2

ZONE 1







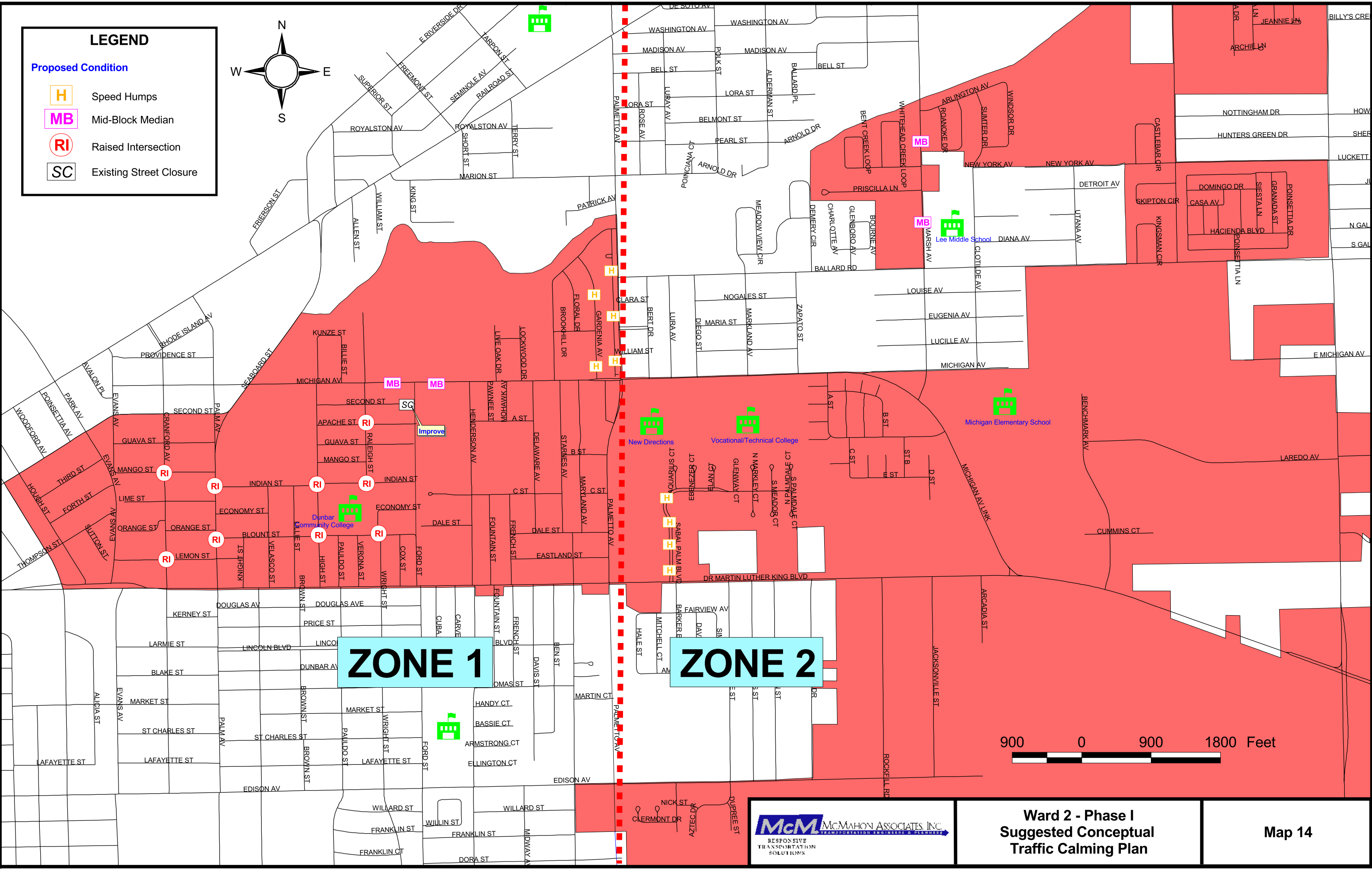
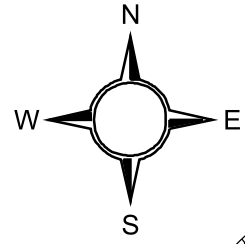
**Ward 1 - Phase II
Suggested Conceptual
Traffic Calming Plan**

Map 13

LEGEND

Proposed Condition

-  Speed Humps
-  Mid-Block Median
-  Raised Intersection
-  Existing Street Closure



ZONE 1

ZONE 2



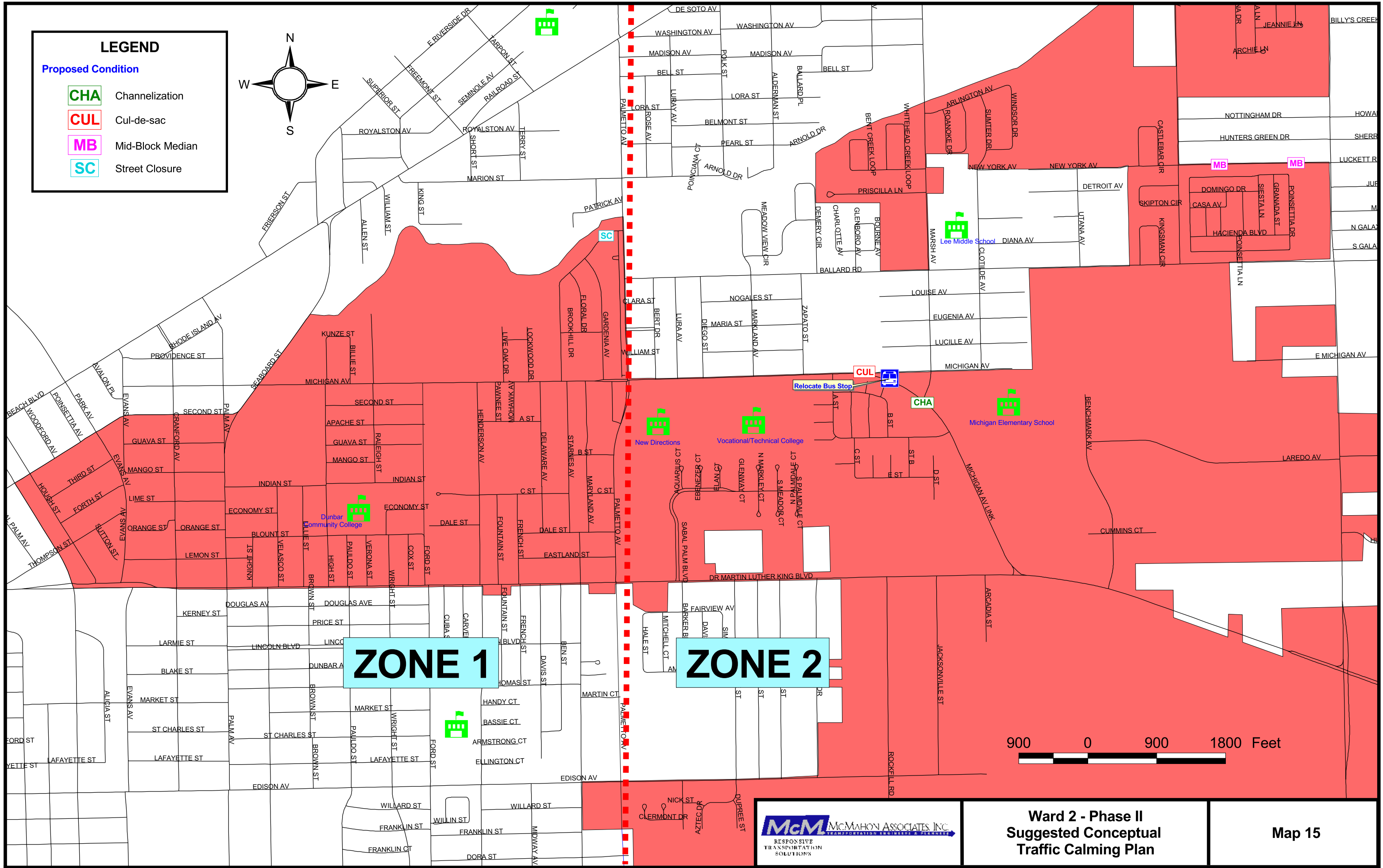
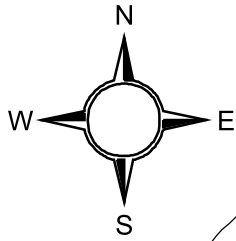
**Ward 2 - Phase I
Suggested Conceptual
Traffic Calming Plan**

Map 14

LEGEND

Proposed Condition

- CHA Channelization
- CUL Cul-de-sac
- MB Mid-Block Median
- SC Street Closure



ZONE 1

ZONE 2

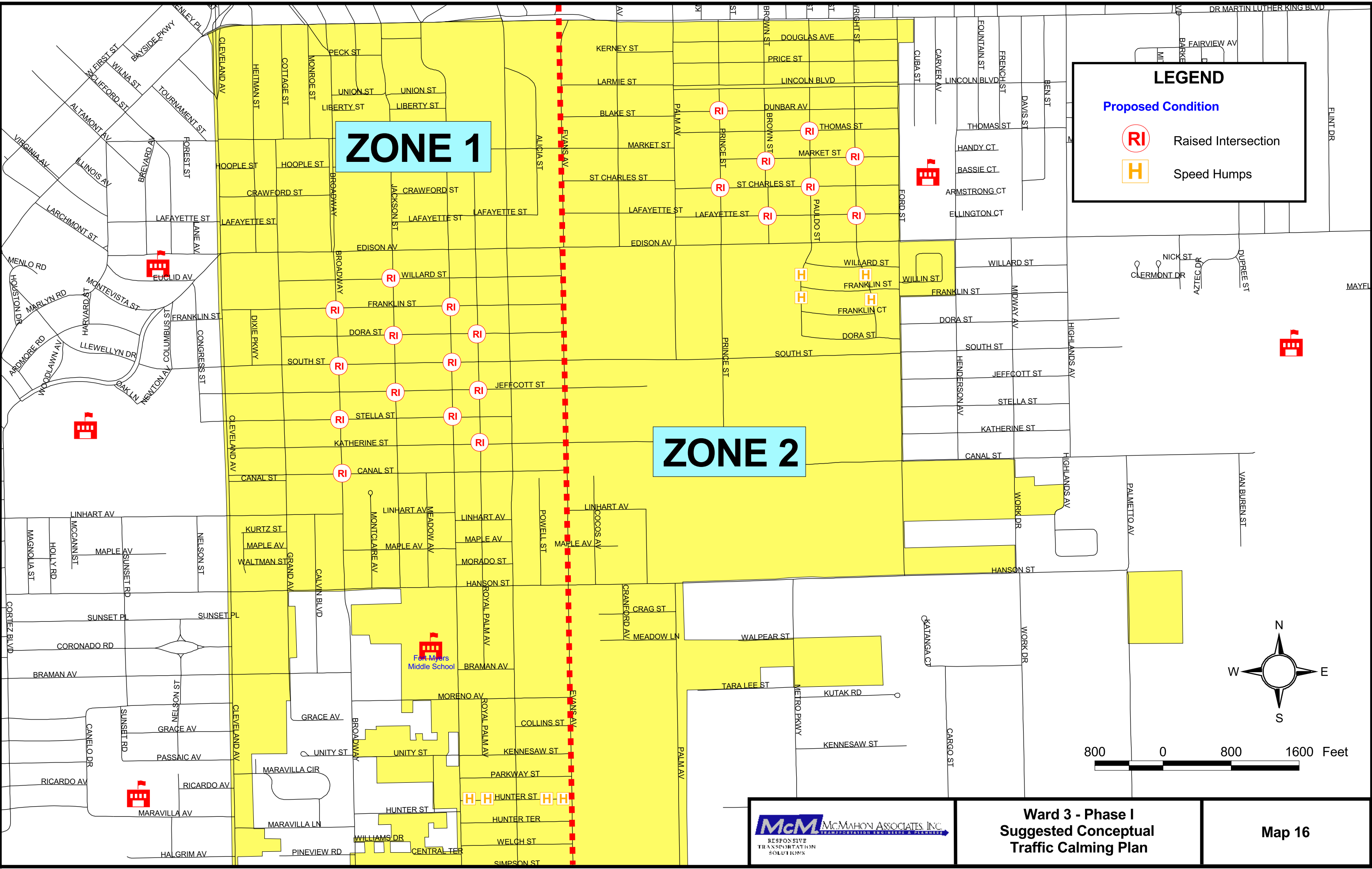


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TRANSPORTATION ENGINEERS & PLANNERS

RESPONSIVE
TRANSPORTATION
SOLUTIONS

**Ward 2 - Phase II
Suggested Conceptual
Traffic Calming Plan**

Map 15



LEGEND

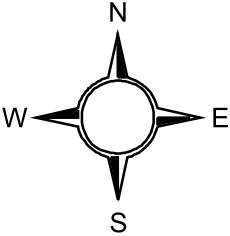
Proposed Condition

- RI Raised Intersection
- H Speed Humps

ZONE 1

ZONE 2

800 0 800 1600 Feet

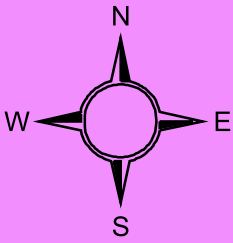


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RESPONSIVE
TRANSPORTATION
SOLUTIONS

**Ward 3 - Phase I
Suggested Conceptual
Traffic Calming Plan**

Map 16

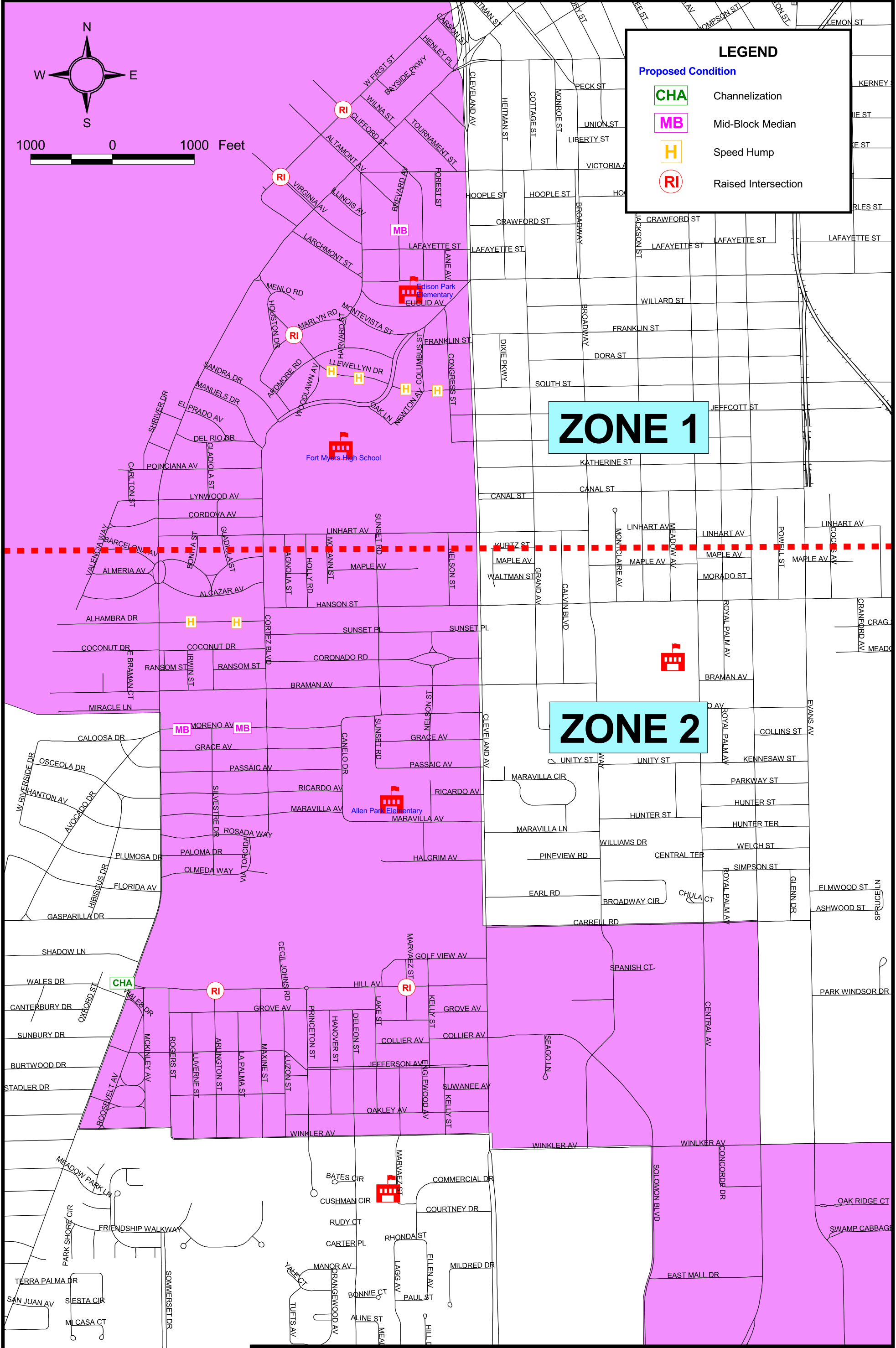


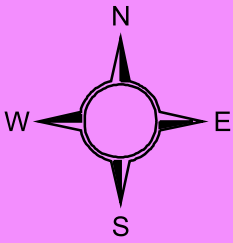
1000 0 1000 Feet

LEGEND	
Proposed Condition	
	Channelization
	Mid-Block Median
	Speed Hump
	Raised Intersection

ZONE 1

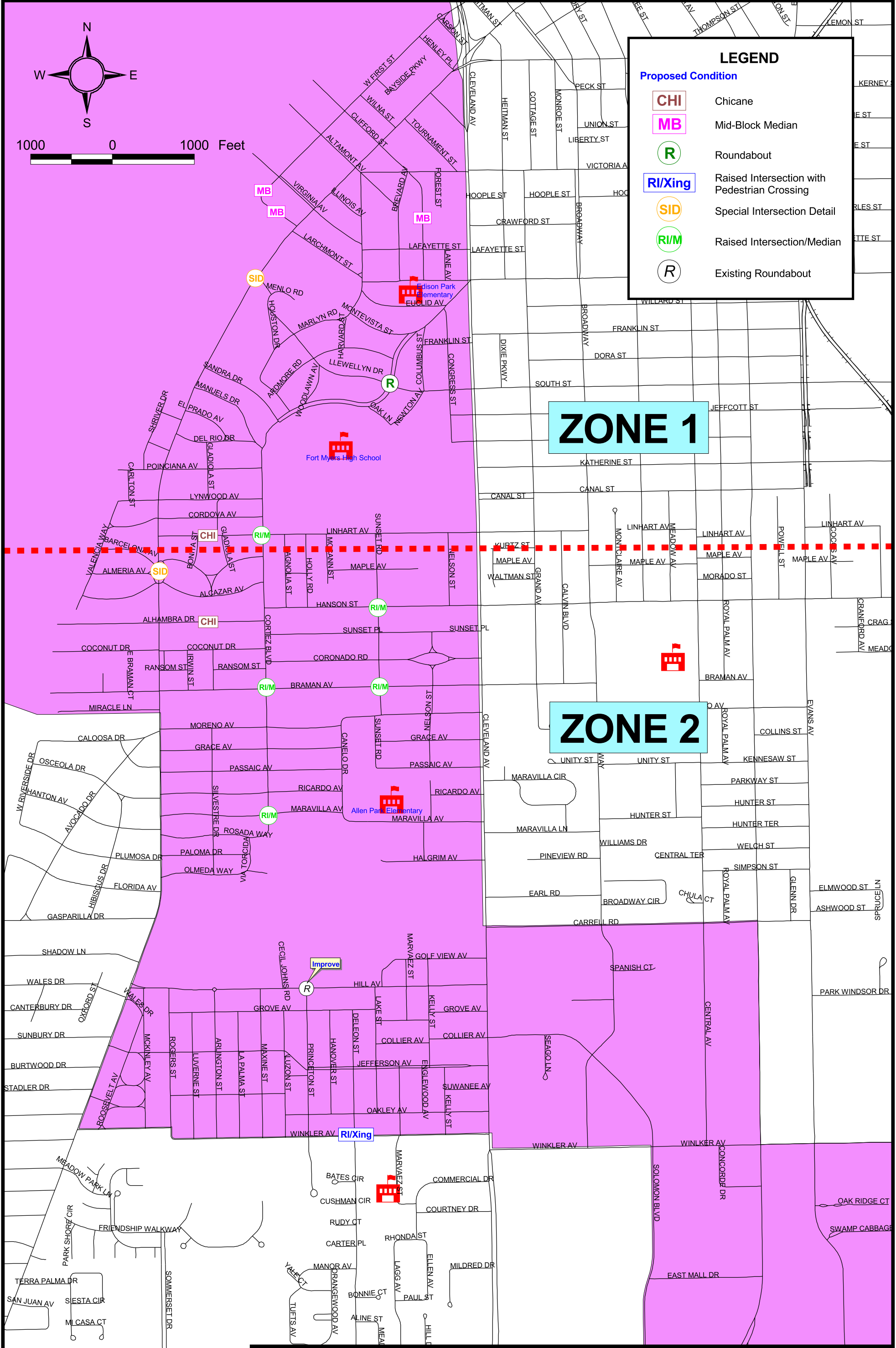
ZONE 2





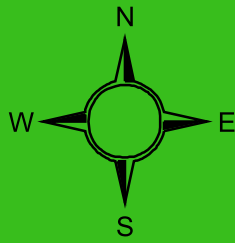
1000 0 1000 Feet

LEGEND	
Proposed Condition	
CHI	Chicane
MB	Mid-Block Median
R	Roundabout
RI/Xing	Raised Intersection with Pedestrian Crossing
SID	Special Intersection Detail
RI/M	Raised Intersection/Median
R	Existing Roundabout



ZONE 1

ZONE 2



800 0 800 1600 Feet

LEGEND

Proposed Condition

- Speed Humps
- Channelization
- Existing Speed Humps

ZONE 1

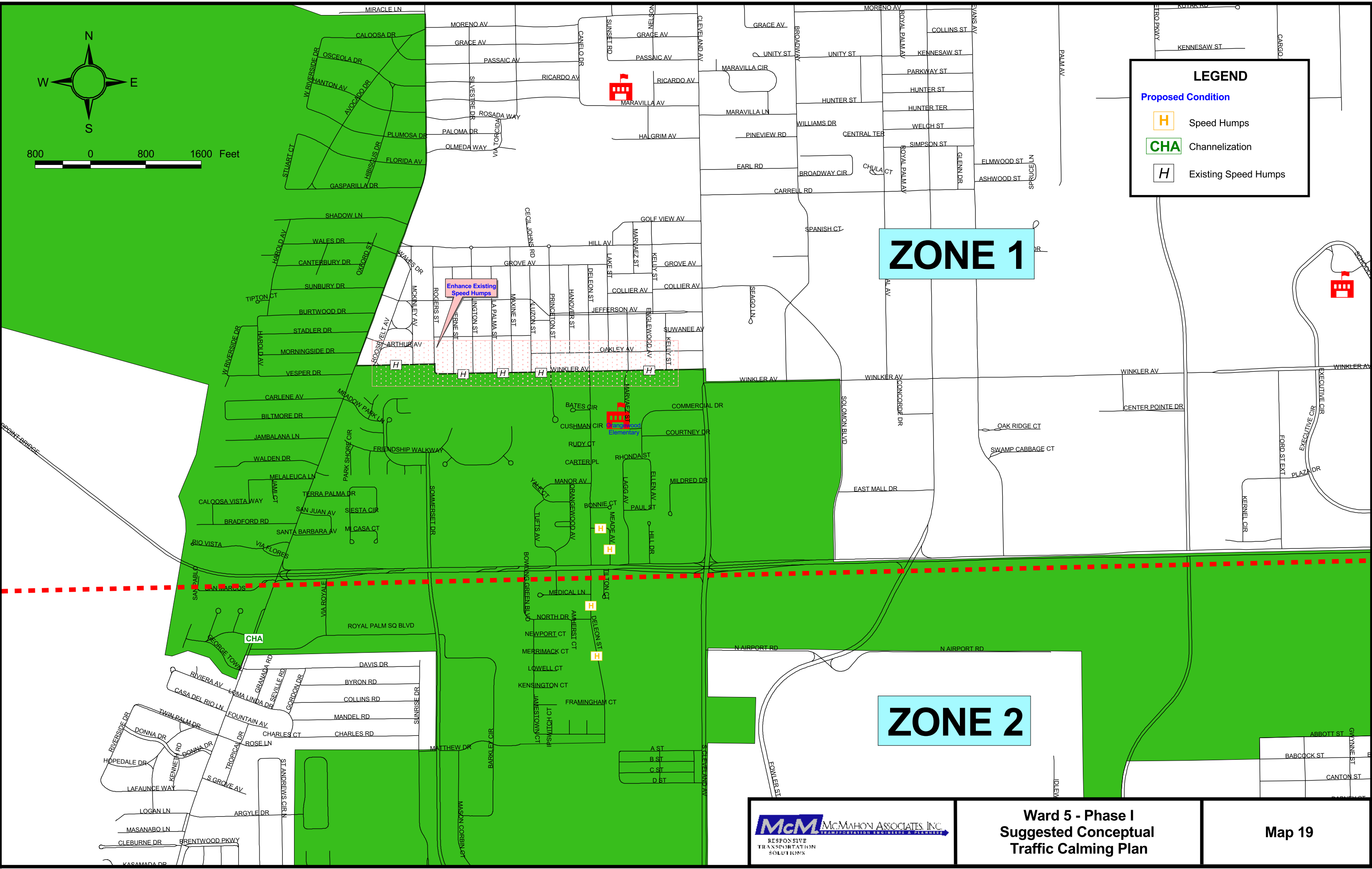
ZONE 2

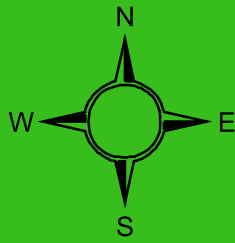
Enhance Existing Speed Humps

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SOLUTIONS

**Ward 5 - Phase I
Suggested Conceptual
Traffic Calming Plan**

Map 19





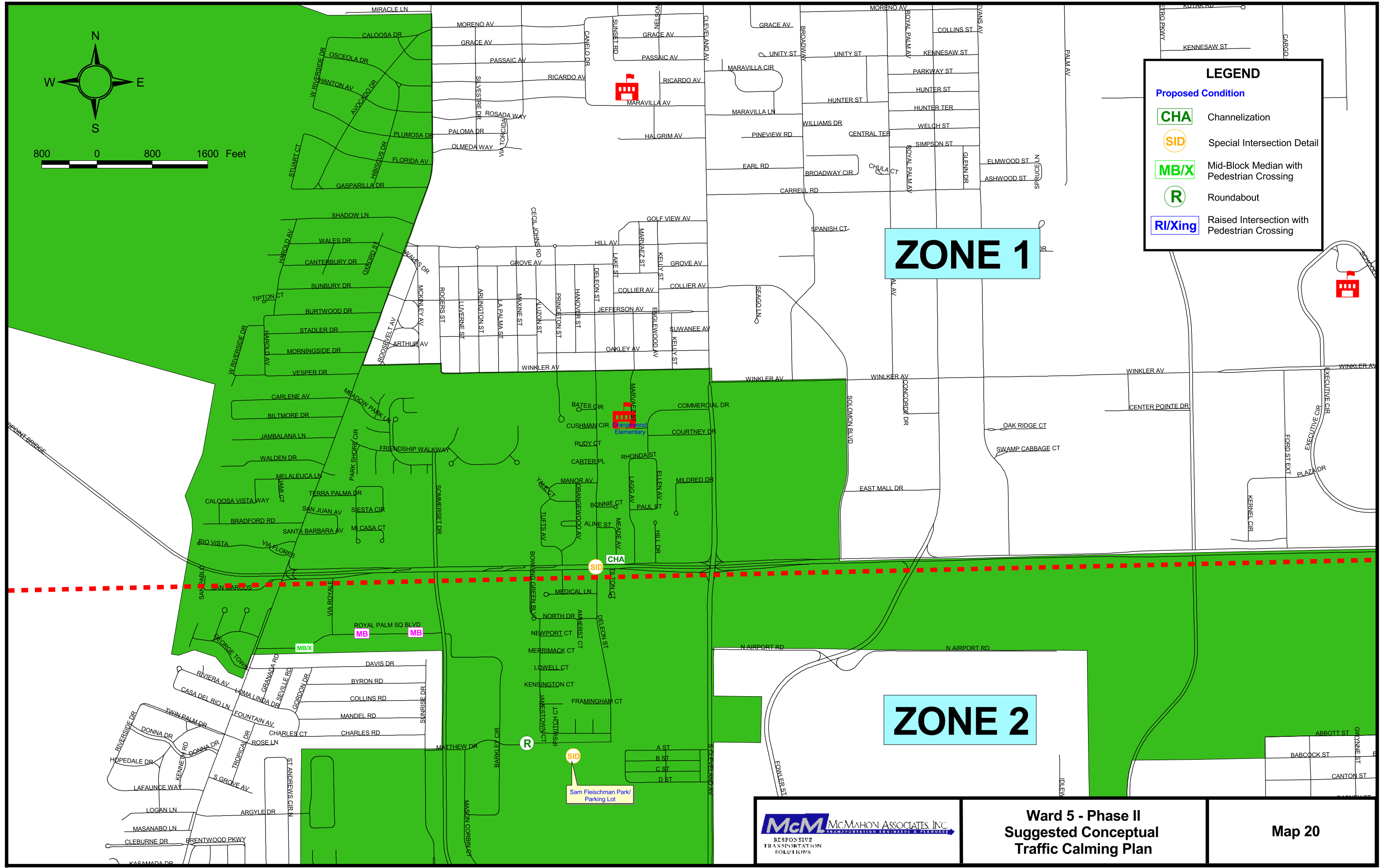
800 0 800 1600 Feet

LEGEND

- Proposed Condition**
- CHA** Channelization
- SID** Special Intersection Detail
- MB/X** Mid-Block Median with Pedestrian Crossing
- R** Roundabout
- RI/Xing** Raised Intersection with Pedestrian Crossing

ZONE 1

ZONE 2



CHA

MB/X

MB

MB



Sam Fleishman Park/
Parking Lot

RESPONSIVE
TRANSPORTATION
SOLUTIONS

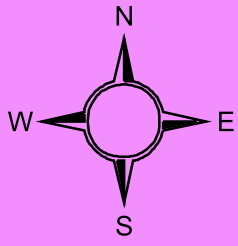
Ward 5 - Phase II
Suggested Conceptual
Traffic Calming Plan

Map 20

LEGEND

Proposed Condition

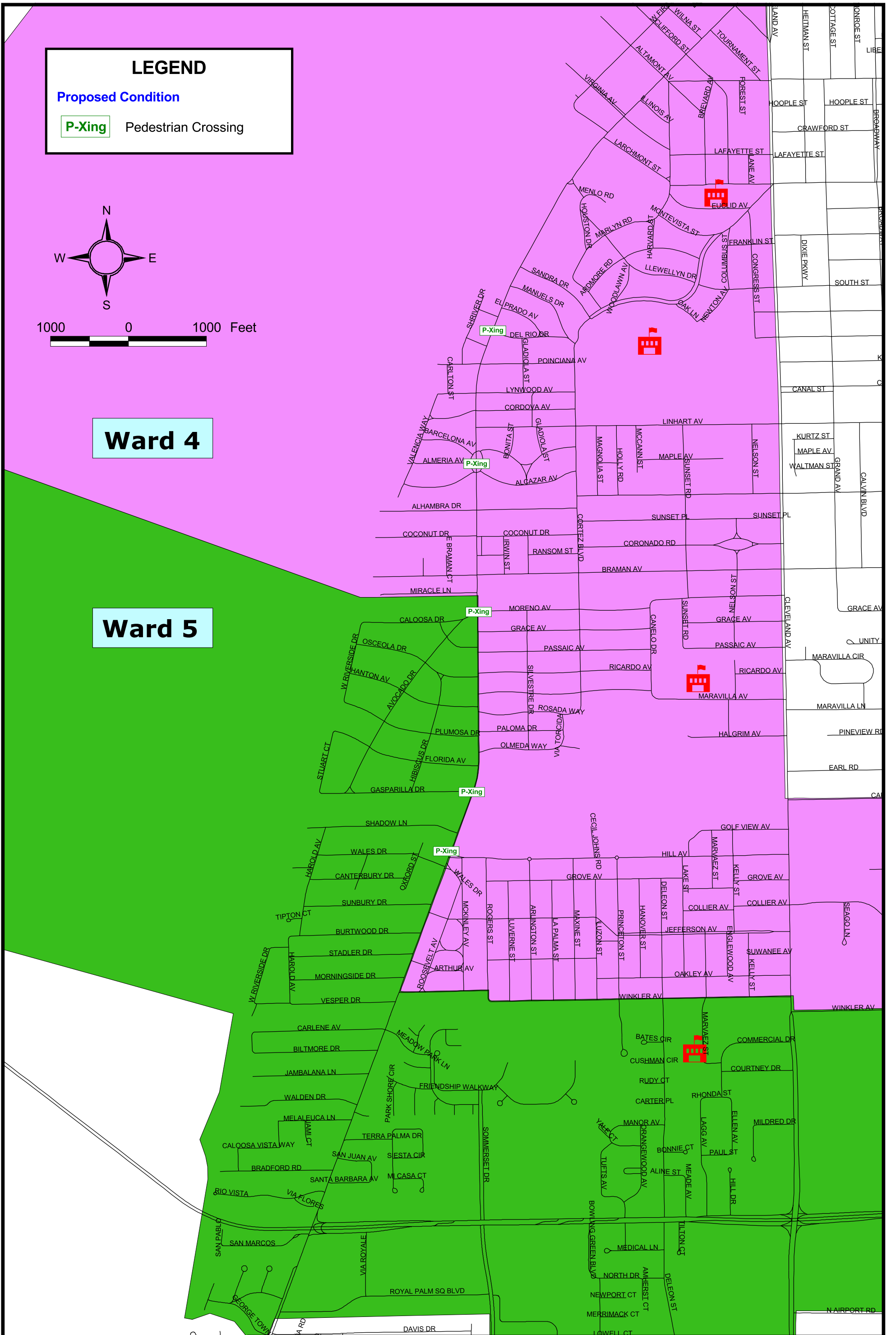
P-Xing Pedestrian Crossing



1000 0 1000 Feet

Ward 4

Ward 5



LEGEND

Proposed Condition



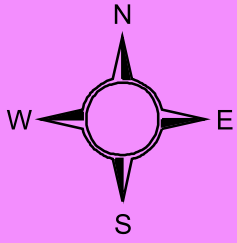
Special Intersection Detail



Roundabout



Existing Landscaped Medians



1000 0 1000 Feet

Ward 4

Ward 5

Phase 1
Modified 2-Lane Section

Phase 2
Develop Continuous 3-Lane Median/Gutter Plan (Alternative)

Phase 2
Develop Continuous 3-Lane Median/Gutter Plan

Begin Existing 3 Lanes

End Existing 3 Lanes

Begin Existing 3 Lanes

End Existing 3 Lanes

Begin Existing 3 Lanes

End Existing 3 Lanes

Begin Existing 3 Lanes

End Existing 3 Lanes

Begin Existing 3 Lanes

Phase 2 - Widen 3 Lanes

Phase 2 - Widen 3 Lanes

Phase 2 - Widen 3 Lanes

Realignment of Royal Palm Square Blvd



McGregor Boulevard - Phase II
Suggested Conceptual
Traffic Calming Plan

Map 22

By dividing the ward into two zones, residents were able to approach one of the zones to ask questions and discuss the proposed traffic calming treatments specific to that zone. Teams of engineers and planners from the Consultants were stationed at each table to explain the maps and details to the residents, and to answer any questions. When the residents finished with that zone, they could similarly proceed to the second zone and review the treatments for that specific area of the ward.

Since many of the residents who approached the tables were not familiar with the traffic calming process, several of them had multiple questions for the engineers/planners. Some of the residents suggested that the engineers should make changes to the suggested conceptual traffic calming plan. In some instances, they wanted to change the type of traffic calming treatment listed. In other instances, residents wanted to move a treatment to a different location. Many residents even requested new treatments, usually related to specific problems in their neighborhood.

Most of the resident's comments at the tables reinforced the problem areas that had originally been reported to City officials and Council members prior to the beginning of the traffic calming study. Other comments introduced new problem areas that required attention. Where several residents complained about similar problems, the engineers suggested adding traffic calming treatments to address the new problems. Prior to the addition of a new traffic calming treatment to the map, the engineers asked the residents for feedback.

The last area in the workshop room contained the comment card box, where residents turned in their completed comment cards. The comment cards were collected by the Consultants and incorporated into a database program. This program was used to project the results onto a presentation screen for every participant to see. Residents were able to view the comments that were made by other residents. The comment card database also provided a convenient method for tracking the comments for future reference. All of the public workshop response materials are included in **Appendix J**.

The public workshops were held on the dates shown listed in **Table 8**. The City advertised each workshop by sending mailers announcing the meeting to the residents. The number of residents that attended each ward meeting ranged from a few residents to more than 40 residents.

**TABLE 8
PUBLIC WORKSHOP DATES & LOCATION BY WARD**

Ward	Workshops	Location	Address
1	January 28, 2003	Riverside Community Center	East Riverside Drive
2	November 21, 2002	Shady Oaks Community Center	Marion Street
3	December 17, 2002	Stars Recreation Center	Edison Avenue
4	December 10, 2002	Emanuel Lutheran Church	Hill Avenue
5	November 12, 2002	Orangewood Elementary School	De Leon Street

A summary of the comments that were received from residents who completed and submitted a comment card are provided below, arranged by ward.

Ward 1

- Pine Street needs speed humps immediately.
- Polk Street needs speed humps between Palm Beach Boulevard and Marion Street, due to speeding.
- Woodside Avenue between:
 - Palm Beach Boulevard and Alderman Street.
 - Alderman Street and Van Buren Street.
 - Van Buren Street and Oleander Avenue.
- Madison Avenue from Palmetto to Marsh needs speed humps due to speeding.
- Washington Avenue needs speed humps on the entire length of the street.
- Scott Avenue – add speed humps.
- Edgewood and Veronica Shoemaker/Palmetto needs a three-way stop.

- Palm Beach Boulevard/First Street:
 - Make one-way street two-way again.
 - Need more traffic lights on Palm Beach Boulevard.
 - Need more crosswalks on Palm Beach Boulevard.
- E. Riverside Drive at James Street has problems with speeding school buses that brake for the intersection and drivers that cut the corner and hit the phone junction box. Plus, people leaving The River Condos drive fast.
- E. Riverside Drive, between Superior Street and Freemont Street, and Freemont Street to Tarpon Street needs many speed humps on all of E. Riverside Drive.
- Palm Avenue and Palm Beach Boulevard had the following:
 - Cranford Avenue needs adjustment if Palm Avenue is closed.
 - Close Palm Avenue at First Street.
 - Use a divider on Palm Avenue to prevent trucks from making a left-turn onto the street.
- Edgewood Avenue and Van Buren Street: relocate gateway signs to the existing location of the neighborhoods.
- Edgewood Avenue, between E. River Drive and Seminole Court: relocate Gateway signs to the existing location of the neighborhoods.

Ward 1 – Dean Park

- Cranford Avenue, between Rhode Island and Providence Street:
 - Roundabout around Dean Park’s triangle looks good.
 - Address traffic on Evans Avenue, ultimately eliminating ‘non-residence’ traffic.
 - Need to preserve the triangle; do not alter it.
 - If Palm Avenue is closed, traffic will shift to Evans Avenue and it will require some sort of traffic calming.
 - Close Palm Avenue when provisions for Cranford Avenue have been made.
 - Need to provide parking space for residential parking on Rhode Island Avenue.

Ward 2

- The residents were pleased with the suggested conceptual traffic calming plan map and did not request any modifications or additions.

Ward 3

- Complained about speeding on Jackson Street, from Canal Street to Hanson Street.
- Requested a Raised Intersection (RI) at Jackson Street and Maple Street.
- Reported speeding on Katherine Street, especially eastbound from Cleveland Avenue.
- Wants a raised intersection at Jackson Street and Katherine Street.
- Suggested moving two of the Raised Intersections from Royal Palm Avenue to other streets closer to Cleveland Avenue, keep Raised Intersection proposed for Royal Palm Avenue and Jeffcott Street.
- Reported speeding on Maple Street, from Cleveland Avenue to Fowler Avenue.

Ward 4

- For McGregor Boulevard, the workshop comment card responses included:
 - Want more landscaped islands in the turn lane.
 - Keep all sections two-lane.
 - Do not widen any additional parts of McGregor Boulevard, and to third lane McGregor Boulevard would be a big mistake.
 - Enforce the speed limits.
- At Poinciana Avenue, residents wanted improved signage to direct traffic to Cleveland Avenue and to discourage through truck traffic.
- Speed humps at El Prado Avenue, Del Rio Drive, Cortez Boulevard, and Linhart Avenue work great and are cost effective, but dislike the big signs.
- Concerning the proposed roundabouts, residents replied:
 - Three roundabouts are a good idea.
 - Create as many roundabouts as possible.
 - Let's try a few chicanes and roundabouts and see how they work.

- McGregor Boulevard roundabout at Alcazar/Barcelona Avenues should help calm traffic in that location.
- Keep the planned roundabout at Alcazar Avenue.
- Other miscellaneous comments from residents included:
 - Create as many mid-block medians as possible.
 - Overall plan looks realistic and doable.
 - Keep bike and pedestrian safety and access a high priority.
 - Do not close Cortez Boulevard at US-41 – it is a character-enhancing feature of our neighborhood.

Ward 5

- McGregor Boulevard:
 - Love the idea of landscaped islands.
 - More and safer pedestrian/bike crossings are needed.
 - No more traffic lights.
 - Keep speed limit at 30 miles per hour or less.
- Winkler Avenue:
 - Agree with speed hump enhancements.
 - Close Winkler Avenue west of Cleveland Avenue.
 - Delivery trucks use Winkler Avenue to Rogers Street to Hill Avenue to access Golf Course/Restaurant.
 - Like mid-block medians.
- Meade Avenue at Colonial Boulevard and De Leon Street - should not block Meade Avenue off from southbound to westbound Colonial Drive.
- Royal Palm Square Boulevard needs more lighting and crossings near the YMCA.
- De Leon Street had the following comments:
 - Agree with speed hump enhancements.
 - Reduce passing cars.
 - Slow traffic, especially between Winkler Avenue and Colonial Drive.
 - Need right-turn lane on south side of Colonial Drive/De Leon Street intersection.

- Allow West Drive to go through for traffic heading north on De Leon Street.
- Install portable vehicle speed display machines.
- Locate new speed hump south of Framington Court.
- Need blinking light to slow traffic.
- Do not want trucks on De Leon Street; see Matthew Drive comment.
- The plan to reconfigure the parking lot for Sam Fleischman Park is great.
- There are plans to add a 6th ball field in the NE corner of Sam Fleischman Park.
- The plan for a roundabout on Matthew Drive, east of Barkley Circle, will force sludge/chemical trucks headed to the sewer plant to De Leon Street.
- Avocado Drive is used as a raceway.
- At Colonial Boulevard and Summerlin Road, the Walgreen's parking lot is being used as a turnaround (northbound to mid-point).
- Lower the speed limit to 25 miles per hour on Hibiscus Drive.
- Loma Linda/McGregor Boulevard needs a traffic signal or a no left turn.
- Need to stop speeding on North Drive.
- Winkler Avenue at Maxine Street is being used as a bypass for Colonial Drive.

Public involvement was an important element of the traffic calming process. A lack of public involvement would have likely resulted in a failure to address the communities' needs and concerns, and a difficult and long implementation phase and negative public perception could result. In short, the process cannot succeed without sufficient citizen participation and support. The Council member for each ward attended every workshop and public meeting without fail, and also provided valuable insight into the traffic issues that faced his or her ward.

A total of 19 meetings were held, consisting of Steering Committee and Public Workshops with the various wards. As discussed earlier, certain circumstances warranted the need for additional public workshop meetings for three of the five wards. These circumstances included low resident turn out for varying reasons and requests for additional meetings from two different neighborhoods. The wards that required additional meetings were Wards 3, 4 and 5 and were held on December 17, 2002, December 10, 2002, and February 6, 2003, respectively.

Ward 3 had a relatively low turnout at the scheduled ward meeting that presented the suggested conceptual plan. A second meeting was held in order to address this plan, and more residents attended. The overall consensus of this meeting was an acceptance of the plan. Two police officers that patrol this ward provided useful comments that led to the relocation of certain traffic calming treatments from one road to another road, which was more problematic.

Residents from Ward 4 indicated that a group of citizens could not attend the public workshop. The City, after hearing their concerns, held a second meeting at a City Hall conference room. The response was positive, and the citizen's supported the proposed plan with no recommended changes.

Residents from Georgetown, a small residential subdivision consisting of approximately 40 single-family homes, requested a separate public workshop meeting due to the unique traffic problems it is challenged with. The community is located within Ward 5, and is directly west of McGregor Boulevard, in the vicinity of Royal Palm Square Boulevard. Its primary challenge is access into and out of the main collector roadway, simply designated as Georgetown, from McGregor Boulevard. Recommendations at the steering committee meetings had proposed altering the frontage road that exists on the west side of McGregor Boulevard to eliminate the reported cut-through traffic this road presently experiences.

Georgetown is unique because its primary collector access roadway has its connection to McGregor Boulevard offset from Royal Palm Square Boulevard. That is, Georgetown residents cannot take advantage of the signalized intersection at Royal Palm Square Boulevard and must, therefore, turn onto McGregor under a stop-sign condition. Also, as mentioned earlier in this report, drivers heading south on McGregor Boulevard use the Georgetown frontage road to avoid the signalized intersection and extended vehicle queues in this area.

The second public workshop was attended by approximately 33 residents, who were all from the Georgetown neighborhood. McMahon Associates prepared a total of seven alternatives to address the concerns of the neighborhood, which included the original proposed solution from the steering committee meetings. The graphical representations of the proposed alternatives are continued in Appendix L. Considerable discussion ensued over the various alternatives, but at

the end of the meeting, the majority had selected the option that included the realignment of Royal Palm Square Boulevard with the Georgetown roadway approach to McGregor Boulevard. This choice was unexpected given the fact that the Georgetown residents had opposed this very alignment during the planning phase of the construction of Royal Palm Square Boulevard. This proposed realignment will have a significant dollar cost, and will take years to plan and construct. There was, for this reason, discussion of possible short-term solutions that included the possibility of additional signage and pavement markings, as well as investigating the use of speed humps along the frontage road. A short-term plan consisting of the addition of signage and pavement markings was added into the conceptual plan.

After all of the public workshop meetings were completed, the inputs from the residents, either verbal or written via the comment cards, were analyzed and used to make changes to the suggested conceptual traffic calming plans. Not all the comments were incorporated into the plans for several reasons. In some instances, the residents requested too many traffic calming treatments for a specific area. In other instances, the residents did not initially understand that the goal of traffic calming plan is to calm traffic on neighborhood local streets, not on collector or arterial roadways. By calming major collector and arterial roadways, the transportation system would cease to function efficiently. Therefore, engineering judgment was used to determine which roadways warranted traffic calming and which roadways did not, based upon the public's inputs collected data, and analysis.

The results were incorporated into the ward's recommended conceptual Phase I, II, and III calming plans, expanded from the initial two-phase plans. The reasons for the multiple phases are due to the differing planning, design, and implementation time periods and costs of the proposed treatments, and their priorities. Phase I traffic calming treatments have the lowest costs, enabling them to be implemented quickly. Phase II traffic calming treatments are more costly, requiring that they be implemented in future years, depending upon the annual budget set aside for traffic calming. Phase III traffic calming treatments affect only McGregor Boulevard. Maps depicting the recommended traffic calming plans, by phase, are presented in the following section of this report.

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SECTION 6 RECOMMENDED CONCEPTUAL TRAFFIC CALMING PLAN

SECTION 6 – RECOMMENDED CONCEPTUAL TRAFFIC CALMING PLAN

The recommended conceptual traffic calming plan is the culmination of all of the principal elements, or tasks, of this traffic calming project. The project began with meetings with City officials and Ward Council members, and was followed by an extensive and multifaceted data collection program. The findings from this program were presented to the individual ward steering committees, where comments and recommendations from their citizen members were received. After the collection of supplemental data, a second steering committee meeting, with each ward or homeowners association, was held to present the suggested conceptual traffic calming plan. It was at this meeting where the committees accepted this plan. Once accepted, a public workshop meeting was advertised, separately for each ward, through the respective Council member's staff, to present the suggested conceptual traffic calming plan. This meeting encouraged and solicited written comments from the attending general public, to ensure general public acceptance of the plan. All that remained for the preparation of the recommended conceptual traffic calming plan was prioritization of the plan elements.

COST ESTIMATES

The Consultant coordinated with City staff, the proposed implementation of a multiphase traffic calming plan. Those treatments that are of relatively low cost and can be constructed within two years were designated as Phase I treatments. Treatments that were of moderate cost and required two to four years to implement were designated as Phase II treatments. Phase III treatments were designated as those improvements that required more than four years to construct and were more costly than Phase I and II treatments.

Estimates were made of the probable costs of the proposed traffic calming treatments, including roadway improvements and special intersection details. Costs were estimated based on published costs in various traffic calming literature, average estimated per lane mile costs for roadway construction, Florida Department of Transportation estimated construction costs, and McMahon Associates experience on other traffic calming and construction projects. The probable opinion construction cost estimates were prepared with a low and high projected cost

range. The ranges in all cases are relatively large, due to the potential for varying design elements.

Roundabout costs can vary depending upon the use of raised splitter islands of brick pavers. Raised intersections can vary from a simple design that just adds asphalt to an existing intersection, or one which incorporates the use of brick pavers, concrete headers, and pedestrian crosswalks in its design. As discussed in Section 5, treatment’s, such as speed humps, mid-block medians and chicanes, frequency and spacing are determined according to a number of factors including prevailing conditions such as intersecting roads and existing driveways. This opinion of probable cost was determined based on a presumed frequency and spacing of these treatments, which may vary during implementation due to field conditions.

The special intersection details also have a wide cost range, due to the unknown elements of the final design. The cost tables present the total estimated low and high cost ranges for each ward, based on the proposed traffic calming treatments and roadway improvements. These tables are located in **Appendix M**. A summary of the low and high cost estimates for each ward, as well as McGregor Boulevard, are presented in **Tables 9 and 10**.

**TABLE 9
PROBABLE OPINION CONSTRUCTION COSTS BY WARD**

WARD	PHASE I	PHASE II	PHASE III	Totals by Ward
	Avg. Cost	Avg. Cost	Avg. Cost	
Ward 1	\$147,250	\$390,000	-----	\$554,250
Ward 2	\$343,500	\$50,000	-----	\$393,500
Ward 3	\$612,500	-----	-----	\$612,500
Ward 4	\$247,250	\$488,500	-----	\$735,750
Ward 5	\$68,000	\$253,500	\$300,000	\$621,500
Totals	\$1,418,500	\$1,182,000	\$300,000	\$2,900,500
Time Frame	0 – 2 years	3 – 4 years	5 years & greater	-----

**TABLE 10
PROBABLE OPINION CONSTRUCTION COSTS
FOR MCGREGOR BOULEVARD**

WARD	PHASE I	PHASE II	PHASE III	Totals by Ward
	Avg. Cost	Avg. Cost	Avg. Cost	
McGregor	\$30,000	-----	\$5,875,000	\$5,905,000
Time Frame	0 – 2 years	3 – 4 years	5 years & greater	-----

Note that the estimated improvement costs for McGregor Boulevard exceed the highest estimated cost for improvements in any ward by as much as 25 times in the low range and 11 times in the high range. The McGregor Boulevard cost totals exceed these of the wards’ totals. This is primarily due to the costs incurred by the roadway improvements on McGregor Boulevard itself, the realignment of Royal Palm Square Boulevard, and the roundabouts at Barcelona and Hill Avenues on McGregor Boulevard. The ward with the highest estimated plan cost is Ward 4. This is attributed to the fact that Ward 4 has 17 Phase II treatments, which in most cases have a wider range of cost. Compare this to Ward 5’s seven Phase II treatments.

These estimated costs were developed for a number of reasons. The most obvious reason is to provide the City of Fort Myers with a preliminary cost estimate, which it can begin to budget for each of the plan’s implementation phases. They also serve as indication that all of the five wards needs are being addressed in an equitable fashion, based upon the identified needs of and circumstances within each individual ward. These reasons notwithstanding, public comments at the various meetings indicated overwhelmingly that the neighbors were pleased with the proposed plans. Cost estimates were also necessary so that the improvements and their costs could be prioritized for implementation based on need, funding availability, and the requirements for additional planning, engineering and design.

PRIORITIZATION

Each of the five wards has a number of roadways with speeding, safety and cut-through, or stop-sign-running problems severe enough to warrant the implementation of traffic calming treatments. In addition to the five wards of the City, McGregor Boulevard was established as a separate area due to the fact that this roadway is not exclusive to a single ward, and also because of its unique operational and historical characteristics. Given the number of roadways within

each ward that require the implementation of traffic calming treatments, it was necessary to establish a method for determining the priorities of specific traffic calming treatments within each ward. Therefore, a scoring system based on several criteria was developed. The scoring method used a points system to give each roadway a specific score, which in turn determined the priority, or sequence, order of proposed implementation of the traffic calming treatments.

From review of prioritization procedures that were used in various traffic calming studies conducted in other Florida counties and cities, the criteria selected included the following: safety, vehicle speed, cost (of traffic calming treatments), type of street, proximity to a school, existence of traffic calming, cut-through traffic, and whether or not the roadway is within or adjacent to an area of historical importance. The criteria were assigned numeric values to facilitate the prioritization process. Vehicular volume was not considered in the priority scoring procedure for this project because many of the roadway links within each ward were observed to have speeding problems, resulting in the need to address safety concerns. Traffic volumes were not generally considered to be a major issue of concern, according to most of the residents and ward councilpersons involved in this traffic calming process.

For each ward, with the exception of Ward 5, the traffic calming treatments were divided into two phases, Phase I and Phase II. Phase I treatments had relatively low costs, a relatively high benefit compared to the cost, and also addressed safety concerns. The Phase I traffic calming treatments included speed humps, raised intersections (without medians), mid-block medians (for safety only), and street closures. The Phase II traffic calming treatments included higher cost traffic calming improvements, which required not only more funding, but also more detailed efforts to plan, engineer, and design before their implementation, as compared to the Phase I treatments. The Phase II treatments included mid-block medians, raised intersections (with medians), roundabouts, chicanes, and special intersection/property details (SID).

A prioritization value worksheet table was created to enter the numerical values to be used in scoring the various criteria. The process involved first providing numerical values, or rankings, for each of three safety categories, based on their safety sensitivity, including the proximity to schools, parks, and recreational centers. Schools and parks/playgrounds were given

a higher score than recreational facilities because the children are often outdoors and, therefore, more exposed to safety issues, such as speeding vehicles, resulting in higher sensitivity. Recreational facilities often include indoor activities, resulting in less exposure to vehicles/pedestrian safety concerns. Similar scoring methodology was used for the scoring of the other criteria categories, which included vehicle speeding, cost, type of street, existing traffic control devices, cut-through traffic and historical significance. **Table 11** shows the prioritization values established for each criterion.

All traffic calming prioritization decisions involved the multiple criteria in Table 11, even if the rating was a zero for a specific criterion. The evaluator needed to assign a weighted value to all criteria. Once assigned, the combined score was the cumulative sum of all the individual weighed values for all criteria. The combined total points, or score, obtained for each roadway link, on a ward-by-ward basis, determined the priority for the installation of traffic calming treatments in that ward.

**TABLE 11
PRIORITIZATION VALUE WORKSHEET**

CRITERIA	SCORE	TOTAL SCORE
Safety		
Schools	35	
Parks/Playgrounds	30	
Recreational Facilities	15	80
Vehicle Speed Exceeding		
≥ 10 mph	22	
5 to 9 mph	18	40
Cost		
Low	10	
Moderate	7	
High	3	20
Type of Street		
Local	7	
Collector	3	
Minor Arterial	1.5	
Major Arterial	0.5	12
Existing Traffic Calming		
No	4	
Yes	0	4
Cut-Through Traffic		
Yes	2	
No	0	2

Area of Historical Importance		
Yes	1.5	
No	0	1.5
COMBINED TOTAL SCORE		159.5

The prioritization process subdivided each criterion and assigned it a numerical value based on the assumptions described above. The number of subdivided parameters varied depending upon the type of criteria. For example, the ‘Safety’ criteria was subdivided into three categories that included the roadway’s proximity to schools, parks, and recreational centers. The ‘Vehicle Speed’ criteria was subdivided into two categories that included one for vehicle speeds exceeding the posted speed limit by five (5) to nine (9) miles per hour, and another for speeds of 10 miles or more over the speed limit. The ‘Cost’ criteria had three subdivisions, including low, moderate, and high. The ‘Type-of-Street’ criterion was subdivided into categories including major arterial, minor arterial, collector, and local roadway. ‘Roadways with Existing Traffic Calming Treatments’ did not receive any points, so that the priority was given to roadways with no traffic calming treatments. The criteria for ‘Cut-Through Traffic’ and ‘Area of Historical Importance’ were classified into either a yes or a no.

The safety weighted value was assigned the highest priority (80) off of all other criteria values combined, including vehicle speed, cost, type of street, existing traffic calming, and area of historical importance (79.5). Similarly, the vehicle speed weighted value of 40 took precedence over the combination of the remaining five criteria (39.5). The same procedure was repeated for successive decreasing weight criteria, such as cost, type of street, and existing traffic calming. Therefore, criteria at the beginning of the table are considered more important than the subsequent criteria, which follow.

The total score obtained for each roadway link was based on the aforementioned methodology and utilized to prioritize roadway links, and traffic calming improvements separately for each ward. Separate prioritized tables for each ward are presented in **Tables 12 through 16**. Additional tables were prepared to facilitate the planning and construction of the proposed treatments referenced in tables 12 through 16. Please note that these tables are located in **Appendix M**. They specify cost by phase and location for each Ward, and are based upon prioritization. This will assist the City in implementing the traffic calming treatments through

the Capital Improvement Plan budget. A prioritization table was not prepared for McGregor Boulevard because the prioritization methodology was applied to separate, distinct roadways and McGregor Boulevard was considered as a single arterial roadway. However, the specific traffic calming treatments on the Boulevard were prioritized according to the phase of the treatments. For example, Phase I pedestrian crossings are followed by most costly Phase II improvements that include the roundabouts, other roadway improvements, and the realignment of Royal Palm Square Boulevard.

The prioritization tables for each ward (Tables 12 through 16) provide information including the roadway location number from the traffic calming plan map, the street name, the direction of travel, the roadway links total prioritization score, and its implementation priority based upon the Table 11 ranking worksheet. The roadways listed in the tables are arranged in descending order of priority. **Appendix N** includes the prioritization matrix and the complete prioritization worksheets for roadway links in each ward. It should be noted that the prioritization results, at this time, are only the Consultant team’s recommendations. The priorities can change due to unforeseeable circumstances and the City has the flexibility to modify the recommended prioritization based upon other factors.

**TABLE 12
PRIORITY BASED ON TOTAL SCORE FOR WARD 1**

Location Number	Principal Street	Direction	Total Score	Priority Number
1	Edgewood Avenue	East/West	85.0	1
2	E. Riverside Drive	East/West	54.0	2
3	Palm Avenue	North/South	36.5	3
4	Marsh Avenue	North/South	35.0	4
5	Polk Street	North/South	35.0	4
6	Cranford Avenue	North/South	29.5	5
7	Pine Street	North/South	21.0	6
8	Evans Avenue	North/South	18.5	7
9	Second Street	East/West	18.5	7
10	Fairview Avenue	North/South	18.0	8
11	Tarpon Street	North/South	17.0	9
12	Van Buren Street	North/South	17.0	9
13	Woodside Avenue	North/South	17.0	9

TABLE 13
PRIORITY BASED ON TOTAL SCORE FOR WARD 2

Location Number	Principal Street	Direction	Total Score	Priority Number
1	Marsh Avenue	North/South	92.0	1
2	Palmetto Avenue	North/South	67.5	2
3	Raleigh Street	North/South	67.0	3
4	Michigan Avenue	East/West	52.5	4
5	High Street	North/South	49.0	5
6	Cranford Avenue	North/South	32.0	6
7	Palm Avenue	North/South	32.0	6
8	Blount Street	East/West	29.0	7
9	Gardenia Avenue	North/South	21.0	8
10	New York Avenue	East/West	17.0	9
11	Sabal Palm Blvd.	North/South	17.0	9
12	Second Street	East/West	17.0	9
13	Brookhill Drive	North/South	13.0	10

TABLE 14
PRIORITY BASED ON TOTAL SCORE FOR WARD 3

Location Number	Principal Street	Direction	Total Score	Priority Number
1	Jackson Street	North/South	54.0	1
2	Broadway	North/South	54.0	1
3	Wright Street	North/South	32.0	2
4	Grand Avenue	North/South	32.0	2
5	Brown Street	North/South	14.0	3
6	Pauldo Street	North/South	14.0	3
7	Royal Palm Avenue	North/South	14.0	3
8	Central Avenue	North/South	14.0	3
9	Prince Street	North/South	10.0	4

**TABLE 15
PRIORITY BASED ON TOTAL SCORE FOR WARD 4**

Location Number	Principal Street	Direction	Total Score	Priority Number
1	West First Street	North/South	69.0	1
2	Moreno Avenue	East/West	57.0	2
3	Linhart Avenue	East/West	54.0	3
4	Cortez Blvd.	North/South	45.0	4
5	Llewellyn Drive	East/West	44.5	5
6	Hill Avenue	East/West	43.0	6
7	Braman Avenue	East/West	32.0	7
9	Menlo Road	East/West	18.0	8
10	Altamont	East/West	17.0	9
11	Clifford	East/West	17.0	9
12	Evans Avenue	North/South	14.0	10
13	Hanson Street	East/West	14.0	10
14	Alhambra Drive	East/West	14.0	10

**TABLE 16
PRIORITY BASED ON TOTAL SCORE FOR WARD 5**

Location Number	Principal Street	Direction	Total Score	Priority Number
1	Sam Fleishman Parking Lot	East/West	49.0	1
2	De Leon Street	North/South	48.0	2
3	Winkler Avenue	East/West	45.0	3
4	Mathew Drive	East/West	44.0	4
5	Meade Avenue	North/South	18.0	5
6	Royal Palm Square Blvd.	East/West	16.0	6

The weighting of the various factors in the prioritization value worksheet for Edgewood Avenue provides an example of how the weighting process was conducted for the roadways within each ward, and how a priority score was assigned. Edgewood Avenue, in Ward 1, has both Phase I and Phase II traffic calming treatments proposed for the roadway. This principal roadway received 35 points for the ‘Safety’ criteria due to its proximity to Edgewood Elementary School. Spot speed data indicated that the roadway experiences speeding exceeding both the

five to nine miles per hour and the 10 miles per hour over the posted speed limit thresholds resulting in 18 and 22 points, respectively, being scored for the ‘Vehicle Speed Exceeding’ criteria. At this point, the combined total score for Edgewood Avenue was 75 points ($35 + 18 + 22 = 75$).

Since the subject roadway has both Phase I (low cost) and Phase II (moderate cost) treatments, the roadway receives a moderate weighted value, from the prioritization value worksheet, of seven (7) points for the ‘Cost’ criteria. The rationale for this assignment is that other principal roadways with only Phase I treatments should take precedence over roadways with Phase II treatments. For example, Polk Street, also located in Ward 1, has only Phase I proposed traffic calming treatments and would, therefore, receive 10 points for the ‘Cost’ criteria.

Since Edgewood Avenue operates as a collector roadway, under the ‘Type-of-Street’ criteria, it receives another three (3) points, resulting in a score of 85 points ($75 + 7 + 3 = 85$). The existence of speed humps along Edgewood Avenue results in no points awarded under the ‘Existing Traffic Calming’ criteria, since priority is given to roadways with no existing traffic calming treatments. In addition, Edgewood Avenue did not exhibit any ‘Cut-Through Traffic’ and is not within or adjacent to an ‘Area of Historical Importance.’ Therefore, it receives no points for those prioritization criteria.

The total prioritization score for Edgewood Avenue, after adding weighted value points for all of the established criteria, is 85 points. This same procedure was followed for every roadway with proposed traffic calming improvements within all of the wards of the City of Fort Myers. Total scores were determined and priorities for the installation of traffic calming treatments were assigned based on the highest individual scores receiving precedence over the lower scores. In those cases where two or more roadways received the same total score, they were assigned the same priority. Once the costs and prioritization criteria were applied, the recommended conceptual traffic calming plan could be finalized.

TYPICAL TRAFFIC CALMING DETAILS

During the development of the recommended traffic calming plan for the City of Fort Myers, several traffic calming details were prepared and proposed for implementation by the City based on the above treatments per each ward. Incorporated as **Appendix O**, are a series of details reflecting standardization for speed humps, including profile, pavement markings, and signing; speed hump profile lengths, including 22-foot standard details; raised intersection plan view and cross-sectional details; and three alternative center line median treatments. All of these details are graphically depicted in Appendix O and may be incorporated as City standards.

RECOMMENDED CONCEPTUAL TRAFFIC CALMING PLAN

After the workshop meetings concluded, the City and McMahon Associates reviewed the residents' comments prior to modifying the suggested traffic calming plans for each ward. In addition to comments from some of the workshop attendees, the City had received a few calls and letters from residents describing speeding or cut-through problems on their roads. The City requested McMahon Associates to investigate these complaints. McMahon Associates conducted additional field visits to examine the new problem areas. After the observations were completed and additional speeding data was collected, the recommended conceptual traffic calming plans for each ward were developed. The final plan versions incorporated additional traffic calming features, as warranted, to address the recent resident's comments.

The plans for Wards 1 through 4 consist of two phases. Phase I includes traffic calming features such as speed humps and raised intersections. These treatments can be implemented within a reasonable and shorter timeframe, and at minimal individual costs, addressing the safety issues within these wards. Phase II consists of more elaborate traffic calming features, such as chicanes, median islands, and roundabouts. The Phase II traffic calming treatments require a longer, moderate timeframe for planning, engineering design, funding and implementation. Ward 5 and McGregor Boulevard are the two areas whose plans include Phase III treatments. The recommended conceptual traffic calming plan and conclusions of the traffic calming study are presented in this section of the report.

The Three-Phase Plan

The recommended traffic calming treatments for all of the wards in the City resulted from a comprehensive planning process, and is a three-phased plan. The three-phase plan was designed to spread the costs of implementation of the traffic calming treatments over several years, based upon their priorities and the horizon periods of each phase.

In Phase I of the recommended plan, the least expensive traffic calming treatments with the highest priorities would propose to be implemented over a two year period. These treatments include speed humps, raised intersections (without medians), mid-block islands (only for safety related issues), and street closures. By attempting to implement these less expensive traffic calming treatments first, the City will be able to minimize expenditures while providing maximum traffic calming relief where immediately needed.

In Phase II, the intent would be to continue recommended traffic calming plan with implementation of more moderate cost treatments, including mid-block medians, raised intersections with medians, channelization, cul-de-sacs, roundabouts, chicanes, and special intersection/property details. In some cases, Phase II treatments are only proposed if the initial use of a Phase I treatment was found to be ineffective. Since the traffic calming treatments scheduled for this phase are more significant, compared to the treatments in Phase I, the second phase is suggested to begin approximately two years from the adoption of the recommended plan by the City, and extend over a period of four years.

The third phase treatments would start at the beginning of the fifth year, and would continue until all of the recommended traffic calming treatments are completed, for all wards.

The Phase III recommended traffic calming plan addresses issues affecting McGregor Boulevard. Since McGregor Boulevard passes through two (2) wards, Wards 4 and 5, this roadway was examined as a separate area or corridor, similar to a ward. Ward 5 also includes a Phase III treatment for the intersection improvement on De Leon Street at Colonial Boulevard. The following section briefly summarizes the recommended traffic calming plan treatments by phase for each ward, the Dean Park Historic area, Georgetown, and McGregor Boulevard.

The Recommended Conceptual Plans by Phase

Ward 1

Three roadways north of Palm Beach Boulevard are recommended to receive traffic calming treatments. The roadways included East Riverside Drive, Edgewood Avenue, and Fairview Avenue. In addition to these northern roadways, three (3) roadways south of Palm Beach Boulevard are also included in the traffic calming plan. The southern roadways included Pine Street, Polk Street, and Woodside Avenue.

For the roadways north of Palm Beach Boulevard, beginning with East Riverside Drive, this roadway is proposed to receive two mid-block medians, one between Superior Street and Freemont Street and the other between Freemont Street and Tarpon Street in Phase I. During Phase II, East Riverside Drive is proposed to receive two raised intersections at Seaboard Street and Freemont Street. Edgewood Avenue is proposed to receive both improved speed humps and additional speed humps, spaced more evenly in Phase I. It would also receive a mid-block median between Freemont and Tarpon Streets in Phase I. During Phase II, Edgewood Avenue would be improved by adding two raised intersections with medians at Tarpon and Van Buren Streets. Two mid-block medians would also be installed on Edgewood Avenue during Phase II, between Palmetto Avenue and Riverview Trace, and also one south of Seminole Court. Fairview Avenue is scheduled to receive a speed hump in Phase I. If the speed hump does not satisfactorily calm the speeding problem, then in Phase II it is proposed to be replaced with a mid-block median and a raised intersection at McCormick Street.

The roadways south of Palm Beach Boulevard are proposed to receive speed humps as part of Phase I. Pine Street would receive two speed humps south of the curve on Palm Beach Boulevard. Polk Street would receive several speed humps along its length. Woodside Avenue would have three speed humps added between Oleander Avenue and Polk Street in Phase I.

In addition to Ward 1's traffic calming treatments, the Phase II plan intends to add gateway signs on Tarpon Street, Van Buren Street, and Marsh Avenue, to announce to entering vehicles that they are entering a neighborhood and not a shortcut route.

Historic Dean Park

The Phase I traffic calming treatments for Dean Park would include a street closure on Palm Avenue, where it intersects with Palm Beach Boulevard, and several pedestrian crosswalks located at every roadway into Dean Park. The street closure will be designed especially so that emergency vehicles can still gain access with minimal loss of response time. These crossings serve a dual purpose of providing designated crossing areas and identifying the limits of the Dean Park neighborhood. Phase II treatments would consist of two roundabouts, one located at the intersection of Cranford Avenue and Michigan Avenue, and the other at the large triangular-shaped green area on Cranford Avenue, north of Providence Street.


Maps 23 and 24 provide graphic representations, respectively, of the Phase I and Phase II recommended conceptual traffic calming plans for Ward 1. The main revisions from the suggested plan at the public workshop include the addition of speed humps to Polk Street and the changing of the phasing of certain treatments.

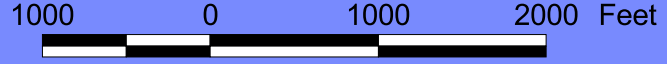
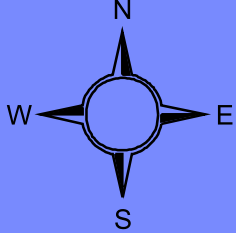
Ward 2

For the neighborhood surrounding the Dunbar Community College, bounded by Michigan Avenue to the north, Ford Street to the east, Dr. Martin Luther King, Jr. Boulevard to the south, and Cranford Avenue to the west, the primary Phase I traffic calming treatment proposed is raised intersections. At Second Street, where it intersects with Ford Street, a street closure is recommended. Sabal Palm Boulevard, north of Dr. Martin Luther King Boulevard, before the right turn, would receive a series of properly spaced speed humps.

LEGEND

Proposed Condition

- H** Speed Hump
- MB** Mid-Block Median
- SC** Street Closure
-  Stamped Crosswalk



ZONE 2

ZONE 1

Phase 1 - * Enhance existing speed humps
* Increase frequency of speed humps

Historic Dean Park

McM **McMAHON ASSOCIATES, INC.**
TRANSPORTATION ENGINEERS & PLANNERS
RESPONSIVE
TRANSPORTATION
SOLUTIONS

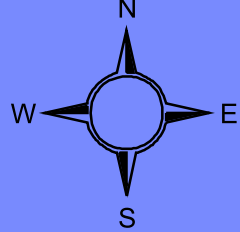
**Ward 1 - Phase I
Recommended Conceptual
Traffic Calming Plan**

Map 23

LEGEND

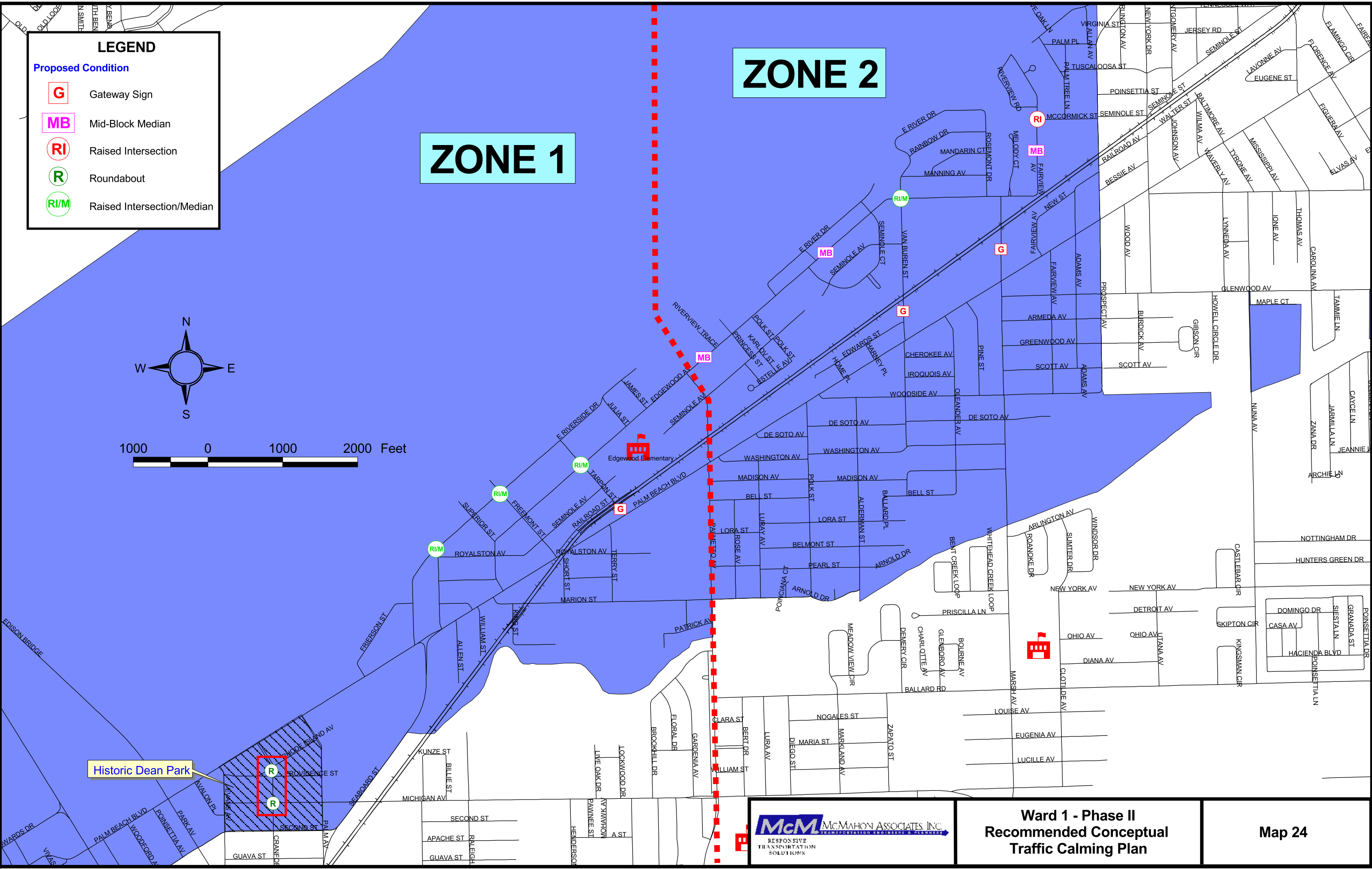
Proposed Condition

- G Gateway Sign
- MB Mid-Block Median
- RI Raised Intersection
- R Roundabout
- R/M Raised Intersection/Median



ZONE 2

ZONE 1



Historic Dean Park

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**Ward 1 - Phase II
 Recommended Conceptual
 Traffic Calming Plan**

Map 24

Brookhill Drive, north of Michigan Avenue already has speed humps. The problem in this area is that when the speed humps were installed on Brookhill Drive, they diverted speeding vehicles to Gardenia Avenue. Therefore, Gardenia Avenue is also proposed to receive speed humps. However, if the humps do not resolve the speeding problems, residents have requested a street closure at the northern part of Brookhill Drive, before it intersects with Veronica Shoemaker Boulevard. This would be a Phase II treatment since it would only be implemented in the event the new Phase I speed humps failed to resolve the problem. Other Phase I treatments include mid-block medians on Michigan Avenue, between Raleigh and Ford Streets, and between Ford Street and Henderson Avenue. Mid-block medians are also proposed for Marsh Avenue, near the Lee Middle School. One would be located between Arlington Avenue and Priscilla Lane and the other between Priscilla Lane and Marsh Avenue. Treatments for Ward 2 include two sets of mid-block medians on New York Avenue, between Nuna and Ortiz Avenues. One other problem area is the dead-end frontage road running parallel to Veronica Shoemaker Boulevard, north of Michigan Avenue. A series of speed humps are proposed for this roadway to calm nighttime and weekend speeding problems.

The final proposed Phase II treatments involved a channelization treatment at the intersection of Marsh Avenue and Michigan Avenue Link, and a cul-de-sac where Michigan Avenue westbound intersects with Michigan Avenue Link. **Maps 25** and **26** provide graphical representations of the recommended traffic calming plans for Ward 2. There are no differences between the suggested and recommended plans for this ward.





Ward 3

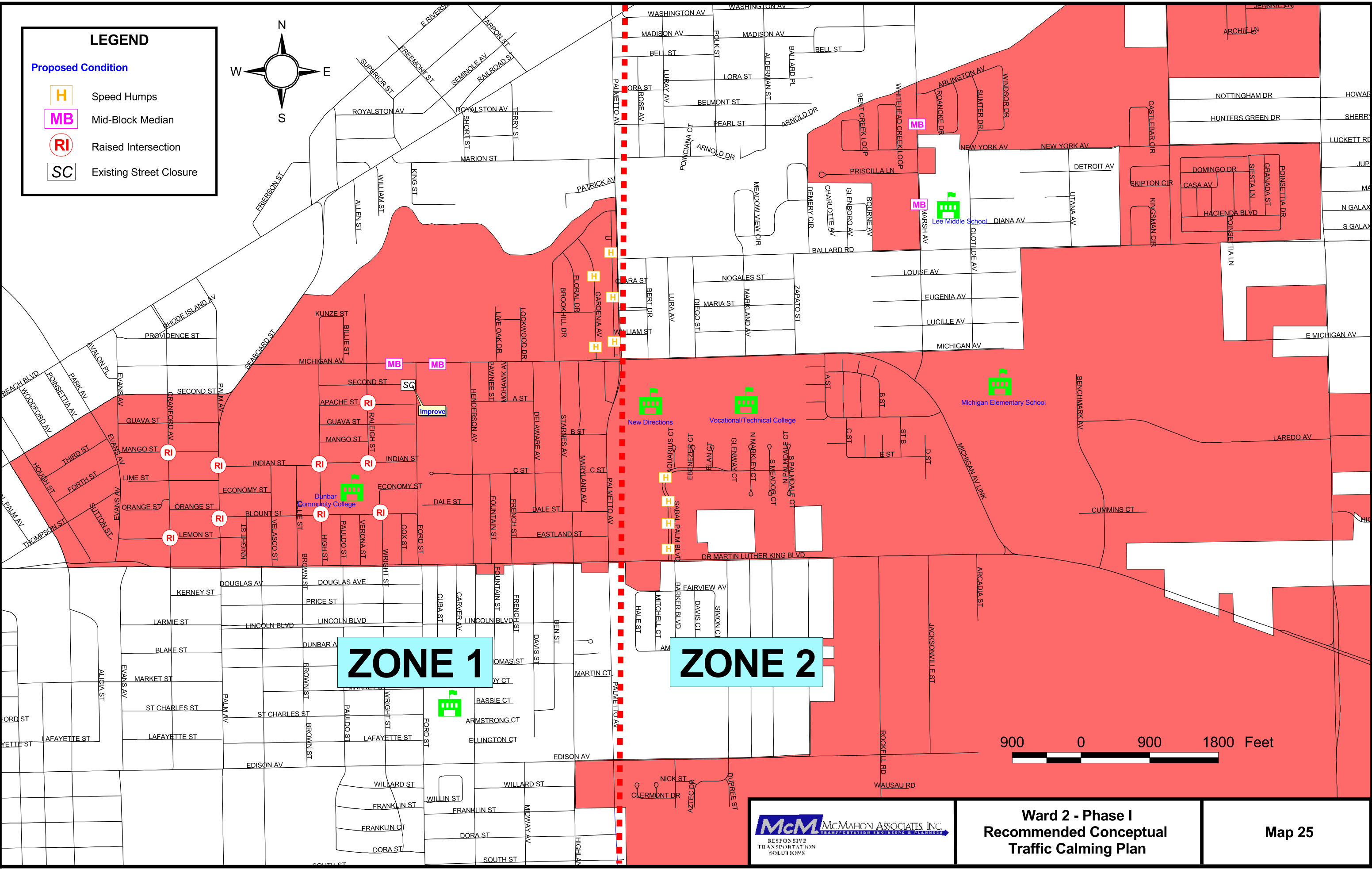
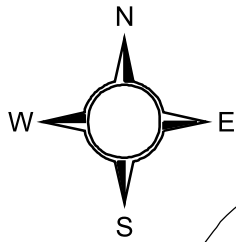
The recommended traffic calming plan for Ward 3 is a Phase I plan. There are no Phase II treatments proposed for in this ward. These treatments consist primarily of raised intersections and improved speed humps. The raised intersections are to be installed in two residential areas.

The Lovejoy neighborhood is bounded by Edison Avenue to the north, Fowler Street to the east, Hanson Street to the south, and Cleveland Avenue to the west. Its proposed plan includes the installation of several raised intersections on Grand Avenue, Broadway, Jackson

LEGEND

Proposed Condition

-  Speed Humps
-  Mid-Block Median
-  Raised Intersection
-  Existing Street Closure



ZONE 1

ZONE 2



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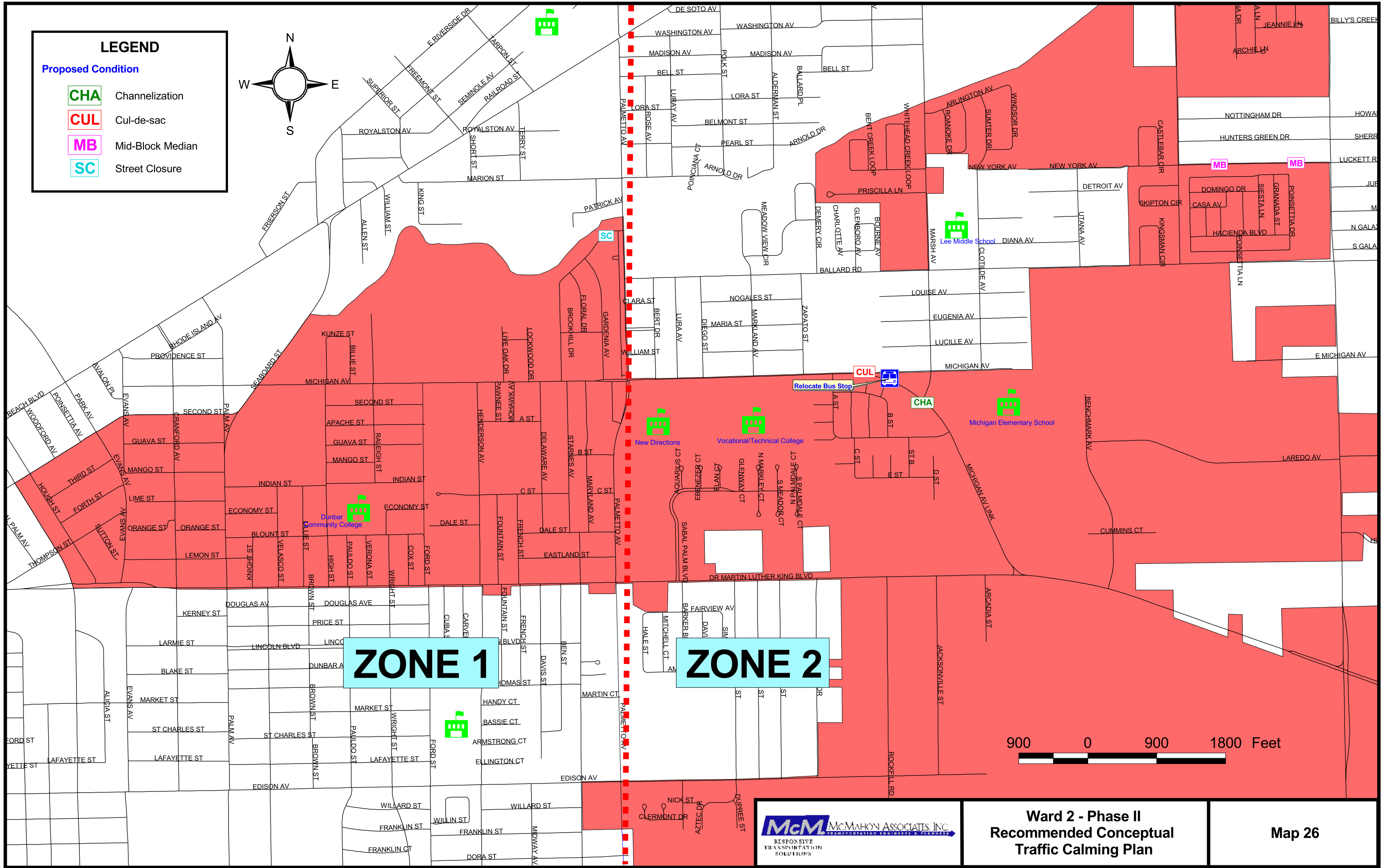
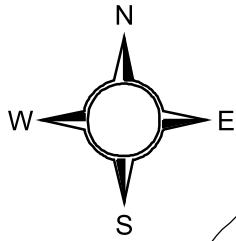
**Ward 2 - Phase I
 Recommended Conceptual
 Traffic Calming Plan**

Map 25

LEGEND

Proposed Condition

- CHA Channelization
- CUL Cul-de-sac
- MB Mid-Block Median
- SC Street Closure



ZONE 1

ZONE 2



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**Ward 2 - Phase II
 Recommended Conceptual
 Traffic Calming Plan**

Map 26

Street, Central Avenue, and one on Royal Palm Avenue in what is commonly referred to as a basket-weave pattern. This pattern alternates the intersections that will receive the raised intersection treatments to provide better coverage of the residential area with fewer raised intersections.

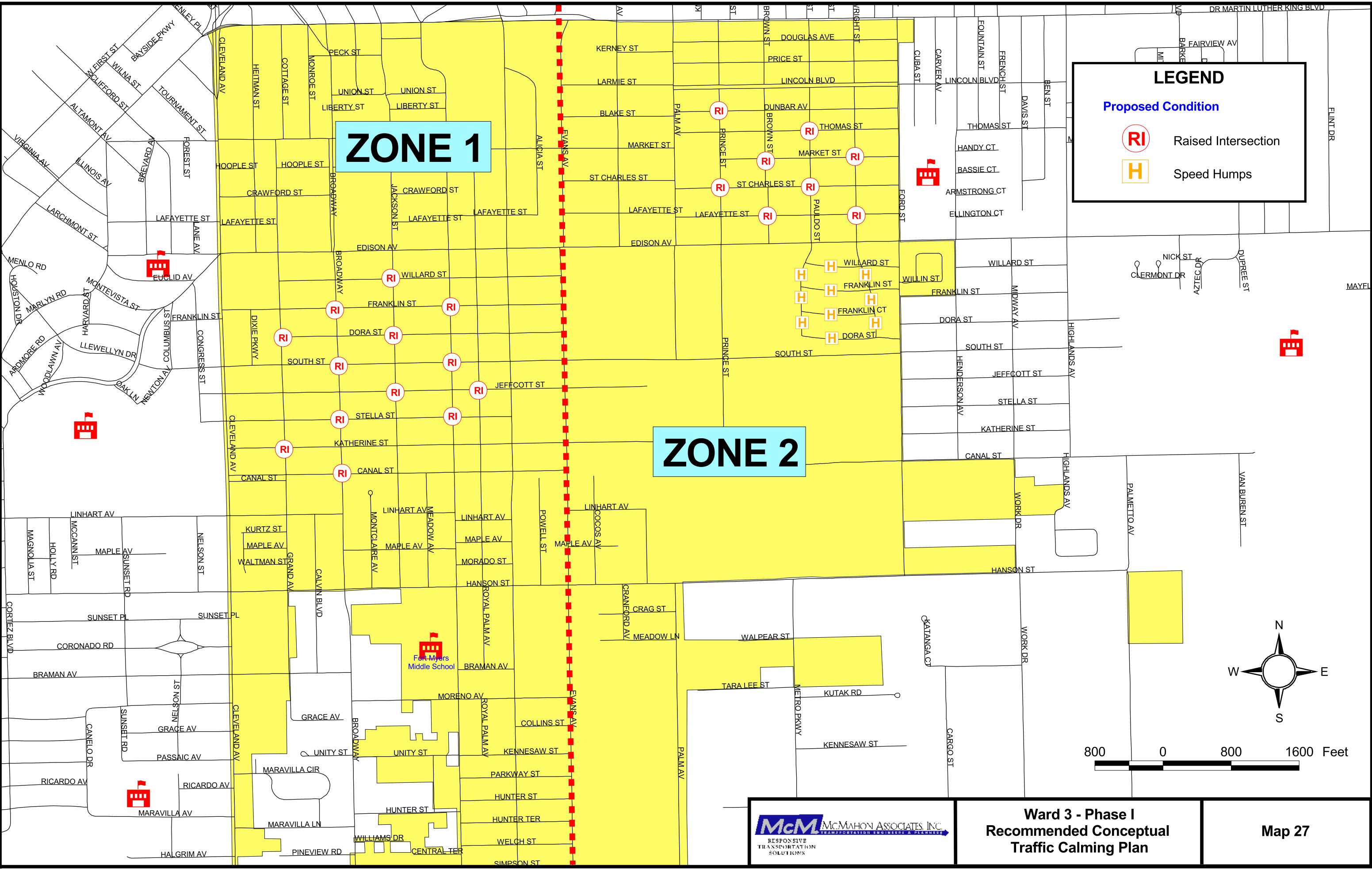
A similar basket-weave pattern of raised intersections is proposed for the area bounded by Lincoln Boulevard to the north, Ford Street to the east, Edison Avenue to the south, and Palm Avenue to the east. An area south of Edison Street that is bounded by Pauldo Street, Wright Street, Dora Street and Edison Avenue is also proposed to receive enhanced speed humps on all of its roadways, with the exception of Edison Avenue.

Since the raised intersections and speed hump treatments are part of the Phase I accepted traffic calming treatments, the proposed traffic calming for Ward 3 is expected to occur within two years of the City's approval of the recommended traffic calming plan. The changes from the suggested plan include the identification of more speed humps on Willard, Franklin and Dora Streets, and the relocation of two of the raised intersection treatments from Royal Palm Avenue to Grand Avenue. Speed humps were also removed from Hunter Street due to the fact that the car dealership that was the source of the speeding problem has been closed. **Map 27** depicts the plan for Ward 3.

Ward 4

Due to the large number of traffic calming treatments proposed throughout Ward 4, the treatments will be organized by location instead of by Phase I or Phase II. The improvements will be described beginning in the north and proceeding southward.

West First Street, west of McGregor Boulevard, is proposed to receive two raised intersections at Virginia Avenue and Clifford Street in Phase I. In Phase II, West First Street is proposed to receive two mid-block median islands, one before the 90-degree curve and one after the curve.





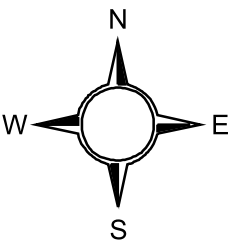
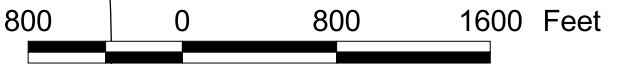
ZONE 1

ZONE 2

LEGEND

Proposed Condition

-  Raised Intersection
-  Speed Humps



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**Ward 3 - Phase I
 Recommended Conceptual
 Traffic Calming Plan**

Map 27

In the area north of Fort Myers High School, Llewellyn Drive is proposed to receive speed humps east and west of Cortez Boulevard and a raised intersection at Marlyn Road as part of Phase I. In Phase II, Llewellyn Drive would receive a roundabout at Cortez Boulevard. A special intersection/property detail (SID) that converts the two-way driveway pairs to one-way driveway pairs is proposed for Menlo Road at McGregor Boulevard. Mid-block median islands are recommended for Altamont Avenue as a Phase I treatment, and as a Phase II treatment for Clifford Street in the event it becomes an alternative route.

As for Linhart Avenue, a chicane between McGregor Boulevard and Cortez Boulevard and a raised intersection with medians at Cortez Boulevard are proposed as Phase II treatments. Sunset Road would receive a raised intersection with medians, a Phase II treatment, at its intersections with both Hanson Street and Braman Avenue.

Traffic calming for Alhambra Drive consists of two proposed speed humps in Phase I and a chicane for Phase II. A pilot study may be performed on this roadway with the installation of the “Traficop” Speed Cushion and was being investigated at the time of the writing of this report. Braman Avenue would have a raised intersection with medians at its juncture with Cortez Boulevard.

The plan recommends Phase I mid-block median islands for Moreno Avenue, with one constructed between Sylvestre Drive and Cortez Boulevard and the second between McGregor Boulevard and Silvestre Drive. A raised intersection with medians is recommended for Maravilla Avenue where it intersects with Cortez Boulevard.

Hill Avenue would receive channelized pavement markings at its intersection with McGregor Boulevard under Phase I and a Gateway sign with a raised channelization island under Phase II. The first existing mini roundabout at Arlington Street would be replaced with a raised intersection in Phase I to eliminate complaints by residents about the inability of cars and trucks to drive through it. The second existing mini roundabout at Princeton Street would be improved

in Phase II to make it easier for trucks to negotiate it. The final improvement to Hill Avenue is a second raised intersection that would be located at its intersection with Marvaez Street.

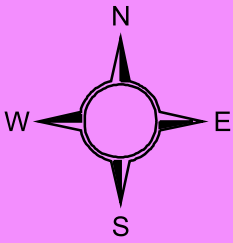
The last improvement for Ward 4 involves a pedestrian crossing with a mid-block island, scheduled for Phase II in the vicinity of the Eye Care Center on Evans Avenue just south of Winkler Avenue. The changes from the suggested plan include the addition of the Eye Center pedestrian crossing, the addition of two raised intersections on Jefferson Avenue at Princeton and De Leon Streets. Also, the proposed raised intersection with pedestrian crosswalk on Winkler Avenue was designated as a Ward 5 treatment since most of the proposed treatments for this roadway were identified on the Ward 5 plan. The roundabout at Barcelona Avenue was relocated to the McGregor Boulevard plan. **Maps 28 and 29** depict the plans for Ward 4.

Ward 5

The proposed Phase I improvements for Ward 5 include enhanced speed humps for Winkler Avenue and De Leon Street. In addition to speed hump enhancements for De Leon Street, it would receive two additional speed humps located at specific intervals to help improve traffic calming.

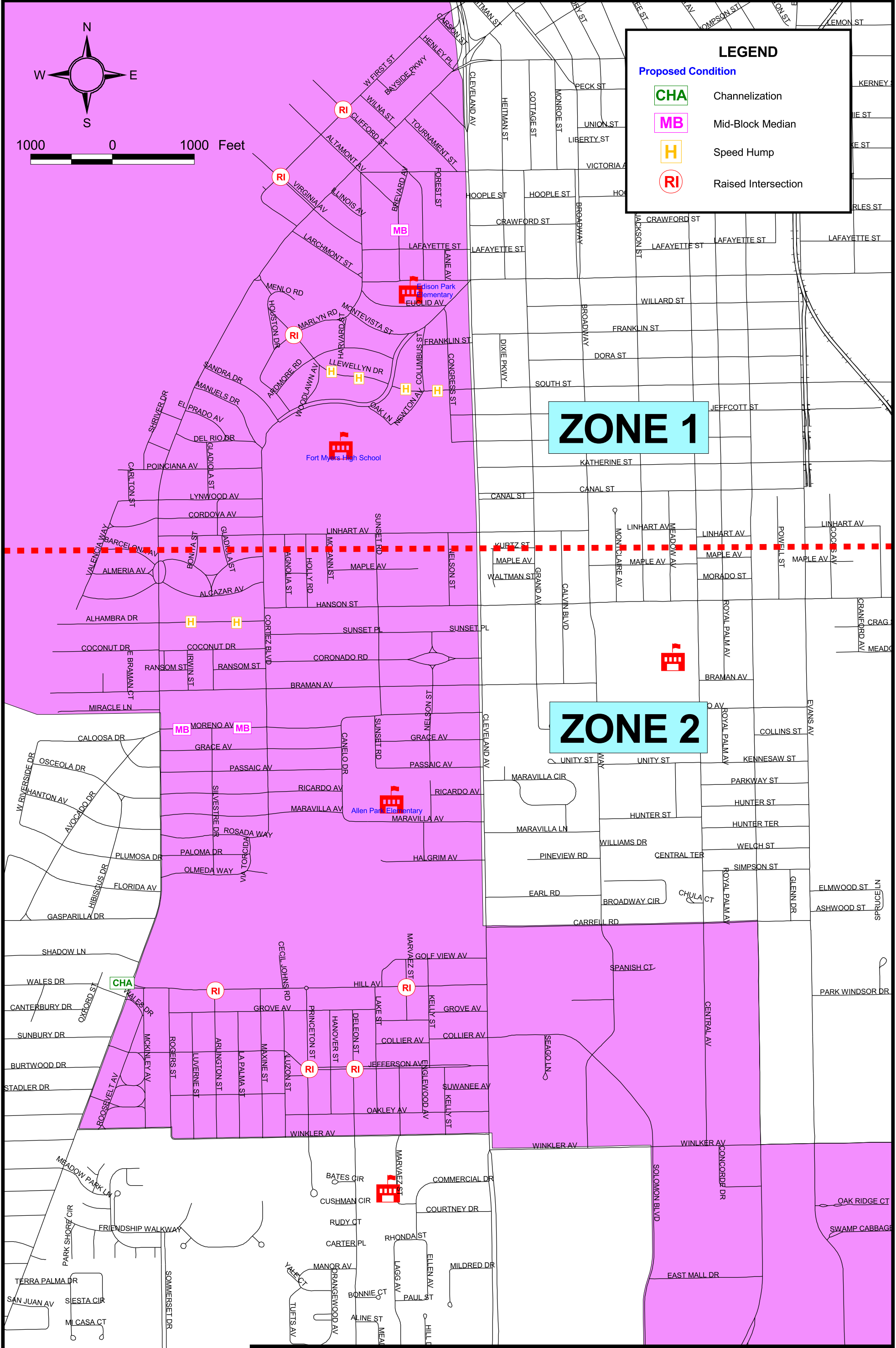
There are several proposed Phase II improvements for Ward 5. For Royal Palm Square Boulevard, two mid-block median islands would be added west of Somerset Drive. Meade Avenue would receive channelization to prohibit inbound vehicular movements from Colonial Boulevard. At Royal Palm Square Boulevard, a mid-block pedestrian crossing would be installed near the YMCA building to improve pedestrian safety. Finally, two improvements will occur at Sam Fleischman Park. The first improvement involves changing the cul-de-sac by the apartment's rear gate into a roundabout that will enable the water management trucks to have access to the facility. The second improvement pertains to the parking lot for the park. The parking would be reconfigured to discourage cut-through traffic.

A Phase III plan for this ward was also required because of an improvement with significant cost. De Leon Street, at its intersection with Colonial Boulevard, would receive a



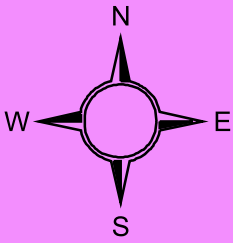
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LEGEND	
Proposed Condition	
	Channelization
	Mid-Block Median
	Speed Hump
	Raised Intersection



ZONE 1

ZONE 2

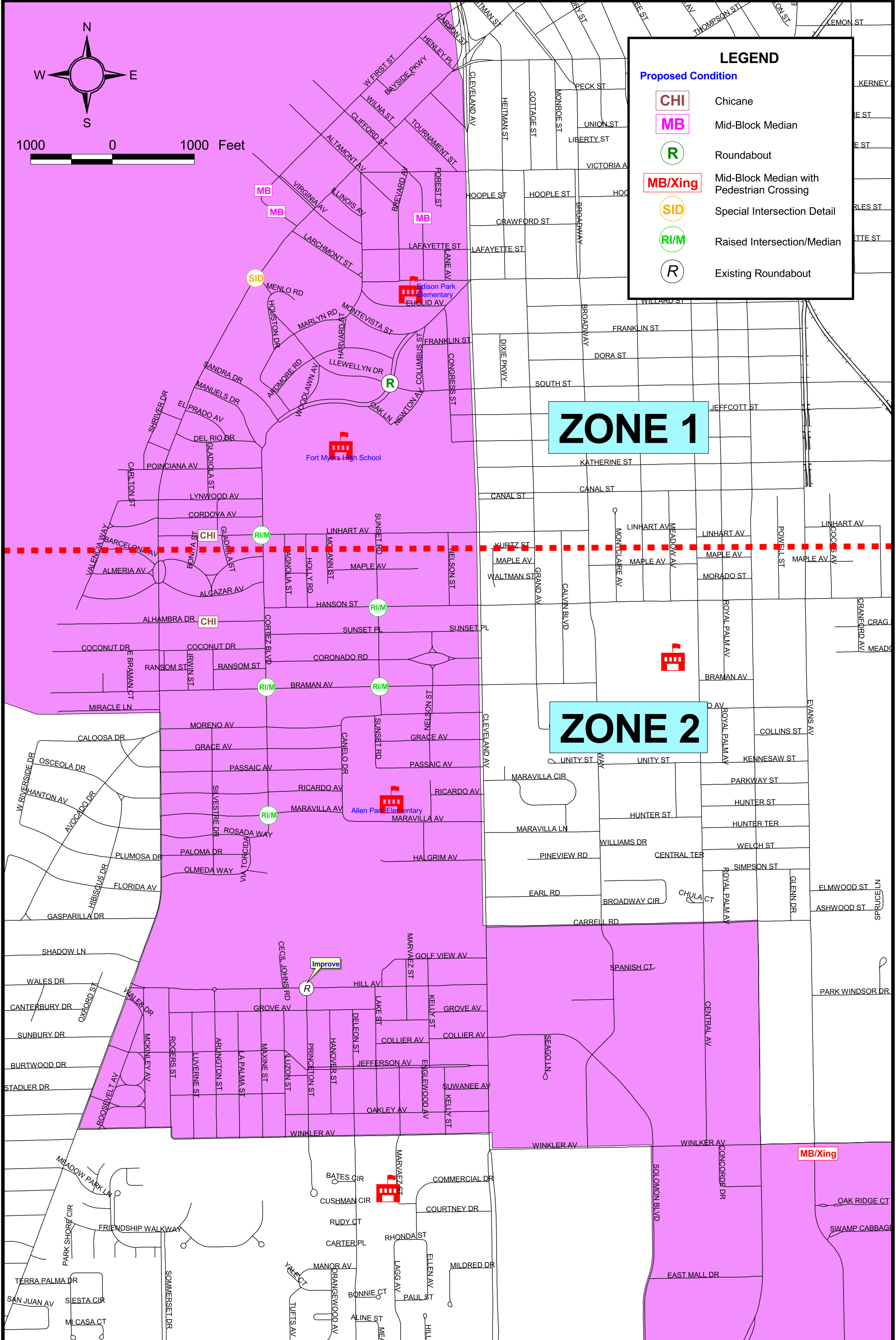


1000 0 1000 Feet

LEGEND	
Proposed Condition	
CHI	Chicane
MB	Mid-Block Median
R	Roundabout
MB/Xing	Mid-Block Median with Pedestrian Crossing
SID	Special Intersection Detail
R/M	Raised Intersection/Median
R	Existing Roundabout

ZONE 1

ZONE 2



special intersection/property detail to improve northbound and southbound approach movements by providing an additional lane for each approach.

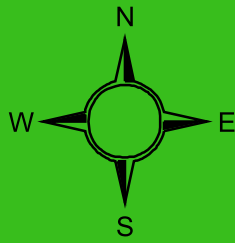
Georgetown

The proposed Phase I traffic calming treatment for Georgetown consists of providing additional signage and pavement markings on McGregor Boulevard and Georgetown, to improve channelization and stop-controlled intersections. The Phase III treatment, which has been included in the McGregor Boulevard plan because of its affect on this roadway, will include the realignment of Royal Palm Square Boulevard with the Georgetown entrance roadway.

The changes from the suggested plan include the designation of the Colonial/De Leon improvement as a Phase III improvement, the relocation of the pedestrian crossing originally included within Ward 4's plan, the addition of the Phase I channelization on McGregor Boulevard at Georgetown and the clarification of the improvement for Georgetown consisting of the realignment of Royal Palm Square Boulevard. **Maps 30 through 32** present the Phase I, II and III plans for this ward.

McGregor Boulevard

McGregor Boulevard, as explained previously, was treated like a separate ward due to a number of factors. These factors included its unique operational characteristics, the considerable costs of the required treatments and improvements on this roadway, and the fact that it runs through and along Wards 4 and 5. McGregor Boulevard's Phase I improvements consist of the proposed pedestrian crosswalks on McGregor Boulevard in the vicinity of, from north to south, Del Rio Drive, north and/or south of the proposed Barcelona Roundabout, Moreno Avenue, Gasparilla Drive and Hill Avenue. Phase III treatments include the Barcelona and Hill Avenue roundabouts and the development of a three-lane cross-section from Melaleuca Lane to Manuels Drive. This should not to be misconstrued as a capacity-adding lane. The third lane is actually a landscaped median. The current inconsistent pattern of medians creates unexpected driver expectations, due to median discontinuity. The widening of McGregor Boulevard, as proposed, is for the purposes of improving driver expectancy and safety, as well as to create a consistent theme. This includes the construction of a continuous gutter on both sides of the existing center



800 0 800 1600 Feet

LEGEND

Proposed Condition

- Speed Humps
- Channelization
- Existing Speed Humps

ZONE 1

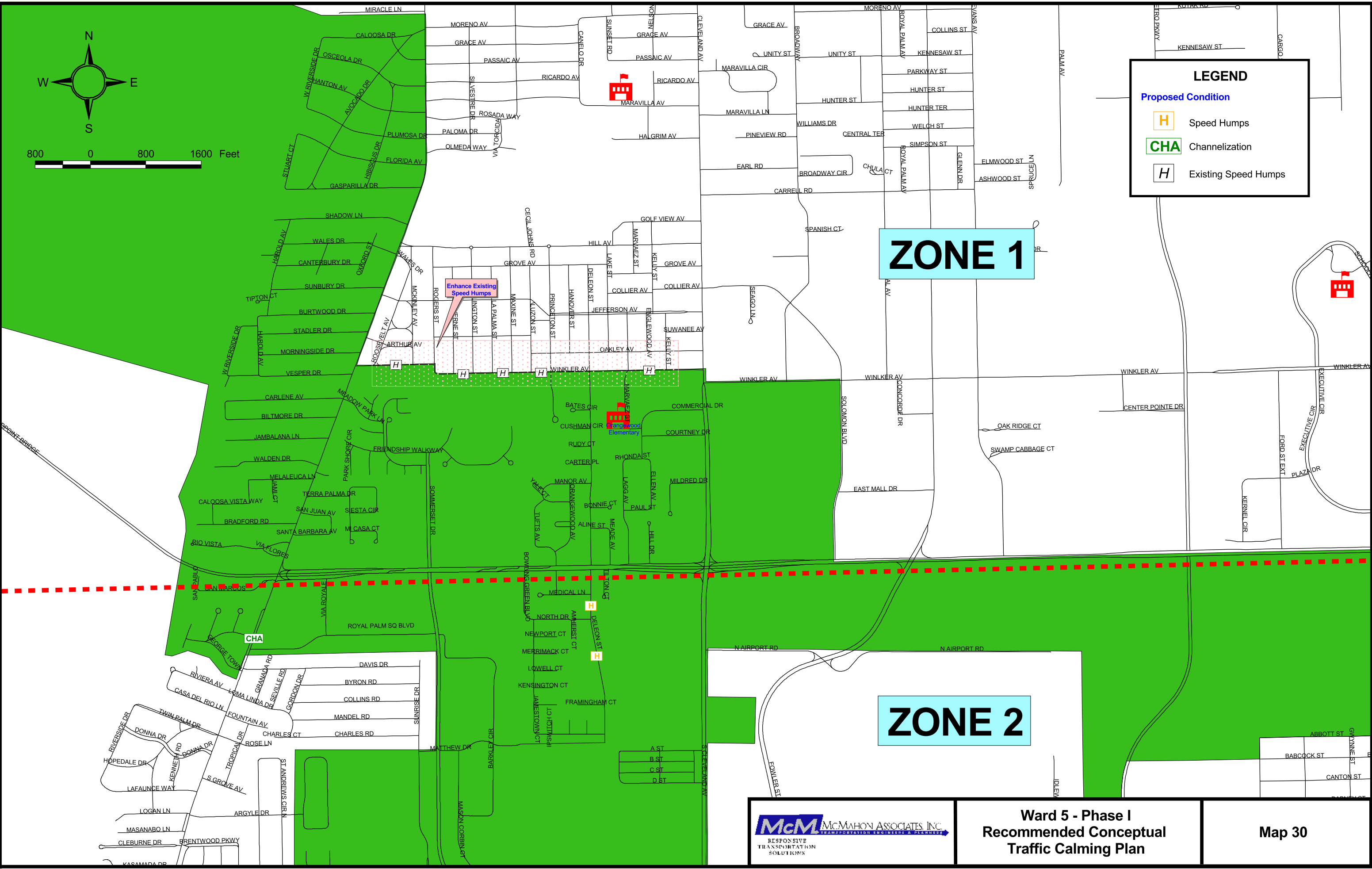
ZONE 2

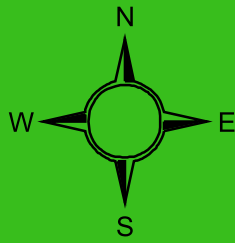
Enhance Existing Speed Humps

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**Ward 5 - Phase I
Recommended Conceptual
Traffic Calming Plan**

Map 30





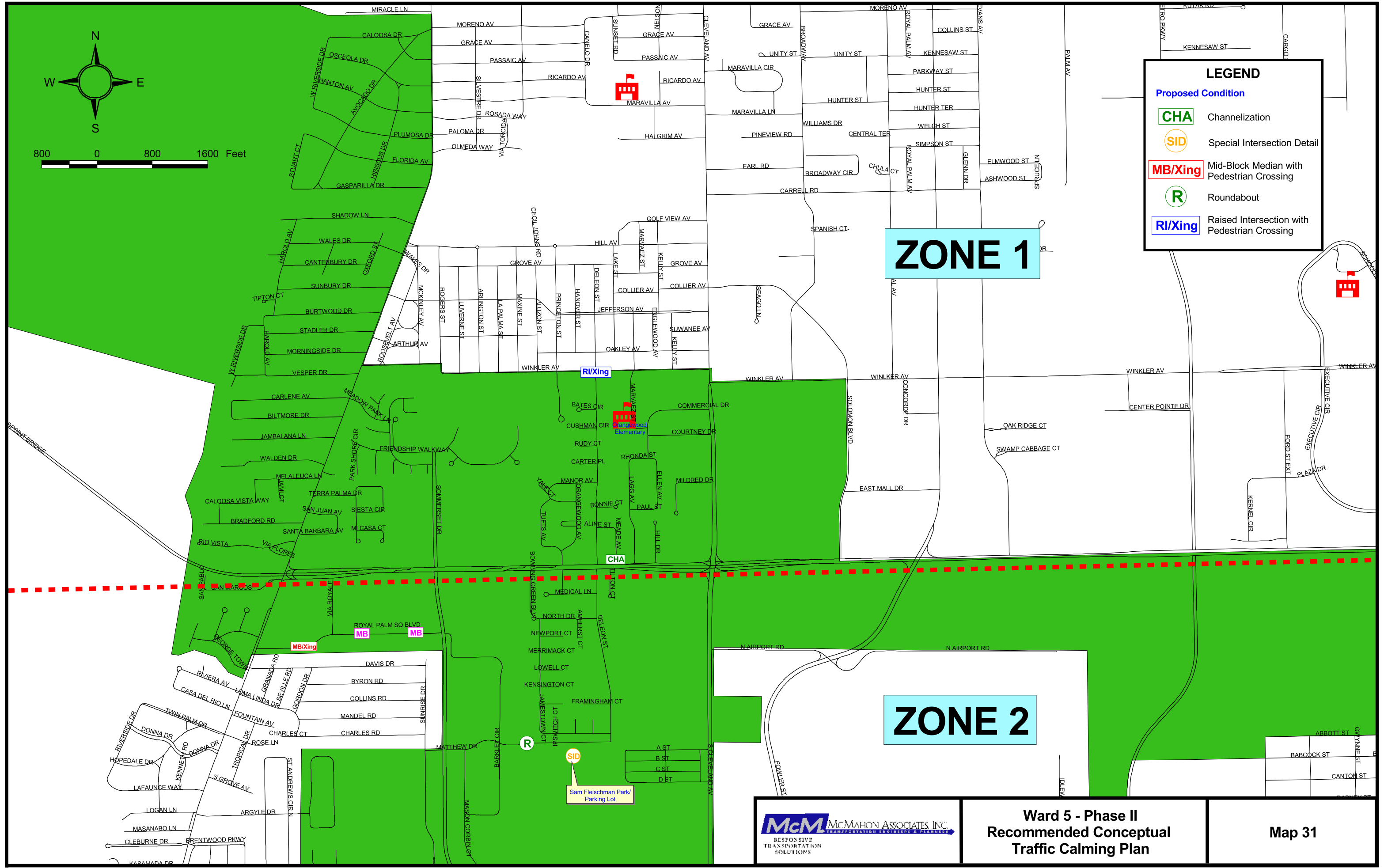
800 0 800 1600 Feet

LEGEND

- Proposed Condition**
- CHA** Channelization
- SID** Special Intersection Detail
- MB/Xing** Mid-Block Median with Pedestrian Crossing
- R** Roundabout
- RI/Xing** Raised Intersection with Pedestrian Crossing

ZONE 1

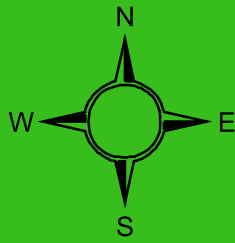
ZONE 2



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**Ward 5 - Phase II
Recommended Conceptual
Traffic Calming Plan**


Map 31



800 0 800 1600 Feet

LEGEND

Proposed Condition

 Special Intersection Detail

ZONE 1

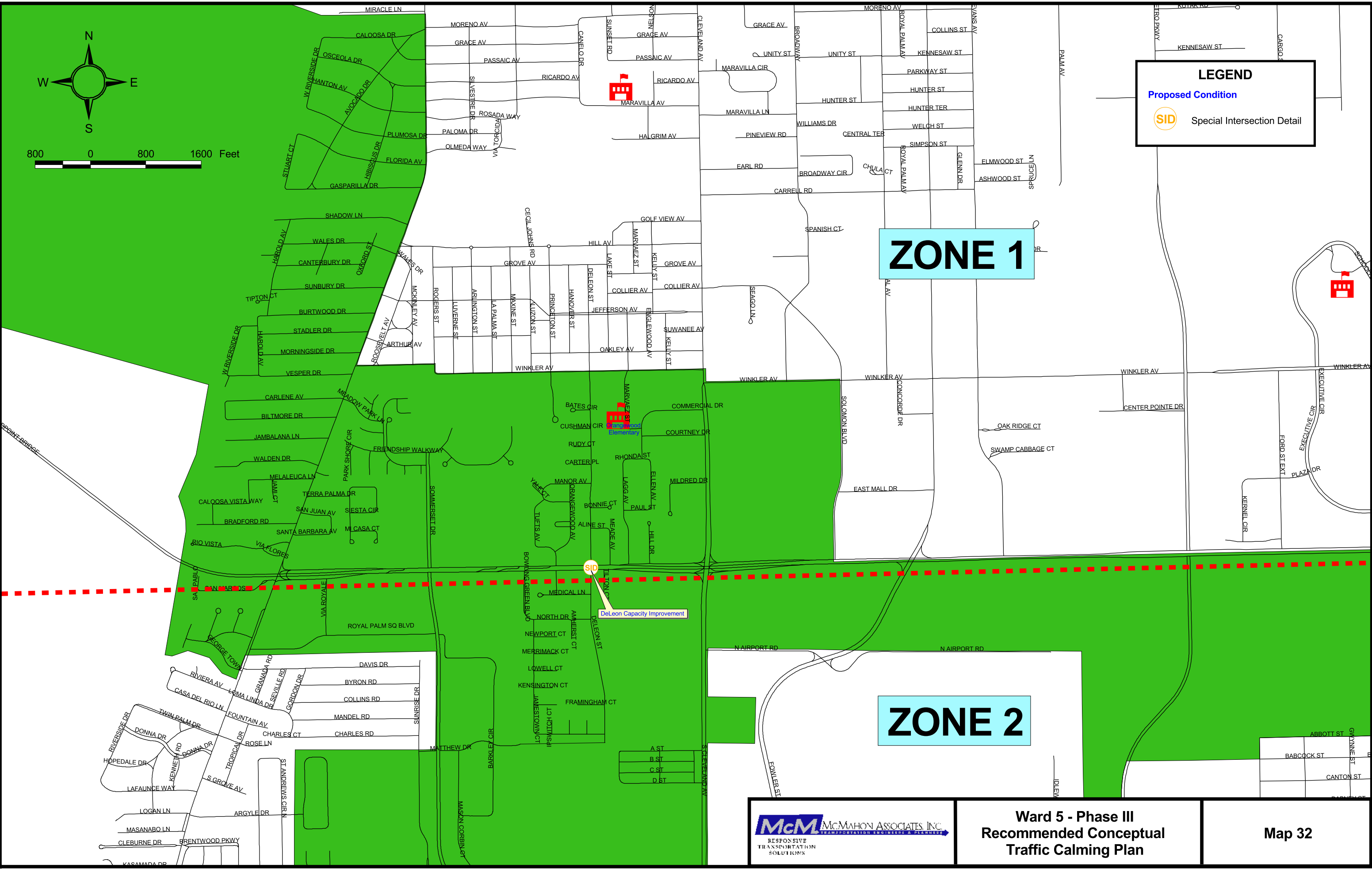
ZONE 2

DeLeon Capacity Improvement



**Ward 5 - Phase III
Recommended Conceptual
Traffic Calming Plan**

Map 32



two-way left-turn lane and the increase in the number of medians to make the center lane less continuous, thus discouraging its use as a passing lane. The Hill Avenue roundabout was added to the recommended plan to provide an additional traffic calming treatment that was spaced accordingly to the location of the Barcelona Avenue roundabout. The maps for this roadway are presented in **Maps 33 and 34**.

POST-IMPLEMENTATION – MONITORING PLAN

Monitoring refers to the process of examining the effectiveness of existing traffic calming treatments. This technique is being used to avoid the installation of Phase II treatments in the event that the Phase I treatment succeeds in addressing the problem. There are a number of locations in the recommended conceptual plan where a Phase I treatment is to be replaced by a Phase II treatment in the event that, through a monitoring program, it is found that the Phase I treatment is ineffective. The four locations where monitoring will be required include:

Ward 1

The speed hump on Fairview Avenue will be replaced by a mid-block median.

Ward 2

The speed humps on Gardenia Avenue will be removed and a street closure will be constructed on Brookhill Drive.

Ward 4

The painted directional island on Hill Avenue at McGregor Boulevard will be replaced with a raised directional island and include a gateway sign.

The speed humps on Llewellyn Drive will be removed and a roundabout will be constructed at the intersection of Llewellyn Drive and Cortez Boulevard.

The monitoring program consists of scheduling the collection of appropriate data both before and after the installation of the Phase I treatment. In those cases where speed humps are the proposed treatment, the City will collect 24-hour speed and volume data on the street that the treatment will be located as well as adjacent streets that may be affected before the treatment is installed. In the case of Hill Avenue, peak hour observational data should be collected prior to the installation of the Phase I treatment to determine the operational conditions of Hills Avenue. New data should be collected by the City approximately six (6) months after the installation of the Phase I treatment. The before and after data is analyzed to determine the effectiveness of the traffic calming treatment. If the results indicate that the treatment is effective, the Phase I treatment remains in place, otherwise the Phase I treatment is removed and replaced by the proposed Phase II treatment.

Measures of effectiveness of traffic calming treatments are quite subjective. As an example and in the case of speed humps along Fairview Avenue (Ward 1) and Gardenia Avenue (Ward 2), if in the post-analysis any speed reduction is realized from that of the pre-analysis, then the traffic calming treatment is deemed effective. In the case of other traffic calming treatments, such as directional islands (Hill Avenue), mid-block medians, chicanes, and raised intersections, the subjectivity of the effectiveness of these treatments will be determined by the engineer after the post analysis has been completed.

CONCLUSION

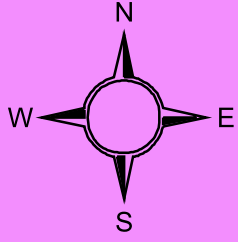
The recommended conceptual traffic calming plans for all five wards and the McGregor Boulevard Corridor is the result of extensive data collection, interviews, observations, and a multitude of meetings with City officials, City staff personnel, Consultant team, the neighborhood groups, and the general public. In the end it was the majority consensus of the City's residents, or stakeholders, that determined and supported the type and location of the proposed traffic calming treatments for their respective wards. The implementation of these plans will enhance the quality of life for these neighborhoods, make their roadways safer, and will effectively address the issues identified by residents of each ward. These plans were unanimously adopted by the City Council on June 2, 2003.

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LEGEND

Proposed Condition

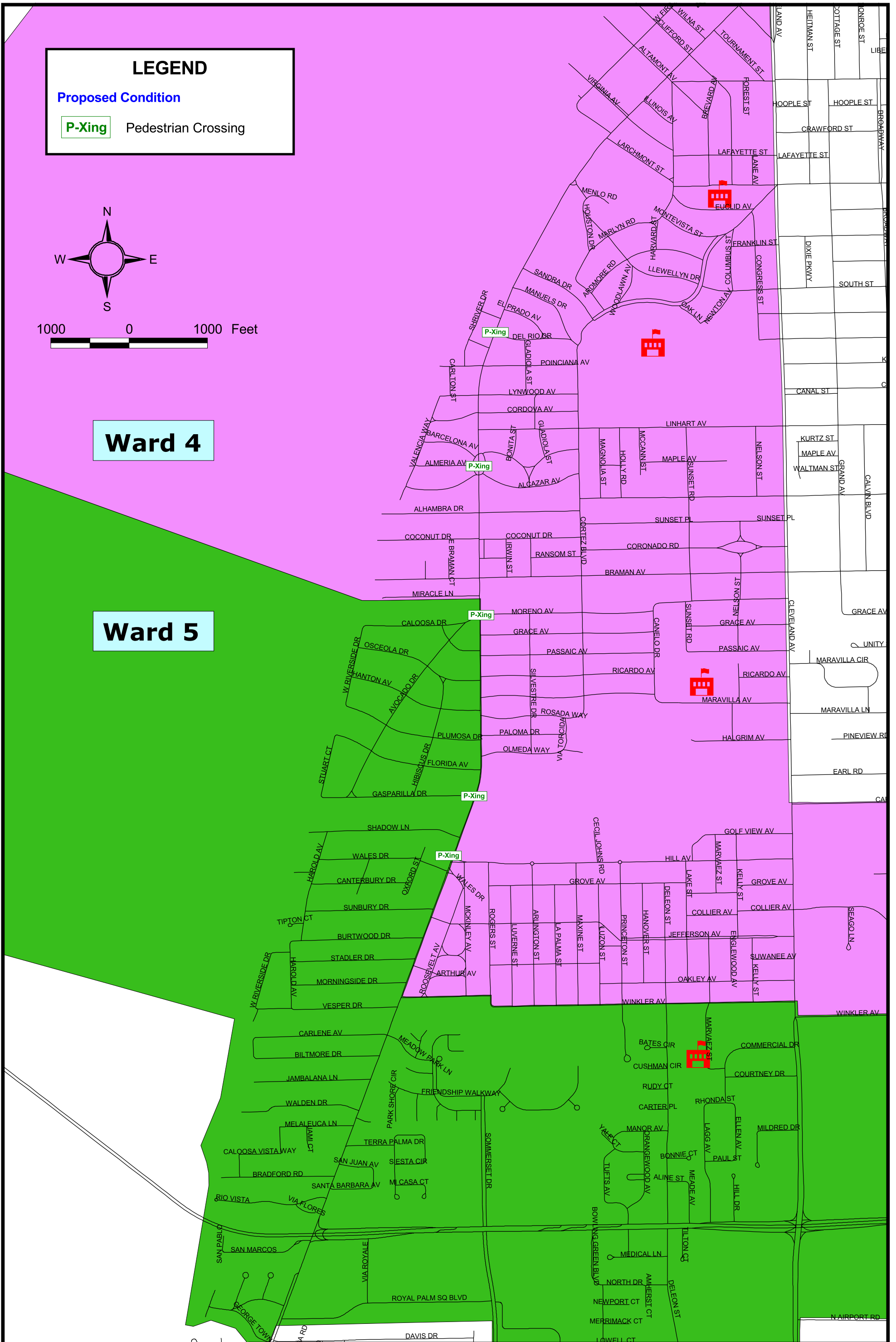
P-Xing Pedestrian Crossing



1000 0 1000 Feet

Ward 4

Ward 5



LEGEND

Proposed Condition



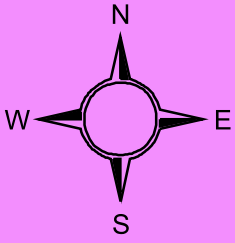
Special Intersection Detail



Roundabout



Existing Landscaped Medians



1000 0 1000 Feet

Ward 4

Ward 5

Phase 1
Modified 2-Lane Section

Phase 2
Develop Continuous 3-Lane Median/Gutter Plan (Alternative)

Phase 2
Develop Continuous 3-Lane Median/Gutter Plan

Begin Existing 3 Lanes

End Existing 3 Lanes

Begin Existing 3 Lanes

End Existing 3 Lanes

Begin Existing 3 Lanes

End Existing 3 Lanes

Phase 2 - Widen 3 Lanes

Phase 2 - Widen 3 Lanes

Phase 2 - Widen 3 Lanes

Begin Existing 3 Lanes

End Existing 3 Lanes

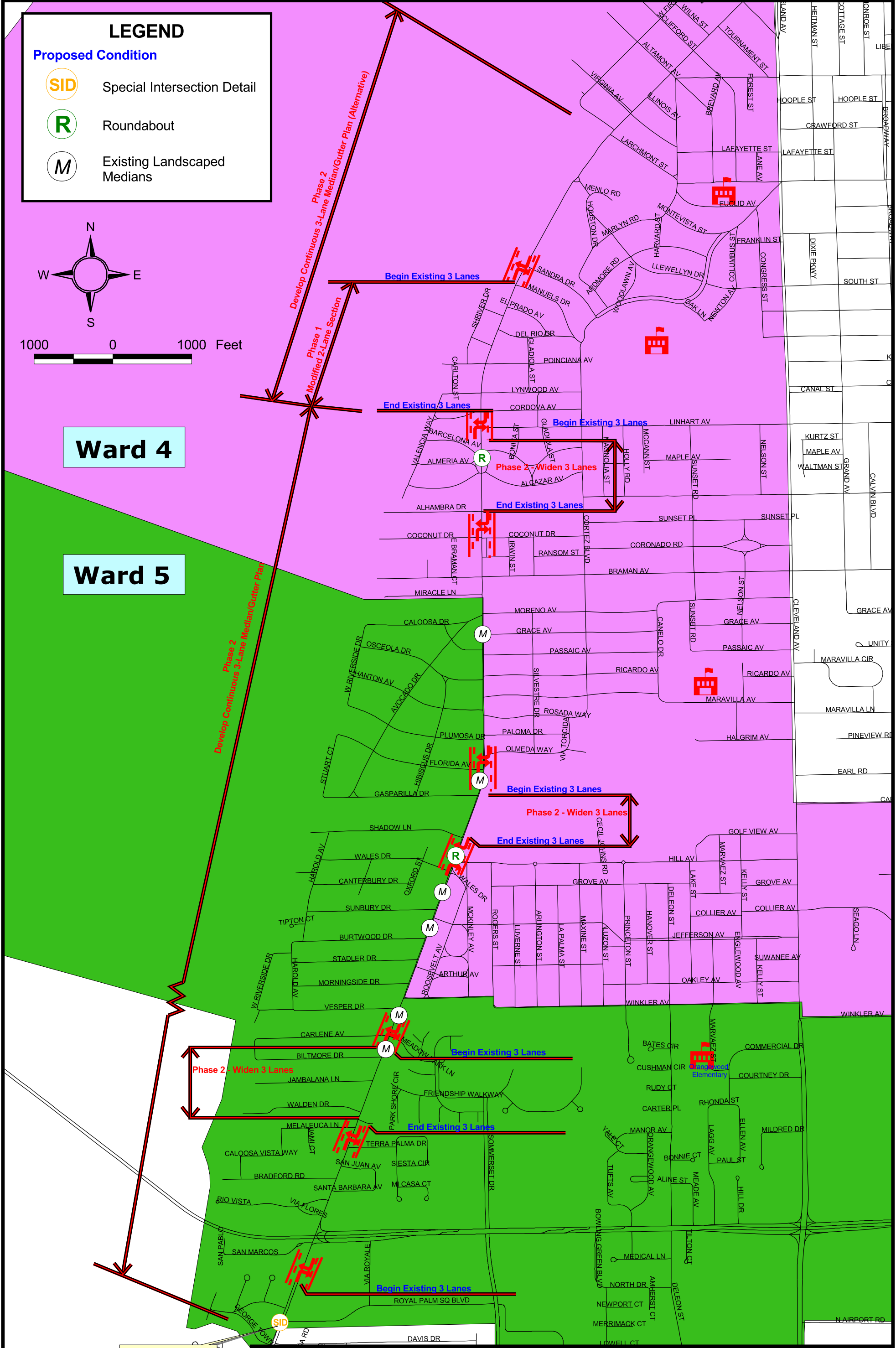
Begin Existing 3 Lanes

Realignment of Royal Palm Square Blvd



McGregor Boulevard - Phase III
Recommended Conceptual
Traffic Calming Plan

Map 34





SECTION 7 CITY TRAFFIC CALMING MANUAL

SECTION 7 – CITY TRAFFIC CALMING MANUAL

The City requested that McM review the existing traffic calming manual and make recommendations to improve and update its content. Traffic calming guidelines, manuals and general information from other state, county and municipal governmental agencies were used to compare and evaluate the existing manual. The following list of suggested modifications should be reviewed and critiqued by the affected City departments prior to implementing any changes to the existing manual.

Title and Introduction

The title of the document should be changed from manual to a policy, program or guidelines. Traffic calming should not be categorized as a rigid standard but a City program or policy. The document, and applicable application and petition forms, should be made available on the City's website. The introduction should contain a definition of traffic calming. The ITE definition states that traffic calming is the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street users. The introduction should also list the goals of the City's traffic calming program in a bulleted list format. It should also specify that traffic calming will only be considered for two-lane local streets. This should include language to explain the fact that certain collector roadways may have many of the characteristics of a local residential that may indicate special circumstances for traffic calming consideration.

General Content

The policy should also contain a list of definitions of the various terms used in the transportation field with regard to traffic calming. These terms should include 85th percentile speed, average speed, local streets, collector streets, cut-through traffic, etc. Specific criteria under which a street shall be deemed eligible for the consideration of traffic calming features should be listed. These criteria may include:

- A two-lane roadway.
- A posted speed of 30 mile per hour or less.
- Street cannot serve as the primary access to commercial or industrial sites.

- The measured average speed must exceed the posted speed limit by 5 miles per hour or exceed the 85th percentile speed by 10 miles per hour or exhibit that 10 percent of the vehicles are exceeding the speed by 10 miles per hour or more.
- Street cannot be a primary emergency response route.

A traffic calming committee should be established to review requests for traffic calming features and participate in those neighborhoods that qualify. The committee should consist of City departments that are affected by traffic calming of neighborhoods and should include Engineering, Planning and Zoning, Fire and Police. The Fire and Police Department should be required to provide a map that indicates those roadways that their respective departments consider to be primary emergency routes. These routes should not be permitted to utilize traffic calming features that cause vertical deflection, such as speed humps or cushions. The manual should identify the existence of the committee and explain their role in the process. Contact information for the designated traffic calming representative as well as a contact person to request information and applications should be provided in the manual.

A process should also be established to develop how neighborhoods, in the future, can get the City to implement traffic calming for their area. It should include the submittal of a petition, neighborhood meeting, traffic study for needs assessment, plan development, approval of plan and plan implementation. This should be clearly outlined and accompanied by a concise flowchart. A sample flowchart is provided in **Appendix P**. This flowchart outlines a proposed process by which the City's Public Works Department can address future requests for traffic calming by residents. This flowchart specifies a specific speed and volume criteria and also incorporates the use of Level 1 and Level 2 treatments.

The effectiveness of traffic calming treatments is generally subjective. Traffic calming is not accomplished by a defined science, but rather based upon perceptions where traffic engineering applications are applied. The City will have to apply engineering judgment, based on the neighborhood or roadways in question, for determining the measures of effectiveness of any implemented treatment(s). This may include threshold values for reductions in speed and/or

volume and may also be based upon field observations, supplemental data collection and applied engineering judgment.

Level 1 treatments include strategies such as the implementation of a speed watch program, education campaigns, increased police enforcement, radar display units and traffic calming signage. Level 2 treatments include the typical constructed roadway treatments such as speed humps, chokers, medians, raised intersections, chicanes, roundabouts, etc. The initial use of Level 1 treatments can often address traffic issues for a neighborhood street and avoid the need for costly and unnecessary constructed roadway treatments.

Time estimates for each part of the process should also be given. An important part of the policy, and process, should discuss funding. This will always be a factor in plan design and implementation. Certain neighborhoods, depending on the total cost, may be willing to pay for 50 percent through special taxing districts or neighborhood drives. There should be some consideration to implement temporary treatments that will be installed for 6 months that will be removed if monitoring finds that it is ineffective.

The existing application form should be revised to include questions that will assist the City in acquiring more definitive information about the neighborhood and the traffic concerns. A sample application is included in Appendix P. A petition form should be created for the purpose of collecting minimum number of signatures from the neighborhood that may be used to qualify a neighborhood for a traffic calming project. A fee for the application review should be established. The review of the application should allow the City to establish the study area and give the representative the minimum number of signatures on the petition that will be required for the application to continue through the process. The need for traffic calming should be based on a simplified point system that requires the collection of minimal data. This data should include speed, volume and accident history. A minimum point threshold should be developed to warrant the need for traffic calming based on empirical data and not on the perceived assessment of the concerned citizen. A one-year limitation should also be imposed on those neighborhoods that are assessed and found not to have a significant traffic problem.

The City should also consider other levels of traffic calming, as described in the discussion of the flowchart that can be utilized prior to the implementation of significant traffic calming treatments. This may include increased neighborhood awareness, reduction of pavement widths through pavement marking and signage, implementation of increased or doubling of citation fines in residential neighborhoods, implementation of a radar trailer program and increased police enforcement regiment. This section should also discuss the fact that the City will institute a policy for new developments that will require all new developments within the City of Fort Myers to include the principles of traffic calming design in their roadway network. This will include the use of curved roadways and/or roadways of relatively short lengths to discourage speeding. They will also be reviewed to ensure that cut-through traffic is discouraged and to introduce traffic calming features in the appropriate locations.

The graphical representations should be updated to include mid-block medians and chicanes. These graphics are relatively basic line drawings and should be simplified so that one page can show all of the different traffic calming treatments as shown in Appendix P. A table or listing of each treatment should be prepared that lists all of the traffic calming treatments, a brief description, advantages, disadvantages, used for what problem and estimated costs. Photographs should be provided for each of the different traffic calming features.

The existing manual explains that the use of multi-way stop sign controlled intersections is not to be used as a means of traffic calming. This is appropriate under the “Signs” section of the manual. However, it also lists the advantages and disadvantages as if it were a traffic calming feature. The advantages and disadvantages should be removed from the manual. The appendix that contains the stop sign warrants as well as its reference in the traffic calming manual should be removed as well. Stop signs should not be associated in any way with traffic calming.

Sidewalks and other pedestrian facilities, or lack there of, are often brought into the traffic calming process. Street lighting is related to traffic calming in terms of nighttime visibility of treatments and pedestrians. The existing manual should include contact information

for City staff that is involved in the construction of sidewalks and street lighting equipment as well as the individual that is responsible for addressing issues related to pedestrian and bicyclist safety.