

Spellman Elementary Safe Route to School Plan

Cheverly, Maryland

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TABLE OF CONTENTS

I.	INTRODUCTION	<u>Page</u> 1
II.	EXISTING CONDITIONS	2
III.	SAFE ROUTE TO SCHOOL PLAN	10

FIGURES

Figure 1.	Gladys Noon Spellman Elementary School	2
Figure 2.	St. Ambrose School	3
Figure 3.	Existing AM and PM peak Hour Traffic Volumes	4
Figure 4.	Study Area	7
Figure 5.	Spellman Elementary Front Drop off Improvements	12
Figure 6.	Spellman Elementary Back Drop off Improvements	13
Figure 7.	Speed Camera	14
Figure 8.	Walking School Bus	16
Figure 9.	Bicycle Train	16
Figure 10.	Existing Sidewalk Conditions	26
Figure 11.	Pedestrian Desire Lines	27
Figure 12.	Pedestrian "Hotspot" Locations	28
Figure 13.	Gladys Noon Spellman Elementary School/St. Ambrose School SRTS Plan	29

TABLES

Table 1.	Summary of Existing Capacity Analysis	5
Table 2.	Summary of Crash Analysis	6

I. Introduction

The Town of Cheverly is located in Prince George's County Maryland approximately 2 miles from the Washington, DC line. The BWI Parkway, US 50, and MD 202 provide access to Cheverly, and the WMATA orange metro line has a transit station in Cheverly. The goal of the Town of Cheverly Non-Motorized Transportation Study is to improve safety and accessibility for pedestrians and bicycles in the Town. Major points of interest for bicycle and pedestrian connections include the Anacostia River Trail, Cheverly Metro Station, Prince George's County Hospital Center, retail and commercial businesses along MD 202, multi-family residential units along MD 202, schools, and other recreational areas such as Euclid Park and Beaverdam Creek.

In support of the overall Non-Motorized Transportation Study, Vision Engineering and Planning was requested to prepare a Safe Route to School (SRTS) plan for the Gladys Noon Spellman Elementary School and the nearby St. Ambrose School and conduct a safety and operational analysis at the intersection of MD 202 at Kilmer Street.

The report is divided in three sections; first the existing conditions are evaluated and documented including the existing roadway network, existing traffic volumes and operations, pedestrian and bicycle facilities, pedestrian desire lines, bus stop locations, and existing intersection capacity and level of service. Secondly, a Safe Route to School Plan is presented, and lastly, a safety and operational analysis with recommendations will be presented for the intersection of MD 202 at Kilmer Street.

II. Existing Conditions

Gladys Noon Spellman Elementary School is located on 64th Avenue south of Kilmer Street.

Figure 1-Gladys Noon Spellman Elementary School



The school is located in a residential neighborhood marked by rolling terrain which limits the sight distance at some of the intersections near the school. Sidewalks are intermittent in proximity to the school and the locations of sidewalks are a function of the hilly terrain which limits the available right-of-way to some degree. Gladys Noon Spellman Elementary School is located near St. Ambrose School on 63rd Avenue and as such the SRTS plan encompasses both schools. Field observations indicated that there is a notable school aged walking population in the area, with a number of students observed walking to school in the morning and back home in the evening. A recent streetscaping project along the main thoroughfare near the school, MD 202, has improved sidewalks and crosswalks along that corridor.

The intersection of MD 202 at Kilmer Street is located within walking distance of both schools. There are a number of retail establishments and multi-family housing units near the intersection which generate significant amounts of foot traffic at the intersection. As a



part of the streetscape project, new, textured crosswalks were installed along with signage that discourages mid block crossings.

Existing MSHA peak hour turning movement counts collected in November, 2006 were used in the existing conditions analysis. The counts were collected at the study intersection from 6:00 AM to 7:00 PM.

Figure 3 summarizes the existing peak hour traffic volumes. The count data indicates that the existing peak hours occur from 7:00 AM to 8:00 AM and 5:00 PM to 6:00 PM.

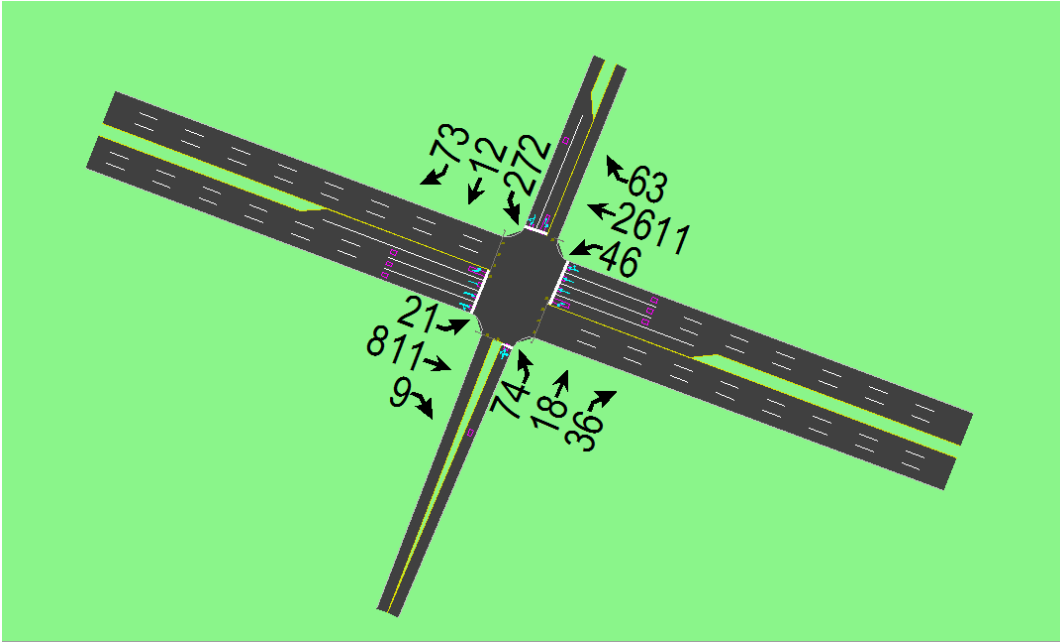


Figure 2-St. Ambrose School

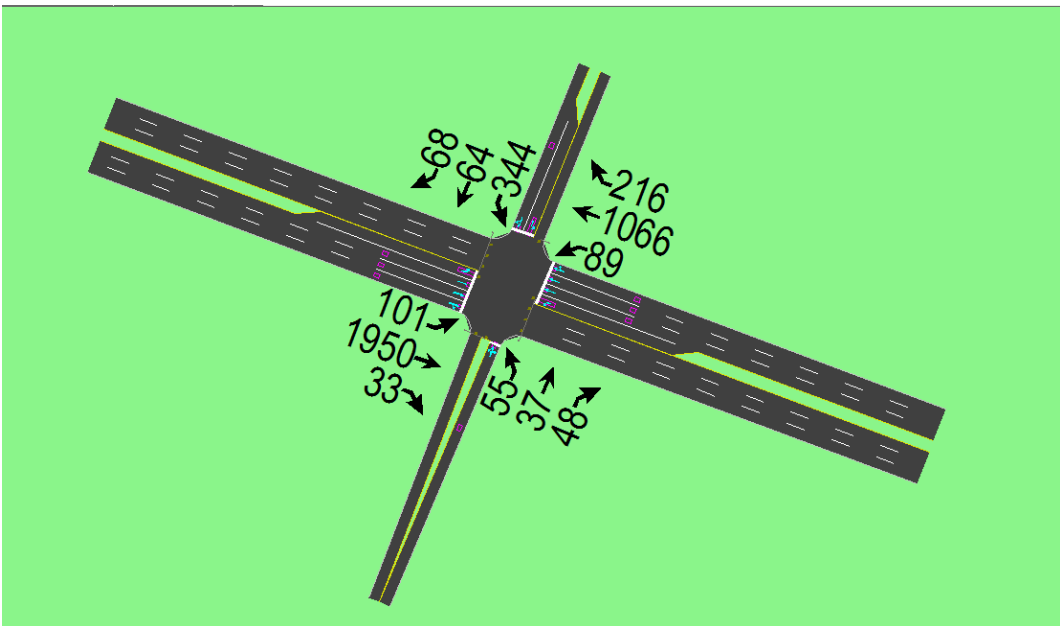


Figure 3-Existing AM and PM Peak Hour Volumes

AM Peak Hour



PM Peak Hour



Existing Intersection Capacity and Level of Service

The methodology of the Highway Capacity Manual (HCM) was used to evaluate capacity for the study intersection during the AM and PM peak hours. A Synchro traffic model was developed and coded for each peak hour with the existing conditions data including roadway geometry, traffic volumes, pedestrian volumes and signal timing and phasing data as inventoried and documented in the field or as provided by Maryland SHA. The existing SHA counts were factored to the year 2009 using an annual growth factor of 2%, which was based on historical count data trends near the intersection.

Performance measures of effectiveness for HCM analysis include level of service, delay, and volume-to-capacity (v/c) ratio. The level of service (LOS) is a letter designation that corresponds to a certain range of roadway operating conditions and F indicating the worst, or failing, operating condition. The v/c ratio is the ratio of the current flow rate to the capacity of the intersection. This ratio is often used to determine how sufficient capacity is on a given roadway. Generally speaking, a ratio of 1.0 indicates that the roadway is operating at capacity. A ratio of greater than 1.0 indicates that the facility is failing as the number of vehicles exceeds the roadway capacity.

The results of the existing conditions capacity analysis are summarized in the following table; detailed HCM worksheets are included in **Appendix B**.

Table 1 – Summary of Existing Capacity Analysis; AM (PM)

Intersection	AM LOS	AM v/c	PM LOS	PM v/c
MD 202 at Kilmer Street	D	0.98	C	0.87

The results of the existing conditions capacity analysis indicate that the intersection is currently operating at a LOS D during the AM peak hour a LOS C during the PM peak hour with a volume to capacity ratio near 1 during the AM peak hour. This volume to capacity ratio is consistent with field observations which indicated queuing conditions beyond the US 50 ramp in the westbound direction of MD 202 during the AM peak hour.

Crash Analysis

In addition to the operational analysis, a crash analysis was conducted at the intersection to identify crash patterns and develop countermeasures to reduce the number of crashes at the study intersection. Particular attention was given to crashes involving pedestrians and/or bicyclists. The most recent four years of crash data (2005, 2006, 2007, 2008) was provided by the Maryland State Highway Administration (MSHA).

Table 2 – Summary of Existing Crash Analysis

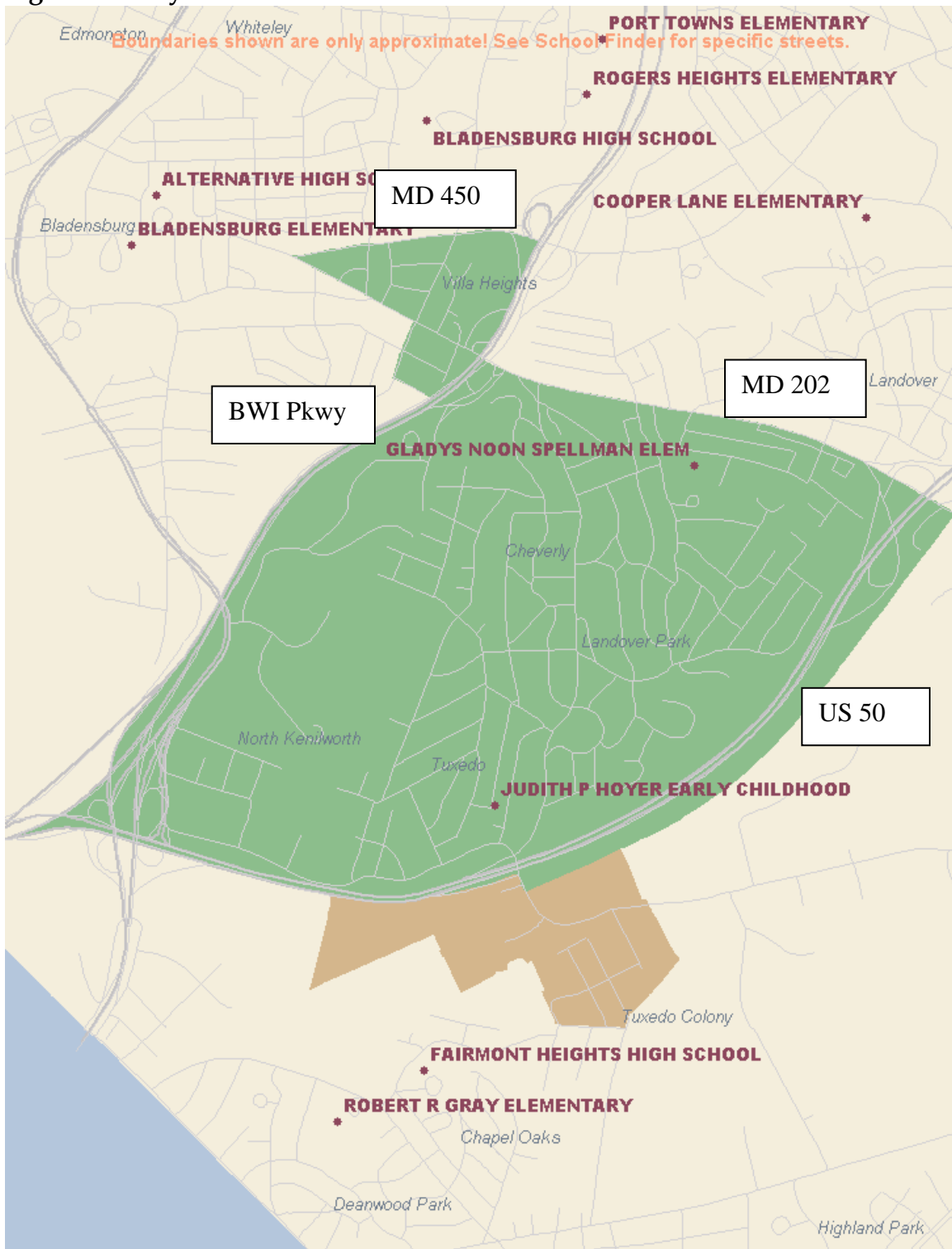
	Pedestrian	Angle	Left Turn	Rear End	Sideswipe	Fixed Object	Other
Number of Crashes	2	5	6	14	1	1	3

The results of the crash analysis indicate that there were a total of 31 crashes at the study intersection, including 14 rear end collisions, 6 left turn collisions, 5 angle collisions, and 2 crashes involving pedestrians. Thirteen of the crashes occurred at night, six occurred in wet conditions, thirteen crashes had injuries associated with them, and there was one fatality in 2008. Though rear end collisions are typically associated with less property damage and injuries than angle collisions, the one fatality at the intersection was associated with a rear end collision. While the pedestrian crashes did not result in a fatality, minimizing, if not eliminating pedestrian collisions at this intersection is one of the goals of the study.

Roadway Network, Transit Facilities, Pedestrian and Bicycle

For the purposes of this study, the roadway network was defined based on the study limits identified in the Safe Routes to School analysis. The Maryland Safe Routes to School Handbook recommends a walking radius of 1-2 miles from the school site location. Consultation with the Spellman school administration indicated that the school district boundary is roughly US 50 to the south and east, MD 202 to the north, and BWI Parkway to the west, and hence these roadways serve as the study area boundary for the SRTS plan.

Figure 4-Study Area



Based on the school district boundary, the following roadways were identified to be within the study area.

MD 202 (Landover Road) is a six lane facility with a posted speed limit of 35 mph. It is the primary roadway in the study area, and pedestrian traffic is concentrated near the intersection of MD 202 and Kilmer Street. The Annual Average Daily Traffic (AADT) is 33,100 west of US 50. A recent streetscaping project by MSHA has improved sidewalks and cross walks along the MD 202 corridor.

US 50 is a four lane freeway facility that provides access between Cheverly and I-495 to the east and Washington DC to the west. The posted speed limit is 55 mph. There is a modified partial cloverleaf with MD 202 in vicinity of the intersection of MD 202 at Kilmer Street where vehicles entering and exiting the freeway are traveling at high speeds, posing safety issues for pedestrians in the area. The AADT on US 50 is 76,600 south of MD 202.

Baltimore Washington Parkway is a four lane limited access parkway that provides access between Washington D.C. and Baltimore. The posted speed limit is 45 mph, and there is a partial cloverleaf interchange at MD 202. The AADT is 108,300 north of MD 202.

MD 450 is a six lane facility with a posted speed limit of 35 mph. MD 450 provides access between Cheverly and Annapolis to the east and Bladensburg to the west. The AADT is 31,800 east of Baltimore Washington Parkway.

In addition, there are a number of residential streets in the study area which provide access between nearby activity centers and local households. Kilmer Street and 62nd Avenue are the primary access routes to Spellman Elementary School and St. Ambrose School and both streets have signalized intersections at MD 202 with streetscaped crosswalks. Old Landover Road/63rd Place has an unsignalized intersection with MD 202 and can also be used to access Spellman Elementary and St. Ambrose Schools. Residential streets are the primary routes for school aged walking children and a review of the roadway network indicated that most of the streets in the study area have sidewalks on one or both sides with approximately 50-60% of the study area having sidewalks on both sides. This is important to note in the context of SRTS, as streets with no sidewalks oftentimes requires pedestrians to walk in the street. Sidewalks located on one side of the street lead to increased pedestrian crossings which can lead to unsafe conditions and conflicts between vehicular and pedestrian traffic.

Bus stops are located near the intersection of MD 202 at Kilmer Street, MD 202 at 63rd Place/Old Landover Road, MD 202 at Neighbor Lane/62nd Place, MD 202 at

58th Place, MD 202 at 56th Avenue, MD 202 at MD 450 and along Cheverly Avenue and Arbor Street.

Pedestrian desire lines are an indication of pedestrian demand and are a function of land use form, pedestrian amenities, traffic volumes and speed. Mid block pedestrian crossings pose significant safety problems as pedestrian collisions with vehicles traveling at speeds greater than 35 mph are highly likely to result in a fatality. Pedestrian desire lines collected along MD 202 between US 50 and 62nd Place indicate a significant number of mid-block crossings on MD 202 east of Kilmer Street which is a particularly unsafe condition given the high speeds of vehicles exiting US 50 near the intersection of MD 202 at Kilmer Street. Mid block crossings were also observed south of MD 202 on Kilmer Street. These mid-block crossings are a direct result of the land use along MD 202 which includes multi-family housing units directly across the street from retail establishments with large parking lots and no defined pedestrian walkway. Moreover, the bus stop on the westbound approach of MD 202 at Kilmer Street is located several hundred feet east of the intersection. Pedestrians were observed exiting the bus and crossing the street at the bus stop location en lieu of using the crosswalk at the Kilmer Street intersection.

Additional pedestrian desire lines exist along MD 202, Cheverly Avenue, and near Spellman Elementary School and St. Ambrose School. It is important to note that while school aged walkers are concentrated near the schools and traveling relatively short distances, there were a significant number of school aged children observed on Kilmer Street south of the intersection at MD 202.

III. Safe Route to School Plan

The Safe Routes to School (SRTS) program is an opportunity for the Town of Cheverly and Prince George's County to make walking and bicycling to school safer. On a broader level, a successfully implemented SRTS program can reduce childhood obesity, remove vehicles from congested roadways and improve the sense of community. The Gladys Noon Spellman Elementary Public School is located at 3324 64th Avenue and St. Ambrose School is located at 6310 Jason Street. The proximity of the two schools led to the development of one Safe Route to School Plan for both schools.

There are eight steps in the successful implementation of a SRTS plan. These steps include:

1. Bringing together the right people; these people included the principals of Spellman Elementary School and St. Ambrose School, local citizens, the Town of Cheverly, and Maryland SHA.
2. Hold a Kick-off Meeting; once the appropriate stakeholders were identified, a kick-off meeting was conducted which allowed each representative to share their perspective and add suggestions and goals to the SRTS Plan.
3. Gather information and identify issues; one of the objectives of the existing conditions analysis was to develop a baseline for safety issues facing pedestrians and bicyclists in the study area, particularly school aged children. Data on sidewalk conditions, crosswalks, ADA ramps, bicycle facilities, signage, and pedestrian desire lines were mapped for use in the development of the SRTS plan.
4. Identify Solutions; a review of the existing conditions assessment combined with a review of future plans by the Town of Cheverly and MSHA were used to develop recommendations to improve the safety for pedestrians and bicyclists. Consultation with school principals and Citizen's Advisory Groups were useful in identifying solutions as well.
5. Make a Plan; Consistent with the STRS program, the identified solutions included a combination of education, encouragement, engineering, and enforcement strategies. In addition a time schedule and cost of implementation was developed for each element of the plan.

6. Fund the Plan; there is a wide range in the cost of planned improvements identified in the SRTS plan. Funding sources are identified as a part of the plan.
7. Act on the Plan; parts of the plan, particularly the educational components can be implemented immediately. These elements are identified in the Spellman Elementary School SRTS.
8. Evaluate, make improvements, and keep moving; after the program begins, careful monitoring will identify which strategies are best at increasing the number of children walking and bicycling to school safely. Recommendations are included for monitoring and improving the plan performance in the future.

The results of the existing conditions analysis indicate the following pedestrian and bicycle operational and safety issues in the SRTS Plan area:

- Mid block pedestrian crossings near the intersection of MD 202 at Kilmer Street
- Lack of sidewalks, particularly along Kilmer Street lead to children walking in the street
- Front drop-off at Spellman Elementary School leads to students walking between parked vehicles with limited visibility
- Back drop-off at Spellman Elementary School has queuing conditions which limit sight distance
- Pedestrian access on MD 202 at BWI Parkway, particularly pedestrians associated with Cheverly High School
- Poor sidewalk conditions on MD 450
- Bus stop location at MD 202 and Kilmer Street leads to mid-block crossings
- Excessive speeds on residential streets, particularly around elementary schools
- Intersection of Cheverly Avenue at Arbor Street
- Large parking lots at retail establishments with no pedestrian or bicycle facilities
- Lack of bicycle amenities along MD 202

The SRTS plan includes the following elements, Engineering, Enforcement, Encouragement, Education, Student Drop-off and Pick-up, and Evaluation.

Engineering

Based on the review of the existing conditions and State of Maryland SRTS Guidelines, consultation with stakeholders, and a review of MSHA and Town of Cheverly plans the following engineering recommendations are suggested for the study area:

- Install pedestrian barriers along MD 202 between Kilmer Street and US 50; street side landscaping that is consistent with the recent streetscaping project is recommended
- Install sidewalks as needed on Kilmer Street so that sidewalks are present on both sides of the street; this may require the removal on-street parking where the topography limits right-of-way
- Install stairs and a crosswalk at the Spellman Elementary School front drop off
- Designate a school drop off and pick up parking area in the rear of the Spellman Elementary School; install school zone per Maryland MUTCD guidelines in rear of school

Figure 5-Spellman Elementary Front Drop off Improvements

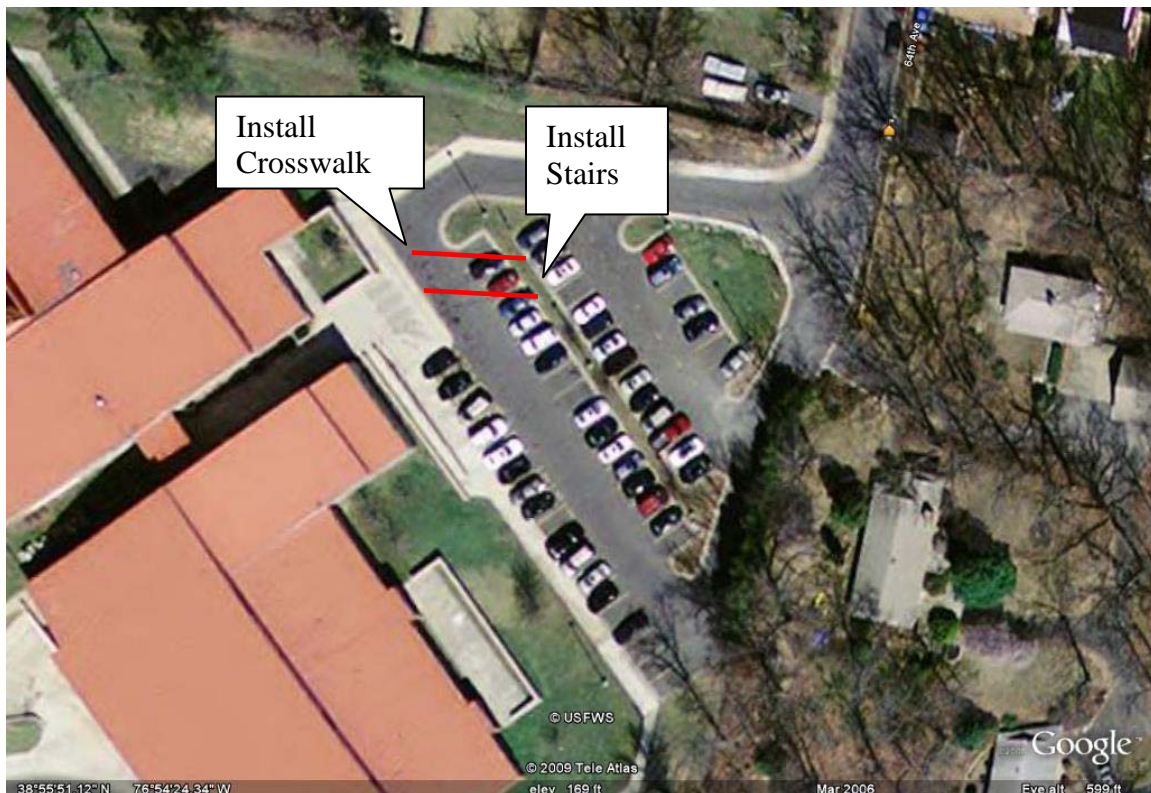


Figure 6- Spellman Elementary Back Drop off Improvements



- Add sidewalk on north side of MD 202 under the BWI Parkway overpass; this would require reconstruction of MD 202 which was recently improved by MSHA, therefore this should be considered a long term improvement
- Install new sidewalks on MD 450 east of MD 202 to BWI Parkway
- Install bicycle racks at major retail establishments located on MD 202 and MD 450

Enforcement

A number of residents at the public meeting and the school principal at Spellman Elementary School mentioned that speeding vehicles are a problem near the school. Site visits confirmed that vehicles were traveling above the speed limit on Kilmer Street and MD 202 in particular. Given the Town of Cheverly has recently passed an ordinance allowing for speed cameras, speed cameras are recommended along MD 202 and Kilmer Street.

The existing crossing guard located behind Spellman Elementary school could be utilized to enforce the proposed pick-up and drop-off zone at the back of the school. Improved enforcement of the pick-up times would also improve the queuing conditions behind the school.

Figure 7-Speed Camera



Encouragement

Encouragement strategies are about having fun; they generate excitement and interest in bicycling and walking. Encourage strategies are low cost, and hence can be implemented immediately. Given the proximity of Spellman Elementary School and St. Ambrose School, there are a number of opportunities for the schools to work together and with the local community to make walking fun and safe. The following encouragement strategies are recommended:

Safe Routes to School Kickoff Party; this would be a fun filled event that would include both schools and local citizens. Families could walk or bicycle to school on this day and signs, balloons, and banners could be located along the primary walking and bicycling routes to the school. Snacks and beverages are always welcome!

Mileage Clubs and Contests; mileage clubs and contests encourage children either to begin walking and bicycling to school or to increase their current amount of physical activity by making it fun and rewarding. Generally children track the amount of miles they walk or bicycle and get a small gift or a chance to win a prize after a certain mileage goal is reached.

Mileage clubs and contests are usually designed in one of three ways:

1. On an individual basis where every child logs miles walked or bicycled and has a chance to win.
2. As a classroom competition where a classroom's collective miles are compared against other classes.
3. As a competition among schools.

Winners are rewarded with prizes including medals, certificates or trophies.

Ongoing Activities; Ongoing walking and bicycling activities are defined as activities that are held daily, weekly or several times per month throughout the school year. Walking school buses, bicycle trains, park and walk activities and routine on-campus walks all are ongoing encouragement activities. St. Ambrose and Spellman Elementary schools could have both individual and combined ongoing activities to foster relationships between the schools and surrounding communities.

Figure 8-Walking School Bus



Figure 9-Bicycle Train



Education

Education is a complimentary strategy and should be coordinated with Encouragement Events. For example, at the Safe Routes to School kickoff event, fireman and police officers could be invited to review crossing procedures at intersections, the importance of using sidewalks when available, and how to deal with strangers they may encounter on the way to school. Planning education strategies includes identifying:

- Who needs to receive information.
- When the education should be delivered.
- What information needs to be shared.
- How the messages will be conveyed.

In the case of Spellman Elementary and St. Ambrose Schools, education materials should be sent to children, parents, drivers, and neighbors. Given the multi-lingual nature of the study area, education and encouragement materials should be printed in both English and Spanish.

When pedestrians between the ages of five and nine are injured, it is most often when motor vehicles have hit them as they cross the street midblock, particularly from between parked motor vehicles. Running across intersections and getting off of school buses are also common times for children to be hit by motor vehicles. In general, children are not ready to cross a street alone until age 10. However, children vary in their developmental readiness to make decisions about where and when to walk and cross a street. Parents are often the best judges of when their child is ready to walk without an adult. When they are ready for this level of independence, children need to know how to choose where to walk as well as when, where and how to cross a street. These skills also require an understanding of how to interact with drivers.

Children need to know the following points:

- Ask a parent before walking anywhere without them.
- Use sidewalks or paths. If there are no sidewalks or paths, walk as far from the motor vehicles as possible on the side of the street facing traffic.
- Watch for motor vehicles turning or pulling out of driveways.

Children who are old enough and have parent permission to cross the street need to know the following additional points:

- Choose the route with the fewest streets to cross. Avoid crossing busy or high-speed streets.
- Be more visible to drivers by wearing bright clothing in the daytime. When there is little or no light, such as at sunrise or sunset, wear retro-reflective gear or carry a flashlight.
- Always look for motor vehicles. Drivers are supposed to obey the rules and watch for pedestrians, but they cannot be relied on to always do so.
- Do not cross behind or within 10 feet of the front of a bus or other large motor vehicle because the driver can not see this area.
- Stop at the edges of driveways and curbs or edges of the street where no curb exists and look for motor vehicles before proceeding.
- Watch for parked motor vehicles that may be getting ready to back up or pull forward.
- Before crossing, always look for motor vehicles even after a crossing guard, parent or other adult says it is okay to cross.
- Walk, don't run, across the street.
- If crossing the street at midblock:
 - Stop at the curb and look left, right and left again for traffic.
 - Wait until no traffic is coming and begin crossing. Keep looking for traffic until you have finished crossing.
- If crossing between parked motor vehicles is necessary:
 - Stop at the curb and check to see if the motor vehicles are running or if anyone is in the driver seat. If there is a driver, make eye contact and be sure you are seen before stepping in front or behind the motor vehicle.
 - If safe, walk to the edge of the parked motor vehicles, and look left, right and left again before crossing. Keep looking for traffic until you have finished crossing.
- If crossing the street at an intersection:
 - Obey traffic signs and signals.

- When the signal indicates it is time to cross, check for motor vehicles. Drivers may not obey the rules and turning drivers may not look for pedestrians.
- Look to see if motor vehicles are coming. Look left, right and left; then behind and in front for turning motor vehicles. Keep looking for traffic until you have finished crossing.

Bicycle Helmets

The protective effects of bicycle helmets are well-documented. Studies on bicycle crashes have shown that helmet wearers have a significantly lower risk of head and facial injuries than those bicyclists without helmets. In fact, one study found that bicyclists wearing helmets had reductions in their risks of head and brain injuries of 85 percent and 88 percent respectively.

Bicycle helmets must be used by students participating in bicycling program. Some schools have rules that require students to attend a bicycle safety education class before bicycling to school and to wear a helmet whenever bicycling to school. In addition, many states and municipalities have laws requiring helmet use. See the [Bicycle Helmet Safety Institute](#) for a list of locations with laws.

Bicyclist Safety Skills

Riding a bicycle is a major step towards independence and mobility for children and, like walking, is a skill that can be used throughout a lifetime. Supervised practice time on the bicycle is the most important way for children to gain riding and safety skills. It can also instill confidence and create better riders as well as better future drivers who are more aware of bicyclists on the street.

Before riding to school, children first need to have sufficient bicycle handling skills, including the ability to:

- Ride in a straight line.
- Ride in a straight line while scanning the situation ahead, behind and to the side.
- Stop quickly using the bicycle's brakes without swerving, falling or colliding with anything.
- Swerve in a controlled manner to avoid a hazard or collision.

When children have these skills, they should learn and be able to demonstrate the following safety behaviors before riding to school:

Preparing for the ride

- Dress appropriately. Wear brightly colored, close-fitting clothing. Tie your shoes and secure long laces and loose pant legs. Do not wear headphones.
- Wear a properly fitted helmet. See the Resources section for information about bicycle helmet fit.
- Ride a bicycle that fits. When seated on the bicycle, both feet should be firmly planted on the ground and hands should reach the handlebars.
- Ride a bicycle that is in good condition. Tires should be firm, brakes should prevent tires from rotating when pushed, chain should not droop or be rusty and the seat and handlebars should be tight.
- Do not carry anyone else on the bicycle. A bicycle with one seat is a bicycle for one person.
- Do not carry anything in your hands. Use a backpack, basket or panniers to carry school supplies and books.
- It is best to ride only in daylight. If riding when it is dark, use headlights, taillights and reflectors, and wear bright clothing with reflective material.

During the ride

- Choose the route with the fewest streets to cross. Avoid busy and high-speed streets.
- Before entering the street, look for other vehicles to the left, right, in front and behind.
- Keep paying attention to your surroundings. Watch for other vehicles and hazards, such as potholes and parked motor vehicles, along the route.
- Watch for vehicles turning into or exiting at driveways.
- Stop at all intersections, and check for traffic before crossing. When possible, cross at locations where adult school crossing guards are

present. It may be best to dismount and walk your bicycle across large or busy intersections.

- Ride in a straight line with two hands on the handlebar unless signaling.
- Follow all traffic laws, including:
 - If riding in the street, ride in the same direction as motor vehicles, on the right hand side of the street, about two or three feet from the edge.
 - Use hand signals when turning and stopping.
 - Obey traffic signs and signals.
- Always check in front and behind for traffic before changing lanes, crossing intersections or turning.
- If riding on a sidewalk or path, ride slowly and be prepared to stop quickly.

Personal Safety

In addition to pedestrian and bicyclist skills, many schools teach children ways to avoid potential risks in their environment beyond traffic, like criminal activity and people that may want to harm them. Fear of abduction or assault discourages some parents from allowing their child to walk or bicycle to school. Although child abduction, particularly near a school, is very rare, SRTS programs need to address not only the real dangers from crime, but also parents' perceptions. Whether dangers are real or perceived, both affect parents' decisions to allow their children to walk or bicycle to school. Some students and parents worry about bullying by other children while walking or bicycling to school. Schools address bullying as part of violence prevention programs, which can be incorporated into the SRTS program.

Walking school buses can help address personal safety concerns by providing a way for children to walk in a group with adult supervision.

Health and Environment Benefits

Beyond safety, education for children may also address benefits to personal health and the environment provided by walking and bicycling. Health benefits often focus on the importance of physical activity. Children learn about how the

cardiovascular and muscular systems function and how physical activity can strengthen these systems. Although most children engage in physical activity primarily because they think it is fun, highlighting the relationship between personal health and physical activity gives children another reason to be physically active.

Education may also include information about the impact of motor vehicle use on air quality and limited energy resources. Children learn that they can help keep the environment healthy by walking and bicycling instead of traveling in a motor vehicle.

In relation to Safe Routes to School (SRTS), parents play a role in their child's safety in three ways:

1. As teachers of safety behaviors.
2. As drivers on the school campus during drop-off and pick-up times.
3. As drivers near the school.

Different messages apply to parents for each of these roles. Parents as Teachers Practice safe walking and bicycling with your child. Parents teach and model safe behavior for their children. Children have the best chance of retaining and applying walking and bicycling skills if they have a chance to practice them with supervision and reinforcement. It is similar to the need to teach teens to drive; new drivers are not expected to have the skills or knowledge to drive safely without receiving instruction.

Parents need detailed information about proper safety practices specific for their child's age. Most parents naturally want to do what is best for their child and need to be aware of the appropriate safety messages to share with their child. An informed and interested parent can identify safe walking and bicycling routes for his or her child, teach his or her child rules as they walk or bicycle, and model safe behavior themselves.

Follow correct drop-off and pick-up procedure if driving to the school is necessary. Drivers need to know the appropriate locations for pick up and drop off at the school and any special rules that apply at these times. A well-designed drop-off and pick-up procedure along with drivers who correctly follow the

procedure will improve the safety of everyone arriving to or departing from school.

Parents as Drivers Near the School Parents are no different than other drivers. Some contribute to safety problems by speeding through school zones and failing to obey traffic signals.

Many parents, community members and school personnel drive near the school on most weekdays. Each driver can contribute to or detract from the safety of the walking and bicycling environment for children. Failure to comply with traffic laws and posted speed limits are examples of driving behaviors that result in unsafe conditions.

A National Safe Kids study of 27 cities found that of the vehicle speeds recorded during the 30 minutes before and after school, 65 percent of drivers exceeded the posted speed limit with 23 percent of these drivers traveling at least 10 mph above speed limit and 33 percent traveling 30 mph or more beyond the limit. This is consistent with field observations on Kilmer Street near Spellman Elementary School. The need to reduce the number of speeders and the speeds at which they travel is crucial to ensure the routes to school are safe. As motor vehicle speed increases, so does the pedestrian injury severity and the likelihood of death. A pedestrian struck by a motor vehicle moving 20 mph has a 5 percent chance of dying. As motor vehicle speed increases to 30 mph and 40 mph, the likelihood that the pedestrian will be killed increases to 45 percent and 85 percent respectively. Slowing motor vehicle speeds not only reduces the chance of a pedestrian-vehicle collision because of the reduced stopping distance required, but it also reduces the chance of a pedestrian fatality or serious injury.

Along with speeding, failure to comply with stop signs and traffic signals also contributes to unsafe environments. A National Safe Kids study on driver behavior at intersections in school zones and residential neighborhoods found that 45 percent of drivers failed to completely stop at the intersection even though a stop sign was present, and of these, 7 percent did not even slow down for the sign. Although the study found that drivers were more likely to stop when a pedestrian was present compared to not present, 36 percent of drivers violated the stop signs when pedestrians were waiting at the curb to cross and 24 percent of drivers did not come to a complete stop at the intersection while pedestrians were crossing.

Additionally, a study of crosswalks in school zones shows that approximately 30 percent of drivers stopped within or beyond the boundaries of crosswalks, thus blocking the pedestrian path.

Drivers traveling at safe speeds, yielding to pedestrians and bicyclists, and stopping at stop signs and crosswalks help create a pedestrian and bicyclist-friendly environment.

Student Drop-Off and Pick-Up

The drop-off and pick-up process must be safe and efficient for students and parents arriving by bus or private motor vehicle, as well as those who arrive on foot and bicycle. Some parents are reluctant to allow their children to walk or bicycle to school due to the traffic congestion and perceived traffic danger during student arrival and dismissal. This often results in more parents driving their children to school which adds to the extra congestion and safety problems at the school, creating an increasing cycle of more traffic problems and less walking. This problem currently exists behind Spellman Elementary School. By improving the drop-off and pick-up process, traffic conditions become safer for all, including pedestrians and bicyclists. Better organized and safer traffic conditions will ease the concerns of parents, making them more willing to allow their children to walk or bicycle.

In addition to the engineering recommendations at the school drop-off/pick-up locations, the school's arrival and dismissal procedures should be explained in multiple media formats to children's parents including internet, brochures, and phone calls if possible. As referenced in the enforcement section of the report, the existing staggered dismissal schedule could be enforced by the existing crossing guard located behind Spellman Elementary School. For example, parents parked more than five minutes without picking up a child could be asked to return at the appropriate time as a number of parents were observed queuing behind the school in advance of the school dismissal.

A review of the St. Ambrose School drop-off/pick-up zones indicated acceptable operations. St. Ambrose School utilizes older students to coordinate the process, and field observations indicated that they performed in an acceptable manner. It is recommended that the students volunteering for these positions be given an advanced education course using this document and the Maryland Safe Routes to School brochure which can be obtained from MSHA.

Evaluation

Around the country, communities are conducting Safe Routes to School (SRTS) programs in order to enable and encourage children to walk and bicycle safely to school. Communities tailor a combination of engineering, education, encouragement and enforcement strategies to address the specific needs of their schools. Evaluation is an important component of any SRTS program. Evaluation is used to determine if the aims of the strategies are being met and to assure that resources are directed toward efforts that show the greatest likelihood of success. Also, evaluation can identify needed adjustments to the program while it is underway. Every SRTS program, no matter the size, can benefit from evaluation. For local programs, evaluation allows for:

- Making sure that the underlying problem is identified so that proper strategies to address the problem are picked. Sometimes a SRTS program begins without a good understanding of the underlying issues resulting in a less successful program.
- Setting reasonable expectations about what the program can do. By knowing the starting point, SRTS programs can set specific and reasonable objectives.
- Identifying changes that will improve the program. Part of evaluation is monitoring what happens throughout the life of a project so that mid-course corrections can be made, if needed, to improve chances of success.
- Determining if the program is having the desired results. This is a primary purpose of any evaluation and can be used to inform funding sources, the media, and the public to help build support for SRTS.

There are benefits that extend beyond an individual program. Data collected and shared by local programs can influence future funding at the local, state and national level. Current Maryland National Capital Park and Planning Commission (MNCPPC) plans illustrate a number of proposed parkway and sidewalk improvements in the Town of Cheverly; however the plans are long range in nature and currently not funded. There are, however a number of potential funding sources at the state level that could be solicited for SRTS engineering improvements. The current MWCOG TIP (2009-2014) indicates over \$80,000 is available in the State of Maryland for congestion management and over \$60,000 is available for safety and spot improvements. In addition, the SRTS programs are funded at \$183 million for the year 2009 at the federal level. More information on the federal funding can be located at:

<http://safety.fhwa.dot.gov/saferoutes/funding/>

Figure 10-Existing Sidewalk Conditions

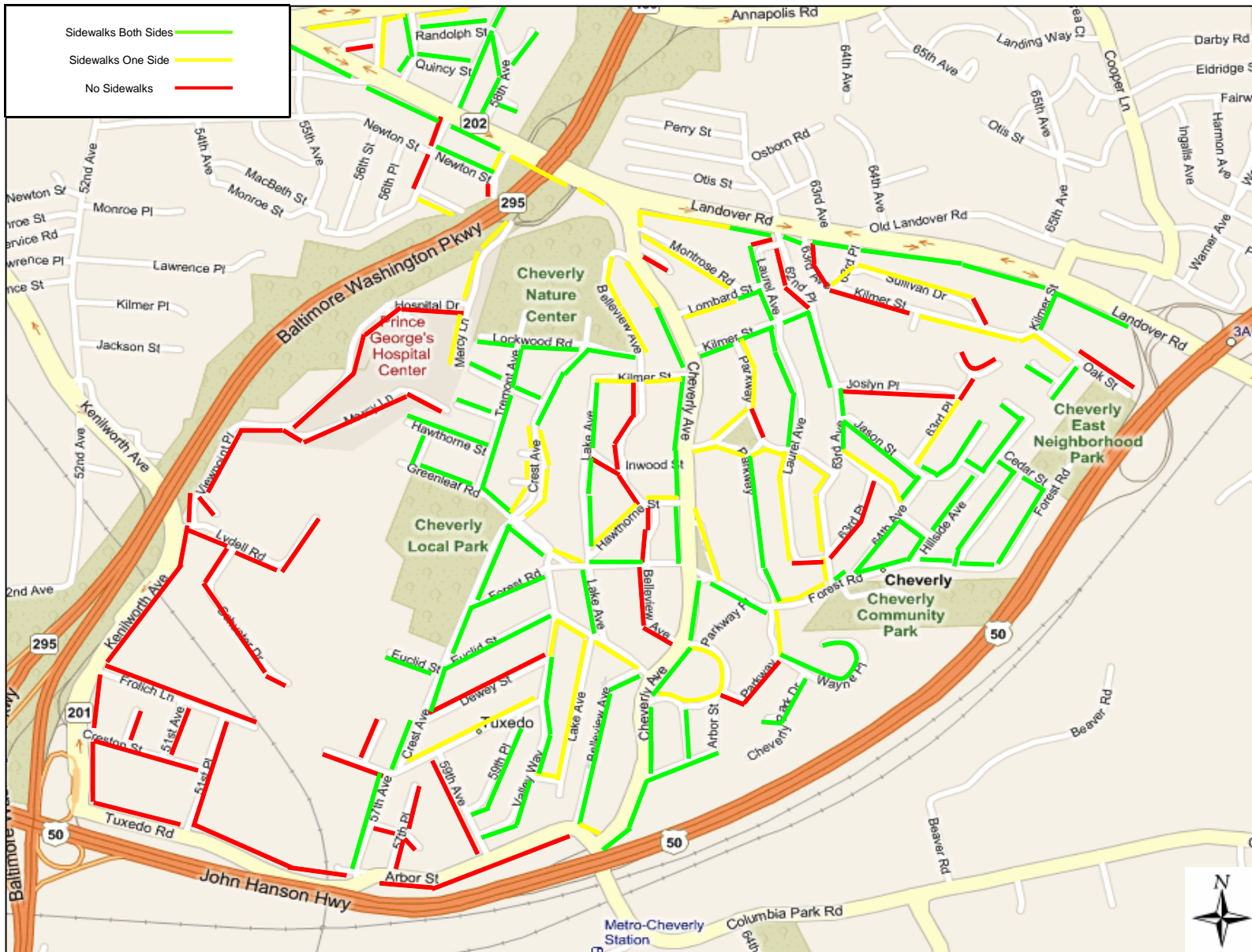


Figure 11-Pedestrian Desire Lines



Figure 12-Pedestrian "Hotspot" Locations



Figure 13-Gladys Noon Elementary School/St. Ambrose School SRTS Plan

