



## Enhanced Walkabout Summary Report

### Introduction

On September 18, 2013, thirteen participants met at Galax Elementary School in Galax, Virginia to examine the walking and bicycling network around the elementary school and identify potential improvements that the school could address through a Transportation Alternative Program grant. Participants included representation from Galax elementary school including a student representative and parent, the Galax city public school's superintendent's office, the Galax police department, and municipal government employees.

The team met for observed the elementary school's dismissal procedure, walked around the school and the nearby streets to identify potential safe routes to school issues, and discussed walkabout findings and potential recommendations. The team divided into three groups to observe the student dismissal from separate locations, and walked separate routes around the school. The first group observed dismissal from the parent pick-up area and walked along Academy Dr., Calhoun St., Old Town St., Swanson St., and Martin Ln.; the second group observed dismissal from Main and Calhoun streets and walked along Academy Dr., Main St., Maroon Tide Dr., and Anderson St.; and the third group observed dismissal from the nearby 5-point intersection and walked along MacArthur St., Parkwood Dr. The list below summarizes the findings and the attached maps highlight the project locations.



## Walking Routes

Map Key	Route (streets, intersections, etc., show on map)	Speed limit	Road Width <sup>1</sup>	No lanes each direction	Sidewalk width and continuity, if present <sup>1</sup>
<b>Route 1</b>	<b>Academy Dr. – Calhoun St. – Swanson St. – Martin Ln.</b>				
	Academy Dr.	N/A (only used for school loading/unloading)	22 ft.	1 way, 2 way at Main St. intersection	6 ft; present along entire road
	Calhoun St.	25 mph	33 ft.	1	4ft; only on north side of street
	Swanson St.	25 mph		1 way	No sidewalk
	Martin Ln.	25 mph	22 ft.	1	No sidewalk
<b>Route 2</b>	<b>Main St. – Maroon Tide Dr. – Anderson St.</b>				
	Main St.	25 mph	42 ft.	1, left turn lanes	6ft, continuity broken by driveways
	Maroon Tide Dr.	25 mph	22 ft. (including Ped Space)	1	No sidewalk, Yellow line delineates pedestrian area
	Anderson St.	25 mph	20-25 ft.	1	No sidewalk
<b>Route 3</b>	<b>MacArthur St. – Parkwood Dr.</b>				
	MacArthur St.	25 mph	22 ft.	1	4 ft on north side only, sidewalk below street level at points
	Parkwood Dr.	25 mph	22 ft.	1	No sidewalks south of MacArthur

1. Street and sidewalk widths are approximate

## Existing conditions

School location. Galax Elementary school is located one block east of Main St. (State Route 89) and approximately ¼ mile north of the middle and high school. The elementary school has 486 students and is adjacent to many residential neighborhoods, with over half of the students live within two miles. Only nine students regularly walk to and from school. Although this walkabout focused primarily on the elementary school, the close proximity to the middle and high schools suggests that those schools would benefit as well from SRTS improvements.

Student travel to school mode and processes. Galax Elementary School's most recently student travel survey, completed September 2013, shows that 97 percent of students either take the bus to and from school, or are dropped-off and picked-up by a parent; two percent are dropped-off and picked-up with a carpool, and the remaining one percent walk to and from school; no students ride bicycles to school.

Six buses are used during dismissal to pick up students in the staff parking lot. The buses loop around the staff parking lot and students walk to their designated bus. There are two rounds of bus drop-offs for the students; the



first round arrives at around 3:00pm, and the second round arrives at 3:20. In addition to bus service, there is an organized area along Academy Dr. where parents can pick up children. There are two areas near the school used as informal parent pick up areas; a stub street near the entrance of the school that is accessible by Main St., and a small paved area near the entrance of the staff parking lot, which will eventually be blocked off to drivers. Finally, there is a parking lot accessible by Academy Dr., adjacent the Main St. intersection, where parents also pick up their children.

SRTS program support. Previous SRTS Grants - In 2012, Galax public schools received an infrastructure grant from Virginia Safe Routes to School and anticipates another infrastructure grant award in the fall 2013. The City also received a non-infrastructure grant in the summer 2013 to hire a SRTS coordinator for Galax. The new SRTS coordinator's work program for the year includes establishing walking school buses and bike trains to travel along designated walking and biking routes to/from school, two bicycle rodeos, three walking days, and safety education for students.

## Walkabout Summary

During the walkabout, the first team walked along Academy Dr., Calhoun St., Swanson St., and Martin Ln. It is marked on the existing conditions map as Route 1. Academy St., which leads to the front entrance of the school, has a six-foot sidewalk on the side of the street closest to the school. Calhoun St. has a four-foot wide sidewalk on side farther from the school and neither Swanson St. nor Martin Ln. has sidewalks. Additionally, the flashing school sign beacon on Calhoun St. and the crosswalk on Calhoun St. at Academy Dr. is faded.

The second team walked along Main St., Maroon Tide Dr., and Anderson St. It is marked on the existing conditions map as Route 2. Although Main St. has six foot sidewalks on both side of the street, there are limited crosswalks to get across Main St. There is a pedestrian signal on Main St. at Academy Dr., however there is no signal for crossing the wide parking lot driveway that interrupts the sidewalk along Main Street at Academy Dr. There are also plans for an additional crosswalk on Main St. at MacArthur St., near the entrance to the Galax recreation center, which will help reduce the amount of unprotected crossing at that intersection. A yellow line is painted along Maroon Tide Dr. from Main St. to the middle and high schools to delineate the space designated for pedestrians in place of a side walk. Anderson St., which runs parallel to Main St. and ends at MacArthur St. does not have any sidewalks.

The third team observed the signalized five-point intersection created by Swanson Street, McArthur Street, Sunset Drive, and Circle Drive near the school. It is marked on the existing conditions map as Route 3. The walkabout team noted that the existing signalization equipment does not include a pedestrian signal, nor does that signal phasing does not allow for pedestrian crossings. The existing crosswalks are not well marked. Additionally, the team observed that the sidewalk along MacArthur St. between the school and the five point intersection is not level with the roadway and at times are below the level of the roadway. Moreover, only Circle Dr. and MacArthur St. have sidewalks leading to/from the five-point intersection. Finally, the team observed that Parkwood Dr., one block west of the five-point intersection also lacks sidewalks.



## Key Barriers and Issues

### Roadway Crossings

The lack of crosswalks, or presence of only faded crosswalks, discourages walking to school because motorists do not have the visual cues reminding them to be aware of pedestrians. Additionally, without adequate crosswalks, students choose both where and when to cross the street.

### Sidewalk Network and Conditions

The existing sidewalk network is disconnected, requiring pedestrians to cross the street in order to continue walking on a sidewalk. The sidewalk network is further disconnected by wide driveways from nearby businesses, specifically on Main St. Although sidewalk conditions vary from street to street, walkabout participants noted many streets do not have complete sidewalks; while existing sidewalks are narrow, broken up, or lack a curb,.

### Signage and Pedestrian Visibility

Limited visibility of pedestrians at intersections and at crosswalks reduces pedestrian safety, especially that of students, who are typically smaller in stature than adults. The roadway and intersections near the school lack adequate signage to alert motorists of the area as a school zone or of an upcoming crosswalk where child pedestrians may be present. Moreover, streets are lacking crosswalks or existing crosswalks are faded and not visible to motorists. Finally, the lack of street lighting makes walking or riding a bicycle at night particularly difficult.

### Five- Point Intersection

The five point intersection on MacArthur St. is a key barrier to students walking safely to Galax Elementary school, as well as the middle and high schools. The intersection is made from MacArthur Street, Swanson Street, Circle Drive, and Sunset Drive. It has one crosswalk, which is faded and transects the widest part of the intersection. Also, there are no pedestrian signals, nor is there a pedestrian phase programmed into the traffic signal. Moreover, there are no crosswalk signs, nor high visibility pavement markings to call motorists' attention when approaching the intersection. The topography at the intersection also limits visibility between pedestrians and motorists. This intersection is specifically cited by walkabout participants as a reason that parents do not allow their children to walk to school.



## Recommendations

Community Prioritized Infrastructure. The Enhanced Walkabout team's highest priority project is the Five-Point Intersection Improvements. This project is chosen based on a strategy to complete or improve walking/biking infrastructure close to the school and approved by the walkabout team (See five-point intersection map for additional reference). Elements of this project include curb extensions, high visibility pavement markings, pedestrian signals, crosswalks, and new signal phasing .

The five-point intersection represents the greatest obstacle for creating a complete safe route to the elementary, middle or high school in Galax. Although all of the infrastructure recommendations for the intersection represent a substantial amount of investment, individual components of the intersection recommendations would have positive impact for students and other community members. Curb extensions will allocate specific space for pedestrians stay while waiting to cross and can act as a traffic calming measure to ensure that motorists reduce speed limits as they approach and travel through the intersection. High visibility pavement markings, such as crosswalks, stop bars, and guide lines can also act as traffic calming measures and direct motorists where to stop and inform them of where to watch for pedestrians. Pedestrian signals and crosswalks can direct students to the safest place to cross the street, as well as signal to motorists that pedestrians are crossing the intersection. Finally, new signal phasing can more effectively direct the traffic at the intersection and provide a phase for pedestrians, where no automobile traffic can go.

Additional Infrastructure. These additional infrastructure projects address concerns that were raised by the walkabout team, but were not identified as the community prioritized project.

- Rebuilt sidewalks along of MacArthur St. between Elementary School and Parkwood Dr.
- ADA compliant curb ramps and street crossings
- Sidewalks on the south side of Calhoun St. between Main St. and Parkwood Dr.
- Sidewalk along recreation center driveway
- Improved signage in school zone, including school zone signs, school speed limit signs, crosswalk signs, and new lettering on existing school zone beacons
- Improved and visible crosswalks at Front St. and MacArthur St. intersection with highly visible hatching on entire intersection.
- Additional elements to the planned green space from re-captured pavement adjacent to school parking lot to create a pocket park or space for co-curricular activities, such as a bike train meeting spot.
- Improved and visible crosswalks at Front St. and Maroon Tide Dr. intersection with highly visible hatching on entire intersection
- 4-way stop at Calhoun St. and Academy Dr. with more visible crosswalks
- Pedestrian signal and crosswalk across Main St. at Calhoun St.
- Street lighting

Operational recommendations. These recommendations also address issues raised by the walkabout team, but they require policy change or do not require significant infrastructure investment.

- Restrict parking along MacArthur St.



- Reduce driveway space with painted pavement and flexible bollards to better manage access into commercial buildings along Main St.
- Reverse travel direction of Swanson St. to limit entry points to the five-point intersection

Non-infrastructure. Non-infrastructure recommendations do not require any infrastructure intervention to accomplish. Additionally, Galax can apply for these recommendations through VDOT's non-infrastructure grant, or through Virginia SRTS mini-grants. More information on these grant programs is available at [www.virginiadot.org/saferoutes](http://www.virginiadot.org/saferoutes), under "School travel plans and grants."

- Additional crossing guard at five-point intersection, especially to support walking school bus and bike train events.
- Solicit City of Galax Health Department or other regional organizations for partnership/funding opportunities
- Apply for a Quick-Start Mini Grant for bicycle parking
- Conduct Student Travel Tallies twice a year to determine the effect of planned programs
- Include 8<sup>th</sup> grade students in SRTS activities. These students may continue to be involved in SRTS as they progress through high school, serving as walking school bus or bike train leaders, or conducting safety education for younger students.

## Walkabout Photographs

Walkabout participants took photographs to document the walkabout as well as supplement the walkabout project recommendations. The following photos are from the walkabout as well as the 2012 Galax School Travel Plan. All of the walkabout photographs are available at <https://www.dropbox.com/sh/gz4vmji1yr56cy/VelY1mx-fu>.



**Five Point Intersection, on Swanson Street looking south:** The five-point intersection one block southwest of the school is difficult for pedestrians to navigate. Photo from 2012 Galax School Travel Plan



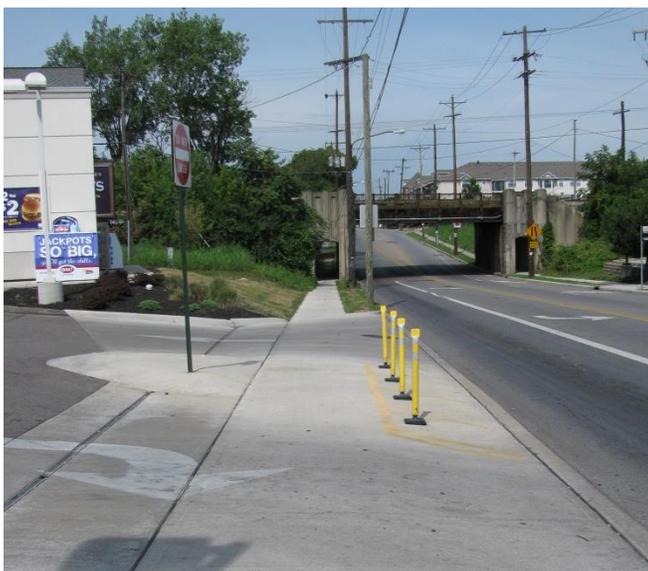
**Maroon Tide Drive, looking south:** Middle school students walk along Maroon Tide Dr. There is no sidewalk along this road between Main Street and the middle school.



**Main Street at Academy Drive, looking south:** Many elementary school students use this intersection to reach the recreation center across the street. This intersection has a crosswalk and pedestrian call button on Main Street, but not on Academy Drive.



**MacArthur Street, looking southwest past the school:** The sidewalk on MacArthur Street is narrow and below the level of the roadway. Photo from 2012 Galax Student Travel Plan.

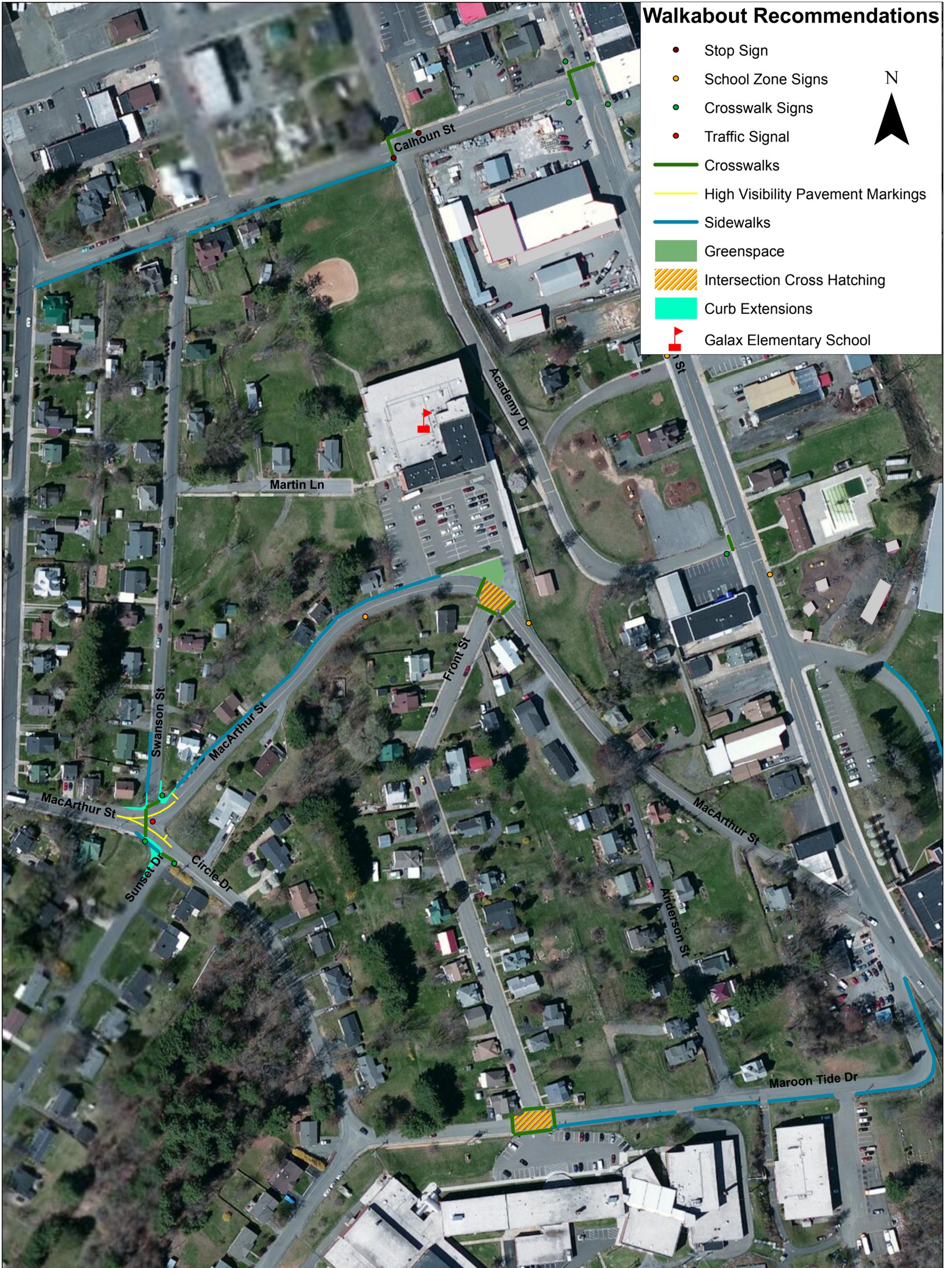


**Access management in Columbus, Ohio:** Flexible bollards and pavement markings direct motorists to both the entrance and exit along the wide driveway.

# Galax, Va - Walkabout Existing Conditions



# Galax, Va - Walkabout Recommendations



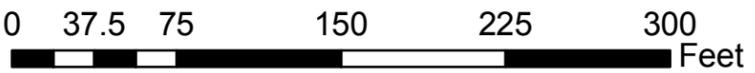
## Walkabout Recommendations

- Stop Sign
- School Zone Signs
- Crosswalk Signs
- Traffic Signal
- Crosswalks
- High Visibility Pavement Markings
- Sidewalks
- Greenspace
- ▨ Intersection Cross Hatching
- Curb Extensions
- 🚩 Galax Elementary School



0 100 200 400 600 800 Feet

# Galax, Va - Walkabout Recommendations



## **Enhanced Walkabout, Community Prioritized Infrastructure Project**

### **Galax, Virginia – Five-Point Intersection**

The following information will help answer questions on the TAP application. It is highly recommend that the municipal engineer and project sponsor are consulted when applying to TAP projects. Additionally, since this project qualifies as a Safe Routes to School project it will be necessary to complete **Attachment B** of the TAP application. The application and attachment B request cost estimates; the cost estimates sited in the following table are for planning purposes only and all costs should be confirmed by the municipal engineer and local sponsor. The applicant is ultimately responsible for the information that is submitted on the application, thus the SRTS program recommends reviewing and, in some cases, supplementing the information in order to ensure a complete and competitive application.

The information below is provided to assist the locality with their TAP application, but does not guarantee that the locality will receive any funding as a result. VDOT's funding decisions are made by the Commonwealth Transportation Board, independent of the Safe Routes to School Program.

The deadline for the TAP application is **November 1, 2013**.

#### **5. Project description, including termini and scope, with a map**

- Sidewalk along west side of MacArthur Street, and Swanson Street with curbs, comprising of approximately 1,000 feet of sidewalk
- Pedestrian facility improvements at 5-point intersection MacArthur Street, Circle Drive, Sunset Drive, and Swanson St, including three curb extensions, eight curb ramps, high visibility pavement markings, five new sign assemblies and one traffic signal with pedestrian call buttons.

#### **8. Primary Category of Eligibility**

- Infrastructure related improvement or system that will provide safe routes for non-drivers

#### **9. Does this project qualify as a Safe Routes to School Project**

- Yes. This project is an eligible infrastructure activity and is located within two miles of an elementary school.

#### **16. The use of federal transportation funds requires compliance with the Americans with Disabilities Act (ADA); describe how this project will meet these requirements**

- The new sidewalks will be at least 60"
- Crosswalks will be ADA compliant
- Curb ramps will be ADA compliant

#### **17. Project Constructability and Cost**

The estimated project cost for the sidewalk and five-point intersection improvements is \$410,600. Construction cost estimates were developed for the recommendations by identifying pay

items and establishing rough quantities. Unit costs are based on 2012 dollars and were assigned based on historical cost data from state departments of transportation and other sources. Please note that the estimates do not include any costs for easement or Right-of-Way acquisition, utility relocation, or the cost for ongoing maintenance. The overall estimates are intended to be general and used for planning purposes. Construction costs will vary based on the ultimate project scope (i.e. potential combination of projects) and economic conditions at the time of construction.

**24. Does this project support an existing or planned highway project?**

- This project supports a planned sidewalk on Swanson St (anticipated to be built by [year])

**26. Does the project provide connections to existing regional trails or pedestrian/bicycle facilities?**

**Does it provide a 'missing link' in the existing transportation network?**

- Intersection improvements will provide the 'missing link' for planned and existing sidewalks that connect with nearby schools

**27. Does the project provide bicycle/pedestrian facilities where none previously existed?**

- Existing pedestrian facilities are inadequate for safety requirements
- This location is a key barrier for safe walking to school
- Pedestrian improvements will allow students to safely cross the street

**28. Which best describes the project's primary transportation function?**

- Intersection improvements provide alternate route for travel to and from school

**29. Does this project add features/devices that will improve bicycle and pedestrian safety?**

- High visibility crosswalks and signage will make pedestrians more visible at the busy intersection
- Pedestrian signaling and phasing will provide pedestrians a safe time for crossing the street

**30. Does this project incorporate traffic calming design elements?**

- Although, high visibility pavement markings, pedestrian signals, and pedestrian sign assemblies are primarily used for increasing pedestrian visibility, they often have indirect traffic calming effects.

**31. Is this project in the localities local/regional transportation plan?**

- This project includes sidewalk additions that are part of previously proposed improvements.

**40. Is this project part of a larger/multi-phased project?**

- The intersection improvements will be part of a larger proposed pedestrian network in the neighborhood.

**41. Has a master plan, feasibility and/or preliminary engineering studies been completed?**

- No.

**Attachment B, 5. Describe the barriers that currently prevent kids from walking/biking safely to school and how this project would mitigate or remove those barriers, especially for improving safety and encouraging more kids to walk and bike to school.**

- The five point intersection provides no visibility for pedestrians and students as they cross the street. Moreover, the existing crosswalk crosses at the widest part of the intersection and the signal does not have pedestrian phasing, leaving students and pedestrians to cross the intersection at their discretion.

## Five-Point Intersection Improvements Cost Estimate

### Project Component

Item	Quantity	Unit Cost	SubTotal	Total
<b>Sidewalks</b>				
	Linear Feet	\$/ft		
MacArthur St. between elementary school and 5-point intersection	740	\$30	\$22,200	
Swanson St. near 5-point intersection	200	\$30	\$6,000	
MacArthur St. on curb extension	67	\$30	\$2,010	
				\$30,210
<b>Curbs</b>				
	Linear Feet	\$/ft		
East side of Sunset Dr.	65	\$30	\$1,950	
North side of MacArthur St.	90	\$30	\$2,700	
				\$4,650
<b>Curb Ramps</b>				
	Each	\$		
East side of Swanson St.	1	\$2,500	\$2,500	
West side of Swanson St.	1	\$2,500	\$2,500	
West side of MacArthur St.	2	\$2,500	\$5,000	
North side of MacArthur St.	1	\$2,500	\$2,500	
South side of Mac Arthur St.	1	\$2,500	\$2,500	
West side of Sunset Dr.	1	\$2,500	\$2,500	
East side of Sunset Dr.	1	\$2,500	\$2,500	
				\$20,000
<b>Curb Extensions - New Curb</b>				
	Linear Feet	\$/ft		
Eastern Corner of MacArthur St. and Swanson St.	70	\$30	\$2,100	
Western Corner of MacArthur St. and Swanson St.	60	\$30	\$1,800	
Corner of Sunset Dr. and MacArthur St.	105	\$30	\$3,150	
				\$7,050
<b>Curb Extensions - Pavement Removal</b>				
	Cubic Yards	\$/CY		
Eastern Corner of MacArthur St. and Swanson St.	42	\$25	\$1,041	
Western Corner of MacArthur St. and Swanson St.	31	\$25	\$781	
Corner of Sunset Dr. and MacArthur St.	113	\$25	\$2,817	
				\$4,639
<b>Curb Extensions - Earthwork</b>				
	Cubic Yards	\$/CY		
Eastern Corner of MacArthur St. and Swanson St.	52	\$25	\$1,301	
Western Corner of MacArthur St. and Swanson St.	39	\$25	\$977	
Corner of Sunset Dr. and MacArthur St.	141	\$25	\$3,520	
				\$5,798
<b>Curb Demolition</b>				
	Linear Feet	\$/ft		

Eastern Corner of MacArthur St. and Swanson St.	70	\$3	\$210	
Western Corner of MacArthur St. and Swanson St.	60	\$3	\$180	
Corner of Sunset Dr. and MacArthur St.	70	\$3	\$210	
				\$600

High Visibility Pavement Markings	Linear Feet	\$/ft.		
Stop Bar on eastern side of MacArthur St.	17	\$3	\$51	
Stop Bar on Circle Dr.	13	\$3	\$39	
Intersection Tick Mark Guidelines on MacArthur St.	140	\$1	\$140	
Intersection Tick Mark Guidelines on Circle Dr.	140	\$1	\$140	
				\$370

Crosswalks	Each	\$		
Crosswalk across MacArthur Street	1	\$600	\$600	
Crosswalk across Swanson Street	1	\$600	\$600	
Crosswalk across Sunset Drive	1	\$600	\$600	
				\$1,800

Sign Assembly	Each	\$		
Reverse Sign Direction on Swanson St. at Calhoun St.	1	\$250	\$250	
Reverse Sign Direction on Swanson St. at MacArthur St.	1	\$250	\$250	
Crosswalk sign on eastern side of Swanson St. at MacArthur St.	1	\$250	\$250	
Crosswalk sign on southern side of MacArthur St. at intersection	1	\$250	\$250	
Crosswalk sign on Sunset Dr. at Circle Dr.	1	\$250	\$250	
				\$1,250

Signals	Each	\$		
Traffic Signal with pedestrian crossing for intersection	1	\$ 150,000	\$ 150,000	
				\$ 150,000

Lump Sum Items	Lump Sum	\$		
Mobilization (10%)	1	22600	\$22,600	
Maintenance and Projection of Traffic (10%)	1	22600	\$22,600	
				\$45,200

Construction Subtotal	\$	<b>271,600</b>
Contingency (20%)	\$	54,300
Construction Total	\$	<b>325,900</b>
Survey (10%)	\$	32,600
Engineering/Design (16%)	\$	52,100
TOTAL	\$	<b>410,600</b>

Construction cost estimates were developed for the recommendations by identifying pay items and establishing rough quantities. Unit costs are based on 2012 dollars and were assigned based on historical cost data from state departments of transportation and other sources. Please note that the estimates do not include any costs for easement or Right-of-Way acquisition, utility relocation, or the cost for ongoing maintenance. The overall estimates are intended to be general and used for planning purposes. Construction costs will vary based on the ultimate project scope (i.e. potential combination of projects) and economic conditions at the time of construction.