

# Mary Black Rail Trail Extension

E Broad St

- Expanding the Network

**TOOLE**  
DESIGN



# Introduction

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**Blake Loudermilk, PE**

*Senior Engineer*



**Sherry Dull**

*Senior Transportation Planner*

# Overview

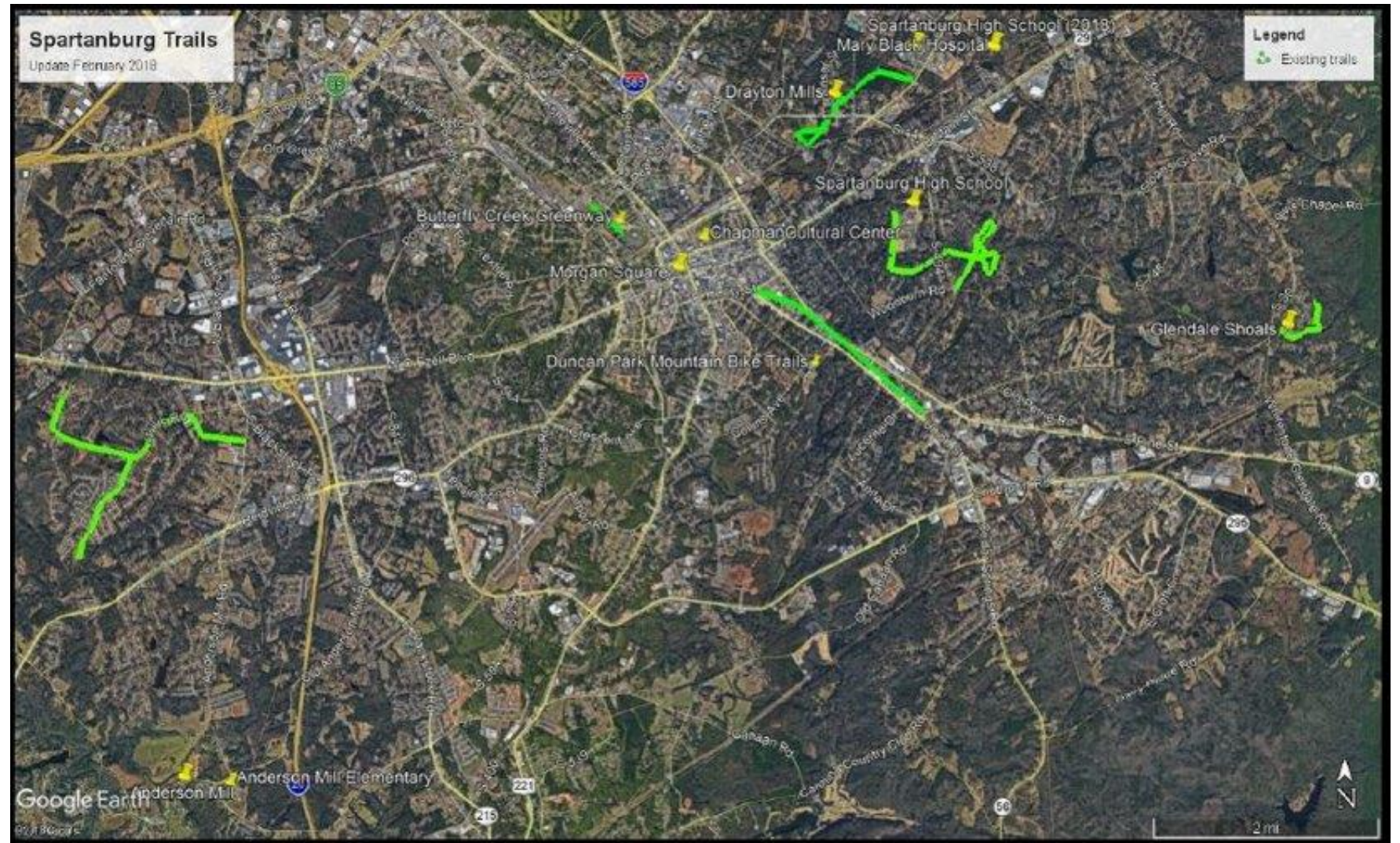
The Vision

The Facility

The Result



# Trail Network - Existing

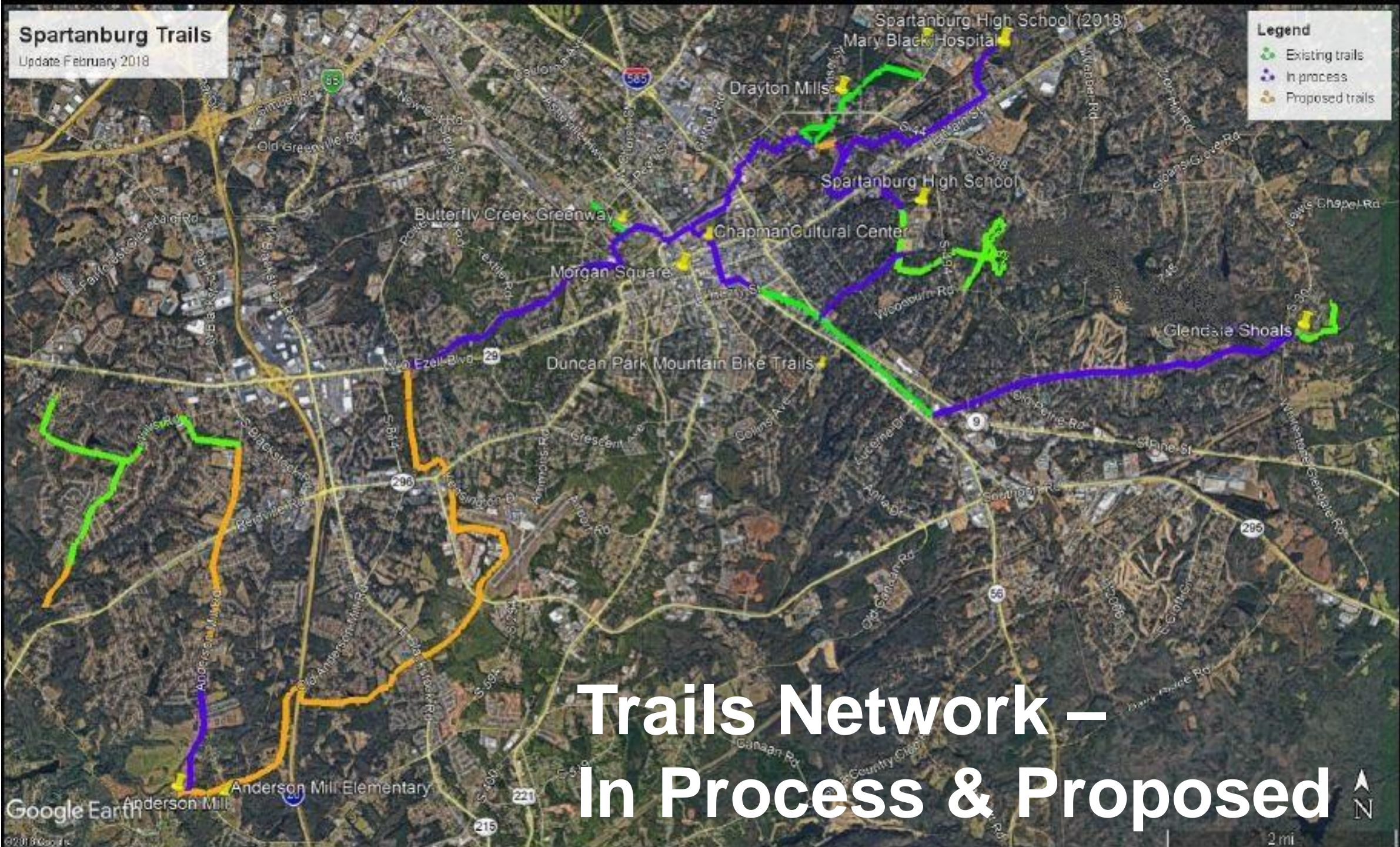


# Spartanburg Trails

Update February 2018

**Legend**

- Existing trails
- In process
- Proposed trails



# Trails Network – In Process & Proposed

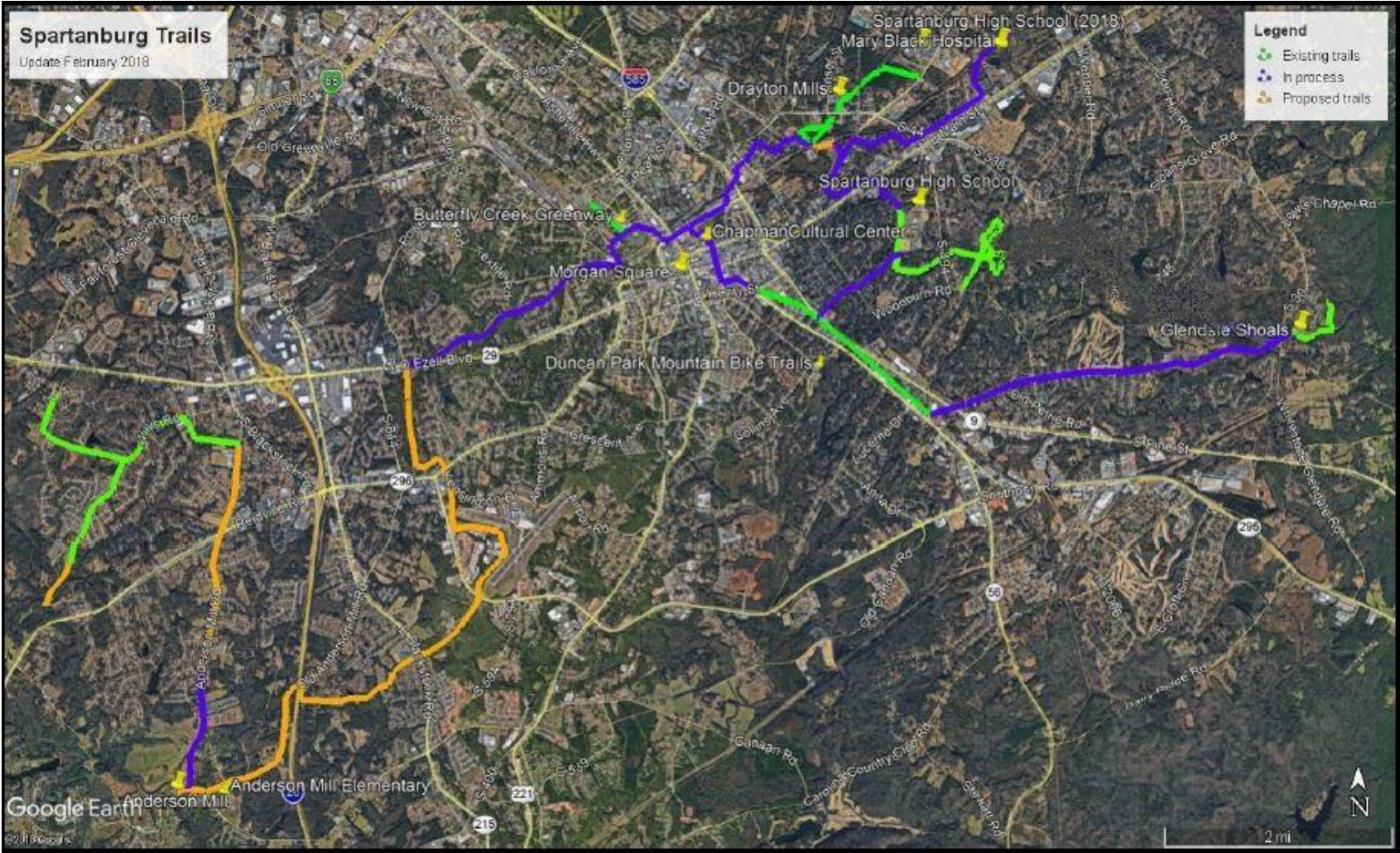
Google Earth

©2018 Google

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# The Vision

# Local Trails Network – In Process & Proposed



# Partnerships

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City of Spartanburg

Spartanburg County

Spartanburg Area Transportation Study  
(SPATS)

Spartanburg Area Chamber of Commerce

Spartanburg Water System

Spartanburg Regional Healthcare System

Spartanburg School Districts 6 & 7

Wofford College

Partners for Active Living (PAL)

Spartanburg Area Conservancy (SPACE)

Tyger River Foundation

Trees Coalition

Hatcher Garden

Pacolet Milliken Enterprises

Duke Energy

Leadership Committee

Trails Committee

Westside Neighborhood Association

Drayton Mills residents

Private property owners, ..... Etc.



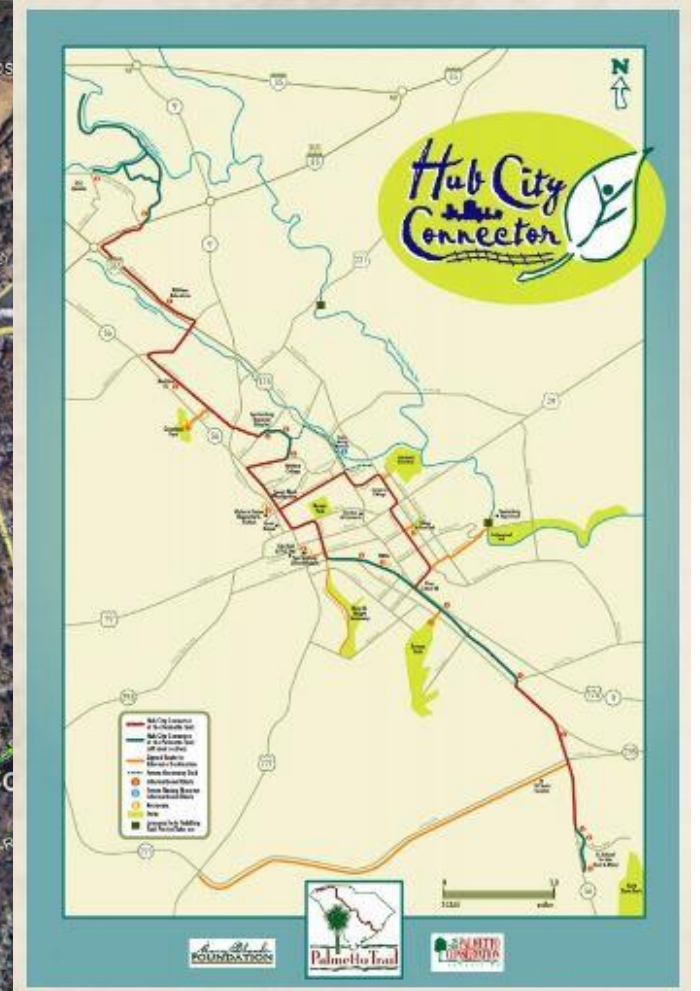
# Trail Data

## TRAFx Counters

Year	Trail	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	ADT	ADTx365	Days with data
2017	Drayton N			876	982	1,295	1,476	1,168	1,295	1,241	1,580	1,054	860	38.902	14,199	295
	MBF Rail Trail N			10,230	11,165	5,307	7,240	6,162	5,947	10,272	10,323	8,390	6,222	259.058	94,556	278
	Wadsworth Trail		1,691	1,566	1,777	1,976	1,875	1,760	1,550	1,508	1,667	1,410	1,085	53.405	19,493	326
															<b>128,248</b>	
2018	Butterfly Branch						1,582	2,650	2,619	2,206	2,562	2,155	2,093	76.231	27,824	195
	Drayton N	978	1,356	1,472	1,698	1,678	1,294	1,751	1,296	1,278	1,473	976	754	43.669	15,939	360
	Duncan Park Bike						281	64	133	138	155	129	75	4.082	1,490	194
	Duncan Park Walk					488	691	726	889	586	611	440	364	19.968	7,288	222
	Glendale Shoals		2,197	2,572	4,685	4,704	4,546	4,348	4,207	3,377	4,163	3,544	1,978	120.722	44,063	334
	MBF Rail Trail N	6,212	9,956	11,622	13,160	11,884	11,392	12,092	12,660	11,886	14,365	8,836	7,133	359.447	131,198	365
	Rail Yard					1,293	1,200	3,514	4,266	2,736	1,727	1,262	833	71.228	25,998	224
	Wadsworth Trail	465	1,250	1,371	1,521	1,506	1,748	2,152	1,933	1,468	1,695	1,141	936	49.353	18,014	320
															<b>271,816</b>	



# Multi-Modal Network - Trails, Sidewalks & Bike Lanes (Hub City Connector – Palmetto Trail)

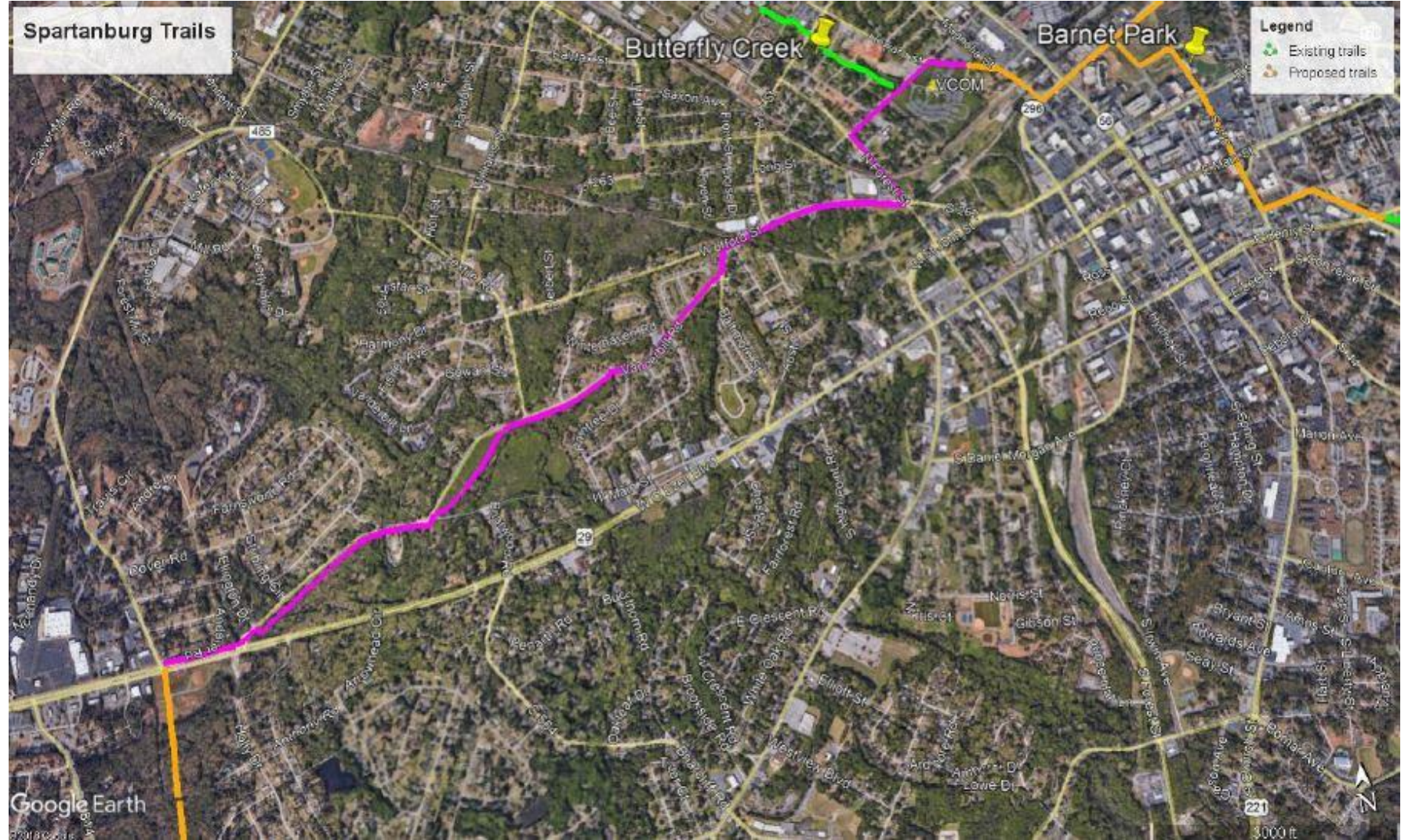


# New Pedestrian Bridge to connect the Drayton Mills Trail and the Beaumont Community



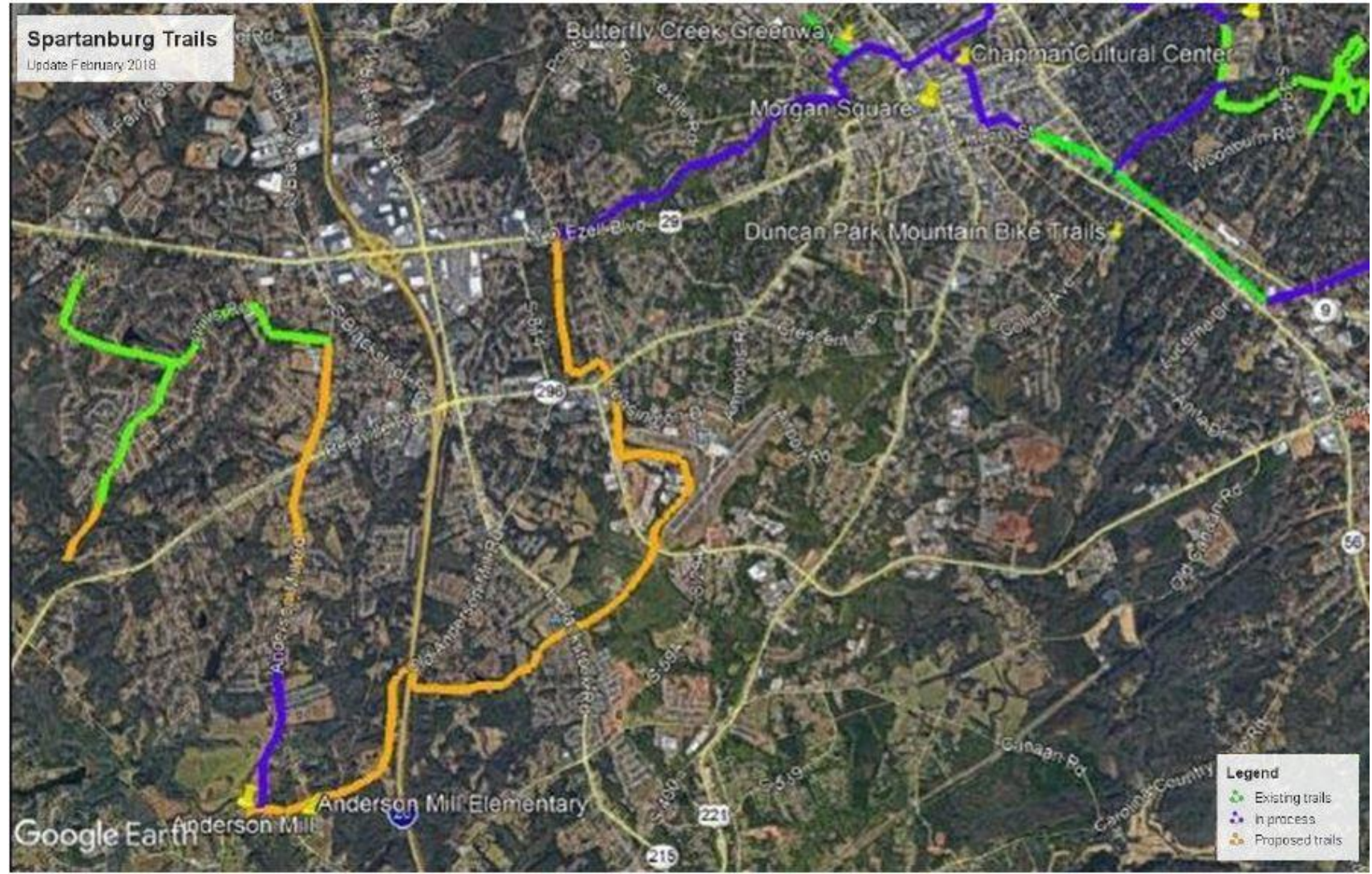
**TOOLE**  
DESIGN

# Wofford-Vanderbilt (Downtown to Westside)

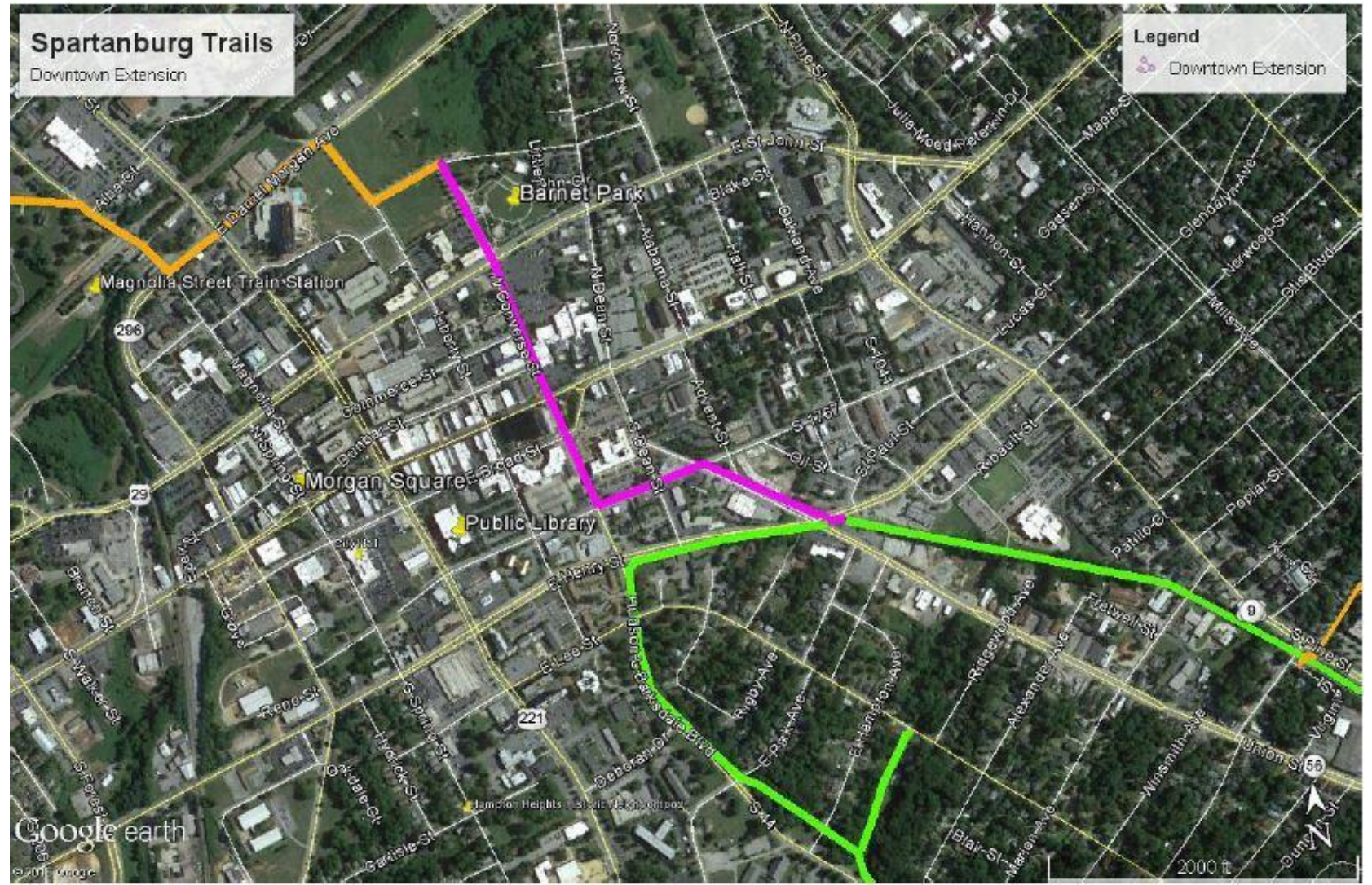


**TOOLE**  
DESIGN

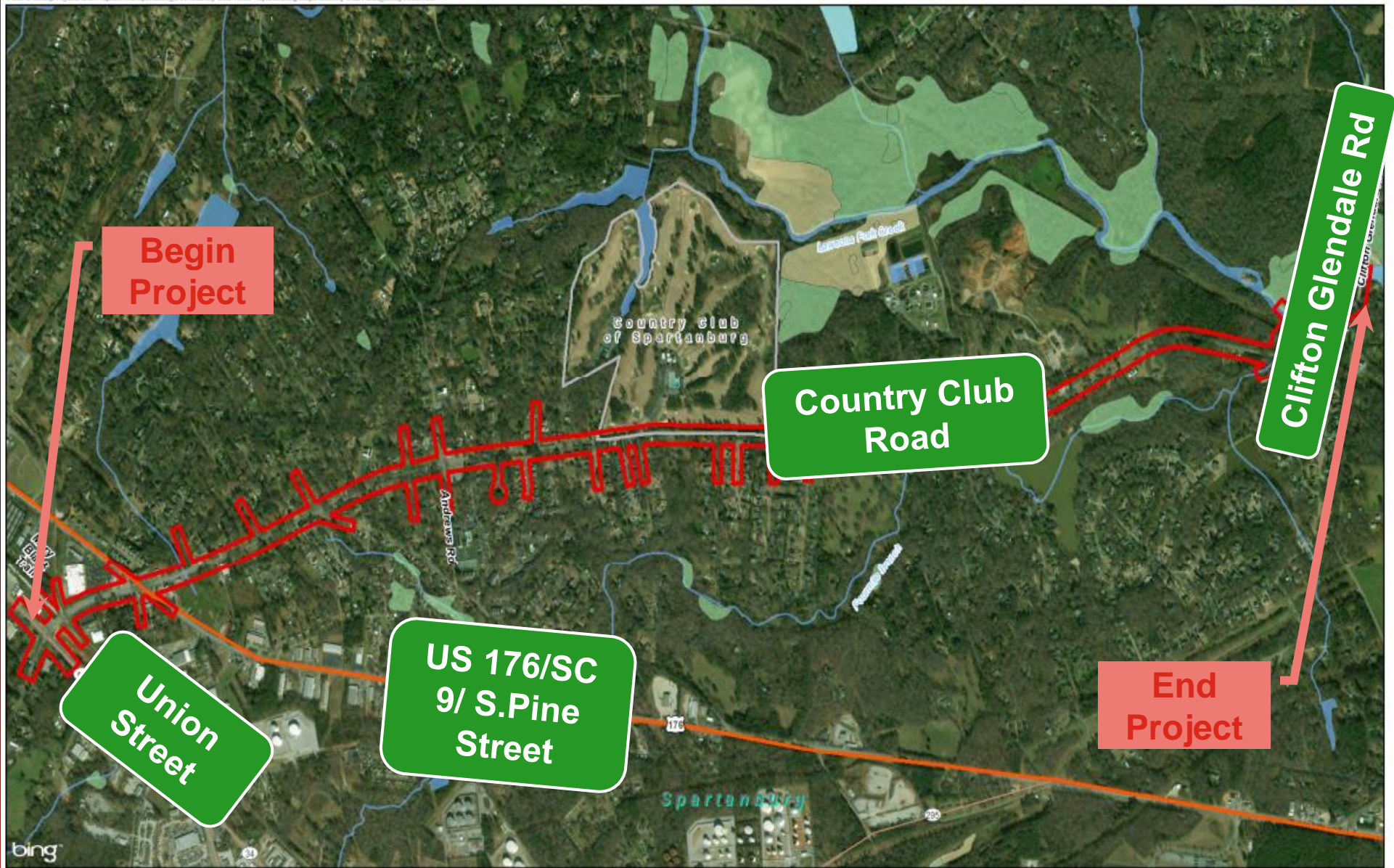
# Wadsworth Trail-Anderson Mill (Westside)



# Mary Black Rail Trail Extension (Downtown)







**Begin Project**

**Country Club Road**

**Clifton Glendale Rd**

**Union Street**

**US 176/SC 9/ S.Pine Street**

**End Project**



**Legend**

Study Area	Freshwater Forested/Shrub Wetland
<b>NWI Wetland Type</b>	Freshwater Pond
Estuarine and Marine Deepwater	Lake
Estuarine and Marine Wetland	Other
Freshwater Emergent Wetland	Riverine



Sources:  
Aerial: Bing Maps through ESRI  
Map Projection: SC State Plane



**AECOM**

**SCDOT**  
South Carolina Department of Transportation

October 2017

Figure 1

# Country Club Road Corridor Study





# Country Club Road Corridor Study



# Country Club Rd Trail Connections



Southern end of the Mary Black Foundation Rail Trail  
(west end)



Wofford Environmental Studies,  
Glendale Shoals and Greenway  
(east end)



# Glendale Greenway





**Glendale Historic Bridge before restoration**



the  
**IRON  
BRIDGE** at  
**GLENDALE**

**Glendale Historic Bridge  
after restoration**

# Mary Black Foundation Rail Trail Quick Facts



**Mary Black Foundation Rail Trail  
Surpasses 100,000 Annual Uses!**

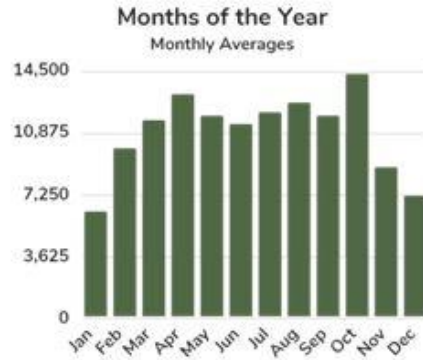
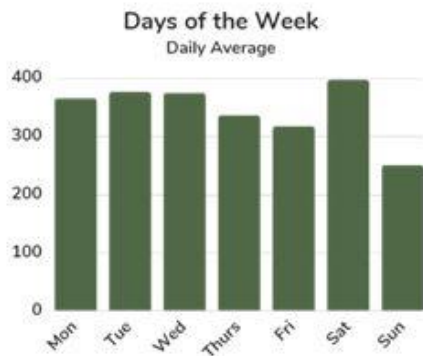


2018 marked a banner year for the Mary Black Foundation Rail Trail. This two mile rail-to-trail conversion is a recreation and activity hub with a skate park, community park, dog play area, and bicycle sharing system. Use of the Trail climbed over 100,000 annual uses for the first time in the life of the facility to 131,198. It is, arguably, the most used recreation facility in Spartanburg.

# Mary Black Foundation Rail Trail Quick Facts

## History of Use

2009: 24,820 annual uses  
 2012: 65,449 annual uses  
 2017: 94,206 annual uses  
 2018: 131,198 annual uses



## Timeline of the MBF Rail Trail:



# The Facility

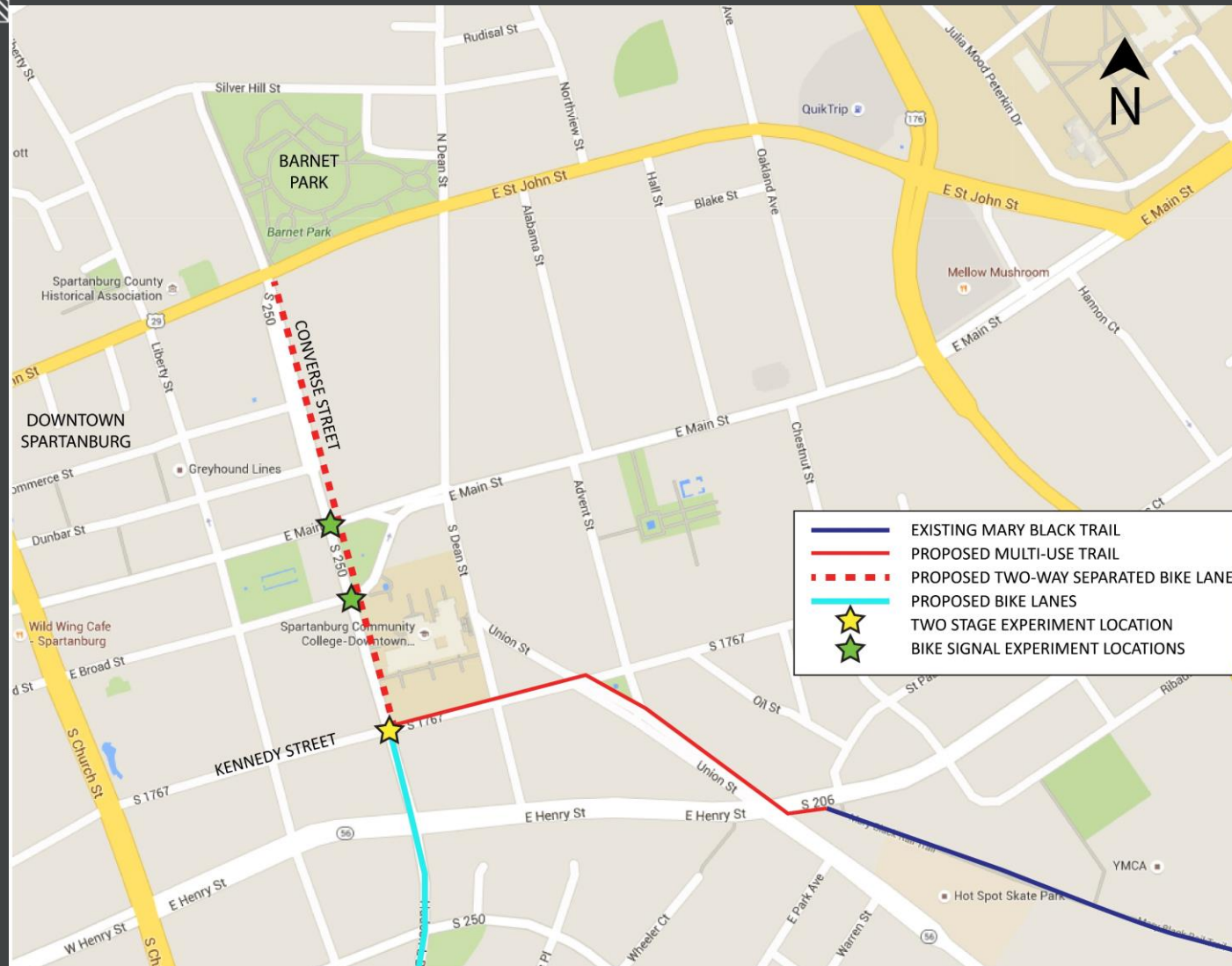
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- People as priority
  - People who drive cars, walk, bike, and live and work along/near the street
- Quality of design
- Quality of service for transportation
- Quality of life for residents and users

*Make the trip as enjoyable  
as the destination*



# The Facility



# The Beginning

- Project started in 2015
- City and SCDOT owned roads
- SC's first separated bike lane facility
- SC's first use of Green Paint
- Currently at R/W Approval

**City of SPARTANBURG**  
south carolina

### MARY BLACK RAIL TRAIL EXTENSION

The City of Spartanburg is in the design development phase of extending the Mary Black Rail Trail (Pianveto Trail) into downtown, connecting to Barnett Park. The City is committed to a facility that will mean the trail users' experience and will be inviting to all ages and ability levels.

The Mary Black Rail Trail Extension route will continue the existing trail from Henry Street, along Union Street to Kennedy Street and then travel west on Kennedy Street to Converse Street and Barnett Park beyond.



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### CONVERSE STREET

existing typical section



existing view at broad street



proposed typical section




proposed view at broad street



**City of SPARTANBURG**  
south carolina

### KENNEDY STREET

existing typical section




existing view at dean street



proposed typical section



proposed view at dean street



### UNION STREET

existing typical section



existing view at advent street



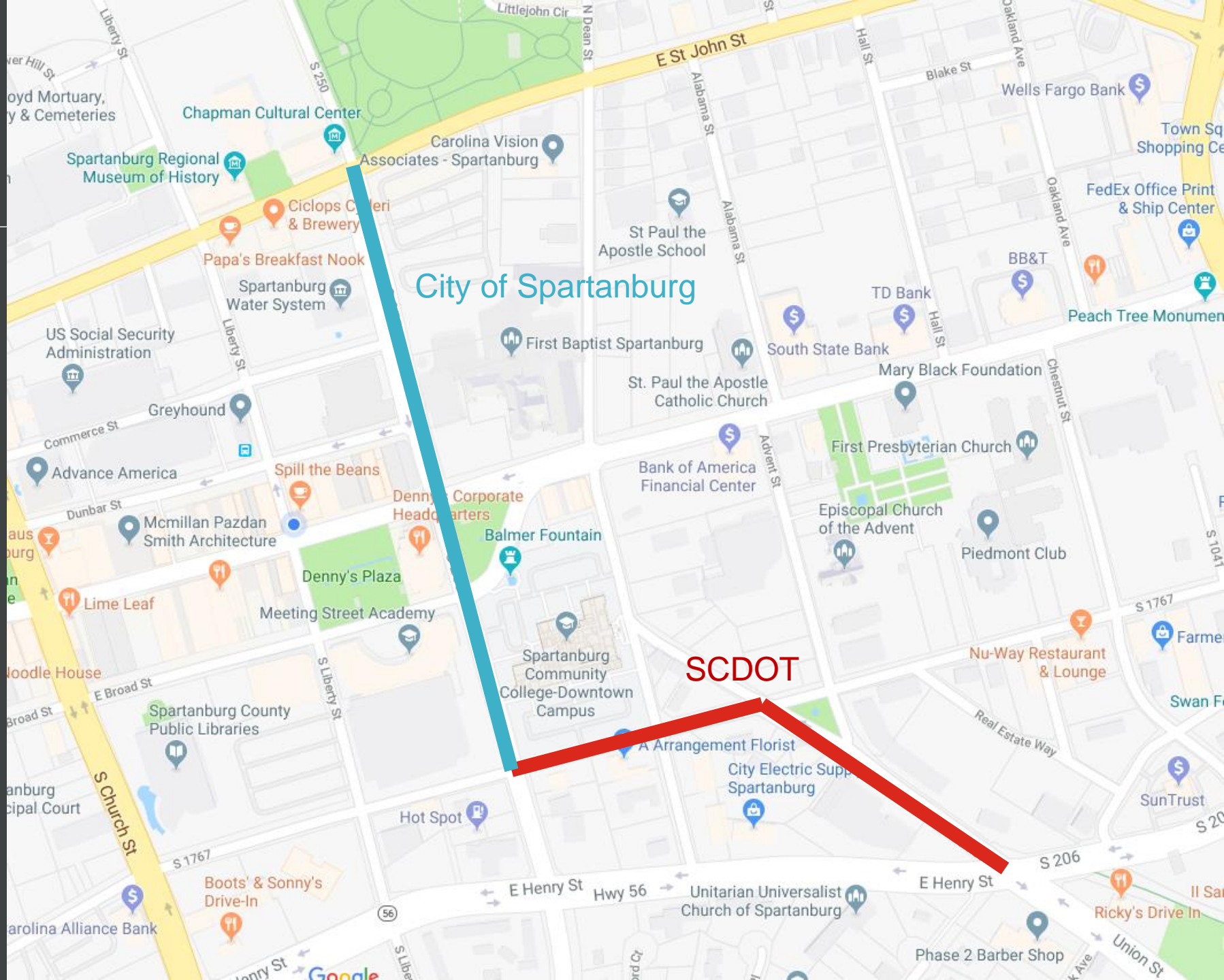
proposed typical section



proposed view at advent street

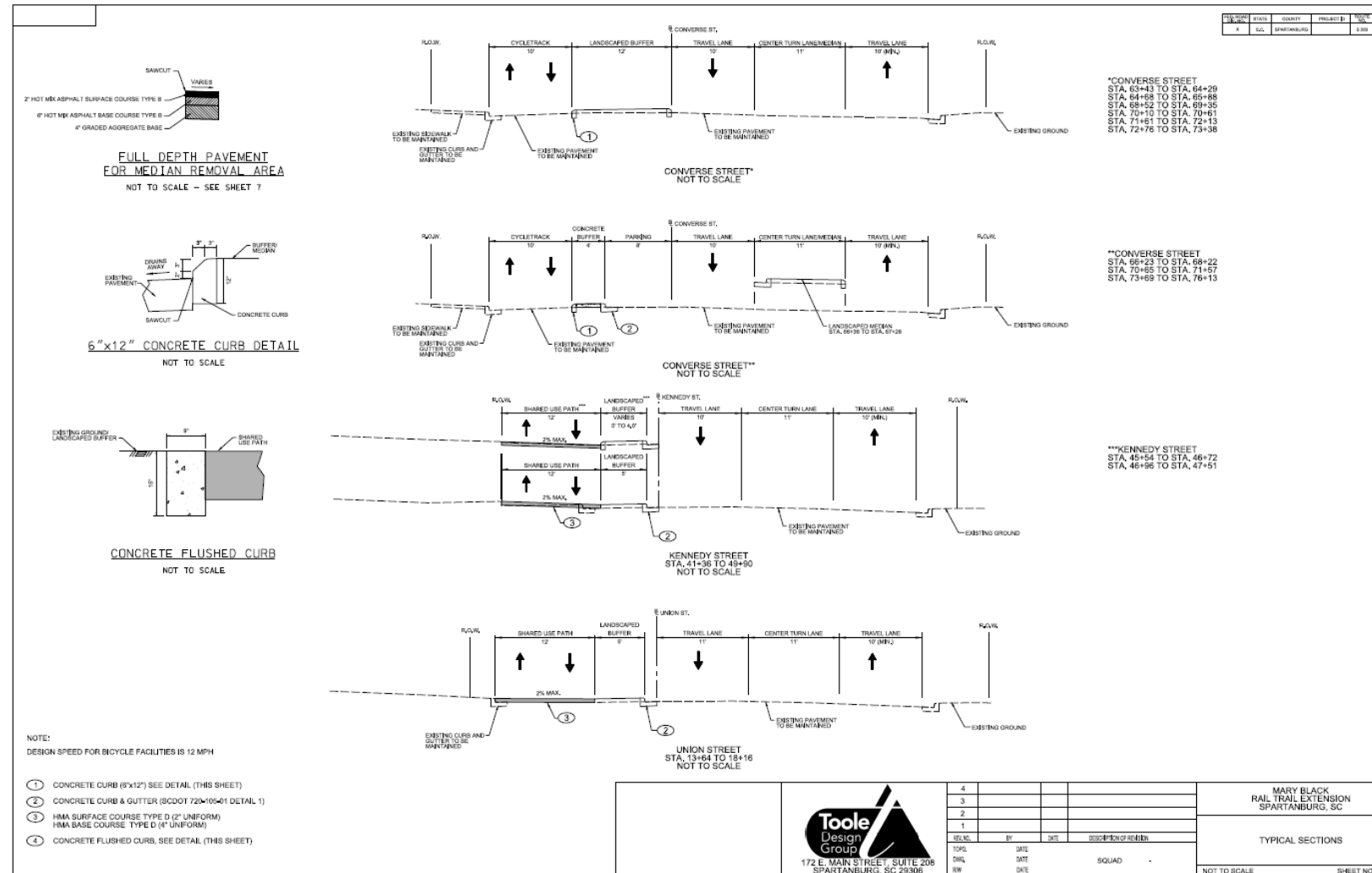


# Ownership



# Early Cross Sections

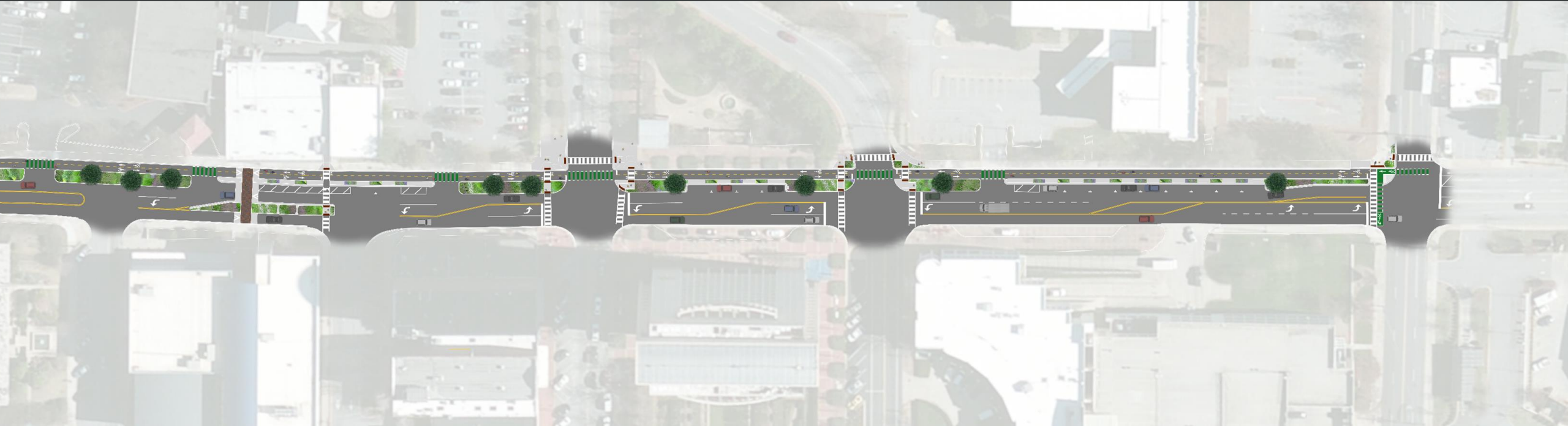
- 10' Travel Lanes
- 10' Cycle Track
- 12' Shared Use
- Landscaped Buffer



# The Facility



# The Facility



# Request to Experiment- FHWA

## Request to Experiment City of Spartanburg, South Carolina

### Background

In January 2009, the Spartanburg Area Transportation Study, Spartanburg County and the City of Spartanburg developed a countywide comprehensive bicycle and pedestrian plan. In November 2009, the City of Spartanburg developed the Spartanburg Bicycle & Pedestrian Master Plan to create action towards implementing the projects identified in the past study. The stated goal of the plan is to allow people to choose walking and biking by improving the connectivity of the bicycle and pedestrian network.

The Mary Black Trail is a 2-mile long trail located to the south of downtown Spartanburg (see Figure 1.) The trail includes a bike share station and was used by 65,500 users in 2012. The purpose of this project is to extend the Mary Black Trail into downtown Spartanburg and connect to Barnet Park, as well as to create new connections to the trail. As shown in Figure 2, this connection is proposed to be developed as a shared use path where right-of-way space is constrained and a two-way separated bike lane along Converse Street where the right-of-way can accommodate this treatment (see Figure 3.) A traditional bike lane is also proposed along Converse Street south of Kennedy Street to further develop an interconnected bicycle network.

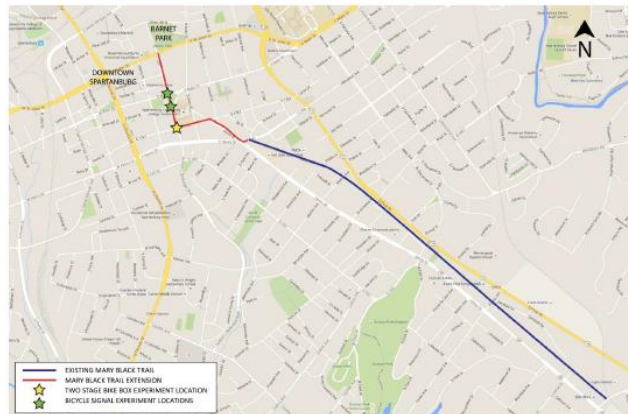
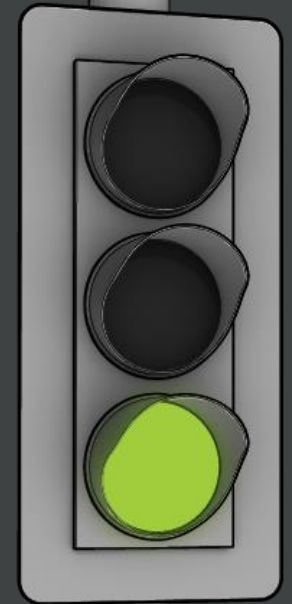
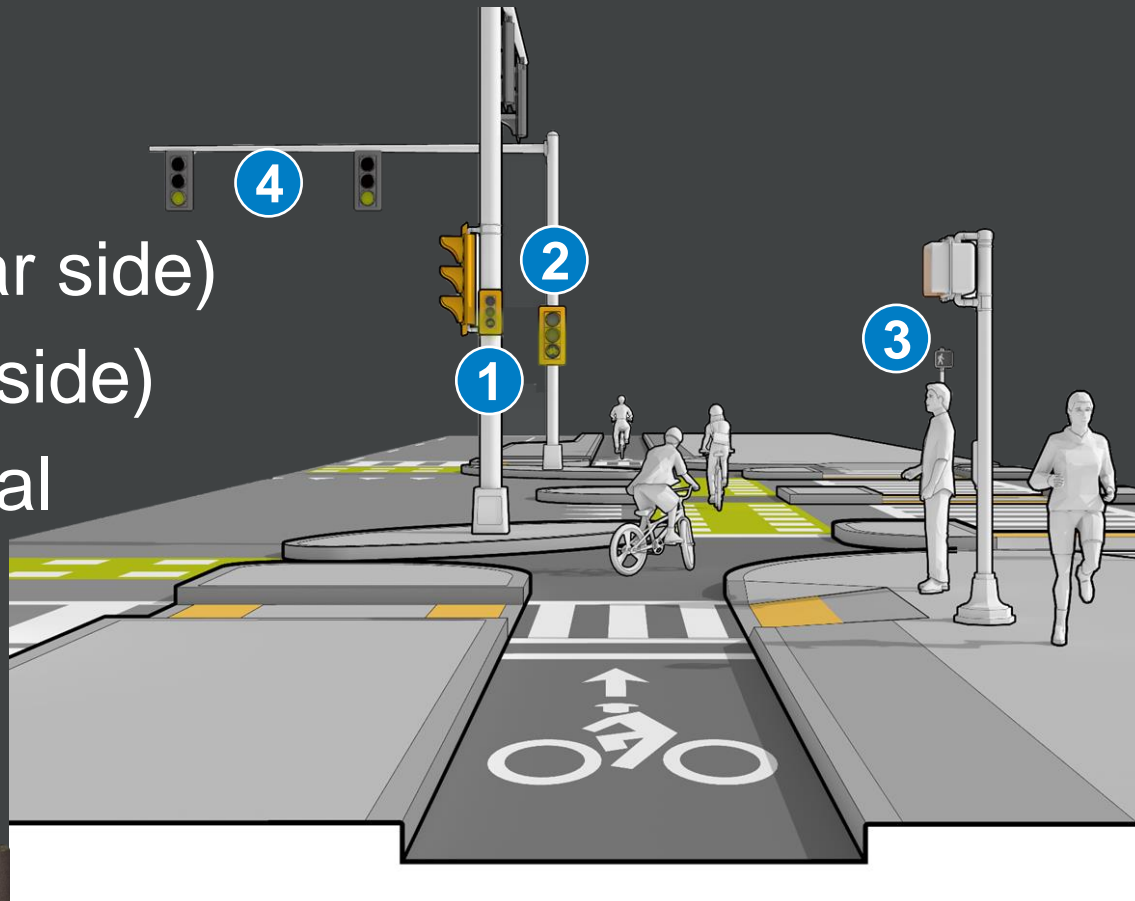


Figure 1 – Existing and Proposed Mary Black Trail (Photo: Google Maps and Toole Design Group)

# Bike Signals

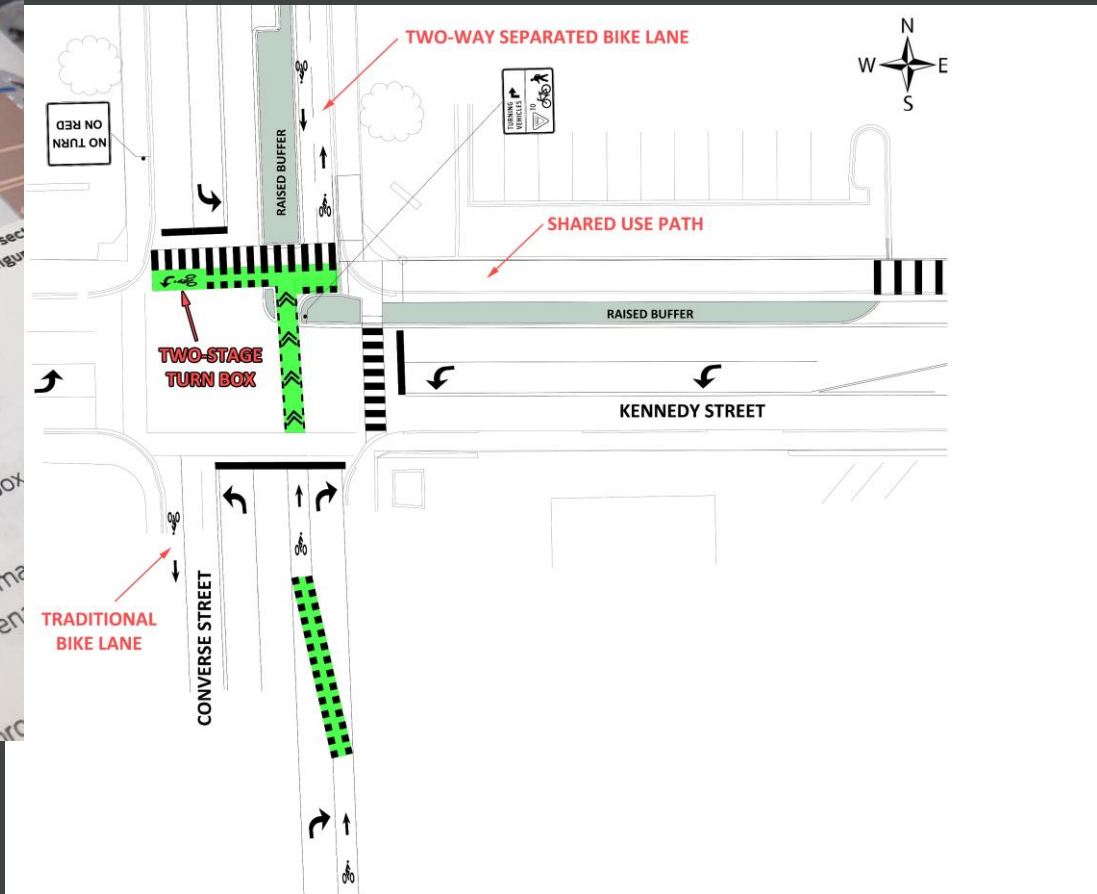


- 1 Bike signal (near side)
- 2 Bike signal (far side)
- 3 Pedestrian signal
- 4 Vehicle signal

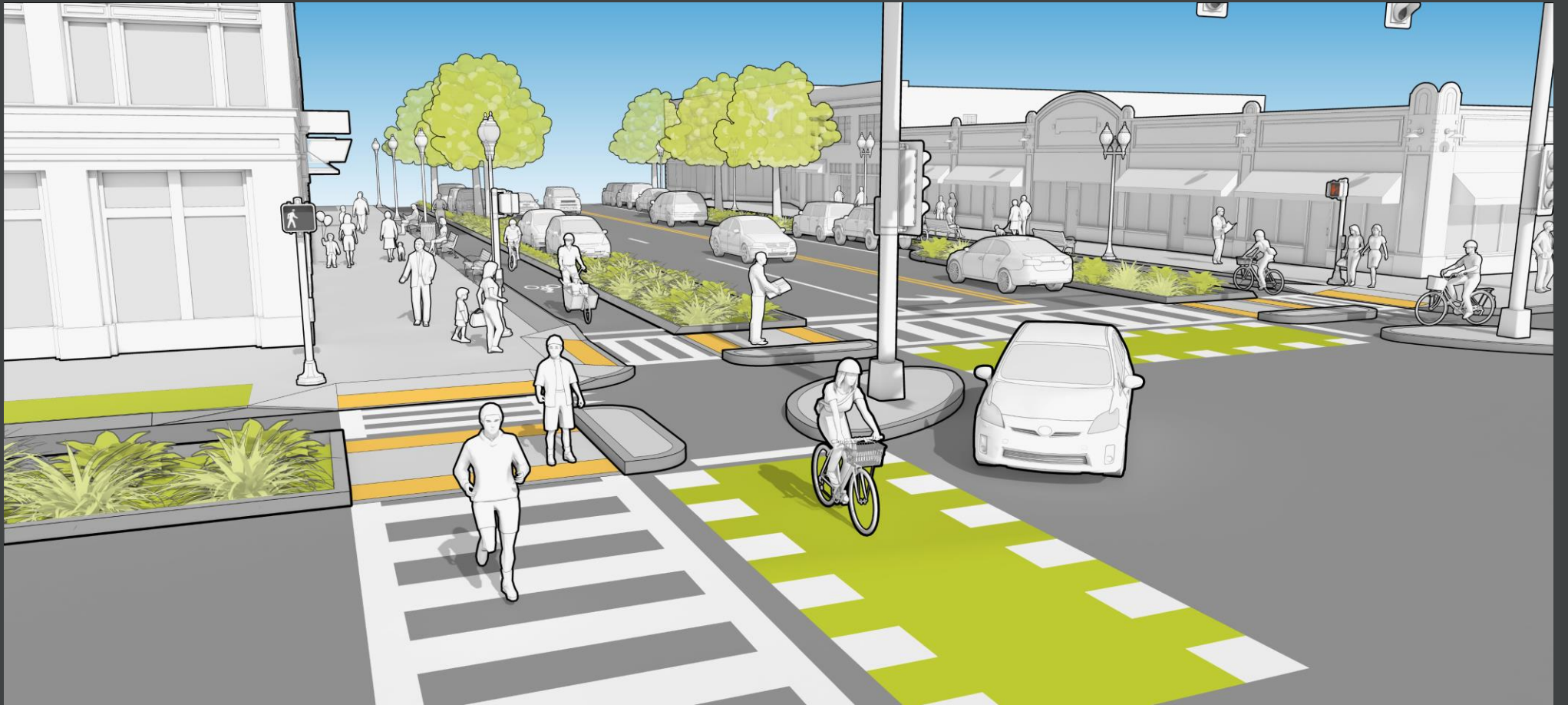




# Two-Stage Turn Box



# Green Paint



# FHWA Approvals



1200 New Jersey Avenue, SE  
Washington, D.C. 20590

DEC 9 2016

In Reply Refer to:  
HOTO-1

Ed Memmott  
City Manager  
City of Spartanburg  
145 W. Broad Street  
Spartanburg, SC 29306

Dear Mr. Memmott:

Thank you for your request to experiment with bicycle signal phasing allowing conflicting movements and with two-stage turn boxes within the City of Spartanburg. Your request to experiment has been approved based on the revised submittal dated December 8, 2016.

We look forward to receiving semi-annual progress reports and your final evaluation report at the end of the study period in accordance with Item I of Paragraph 11 in Section 1A.10 of the 2009 *Manual on Uniform Traffic Control Devices for Streets and Highways*.

For recordkeeping purposes, we have assigned the following Official Ruling number and title: "9(09)-94 (E) – Bicycle Signals with Conflicts – Spartanburg, SC." Please refer to this number and title in future correspondence.

Thank you for your interest in improving traffic safety for bicyclists.

Sincerely yours,

Mark R. Kehrl  
Director, Office of Transportation Operations



1200 New Jersey Avenue, SE  
Washington, D.C. 20590

MAR 28 2017

In Reply Refer to:  
HOTO-1

Anthony W. Fallaw, P.E.  
Director of Traffic Engineering  
South Carolina Department of Transportation  
Post Office Box 191  
Columbia, South Carolina 29202-0191

Dear Mr. Fallaw:

Thank you for your letter of March 6, 2017 requesting approval to use green-colored pavement in marked bicycle lanes on selected State roadways within the City of Spartanburg. Your request was made under the provisions of Section 1A.10 in the 2009 edition of the *Manual on Uniform Traffic Control Devices for Streets and Highways* (MUTCD) and our Interim Approval memorandum (IA-14) dated April 15, 2011 for the optional use of green-colored pavement for bike lanes.

Your request is approved for the following locations:

- Converse Street (SC 250 / local) & Kennedy Street (SC 1767)
- Converse Street (local) & E. Main Street (SC 4 / local)

Per your request, this approval is limited to these locations. Your specific approval has been numbered "IA-14.101 – Green-Colored Pavement for Bicycle Lanes – South Carolina DOT." Please reference this number in any future correspondence.

Thank you for your interest in improving highway safety. If we can be of further assistance on this matter, please contact Mr. David Kirschner at [david.kirschner@dot.gov](mailto:david.kirschner@dot.gov).

Sincerely yours,

Mark R. Kehrl  
Director, Office of Transportation Operations

# SCDOT Coordination

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- *New to Cycle Tracks*
- *Truck turning radii and lane width*
- *Standard Lane Widths not proposed*
- *Bike Signal, Green Paint, Two-Stage Turn Boxes, Oh my!*
- *Staff turnover*

**SCDOT**

# Not (always) True!!

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SCDOT =



# Compromise

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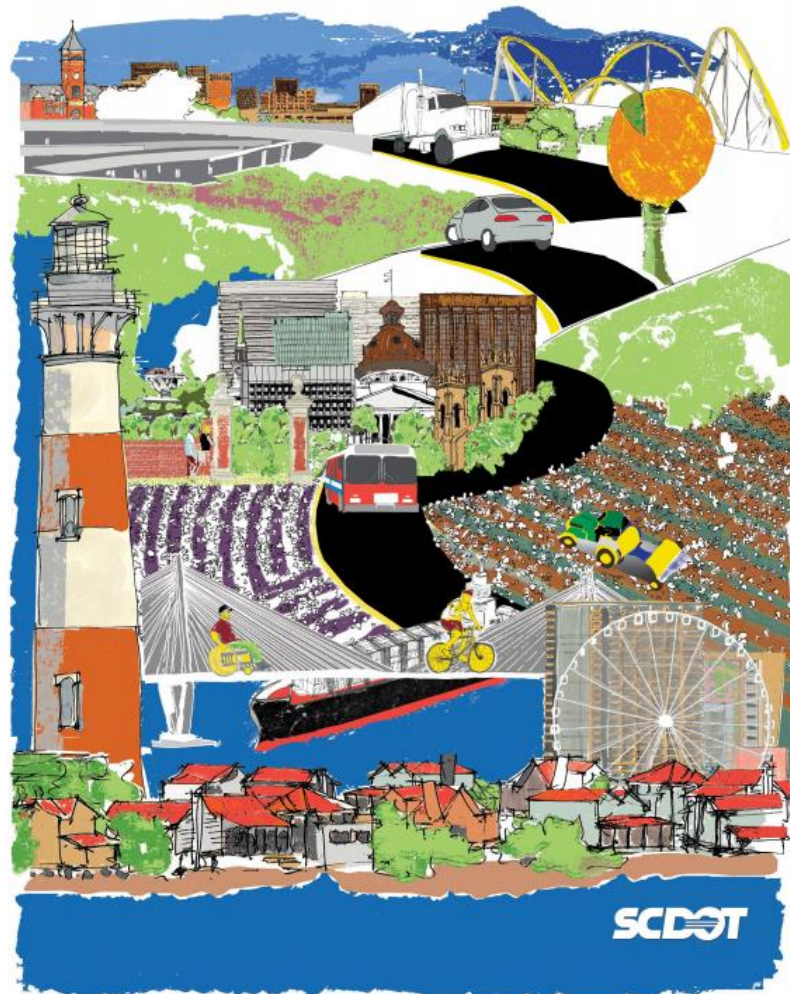
- *SCDOT understands the purpose and need*
- *3R Projects- (Resurfacing, Restoration, and Rehabilitation)*
- *Green Paint being used*
- *Worked with staff to find a solution*

**SCDOT**

# ROADWAY DESIGN MANUAL

CONNECTING PEOPLE AND PLACES

March 2017



## 18.1.2 Project Types

From an overall perspective, the 3R program is intended to improve the greatest number of highway miles within the available funds for highway projects. 3R projects may include any number of the following types of improvements. This list is not all inclusive:

- providing pavement resurfacing, pavement rehabilitation and/or pavement reconstruction;
- providing lane and/or shoulder widening (without adding through lanes);
- paving shoulders;
- correcting skid hazards;
- adding a two-way, left-turn lane (TWLTL);
- adding a bike lane; ←
- providing intersection improvements (e.g., adding or extending turn lanes, flattening turning radii, adding channelization, realigning minor road, improving corner sight distance);

March 2017

3R PROJECTS (Non-Freeways)

18.2-3

Design Year ADT	Design Speed (mph)	Rural Collectors		Urban Collectors		Rural Arterials		Urban Arterials	
		Lane Width <sup>(1)</sup>	Shoulder Width <sup>(1)</sup>	Lane Width <sup>(1)</sup>	Shoulder Width <sup>(1)</sup>	Lane Width <sup>(1)</sup>	Shoulder Width <sup>(1)</sup>	Lane Width <sup>(1)</sup>	Shoulder Width <sup>(1)</sup>
1 - 750	≤ 45	10 ft	2 ft	D: 12 ft M: 10 ft	D: 8 ft M: 2 ft or Curb and Gutter	11 ft	3 ft	D: 12 ft M: 11 ft	D: 10 ft M: 6 ft or Curb and Gutter
	> 45	10 ft	2 ft			12 ft <sup>(2)(3)</sup>			
751 - 2000	≤ 45	11 ft <sup>(2)</sup>	2 ft	D: 12 ft M: 11 ft	D: 8 ft M: 2 ft or Curb and Gutter	11 ft	3 ft	D: 12 ft M: 11 ft	D: 10 ft M: 6 ft or Curb and Gutter
	> 45	12 ft <sup>(2)</sup>	2 ft			12 ft <sup>(2)(3)</sup>			
> 2000	all	12 ft <sup>(2)</sup>	3 ft	D: 12 ft M: 11 ft	D: 8 ft M: 2 ft or Curb and Gutter	12 ft	6 ft	D: 12 ft M: 11 ft	D: 10 ft M: 6 ft or Curb and Gutter

(1) Retain existing width if existing width is greater than the value shown.

(2) Lane widths may be 1-foot less if there are less than 10 percent trucks.

(3) An existing 22-foot traveled way may be retained where the alignment is satisfactory and there is no crash pattern suggesting the need for widening.

D = Desirable M = Minimum

LANE AND SHOULDER WIDTHS  
(3R Projects)  
Figure 18.2-B

# The Result

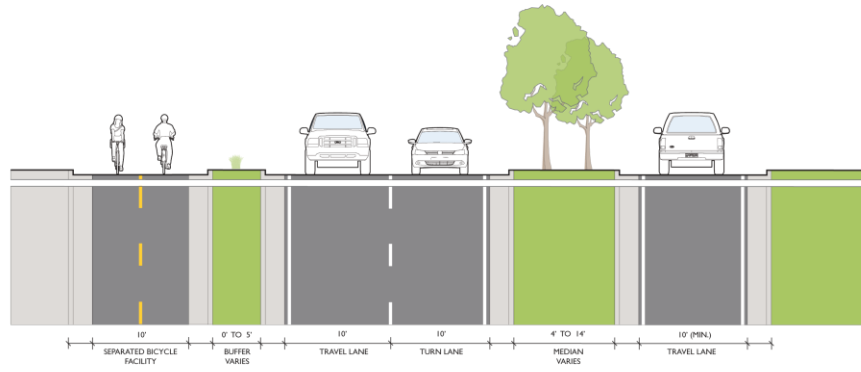




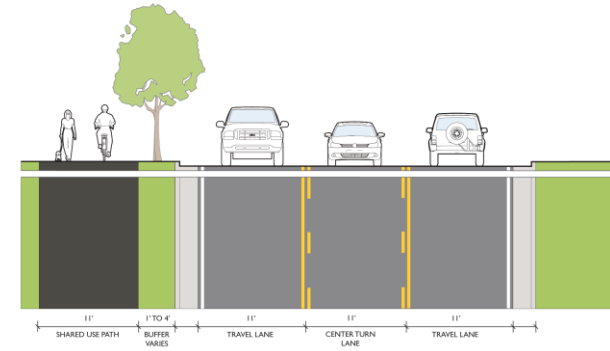




# Revised Cross Sections



CONVERSE STREET

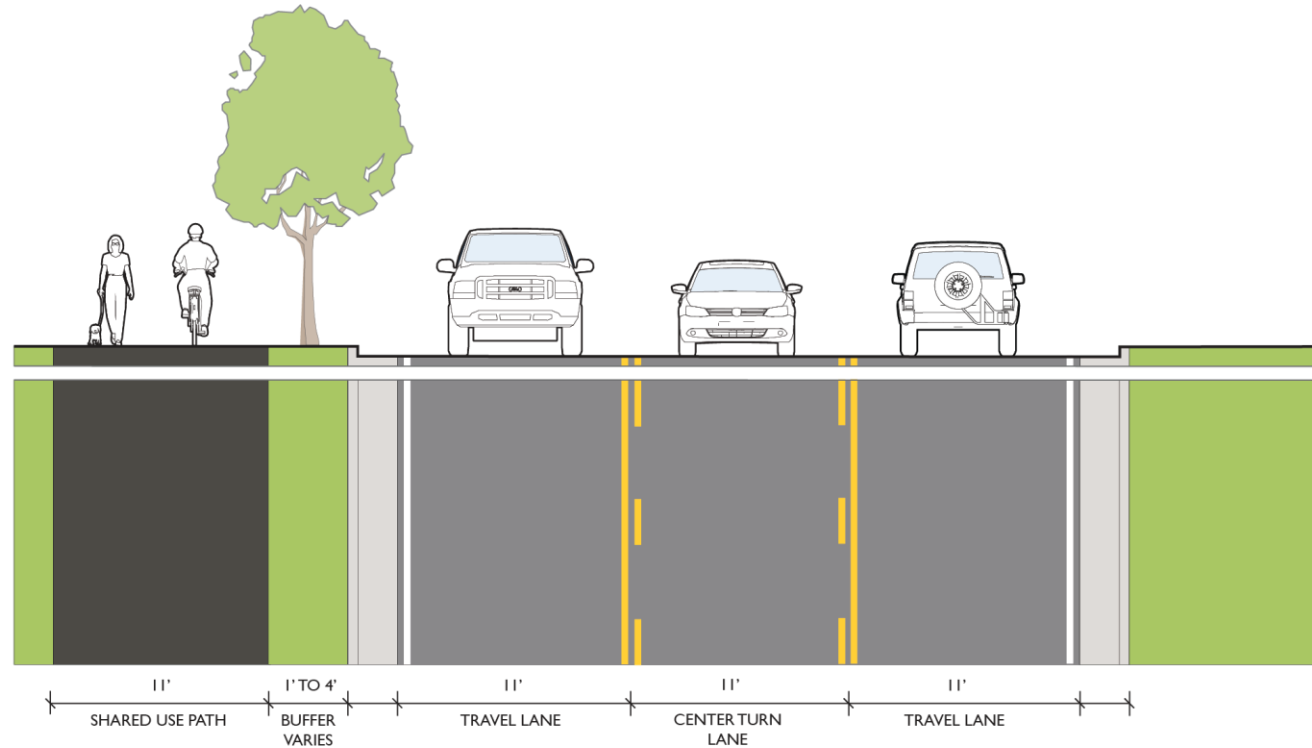


KENNEDY STREET



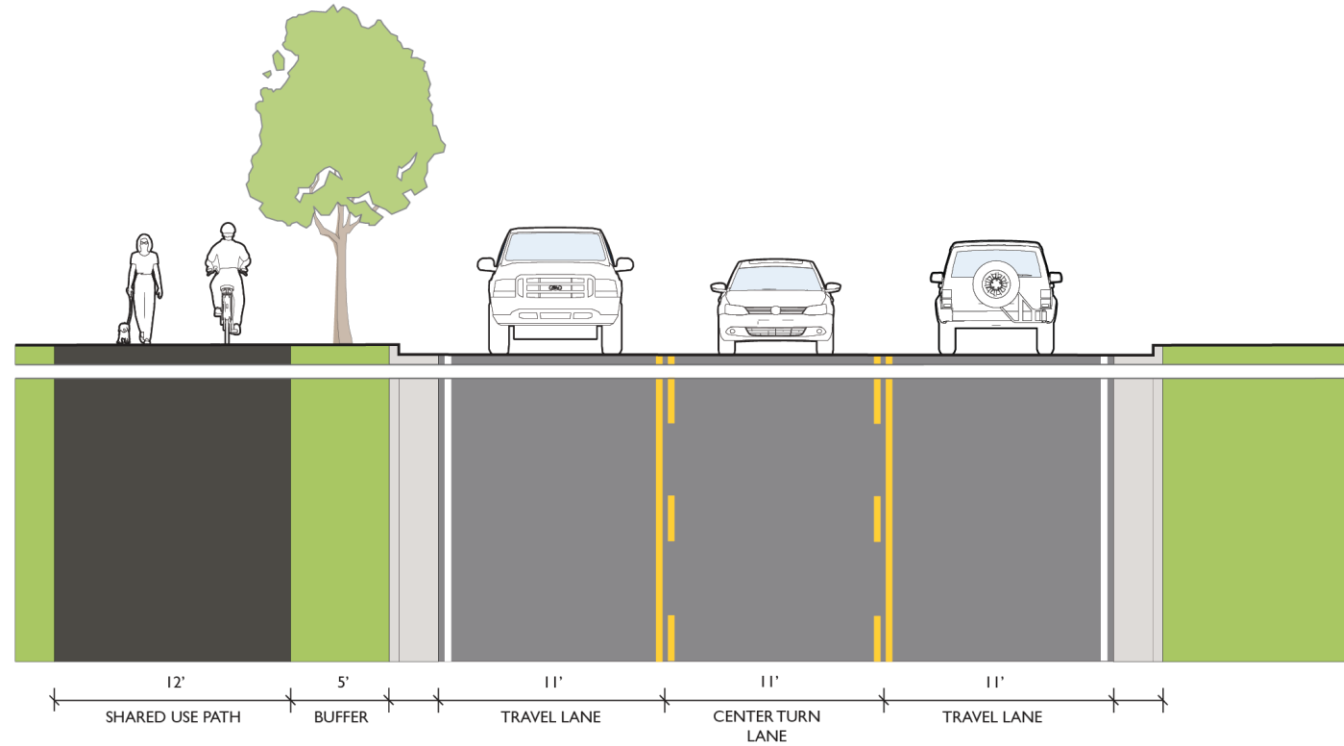
UNION STREET

# Revised Cross Sections



KENNEDY STREET

# Revised Cross Sections



UNION STREET



# Thank you!!

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- Questions?