

GROWING GREENVILLE'S BIKE INFRASTRUCTURE



Kristy Bradley

Capital Project Manager
Civil Engineering Division



Calin Owens

Senior Mobility Coordinator
City Manager's Office

FIRST, A THOUGHT EXERCISE

RANK THEIR NEED FOR SAFETY



MOST WILL AGREE:

#1



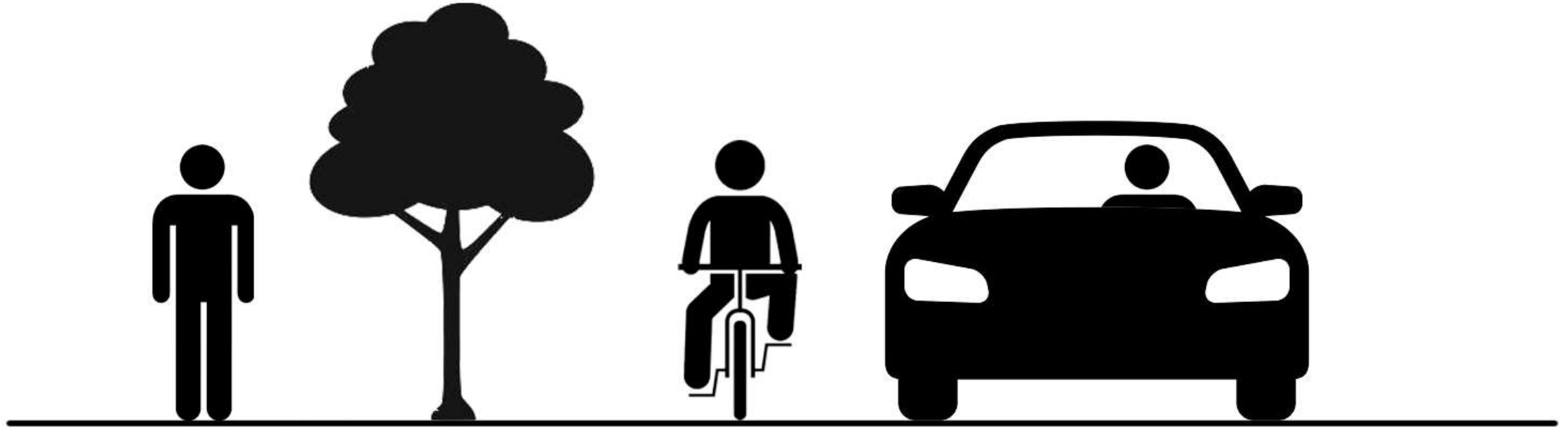
#1



#1

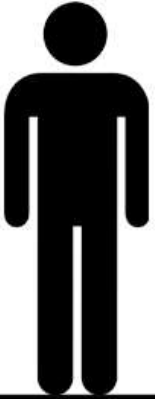


DOES YOUR INFRASTRUCTURE AGREE?



OR DO YOURS RANK LIKE THIS?

#2



#3



#1



LET'S RETHINK OUR APPROACH

BRING THE TRAIL TO THE ROAD

HISTORICALLY, REPAVING

- “Just put it back the way it was” mentality
- Cars first
- “Sharrows will work here...”

SPEAK FOR THE BIKES

- Wholistic look at corridor
- Capitalize on opportunities!
- Building for bikes can create friction
- How wide is a car again?



+



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PROJECT BASICS

IT'S KIND OF A BIG DEAL (FOR US)

The City of Greenville is currently undergoing a repaving effort across the City that is spearheading implementation of new or improved bike infrastructure.

STARTED WITH

City-wide roadway condition assessment completed in 2021

EVOLVED INTO

Analysis of paving priorities based on condition assessment, network gaps, and safety improvement needs

UNDERWAY NOW

2022 paving efforts have been completed and have resulted in approximately 8 miles of new or improved on-street bike facilities. The next phase of paving (NIB funded) is in roadway design phase.



WHY NOW?



DEMAND

Greenville is already accepted as a “bike town”, with the bike tourism driving economic growth and a large % of residents beginning to commute on top of huge trail counts

POLITICAL SUPPORT

Development of a strong bike network is easy to support as a decision maker when it aids in conversations related to affordable housing, green infrastructure, healthy lifestyles, and economic growth

OPPORTUNITY

Capitalizing on projects such as this repaving effort to accomplish additional initiatives such as growing safe bike infrastructure and slowing traffic

FUNDING

THE 'NIB'

2019-2021

State of the Infrastructure

- City Staff Prepared overall State of Infrastructure (parks, streets, sidewalks, etc)
- How much money would it take to upgrade all poorly rated infrastructure?
- **Time for a Bond**
- Secured a 36 million dollar bond called The Neighborhood Infrastructure Bond (NIB)

2022

Bond Recommendations

- City Staff and City Council prioritized projects and made recommendations on how to spend the money.
- Neighborhood safety played integral role when discussing upgrades to infrastructure



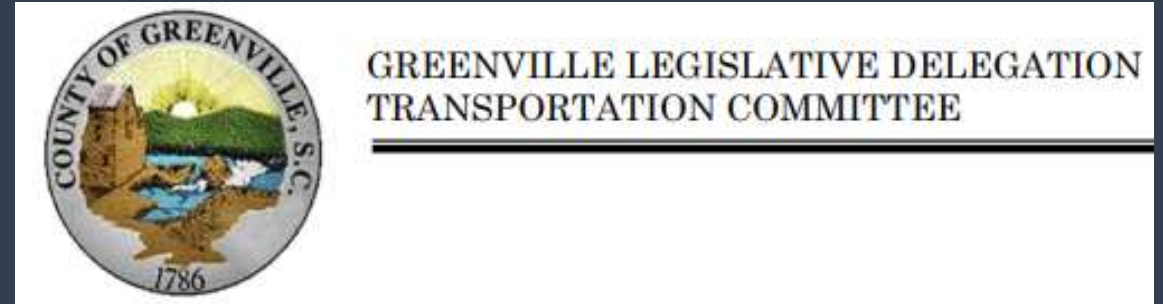
C-FUND

Capitalizing on NIB Opportunity

GLDTC (Greenville County's Transportation Committee)

Also Known As the C-Fund Committee

- Organization that assists in improving infrastructure within the county by providing matches in funding
- City of Greenville (and all other municipalities within Greenville County) has had a participation agreement in place with the GLDTC for resurfacing projects for several years.
- The City used 9 million dollars from the NIB that we now had on-hand to allocate towards street resurfacing to request a dollar-for-dollar match from the C-Fund Committee



PUBLIC INPUT

“I LIKE BIKE LANES BUT...”



LEVERAGE YOUR ADVOCATES

Advocate relations can often be a double edged sword, but they can be one of your strongest tools when dealing with public perception. Make sure the supporters also show up to the meetings!

ALWAYS FOLLOW UP + BE DIRECT

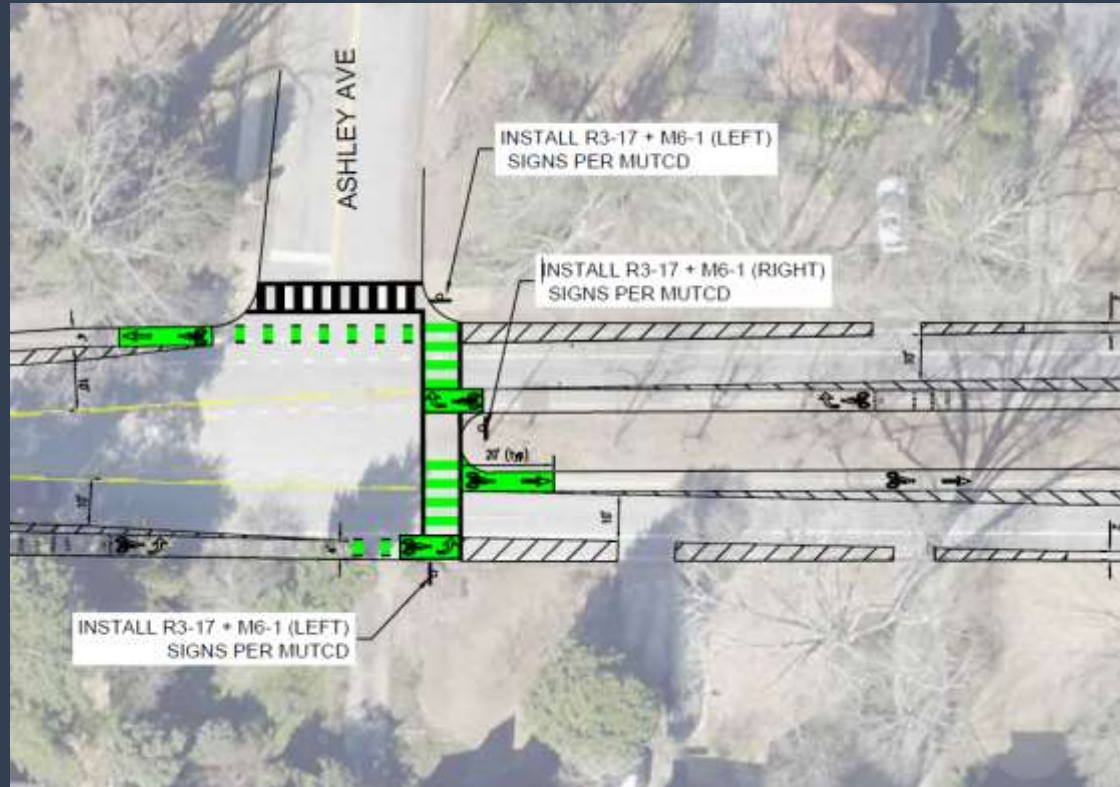
Make sure your mindset is appropriate before taking on a difficult conversation, listen more than you talk, and try to build trust by being transparent. Don't be afraid to discuss actual project challenges with citizens.

HELP BREAK DOWN THE CONCERN

Complaints are typically stacked once someone finally reaches out because of built up frustrations. Try to break down the actual issues and help solve them together

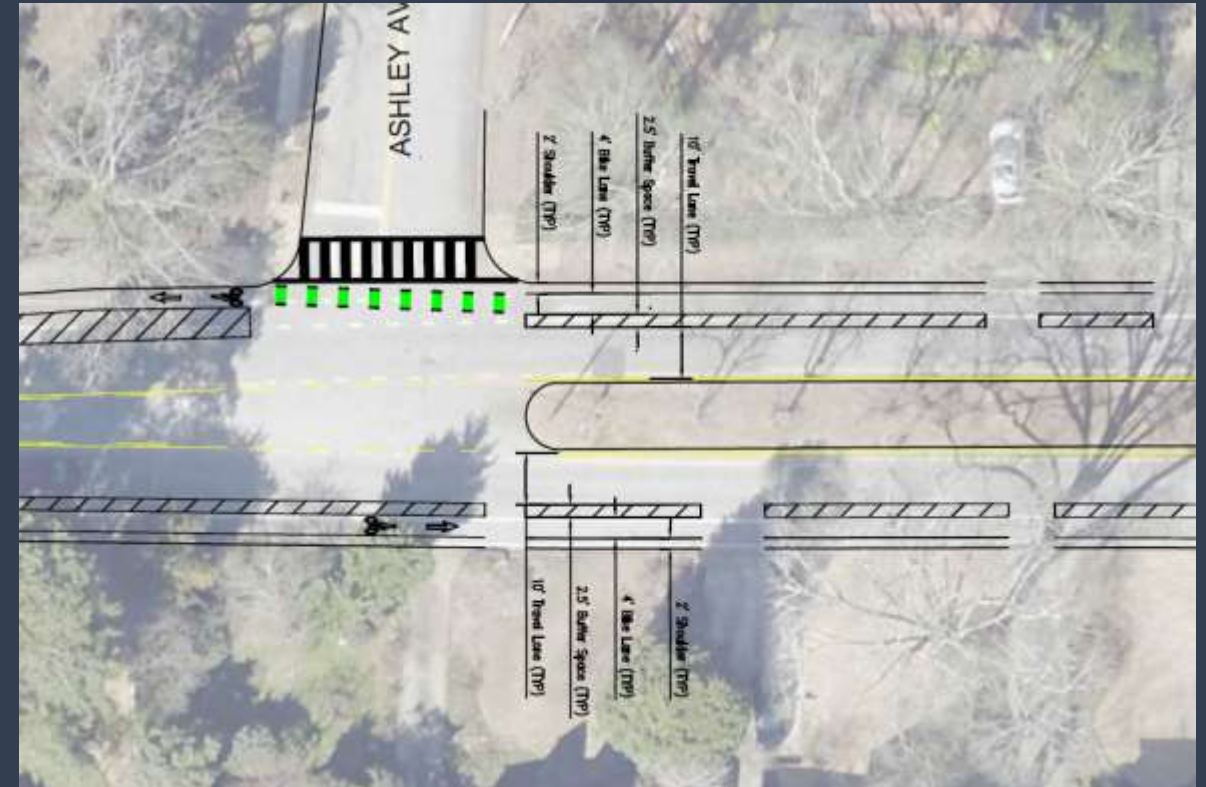
INNOVATION IS A CHALLENGE

THIS WILL FIX EVERYTHING!



Staff attempted to implement a left-hand bike lane to combat 60+ driveway crossings, rampant parking, and residential trash and debris piles in the bike lane

NOT SO FAST...



Lack of public awareness led to community confusion followed by political directives to rethink the design

COMMS + MEETINGS

ONCE ISNT ENOUGH

Approach public input, communications, and public meetings as mandatory and ongoing throughout all projects

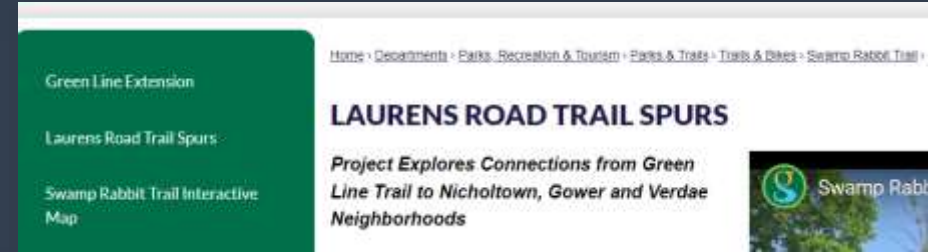
EARLY AND OFTEN

If the public reaches out about a project you haven't begun public input for yet, you've waited too long to begin the process – try to be proactive, not reactive

FOLLOW UP AFTER

Once a project is complete, following up with concerned citizens directly and/or developing a media push about the improvements can help put a nice bookend on a project, even contentious ones.

**PROJECT
WEBPAGE
+
SURVEYS**



**INFORMATIONAL
VIDEOS**

**INPUT
RESULTS**



PLANNING

THE VISION

ADOPTED MASTER PLANS

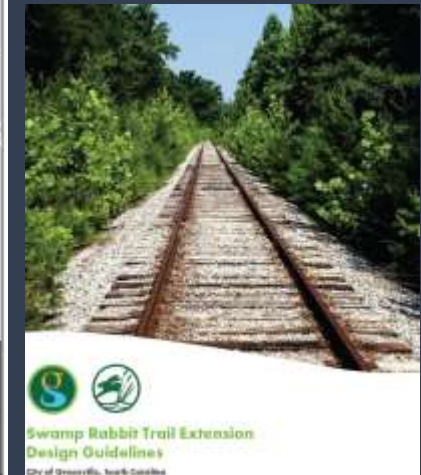
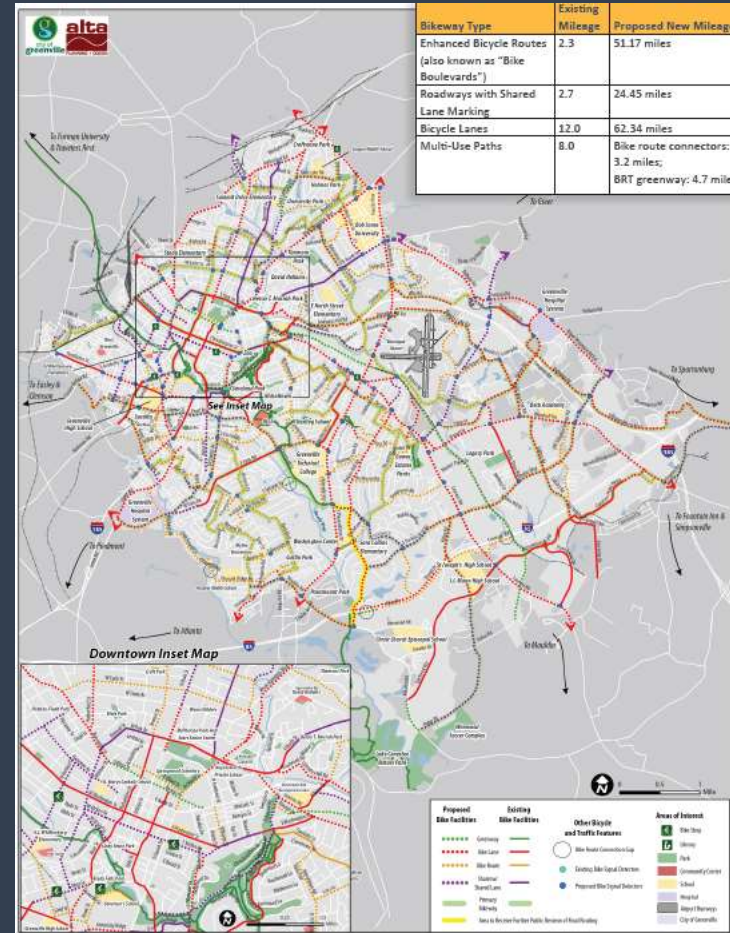
- Trails and Greenways Master Plan
- Bicycle Master Plan
- Swamp Rabbit Trail Extension Master Plan
- Swamp Rabbit Trail Extension Design Guidelines

GUIDING DOCUMENTS

- AASHTO
- NACTO
- SCDOT ARMS
- FHWA Bikeway Selection Guide



Guide for the Development of Bicycle Facilities



THIS vs. THAT

PARKING vs. BIKE LANES

Always a battle, seldom won. Check out Bloomberg article titled “The Complete Business Case for Converting Street Parking Into Bike Lanes”

WIDE LANES vs. DESIGNATED PARKING

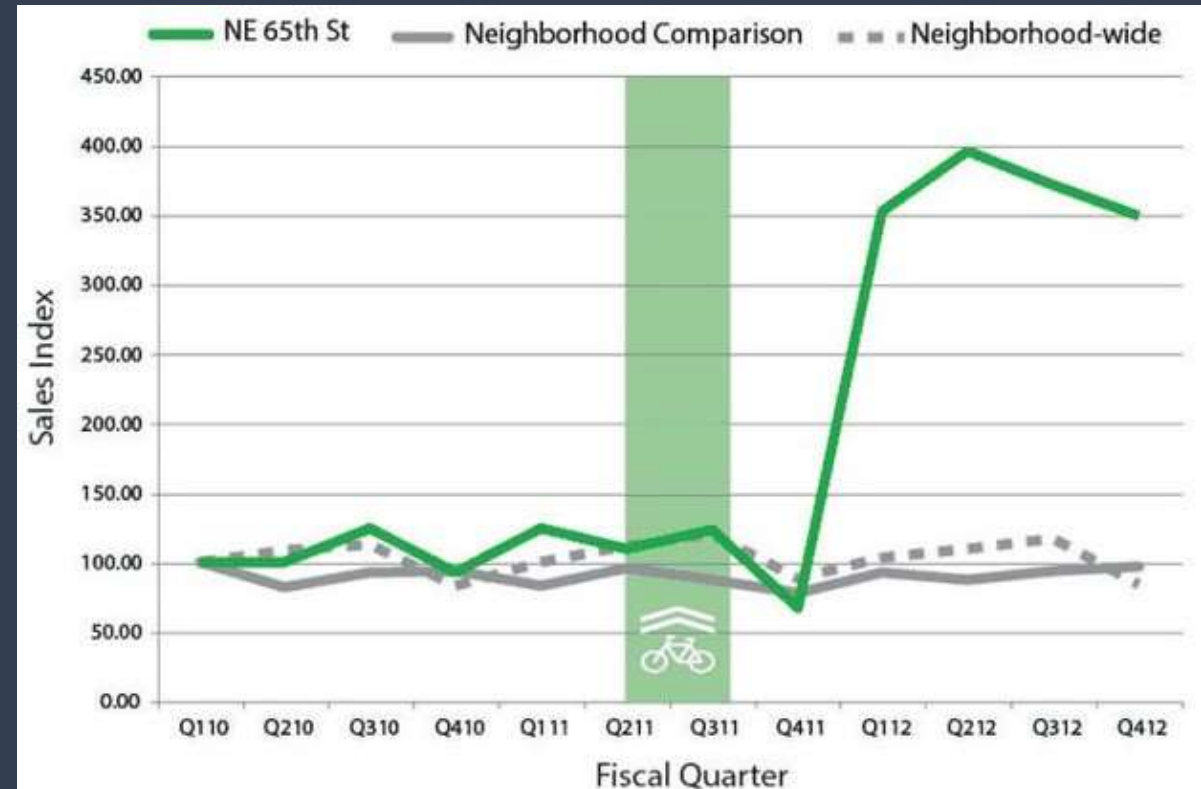
Sticky subject with neighborhoods. Where do you draw the line for need and want?

BUFFERED vs. PROTECTED

Is 10 miles of new buffered bike lanes better or worse than 1 mile of protected bike lanes?

PROGRESS vs. TRADITION

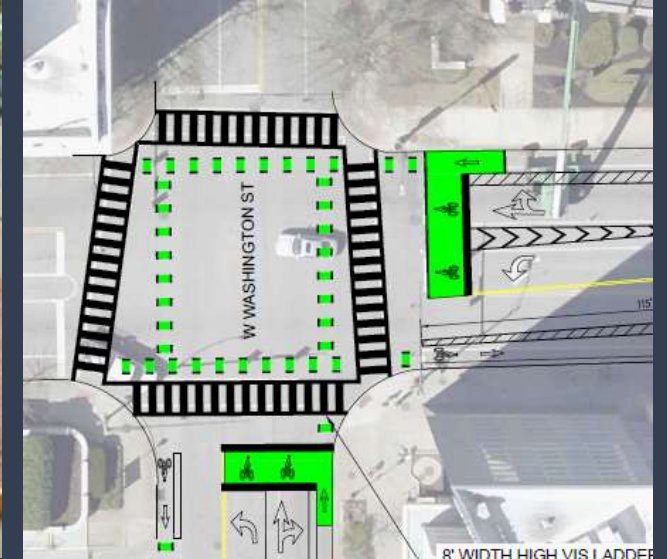
Balancing growth and ‘existing character’ is difficult. At what point does someone stop being ‘a transplant’ and start being a member of the community?



MOVING THE NEEDLE

SOME COOL STUFF WE'RE DIVING INTO

- Green Paint at conflict zones
- Bike Boxes
- 2-Stage Turn Boxes
- Protected Bike Lanes
- 2-way Cycle Tracks
- Connections to SRT network
- Pavement Based Wayfinding
- Road Diets
- Lane Narrowing
- Bike Detection
- Radar Detection
- Camera Detection
- Raised Crosswalks
- Floating Bus Stops

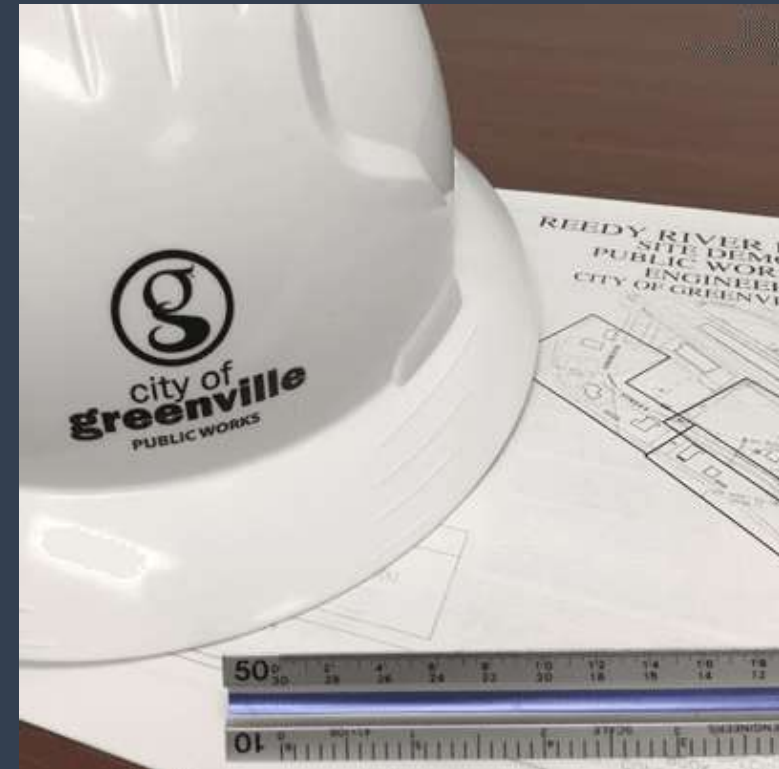


DESIGN + ENGINEERING

SCDOT COORDINATION

Collaboration is Key

- When we have ideas, we don't just submit an encroachment permit to SCDOT after the design is complete and we are ready to begin work.
- If we want to improve pedestrian access, incorporate bike facilities, upgrade our transit stops, etc., we ask for SCDOT input ahead of and during our design.
- Make SCDOT part of the project, not an 'obstacle' for the project.



SETTING THE STANDARDS

Complete Streets Policy

- We had to decide what would be incorporated into our large street resurfacing contract that would fully implement our Complete Streets Policy.
- Utilizing our Pedestrian Safety Action Plan completed in December of 2022 to include identified and proven countermeasures that would improve pedestrian safety, i.e. high visibility pedestrian crosswalks, 10' vehicular travel lanes. These items made logical and fiscal sense to include in a resurfacing contract.
- Integrating easily identifiable bike facilities following NACTO guidance where safe and feasible within our resurfacing contract.
- Following ADA guidelines, upgrading all pedestrian ramps to meet the most current compliance standards.
- Examining transit stops and ensuring that there is a safe means to access them.



SETTING THE STANDARDS

The More Eyes, the Better

- We utilized a large 'revamp' of pavement marking designs on streets we plan to resurface, to begin examining our standards and to set a precedence for future street design.
- This effort included consultants, our senior mobility coordinator from City Manager's Office, Traffic Engineering Department, Civil Engineering Department, and Planning Department.
- We began with all items we planned to include in our design following the complete streets policy and refined each standard from there, down to something as simple as establishing the width of the white solid line that will be installed between a dedicated bike lane and a buffer zone.
- Consistency in implementation of these safety design elements is important for many reasons.







CONSTRUCTION

ONCE YOU START...

Several Scopes of Work to Achieve a 'Complete Street'

- We are incorporating many additional elements into a 'resurfacing' contract
- There is the standard paving of the street, but there is also:
 - Pedestrian Ramp Construction
 - Installation of vertical delineators for cyclist protection in some cases
 - Installation of rubberized speed humps (the City's preferred speed hump type for traffic calming) in some cases
 - Installation of several types of pavement markings that require more than one type of pavement marking crew (i.e., thermoplastic long line markings, thermoplastic preformed markings, burn-in pavement markings, templated high visibility crosswalk thermoplastic markings)



ISSUES IN THE FIELD

- Ensure there is a plan
 - Do your pedestrian ramps line up well with planned crosswalks, and do they facilitate a good path for pedestrians?
 - Does the pavement marking subcontractor have a good understanding of where each crosswalk and bike lane will go?
 - Do they know how to lay out the plan on the street to ensure all the various types of markings will line up?
 - Identify any potential drainage issues on the street and surrounding areas prior to installing pedestrian ramps to ensure they are built correctly and will not hold water and collect sediment.



DOES YOUR INFRASTRUCTURE AGREE?



THANKS!



Kristy Bradley

Capital Project Manager
Civil Engineering Division

KBRADLEY@GREENVILLESC.GOV



Calin Owens

Senior Mobility Coordinator
City Manager's Office

COWENS@GREENVILLESC.GOV