



# Coxe Ave Report

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[Link to current version of this report](#)

## [Street Tweaks Team explained](#)

[Asheville on Bikes](#)

[Blue Ridge Bicycle Club](#)

[AARP Western NC Region](#)

V.1.07



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## Executive Summary

1. The Coxe Avenue project is a success and the City of Asheville should pursue additional Tactical Urbanism projects. Tactical Urbanism, as a process, represents a relatively low cost, quick-build method for testing design ideas that can make Asheville a safer and more efficient multimodal City.
2. Coxe Avenue's average auto speeds were reduced by 28.3% with no impact on the automobile carrying capacity of the street, while also adding significant safety features that protect pedestrians, bicycle riders, and low speed vehicle users (wheelchairs, scooters, etc). Speed monitoring occurred over a 3 day time period before and after the project. Before the project, 65.9% of drivers using the road were speeding. The highest recorded speeds each day were: 75.5 mph, 85.5mph, and 89.2 mph. After the project, only 21.3% of drivers were speeding and the highest recorded speeds were 40, 41, and 40.2 mph. Car volume counts were nearly identical in both the before and after time periods.
3. Moving away from a purely automobile-centric street can be disruptive to the status quo and the City can expect people to complain. Though our survey shows an overall positive response to the project, we encountered a steady flow of disapproving comments and they are all included in our list of survey responses. We appreciate these responses and note there are 3 main groups of negative feedback: residents complaining about changes that affect parking; drivers complaining about car movements that force them to slow down; and respondents commenting about peeling paint.



## Project History



According to North Carolina Department of Transportation and the Division of Motor Vehicles, the City of Asheville (COA) continues to rank as one of North Carolina's least safe cities for all transportation modes ([Asheville Citizen Times](#)). In spite of our dangerous environment, our budgets are limited and the pace of change within our public right of way is slow. In many similar situations, other cities are turning to a "[tactical urbanism](#)" approach to test quick-build changes before committing limited resources to the wrong projects, and, as the Street Tweaks Team became aware of that often successful approach, a serious conversation began about bringing that process to Asheville. Asheville on Bikes, through its Street Tweaks Team partnership, eventually contracted with [Street Plans](#) and coordinated with COA's transportation department to host Asheville's first long term tactical urbanism project.

In May 2018, COA directed The Street Tweaks Team to consider launching its project on Coxe Ave because the corridor was slated for a transportation improvement plan known as the [South Slope Visioning process](#) that was likely to result in a redesign of Coxe Avenue. The idea was to test infrastructure treatments that would calm traffic and improve safety for pedestrians and bicyclists, present the results to the City, and see the eventual resulting project influenced

by this test. The Street Tweaks Team process was informed by the Asheville In Motion Plan as well as the South Slope Visioning and public input sessions.

The Street Tweaks Team also hired [Tony Garcia and Street Plans](#) as consultants in May 2018 and began publicizing a series of public input sessions to plan the project. The Team hosted its first public input process on June 21, 2018 to determine how Coxe Ave from Hilliard to Southslope might be reconfigured to provide safe access to pedestrians, bicyclists, and motorists. Street Plans returned to Coxe Ave on Aug. 1 to host its second public input session to finalize the proposed design and establish the project build date.

On Nov. 1 - 4, 2018 The Street Tweaks team implemented the new tactical urbanism design of Coxe Ave between Hilliard and Southside. Over the four days roughly 200 volunteers were mobilized to implement the plan. Unfortunately, cold and rainy weather conditions caused the team to have to reapply paint over the next week to correct problem areas in the project. Then, in mid December, following a series of freeze thaw cycles, the paint used for the multi-use path (MUP) failed. [The Street Tweaks Team responded within 24 hours](#) of learning of the problem and mobilized volunteers to address the paint failure. Following paint removal, we coordinated with the COA and South Slope Neighborhood Association to develop a repaint plan for the MUP in spring and summer of 2019. The Coxe Ave repaint was completed in August 2019.

Despite the paint problems, the Coxe Ave project has been a tremendous success and has reduced average traffic speeds by 28.3%, introduced new design features such as Asheville's first urban MUP, parking used as buffer, street planters, and bicycle boxes. Additionally, the project installed a four way stop and crosswalks at the Banks and Buxton intersections which provide safe passage for pedestrians. Ultimately, the project introduced the quick build concept to the City of Asheville as a means to improve and provide safe active transportation facilities for all users. The Street Tweaks Team is currently working on its second project planned to be built in the spring of 2020.

Public planning meetings for this project, Summer 2018:



## Before and After photos

Near Banks, looking north:



Between Banks and Buxton, looking north:



Lower Coxe Avenue, looking north:



## Photos of select use cases



Clockwise from top: Garbage cans brought to the edge of the MUP; cyclist climbing in the MUP; and a mother with child in stroller rolling unobstructed in the MUP.



Clockwise from top: Delivery vehicle blocking northbound lane during the day; Ford truck illegally parking in MUP at night, blocking safe use; and a wheelchair user safely traveling south in MUP.



Clockwise from top: U-Haul van used for a resident moving, blocking parking and MUP; vehicle parked illegally in MUP, block site lines; Motorcycles creating their own parking area in the MUP.

## Lessons learned

In launching Asheville's first tactical urbanism project, The Street Tweaks Team learned a variety of lessons it will incorporate in future quick build projects.

1. **Tactical Urbanism works** - The Coxe project has successfully reduced traffic speeds and provided safer infrastructure for all users. The Coxe Avenue corridor works for all people moving by a variety of modes.
2. **Communication can be improved** - In spite of dedicated efforts to communicate in advance about the project, some Coxe Avenue corridor stakeholders provided feedback that the Street Tweaks Team did not provide adequate communication about the project's goals, input sessions, build date logistics, and on-going data collection. Therefore, for future projects, the team will develop a more robust communication plan throughout the duration of the project.
3. **Bad weather should be avoided** - The Coxe Ave project was implemented in November when weather conditions are expected to be cold and often wet. These conditions aren't conducive to installing paint and other materials, and are uncomfortable for volunteers. Therefore, for future projects, the team will design in the fall and winter and implement in the spring and summer.
4. **Test your materials in advance** - Though we relied on expert advice to choose the paints used in the project and consulted with the paint manufacturer about weather conditions, we note some of our paint problems could have been identified early in the process if the Team tested the paint before the build. Therefore, in the future, the team will test paint and other materials in the weeks leading up to the implementation where time allows.
5. **Existing bulb outs are not always an improvement** - the existing sidewalk bulb outs limited our street configuration options by preventing smooth-flowing pedestrian and low speed vehicle traffic in a multi use path that is not on the same grade as the sidewalks.
6. **New facilities take time to be absorbed into the community** - The space between the buffered parking and the existing sidewalk is intended to be shared by pedestrians and bicyclists as it is a MUP, however it has been referred to as a bike path in comments. The planters improve pedestrian's sight lines at crosswalks and narrow the travel lanes to decrease speed. They are a safety device, however they've been understood as a beautification feature. Therefore, in the future, the team will work to communicate the specific purpose of each feature so that stakeholders have a better understanding. This can be done through signage, through careful communication with stakeholders, through meet and greet tours of the project following implementation.
7. **Data collection is important and can be improved** - North Carolina regulations prevented our team from easily accessing business sales tax information and yet projects like ours need data on business changes related to the project; we would seek out

additional data to better measure business changes on any similar future project. Additionally, we would contact stakeholder groups like the South Slope Business Association in order to find out direct answers to the question, “what data would you like for us to collect.” Though we communicated with the South Slope Business Association about the project, our ongoing survey was created without their direct input.

8. **Ongoing support for the project** - The team did not plan on clean-up and touch up days following the build with planned participation from existing neighborhood or business associations. Work days are an excellent opportunity to improve facilities and identify project tweaks. They also strengthen communication and build trust with stakeholders. Therefore, in the future, the team will work to establish work days with corridor stakeholders during the design process.
9. **There is a clear need for improved City rules regarding delivery vehicles** and ride hail services, as well as enforcement of traffic regulations. This project did not anticipate the degree of unmet needs faced by the downtown business district in terms of delivery vehicles, which frequently obstruct the right of way. Similarly, by late afternoon and evening, ride hail services often stop to load and unload passengers in areas that also obstruct the right of way. On Coxe Avenue, these two problems can be witnessed in the block between Banks and Buxton, where delivery vehicles, tour buses, and ride hail services jockey for space. We suggest a designated delivery zone that acts as a delivery vehicle zone during certain hours of the day and a ride hail service drop zone during other parts of the day. The planters and armadillos serve to reduce delivery and drop off / pick up encroachments onto the MUP. Delivery trucks will often opt to obstruct the vehicular travel lanes. If no planters were present, this portion of the MUP would be frequently obstructed by illegally parked vehicles.

## Successful test results

- **Tactical Urbanism as a quick-build process** - The Street Tweaks Team introduced Asheville’s first urban MUP, buffered parking, street mural, and bicycle boxes in four days with roughly 200 volunteers installing the project. The robust volunteer support demonstrates the real desire for safer streets in Asheville as many people are willing to volunteer the labor.
- **Timespan & MUP** - During business hours the MUP is used by pedestrians and bicyclists but in the evening the MUP is most often used by pedestrians. As the use of the corridor changes, the use of the infrastructure changes, and the MUP supports both types of use.
- **Reduction of curb cuts** - The reduction of curb cuts calms traffic and improves mobility options. People in wheelchairs can safely navigate this corridor using the multiuse path. Neither the current City of Asheville ordinances nor the future planning documents for this corridor permit the current configuration of curb cuts; our project temporarily necked down many of these non-conforming curb cuts, improving safety for all users.

- **Inclusion of bike boxes** - Bike boxes provide priority movement for bicyclists through signalized intersections. The team incorporated this facility into the project to introduce the concept to the Asheville community. Each box is accompanied with signage that explains the purpose and how to use a bike box. We notice that Bike boxes will also be incorporated into the Charlotte St road diet.
- **Widened sidewalk** - While the existing sidewalks comply with minimum width standards, they do not adequately accommodate the various needs of pedestrians, especially those who are visually impaired or use a mobility device. The MUP provides increased sidewalk space at street grade.
- **Inclusion of armadillos** - Vehicular encroachment issues are rampant in Asheville. The armadillos serve to define the active transportation facilities and reduce vehicular encroachment onto them. They have proved to be very durable.
- **SMS messaging for ongoing feedback** - The Street Tweaks Team survey methodology allows users to respond in real time to the facilities as they are being used. This allows users to share their experiences immediately and over time.

## Failed test results

- **Late fall and winter install dates:** Avoid. Cold and wet weather are too great a risk to plan any project that involves paint.
- **Small flex posts as protection for a path or bike lane** in urban driving conditions: Fail. Posts in the highest traffic areas lasted only a few hours.
- **Preserving maximum street-side parking** at the expense of sight lines: Not worth it. It is not possible to retain maximum parking and make other road users safe from right-hook turns and similar car maneuvers. Our initial design re-arranged street parking in the corridor and removed only two (2) parking places. After feedback from several business owners, an additional single (1) parking place was removed to better accommodate property access.
- **Loading zone: Missed opportunity.** We missed an opportunity to experiment with a flexible loading zone that handles deliveries during the day and ride hail services at night.
- **Handicap parking: Missed opportunity.** We missed the opportunity to provide dedicated handicap parking.
- **Bicycle corral: Missed opportunity.** We missed the opportunity to install a bike corral as part of the project.

## First time seen in Asheville

1. Temporary test of new street design; Tactical Urbanism
2. Bike boxes
3. Parking protected multi-use path
4. Rolling public feedback throughout project via texted survey

## Process

### Hiring of [Street Plans and Tony Garcia](#)

- Because this was the Team's first Tactical Urbanism project and no process existed within the City for such a project, the Street Tweaks Team wanted to work with an outside consultant to increase the likelihood of deploying a successful project.
- Street Plans is one of the leading consultancies in the world for this type of project; Tony Garcia co-authored [the book, Tactical Urbanism](#), and regularly designs, manages and facilitates tactical urbanism projects.
- By learning from the best, our City can emulate a successful process and avoid some of the pitfalls of having to figure it all out from scratch.
- Street Plans ran both public meetings, designed and printed project materials (excepting signage), ran weekly phone meetings, coordinated with City staff and Street Tweaks team members, designed the project itself, designed the install guides, and arrived on site with 4 staff for the installation, then returned to Asheville with staff to assist in repainting. Street Plans provided copies of all of their work to the Street Tweaks Team as part of this project.

### Communications plan

- Communicate freely with City staff to find a suitable project and establish a process for obtaining approval.
- Once a likely project area is identified, plan for door to door walks of the corridor in advance of meetings
- Direct and frequent communication with South Slope Neighborhood Association, South Slope Business Association to announce public meetings
- [Public press release](#) announcing meetings
- Blog posts announcing meeting
- Flyers on street corridor in advance of meetings

### Design plan

- Include city staff on regular meetings with consulting team
- Deploy team to count parking, measure and quantify existing conditions such as sidewalk widths, bulbout widths, on street parking, and number and length of curb cuts to inform design process.
- Incorporate National Association of City Transportation Officials (NACTO) design guidelines into the design process. Emphasize Vision Zero standards during the design process.
- Communicate the benefits and limits of the quick build approach as well as corridor limitations with corridor stakeholders.

- Communicate design options to corridor stakeholders to allow input to drive the process.
- Develop build and transportation mitigation plan with team.

## Implementation plan

- Distribute build and transportation mitigation plan and share it with corridor stakeholders and volunteers.
- Inventory tools and materials for build days.
- Share volunteer roles and responsibilities and so that volunteers are matched appropriately with project volunteer positions.
- Implement the build plan.

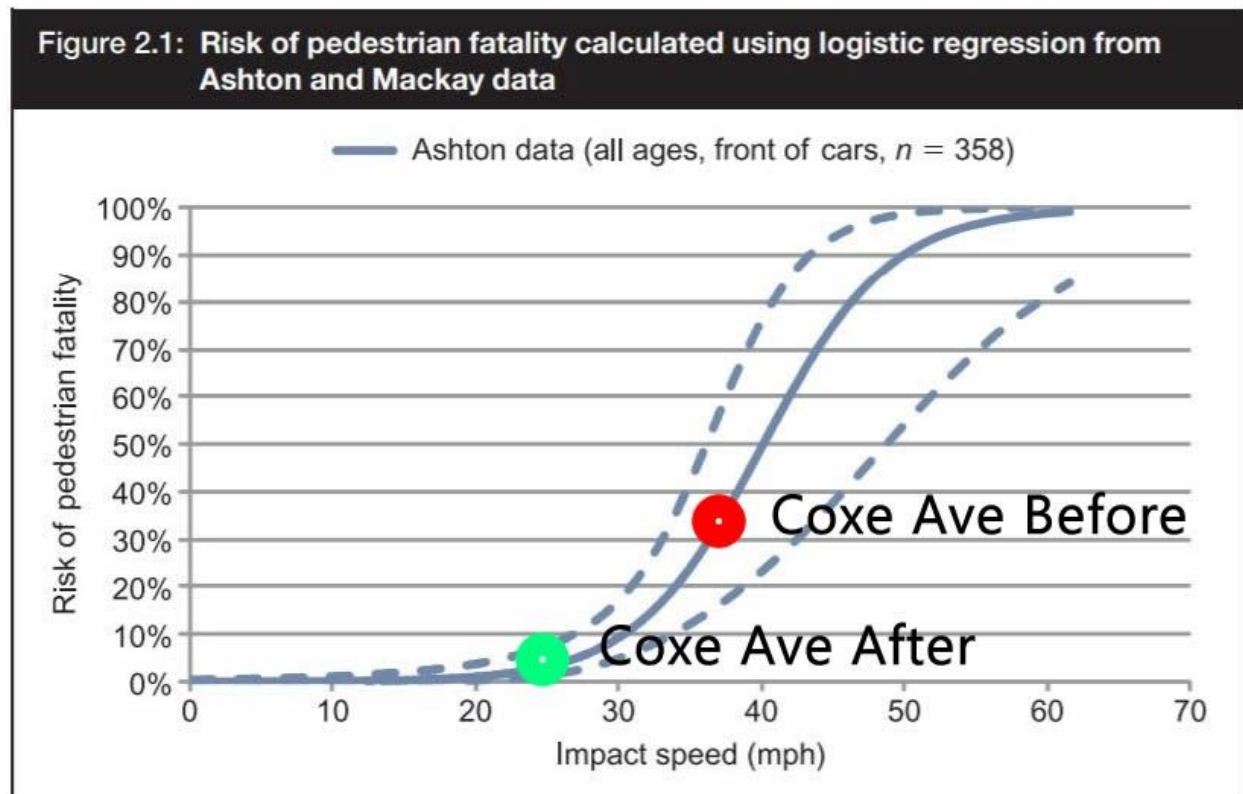
## Data collection plan

- Partner with City for before and after traffic counts and speeds
- Partner with UNCA for volunteer research project from students
- Design ongoing Google survey to gather project feedback
- Link survey to SMS number and publish “Text-for-Feedback” on project signs installed on the corridor during the life of the project
- Share public survey as needed with key stakeholders



## Data collection

### Traffic count and speed study results



- COA conducted pre and post speed and volume counts according to its standard practice. The average mean speed over a three day period prior to the quick build treatment was 35.7 mph. The average mean speed over a three day period following the project was 25.6 mph. The project resulted in a 28.3% reduction in average vehicular speeds.
- Speed monitoring occurred over a 3 day time period before and after the project on the same weekday (Tues/Tues, etc). Before the project, 65.9% of drivers using the road were speeding. The highest recorded speeds each day were: 75.5 mph, 85.5mph, and 89.2 mph. After the project, only 21.3% of drivers were speeding and the highest recorded speeds were 40, 41, and 40.2 mph. Car volume counts were nearly identical in both the before and after time periods.
- We calculated change in traffic speeds by comparing the average traffic speed for the 3 days before the project with the average traffic speed after the project and calculated the percentage change. The project resulted in a 28.3% decrease in average traffic speed on the corridor and dramatically reduced the maximum speeds observed.
- Before links:
  - [Link to traffic study before install](#), near address #100.

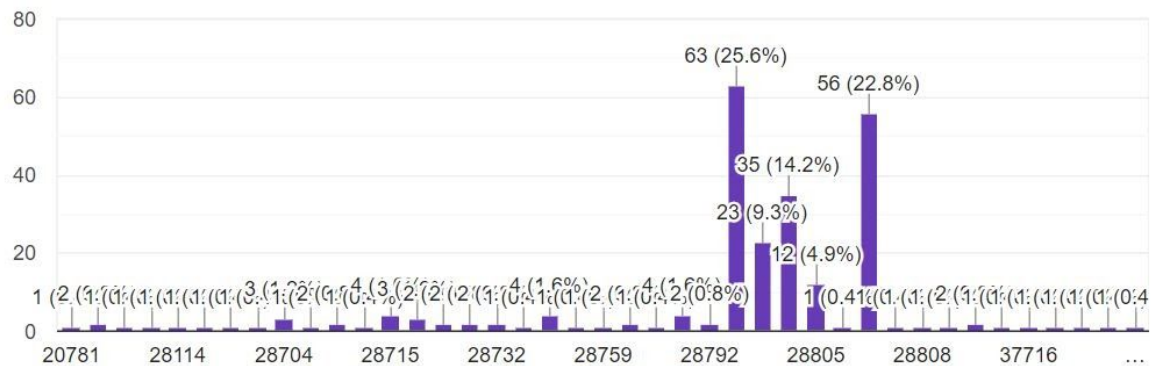
- [Link to traffic study before install](#), near address #207.
- After Links:
  - [Link to traffic study after install](#), near address #100.
  - [Link to traffic study after install](#), near address #207.

## Link to user survey results

- During the life of the project any member of the public take this survey via a cell phone and SMS message.
- The project has collected 262 survey responses between 11/4/2018 and 12/9/2019. [Link to full survey data in Google Spreadsheet](#)

### What is your zip code of residence?

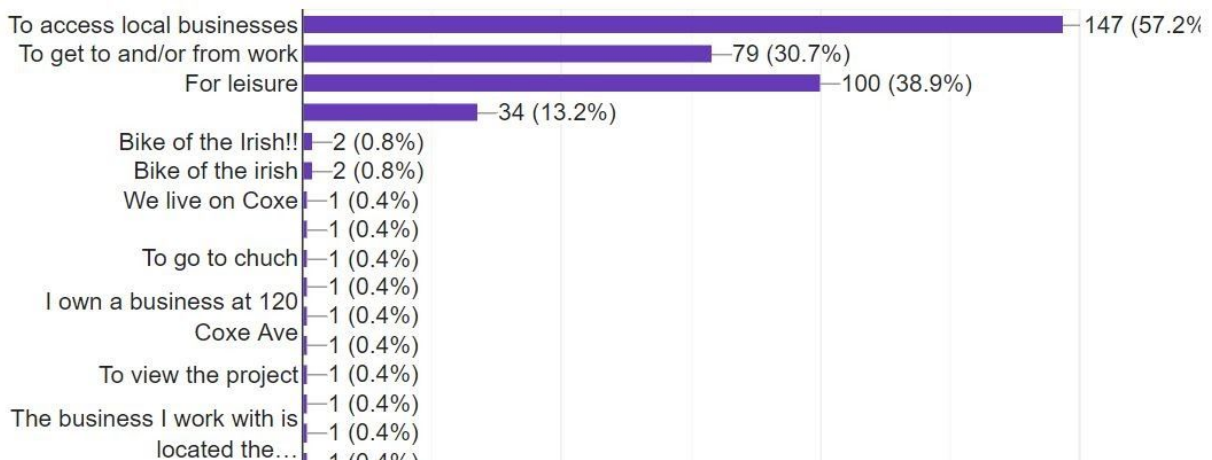
246 responses



The following chart is truncated intentionally, because of the large number of unique responses:

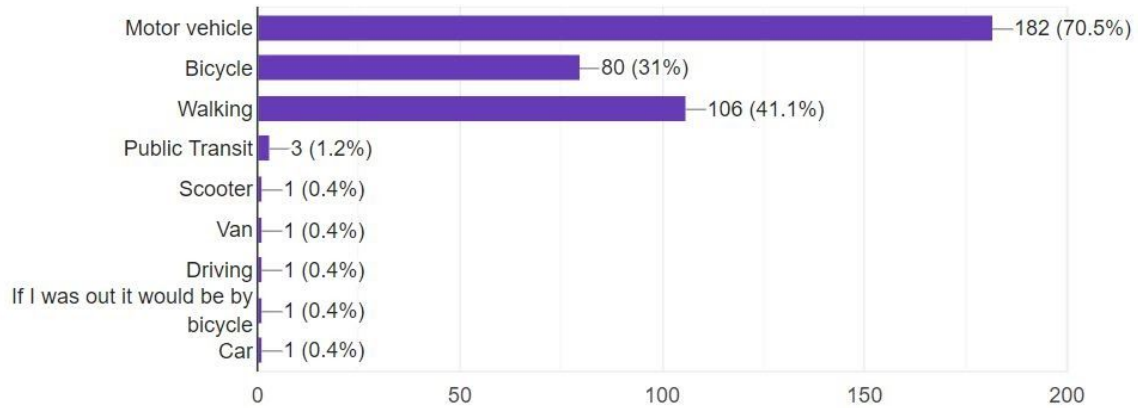
### Why are you traveling along Coxe Avenue today? (select all that apply)

257 responses



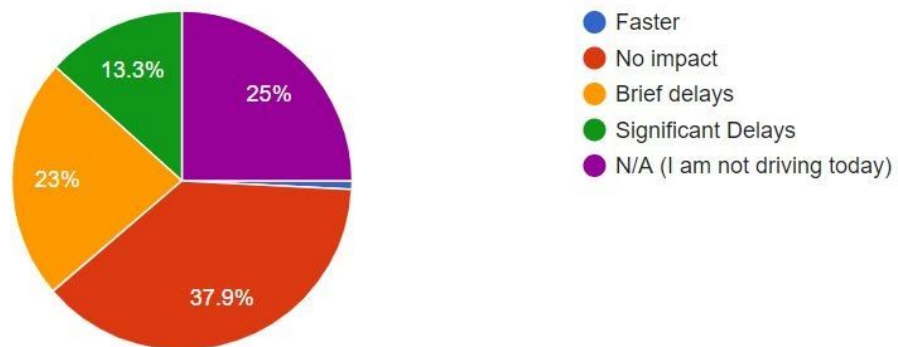
What mode of transportation are you using to travel along Coxe Avenue today? (select all that apply)

258 responses



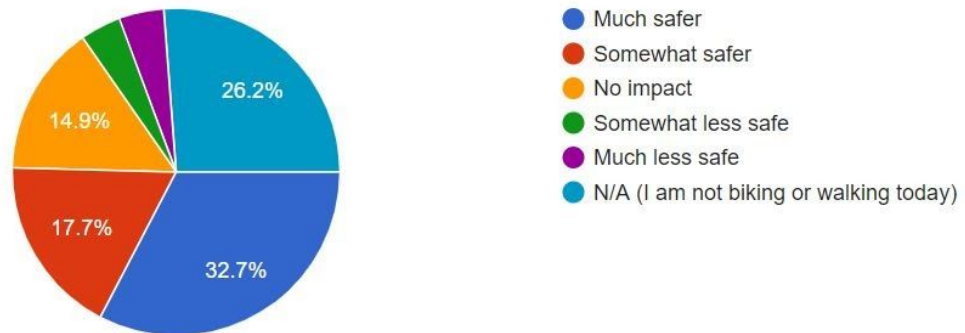
If you are DRIVING on Coxe Ave today, how has the project impacted your drive time?

248 responses



If you are RIDING a bicycle or WALKING today, how has the project impacted how SAFE you feel traveling along Coxe Ave?

248 responses



## Example of positive and negative feedback in survey:

Is there anything else you want to tell us?

156 responses

As residents of Coxe Ave, my husband and I couldn't be more excited about the recent transformation of our neighborhood under the Tactical Urbanism indicative. Not only does a focus on safe transportation for ALL elevate our city, but it makes us feel good about the place we live.

As residents of The Lofts at South Slope, we've been hoping for a more green, safe, and pedestrian friendly street for some time. We see firsthand how fast cars fly up & down Coxe Ave with little regard for its residents or visitors. We've carried worry for ourselves, our neighbors, and the tourists alike when try to navigate the street without proper, prominent, & clearly marked crosswalks.

As this neighborhood's popularity grows, it's obvious the foot traffic is growing as well. Please protect the safety of pedestrians, bikers & cars in this area by placing more stop signs, crosswalks, and bike lanes that are prominent and visible.

We very much appreciated the opportunity to see what our neighborhood could be. It's exactly what we want in the place we call home.

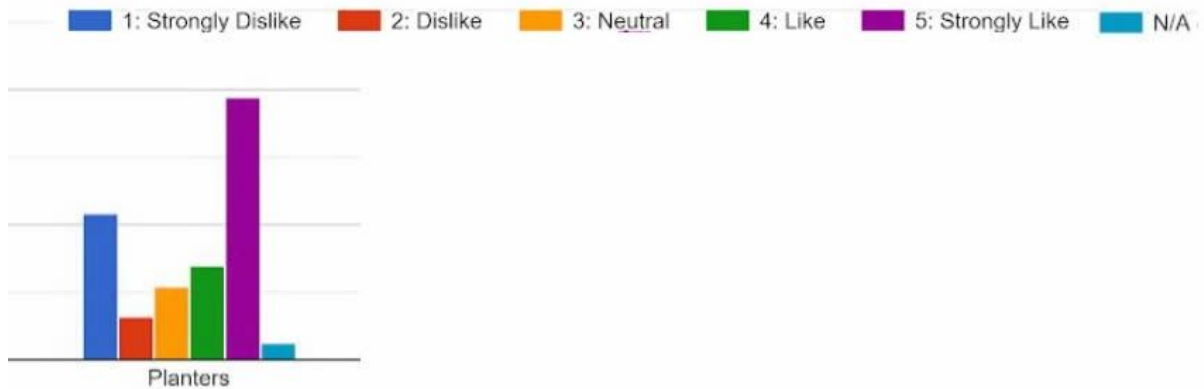
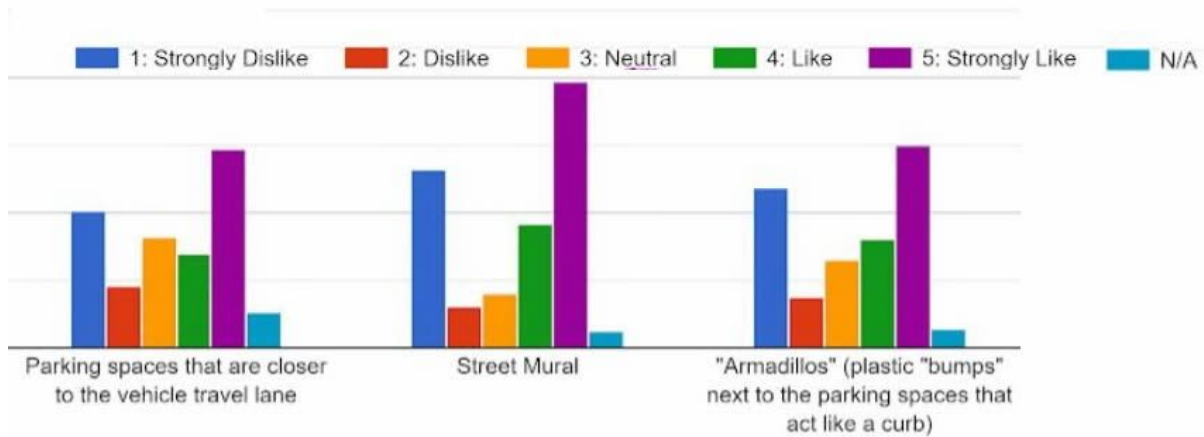
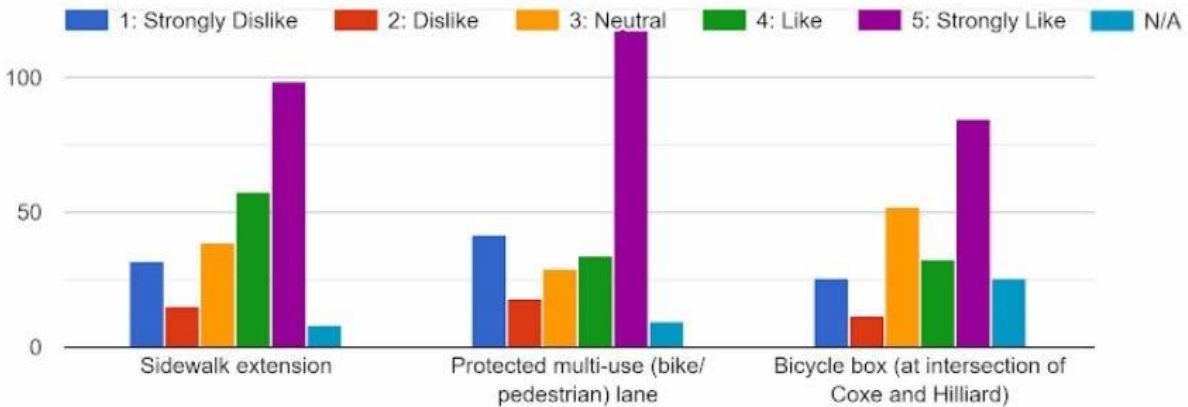
This is rediculus, what brainiac came up with this unsafe and probable illegal idea?

This is amazing!!!

Make it permanent with interchangeable planters periodically and a new mural every 5 years. We need more of this now!!!

I love this project, would love to see it permanent. It's safe and lively, the kind of infrastructure improvements

On a scale of 1 to 5, how do you feel about each of the following design elements?



[Link to full survey data in Google Spreadsheet](#)

## Additional data collected

- First public meeting: Use cases documented, design and material preferences collected
- Second public meeting: Voting for various street configurations prepared by Street Plans
- UNCA student volunteers performed hand counts of vehicles, pedestrians, bicycles on select days. That data has not been shared with the Street Tweaks Team at the time of this report.

## Timeline of Project

- 2017 Street Tweaks team forms between Asheville on Bikes (AoB) and Blue Ridge Bicycle Club (BRBC), begins fundraising, begins looking for project location.
- 2018 City staff suggest that AoB and Street Tweaks consider lower Coxe Avenue
- 2018 AARP, Asheville on Bikes, and Blue Ridge Bike Club commit to the project as the Street Tweaks Team.
- 5/2019 Street Plans and Tony Garcia hired as consultants.
- 6/12/2018 Press release announcing public meetings and project.
- 6/21/2018 First public planning meeting on corridor.
- 8/1/2018 Second public planning meeting on corridor. Designs presented.
- 10/9/2018 [City Council votes in favor; signed MOU](#)
- 11/1/2018 - 11/4/2018 Installation of project with 200+ volunteers. Permit from City.
- 12/14/2018 [Paint failure and beginning of removal work](#)
- 1/1/2019 Loose paint removal complete
- 6/23/2019-8/11/2019 Repaint of MUP with no street closures
- Nov 2020: [Memorandum of Understanding \(MOU\) expires](#)

## Awards Won

- [AARP Grant Award](#)
- Won an [International Downtown Association](#) award in Oct 2019

## Public Press Mentions

### Public explanations of this project

- [Street Tweaks Team home page](#)
- [What is Tactical Urbanism?](#)
- [Update on Coxe Avenue Paint Problems](#)

- [June Public Meeting: Project Workshop](#)
- [August Public Meeting: Project Design Options Presented](#)
- [Letter to Council RE: need for this project](#)

## Press release

- [Press Release announcing public meeting and project](#)

## City of Asheville links

- [City of Asheville Council Oct 9, 2018 minutes](#)
- [City of Asheville blog post](#)

## News stories

- State of Place [Data Driven Makeovers: Interview with StreetPlans](#)
- StreetPlans [Coxe Avenue Project and Photos](#)
- StreetPlans [Redesigning Coxe Avenue](#)
- AARP [Safer Streets For All Users](#)
- Mountain Xpress [New bicycle pedestrian safety measures to be tested on Coxe](#)
- Mountain Xpress [Clean and Green Turning On to Bikes and Greenways](#)
- CityLab [Want Better Streets? Just Add Paint](#)
- Bloomberg Philanthropies [Asphalt Art](#)
- Curbed: [Best Street Plazas](#)
- WLOS: [Changes Come to Coxe Ave to Keep Drivers, Pedestrians, Cyclists Safe](#)
- WLOS: [Why Is Paint Coming Off the Mural](#)
- WLOS: [Business Owners Upset Paint Coming Off Coxe Ave](#)
- National Association of Realtors (NAR): [Tactical Urbanism for Placemaking](#)

## Project Files

1. [Memorandum of Understanding \(MOU\) with the City of Asheville](#)
2. Traffic Studies. Before: [Study 1](#), [Study 2](#); After: [Study 3](#), [Study 4](#)
3. Public [signage examples](#), as [used on corridor](#), as [sized for poles](#).
4. [Final design PDF](#)
5. [Spreadsheet of full text of public comments](#)
6. [Video of project during and after installation](#)

## Future of the Coxe project

The Street Tweaks Team entered into a Memorandum of Understanding (MOU) with the City of Asheville (COA) in May of 2018. The MOU extends to November 2020. The Street Tweaks Team is willing to continue to work with the COA and South Slope Neighborhood and Business Associations in an advisory role to advance and improve the active transportation facilities.

The original plan for this project was for it to remain on the ground for at least a year, before being removed by the City of Asheville during the normal course of work to repave and redesign Coxe Avenue. That City of Asheville repaving work no longer appears imminent and the City of Asheville will ultimately direct the Street Tweaks Team to either remove the project or agree to revise the MOU to reflect some modification or other outcome.

Should the COA opt to remove the project, The Street Tweaks Team will work to remove and reclaim its materials; this project is planned to be temporary. The Street Tweaks Team encourages stakeholders to continue with the quick build approach in order to inform the Coxe Ave design process. Stakeholders should consider:

1. Implementing handicap parking.
2. Implementing loading and rideshare zones.
3. Implementing bicycle corrals and dedicated motorcycle parking.
4. Establish a planter maintenance plan or consider replacing planters with bollards or other traffic calming devices.
5. Reinstalling or replacing the temporary street mural.
6. Street Tweaks Team involvement will terminate in November 2020.
7. This project will either be removed or maintained by the City of Asheville and various stakeholders.

## Thank You

Thank you to AARP, Blue Ridge Bicycle Club, Asheville on Bikes, our donors, and our many project volunteers. Thank you City staff, City Council, and Multimodal Transportation Commission for moving this project forward. Thank you South Slope Residents Association and South Slope Business Association for providing feedback and supporting this project. Thank you Street Plans and Tony Garcia for consulting on this project and teaching us so much. Thank you business owners, commuters, delivery truck drivers, residents, and all the people who have taken the survey and interacted with this project. We have learned a lot together and we are grateful.



Build guides ready to go for coordinating 200+ volunteers.