

## A Multimodal Charlotte Street From a Long-Anticipated Dream to a Quick Reality

Presented by: Rachael Bronson, AICP SC Bike Walk Trails Summit
June 8, 2023



## **MEET**





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Multimodal Transportation Specialist

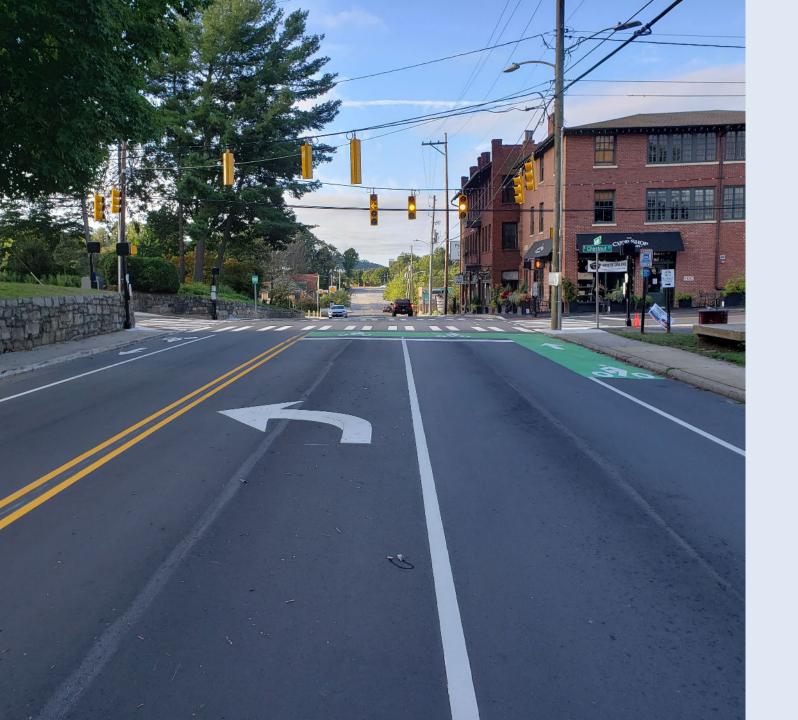
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Traffic Planning & Design, Inc.
Based out of our Asheville, NC Office
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## **OVERVIEW**

**CORRIDOR CONTEXT** 

**PROJECT DETAILS** 

COMMUNITY ENGAGEMENT HIGHLIGHTS

**BEFORE & AFTER STUDY** 

**LESSONS LEARNED** 

## **TIMELINE**

Fall 2018: evaluation study begins Spring 2020: construction begins

Spring 2022: evaluation study complete



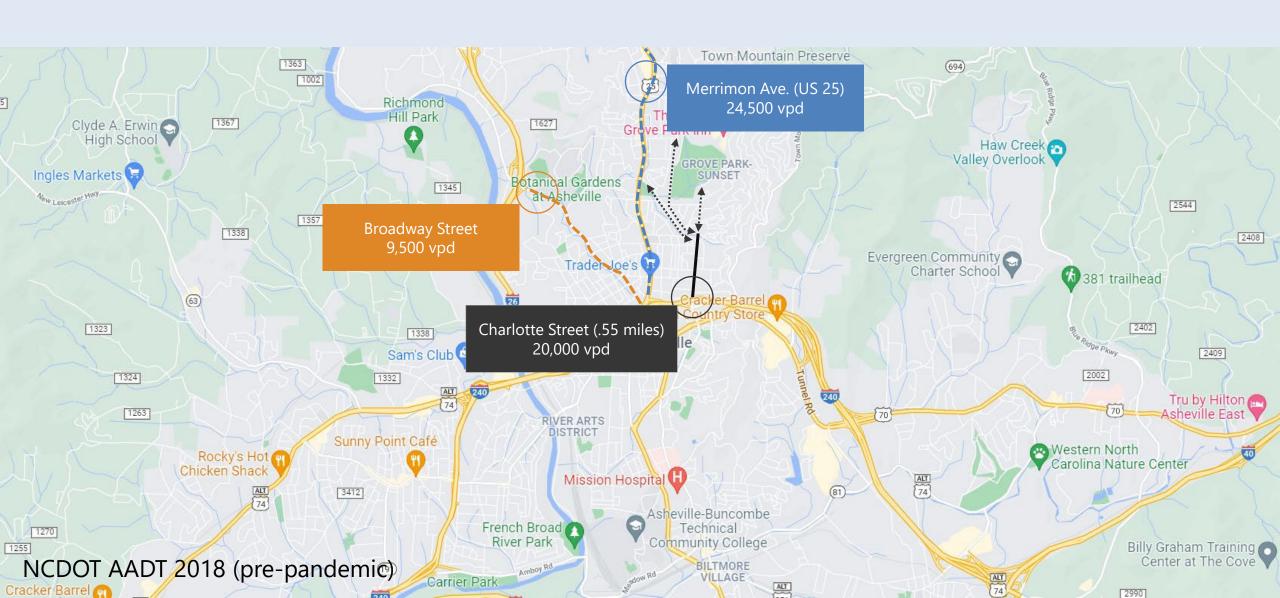


Summer 2019: design complete Summer 2020: construction complete

## **CORRIDOR CONTEXT**



## TRANSPORTATION SYSTEM



## **Debated** since I was 10 years old

### Charlotte Street plan suggested

Businesses and residences share long history on street

Butterseas and residents have long co-existed perspectively sing Caracter Street, and Tarker, who has level there since 1916. But pressures on the most construction of conductors absorbed have neighbors occurred that the character of their community of the common street, and the common street of their common street, and the common street common street, and the common street com

and the character to be been to "high-end" to the character to be been to "high-end" though line the exciting Weether's Silk Son, Mathews and, "Make it the fillimore Village of the north," be said, referring to the historic shops are sorte from the fillimore Existe entrance. It is not been Ingles Maries to consistency from plant for spice as Canadian Service and the second of the contraction of the second of the second

12/1994

### Blueprint for Charlotte St. improvements readied

The Food Clark
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street even the next owners) years.

Mos mening changes will be made.
Rather, the plant will be a bisopried for the
businesses and residence, and the prebusinesses and residence, president to the
businesses and residence, president to get
City Council in Newember.

City Council requested the plan in
1994 because of development and traffic

02/1996

**Planners look at Charlotte Street** 

### Charlotte street facing 'tremendous opportunity'

05/1997

### COMMUNITY ENVIRONMENT Big business or neighborhood?





Charlotte

06/1998

### Comment sought on Charlotte Street plan

07/1998

## By Vince Ellis of or. This means when planners and with planners galaxed when planners galaxed at the planners galaxed to the planners galaxed to the planners of Cardotts Breat or Cardotts Br

prediction and continued and prediction and an artifact and an artifact and an artifact and artifact artifact and artifact

### of out. This means urban planners and architects have to be creative when designing developThis process

02/1997

All Richard Fort wests in to be called the total or a post of the form of the control of the con

Most of all, Fort said, residents like himself want uniqueness. You know the feeling you get when you drive down Tunnel Head? That's not what they want on Char-



CHARLOTTE STREET'S FUTURE below brond, it, then self the fresh day then in the last and of the below been as Chabelle Josep. The boson of the property o Traffic, new development will be comment

discussed at upcoming meetings

The second secon

tions unduly restrict the free- cil. dom of property owners, if the fears of at least one buninessman are realized.

the area have been drawing commercial and residential

the street between interstate scape the street to make it era and business owners. Charlotte Street would 240 and the Grove Park Inn more attractive and give it said Gary Edmonds, who become a landscaped avenue Golf Course since 1966. the appearance of a "special owns Chariotte Street HP The city is bolding a meet-

traffic and pedestrians ing to gather public comment. Edwa would remain residen. Property namer Jerry bustling between stores, on the draft plan at 7 p.m. tial. today at the Jewish Commis- The plan recommends cre- would help the street, such a offices and homes in the gity plan for the street comes mitted to the city's Planning its goals. where government regula: then to Asheville City Coan- the street, however, said the in the plan orging constru

businessmen with interests is Place and I-240, to encourage on the street.

place." The area north of service station.

vision encompassed in a draft - mity Center at 236 Charlotte - ation of a special soning dis-- provisions to consider paving St. It will eventually be sub-trief to help realize some of podestrian crossings Some businessmen along

process of drawing up the tion of buildings deemes The plan recommends a plan has been tilted too far computible with the historic variety of steps to encourage toward concerns of area resi- structures aiready on the pedestrian use of the portion dents who want restrictions street could eventually turn A group of residents and of the street between Edwin on commercial development into tight restrictions or

"The plan is not reflective

Cherokee preparing to tell own story thro

Charlotte Street plan to be debated

### **Charlotte Street's future weighed**

04/1997

Direct Conditions, No stat.
Fort embidies a small fillings.
The lenger I have in my head
From top to bottom, 5-year-old Dylam Picora toes a Charlotte
in there's collect edups, book.
Stores, and apartements and postand chy officials want for Charlotte Ebreel first. Planears such
decreas tucked sway in currents. bringing in a seem of local and out-of-state urban designers to work with the public in helping them realize the kind of life they want for Charlotte Street.

02/1997

05/1998

### **Council Goal**

"To implement a road diet with enhanced bicycle facilities with pedestrian improvements including improved sidewalks and safer roadway crossings, as recommended in the [City's Mobility] plan. Bike lanes between sidewalks and moving vehicles would create a more pedestrianfriendly environment."



### **Budget**

\$ 990,000

Bond Funded Capital Improvement Planning & Construction



Begin: January 2019

**Construction Bid:** June 2019 **Completion:** Summer 2020



### **Goals & Constraints**





**Coordinate** Improvements With **Repaving Opportunity** 



Remain within the **Existing Right of Way** 



**No Utility Relocation** 



## **STUDY LIMITS**



## THE 4 TO 3 ROAD DIET







### **CHARLOTTE STREET**

12,000 – North of Chestnut

20,000 – South of Chestnut





### **CHARLOTTE STREET**

13 Intersections + 27 Commercial Access Points (Many Very Wide)



## **ADA CHALLENGES**











### **CHARLOTTE STREET**

### Angle/Left Turn Crashes Most Prevalent

### EDWIN INTERSECTION

2007 - 2012: 2 CRASHES 2015 - 2018: 5 CRASHES TOTAL: 7 CRASHES

### HILLSIDE TO EDWIN

2007 - 2012: 13 CRASHES 2015 - 2018: 10 CRASHES TOTAL: 23 CRASHES

### GAN SHAN TO HILLSIDE

**2007 - 2012:** 2 CRASHES **2015 - 2018:** 9 CRASHES **TOTAL:** 11 CRASHES

### FUDDRUCKERS TO GAN SHAN

2007 - 2012: 16 CRASHES 2015 - 2018: 4 CRASHES TOTAL: 20 CRASHES

### ARLINGTON TO FUDDRUCKERS

2007 - 2012: 39 CRASHES 2015 - 2018: 25 CRASHES TOTAL: 64 CRASHES





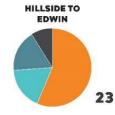


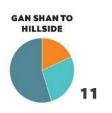
**CUMULATIVE CRASH HISTORY** 

Previous Studies\*

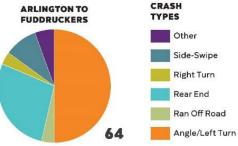
2007 - 2012: VHB Corridor Traffic Study Report 2015 - 2018: NCDOT Crash History Memo











## **COMMUNITY ENGAGEMENT HIGHLIGHTS**



## WE HATE IT!

ence respit since Ly

I cracks me up that we are trying to make a thoughfare into a pedestrian street. Our topography created the way to get from 240 to Beaverdam and narrowing the street won't change that.

Like · Reply · Share · 2y



Thank you for pointing out the obvious. I am dumbfounded that people want to slow down Charlotte Street as if I have a choice to go to another road to get into town? Our side streets will become more backed up. Edwin already has a line up of cars a block long during many times of the day. I get stuck behind the slow moving Trolly's and at least I can pass them once we get to Charlotte Street Computers. There is going to be a huge back up in either direction. Taking a full lane in both directions out, will dramatically slow it down...so obvious. No one is allowed to use the middle floating lane for anything but turning. And then fire trucks and Emergency trying to get up to the GPI?

Like · Reply · Share · 2y



Sounds like we're risking worse side street traffic and major traffic jams.

Like · Reply · Share · 2y





Neighborhood association wants to pay for traffic study on Charlotte Street



WLOS.COM

Reality Check: Could a 'road diet' on Charlotte Street delay emergency responders?

ADMIT ONE

February 19, 2019

"DOG & PONY SHOW"

Sponsored by

## THE CITY OF ASHEVILLE DEPARTMENT OF PLANNING & URBAN DESIGN

A "Show & Tell" Presentation featuring

"The Already Done-Deal Charlotte Street 3-Lane Road Diet" and

"A New Multi-Story Zoning Plan for the Charlotte St. Corridor"

All proceeds dedicated soley for the benefit of cyclists and developers

## WE LOVE IT!

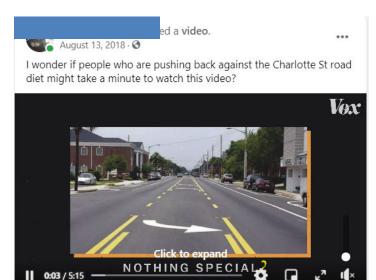


Thank you to everyone who responded to the call to action in support of Charlotte St road diet. While this project is not celebrated by all, I thank everyone for their participation in the process. There are so many people who care about our community. We don't agree on all the issues but we all want the best for our city. Together we roll forward.

### Write Council RE: Charlotte St Road Diet

November 9, 2018 by Asheville on Bikes





Vox 🥏

...

July 19, 2018 · 🔇

There's a way to make commutes safer and easier for both cyclists and drivers. And all it takes is a little paint.

## **FEBRUARY 2019**





## CHARLOTTE STREET ROAD DIET & SAFETY IMPROVEMENTS ROAD DIET BASICS

### WHY A 19 - 47% CRASH REDUCTION



### **SIDESWIPE**

reduced last minute lane changes



### **REAR END**

reduced sudden stops in thru lanes



### **CROSSING / ANGLE**

50% reduction in distance crossing over thru traffic lanes



### LEFT TURN

reduced conflict due to dedicated left turn lane



### **HITTING OBSTACLES**

greater distance from roadside obstacles



### **BICYCLE CRASHES**

dedicated travel lane



### PEDESTRIAN CRASHES

reduced crossing distance, less exposure

bike lane acts as a pedestrian buffer from vehicles

SOURCE: FHWA

### **ROAD DIET MYTHS & FACTS**



### MYTH: DRIVERS WILL BE DIVERTED FROM THE AREA

False. For the majority of 4- to 3-lane conversions, traffic volumes remain about the same through the corridor. In addition, 3-lane roads are generally more efficient than 4-lane roads because vehicles no longer need to stop in the thru lane to make left turns.

### MYTH: ECONOMIC DEVELOPMENT WILL BE STIFLED

False. Converting to a 3-lane road can positively impact property values and businesses. When converting a 4-lane road to a 3-lane road, additional features can be added in the unused space, such as parking and/or bicycle lanes. These features can improve livability and transform the corridor into one people want to drive on versus drive through. Additional parking can provide a benefit to businesses and the center left turn lane improves access.

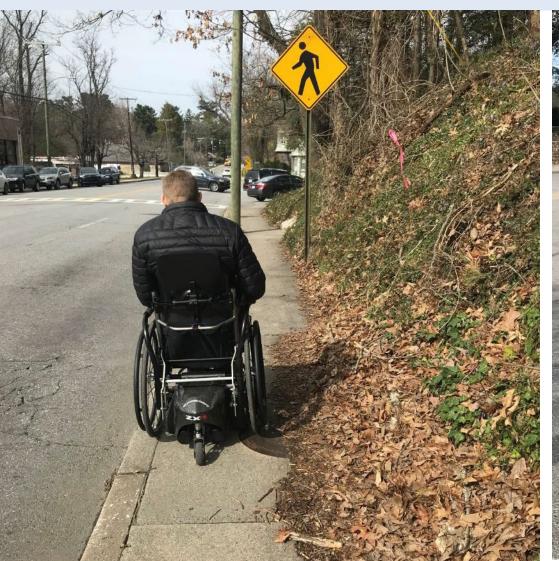
### MYTH: TRAFFIC WILL BACK UP

False. Studies have consistently shown that, for roads with less than 20,000 vehicles per day, 4- to 3-lane conversions will not worsen congestion. In fact, operations and safety improve on a 3-lane road because left turns are shifted into the center turn lane, allowing traffic to flow more freely in the thru lanes.

### MYTH: EMERGENCY RESPONSE TIMES WILL IN-CREASE

False. Contrary to beliefs, a 4- to 3-lane conversion does not increase emergency response times. In fact, response times usually improve because emergency vehicles can utilize the center turn lane when responding to an incident. This avoids bottlenecks that can occur on 4-lane roads when drivers in the middle lanes try to move over for the emergency vehicle, but can't.

## IN PERSON OUTREACH





## **MAY 2019**





## CHARLOTTE STREET ROAD DIET & SAFETY IMPROVEMENTS CHARLOTTE STREET AT LENNOX, LOOKING NORTH

### WHAT YOU CAN EXPECT:

- Pedestrian Refuge Islands with Yield Signs, Stamped "Brick" Asphalt (Not Raised to Allow for Emergency Vehicle Passage)
- 2 End of Northbound Bike Lane, Transition to Sharrows Approaching Edwin Place
- "Yield" Pavement Markings for Enhanced Pedestrian Crossing Visibility
- High Visibility Crosswalk
  Across Lennox
- Curb Extension
  (Bump-out) to Shorten
  Charlotte Crossing Distances, Improve Sight Distance, and Improve ADA
  Ramps











## CHARLOTTE STREET ROAD DIET & SAFETY IMPROVEMENTS THE WEST SIDE WALK

### WE HEAR YOU!

One thing is certain - Charlotte Street neighbors, businesses, and visitors want an improved pedestrian experience.

Most of us know that **sidewalk construction** is **expensive**. It involves utilities, private property negotiation, and a host of other considerations.

The Charlotte Street Road Diet has a limited budget, and the City is committed to keeping the project within the right-of-way. Constructing new sidewalks along Charlotte Street is nearly impossible given these constraints. But that doesn't mean we can't make walking on Charlotte better!

The planning team identified a solution that works within the constraints. We've called it the WEST SIDE WALK.

Why the West Side? While there are many reasons to select the West Side, here are the two key factors:

We investigated the sibility lens to ider
 The west side has can be fixed with.

WHAT WE INCORPORATED

2) We identified signification construction challenges on the east side (parades, historic walls, etc.).

### THE WEST SIDE WALK



Pedestrians of all abilities will have an accessible route from Chestnut Street to Edwin Place along the West Side of Charlotte Street. KEY CONSIDERATIONS



**ACCESSIBILITY** 

(ADA)

IMPLEMENTATION UPDATED CURB RAMPS,
TOOLS DRIVEWAY APRON
UPGRADES

INTERSECTION IMPROVEMENTS



ENHANCED PED CROSSINGS, PED SIG-NALS, IMPROVED SIG-NAGE TRANSIT



LOCATE CROSSINGS NEAR TRANSIT STOPS UNSIGNALIZED CROSSINGS



ENHANCED PED CROSS-INGS, UPGRADED SIG-NAGE, ONE FLASHER UP-GRADE, EVEN SPACING THROUGH CORRIDOR





SIDEWALK ADJUSTMENTS AROUND UTILITY POLES



Improve pedestrian passage around utility poles.



Improve pedestrian access near constrained driveways.



Replace challenging sidewalk ramps.



Fix trip hazards.





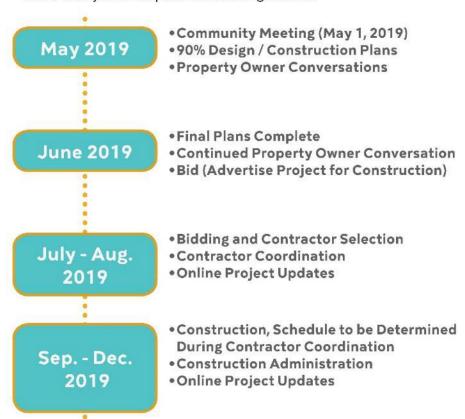




### CHARLOTTE STREET ROAD DIET & SAFETY IMPROVEMENTS WHAT NEXT? - PROJECT STEPS & FUTURE PLANNING / PROJECTS

### PROJECT STEPS

Here's what you can expect in the coming months:



### FUTURE AREA PLANNING & PROJECTS

Given the project budget - \$990,000 for roadway improvement can't address each of the community's mobility concerns as The City and its public and private partners will need to comple planning studies and projects as budgets allow. Private property development is an prime opportunity for public improvements.





STORMWATER



EAST SIDE SIDEWALK



UTILITY POLE REMOVAL/ RELOCATE



STREETSCAPE **IMPROVEMENTS** 



**IMPROVEMENTS** BEYOND STUDY



SIDE STREET













### **EXIT SURVEY**

Before Learning About the Roadway Design, How Supportive of the CSRD Were You?

6.8 / 10

After Learning About the Roadway Design, How Supportive of the CSRD Are You?

7.9 / 10



## **BEFORE**

- 4 Travel Lanes
- No Bicycle Facilities
- Poor Pedestrian Facilities



## **AFTER**

- 3 Lanes
- Bicycle Lanes
- Pedestrian Upgrades



## PEDESTRIAN IMPROVEMENTS







## **BICYCLE IMPROVEMENTS**



## **BEFORE & AFTER STUDY**



# DATA COLLECTION PHASES

### **PHASE I**

Pre-Implementation: 10/20/18 and 11/4/19 - 11/11/19

### **PHASE II**

Post-Implementation Round 1 (3-6 months): 10/27/20 - 11/2/20

### **PHASE III**

Post-Implementation Round 2 (15-18 months): 10/26/21 - 11/7/21 and 12/5/21 - 12/11/21



### **METRICS EVALUATED**





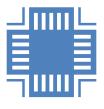




### **FUTURE EVALUATIONS**



CRASH DATA

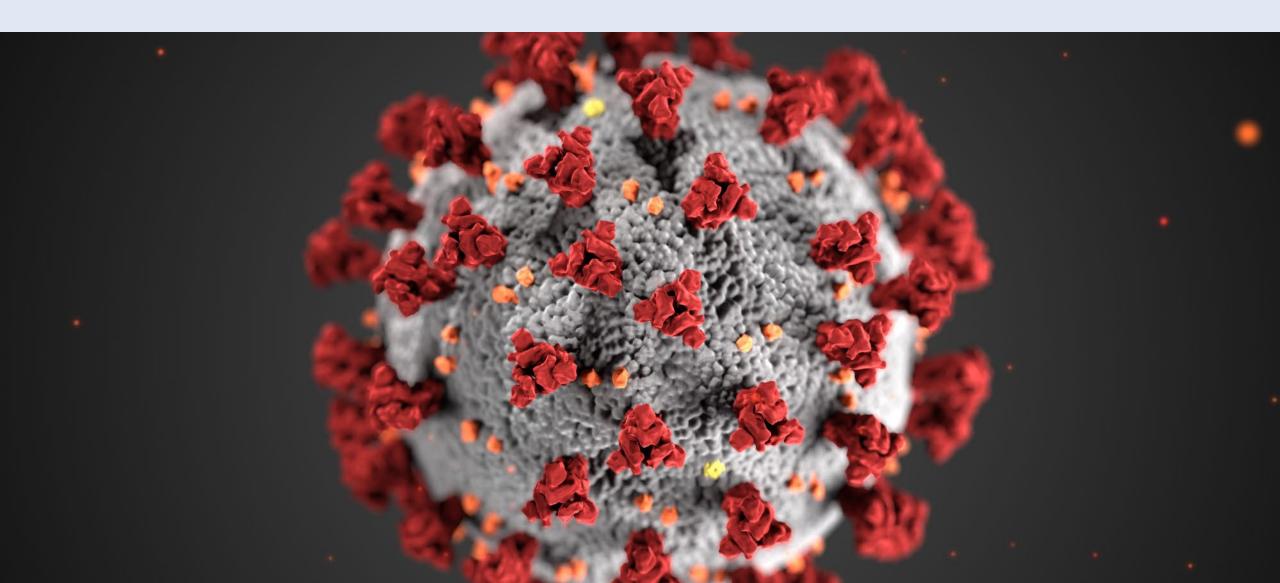


PEDESTRIAN DATA



TRANSIT ACTIVITY

## **COVID IMPLICATIONS**



## **BEFORE** & AFTER SUMMARY





AM PEAK

Down Overall, Need

More Study



**ADT-ALL**Down Overall



PM PEAK
Down Overall, Need
More Study



**ADT-BIKES** *Increase Overall* 



**TRAVEL TIME**Down (Peak Commuter
Travel Time)





**FUTURE STUDY** 

## "AFTER" FEEDBACK

"The left lane turning lane is so much safer than before. She now enjoys driving on Charlotte Street due to the new traffic flow."

"...we can officially feel safe walking around our own neighborhood.

Everyone is safer — whether you're in a car, on a bike, on foot or in a wheelchair."

I find now that the traffic runs much smoother, and feels and seem much safer to me. I'm sure that the data will prove that it is safer.

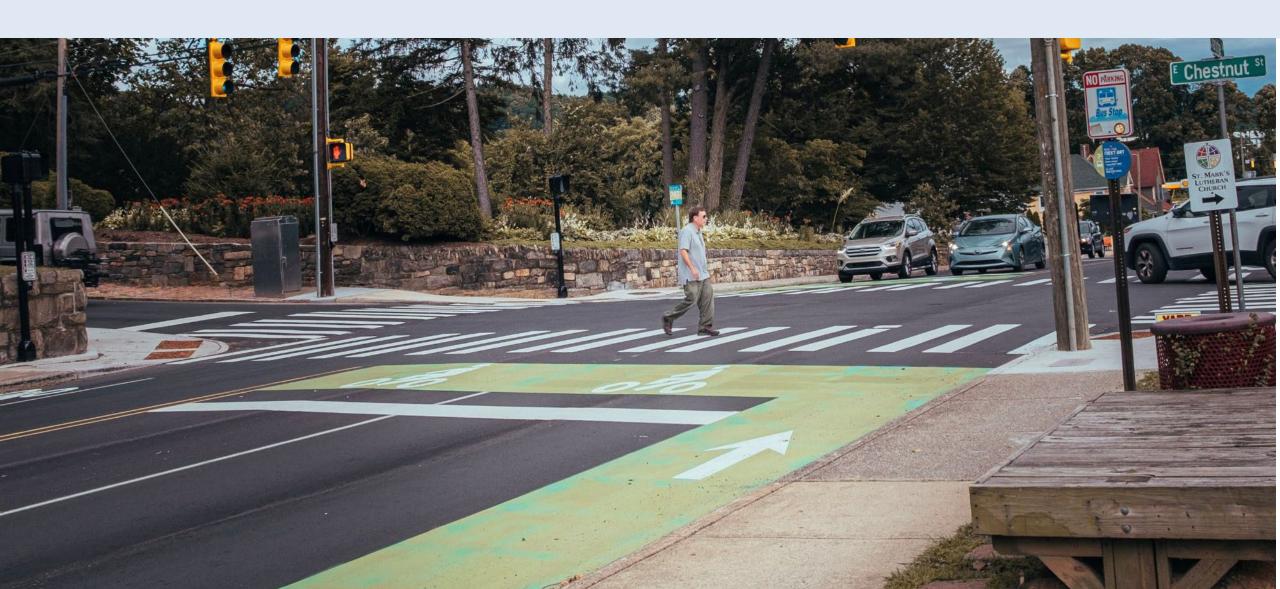
"...first time since moving here I feel safe walking on Charlotte Street."

"I just wanted to offer a heartfelt thank you to each of you and all who were involved in making that stretch of Charlotte St safer and more accessible. I know you weren't able to do all that you planned to do but it's still a vast improvement. It's especially freeing to have access to sidewalks and be able to explore areas outside during a time like this."





## **LESSONS LEARNED**



### **CLEAR LEADERSHIP VISION**

Clear council vision

Council stuck to vision while under pressure

Messaging: Multimodal is Asheville's future

## COUNCIL VISION

People talk to us about:

"our city is changing"

"it does not feel as livable"

"it's not the place I remember"

What cities are trying to do in reaction to this pressure of growth is reclaim their urban vibrancy to make sure Asheville remains a place where you can walk, or you can ride a bike, or you can ride a bus or you can feel comfortable experiencing the urban portions of your city.

MAYOR ESTHER MANHEIMER

NOVEMBER 2018 Charlotte Street Road Diet Vote I know that it seems counterintuitive that we don't continue to widen road because that is what we've been taught. There is a new way of thinking in terms of managing the future of urban growth, not just in Asheville but everywhere.

I think that if we want to preserve what makes Asheville special, we have to make sure that we allow people to experience the City in all ways.

This is not an entirely new concept and hopefully this is a step towards having our City to be experienced by everyone in a more enjoyable way.

# HONEST PUBLIC ENGAGEMENT

#### **COMMUNICATE**

- What project will / won't do.
- What projects need to come later.
- Help identify trade-offs.

Actively involve stakeholders (in the field when possible).



# PRE-PLANNING IS ESSENTIAL

Do a feasibility study.

Scope for accurate design and construction cost estimates.

Plan for and with other systems (e.g. stormwater).



## ADA LESSONS LEARNED

Don't skimp on ADA design.

Get right of way & temporary construction easements early.

Document technical infeasibility of ramp elements.

Inspection oversight.



# Thank you!



Rachael Bronson, AICP

Multimodal Transportation Specialist

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# Questions?



### **DATA POINTS**

#### **24-HOUR TUBE COUNTS**

Vehicles & Bikes

#### **VIDEO COUNTS**

Pedestrians & Bikes

#### **TRAVEL TIME**

BlueMac Data

#### **VEHICLE SPEED**

85th Percentile Speed

#### **CUT THROUGH TRAFFIC**

Washington Road Madison Avenue

#### Charlotte Street Road D... Q

Locations of data collection and 37 views

#### SHARE

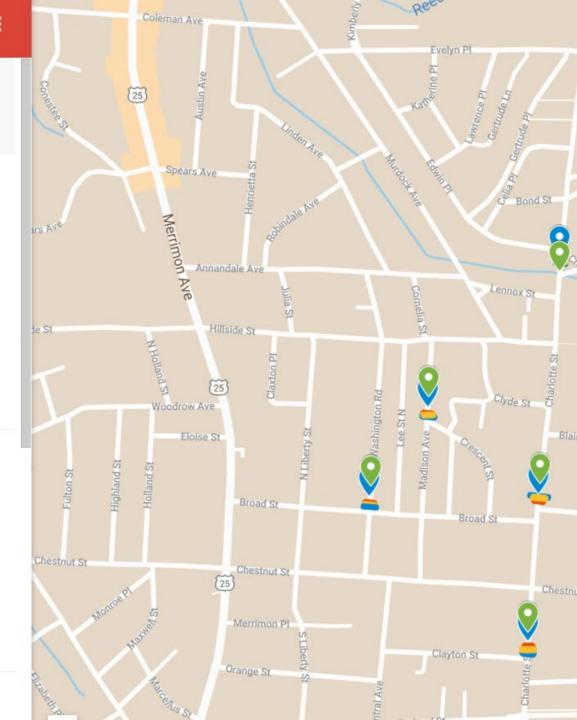
#### 24-hr Counts

- North of Clayton
- South of Edwin
- North of Baird
- 4 Madison, North of Crescent
- 👢 Washington, North of Broad
- Oct Washington

#### Speeds

- N of Clayton
- N of Baird
- S of Edwin
- Madison N of Crescent
- Washington N of Broad

#### Classification



## **ADT (ALL TRAFFIC)**

#### **2019 – 2021 COMPARISON**

#### **CLAYTON STREET**

Down (-16%)

#### **BAIRD STREET**

Down (-5%)

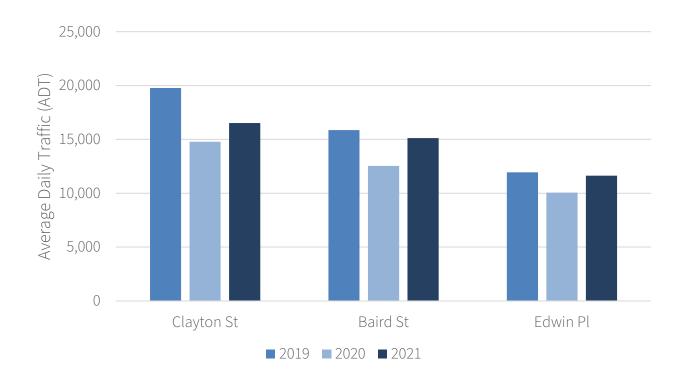
#### **EDWIN PLACE**

Down (-3%)

#### **TAKEAWAY**

Decrease in Daily Traffic, Most Notably near I-240 Interchange

# Charlotte Street Average Daily Traffic (All), 2019-2021



# AM PEAK HOUR (NB/SB COMBINED)

**2019 – 2021 COMPARISON** 

#### **CLAYTON STREET**

Down (-16%)

#### **BAIRD STREET**

Down (-8%)

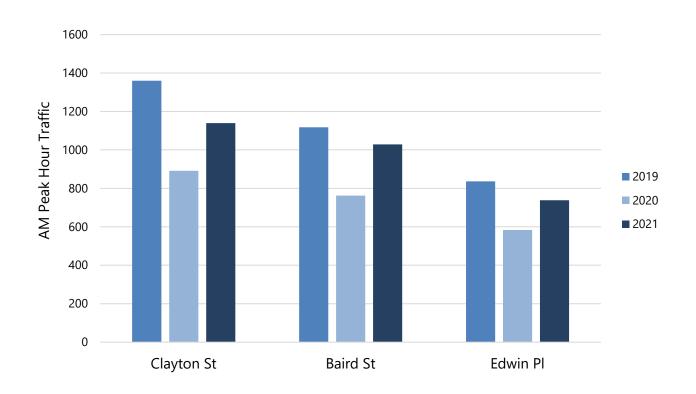
#### **EDWIN PLACE**

Down (-12%)

#### **TAKEAWAY**

Decrease in AM Volumes, Most Notably near I-240 Interchange

# **Charlotte Street AM Peak Hour Traffic,** 2019-2021



# PM PEAK HOUR (NB/SB COMBINED)

**2019 – 2021 COMPARISON** 

#### **CLAYTON STREET**

Down (-27%)

#### **BAIRD STREET**

Down (-7%)

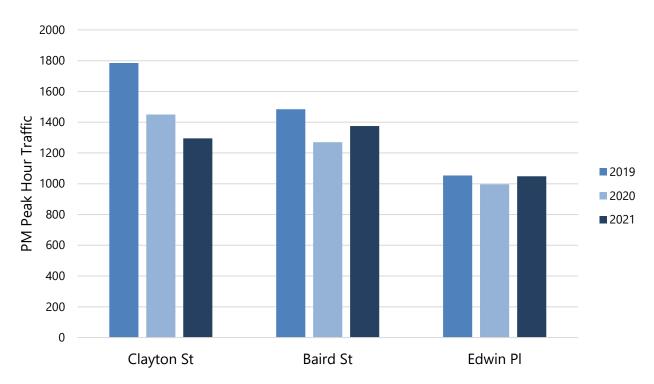
#### **EDWIN PLACE**

No Change

#### **TAKEAWAY**

Decrease in PM Volumes, Most Notably near I-240 Interchange

# Charlotte Street PM Peak Hour Traffic, 2019-2021



# AM PEAK TRAVEL TIME

IN SECONDS

**2019 – 2021 COMPARISON** 

#### **Clayton to Baird**

Down (-0.1s) (NB)

Down (-1.3s) (SB)

Segment of most interest

#### **Baird to Edwin\***

Up (+1.7s) (NB)

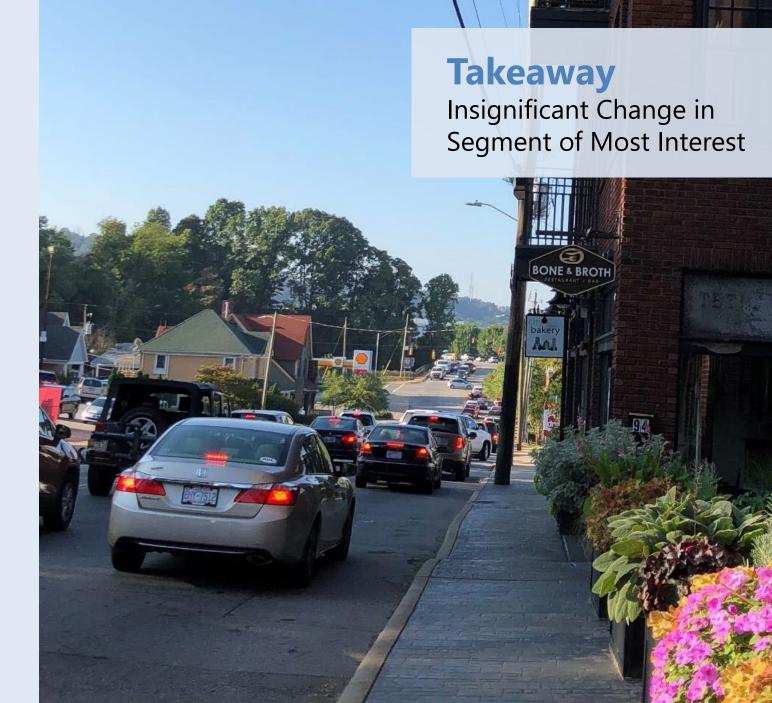
Up (+14.8s) (SB)

#### **Full Corridor\***

Up (+13.2s) (NB)

Up (+19.6s) (SB)

\*Likely influenced by ped push button issue at Hillside



# PM PEAK TRAVEL TIME

IN SECONDS

**2019 - 2021 COMPARISON** 

#### **Clayton to Baird**

Down (-1.9s) (NB)

Up (+5.4s) (SB)

Segment of most interest

#### **Baird to Edwin\***

Up (+0.8s) (NB)

Up (+18.7s) (SB)

#### **Full Corridor\***

Up (+3.8s) (NB)

Up (+30.7) (SB)

\*Likely influenced by ped push button issue at Hillside



### **SPEED RESULTS**

#### **2019 – 2021 COMPARISON**

#### **CLAYTON STREET**

Down (-3%)

#### **BAIRD STREET**

Down (-3%)

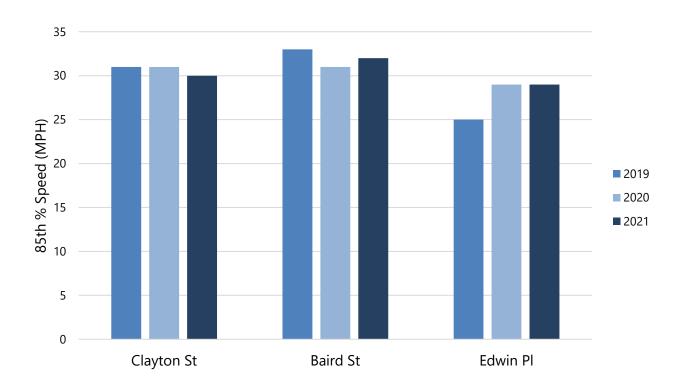
#### **EDWIN PLACE**

Up (+16%)

#### **TAKEAWAY**

Slight Reduction Except at Edwin Pl (+4 mph)

# Charlotte Street 85<sup>th</sup> Percentile Speed, 2019-2021



## **COUNTS (BICYCLE)**

2019 - 2021\* COMPARISON

#### **CHESTNUT STREET**

Up (+250%)

#### **BOARD STREET**

Up (+164%)

#### **EDWIN PLACE**

Up (+97%)

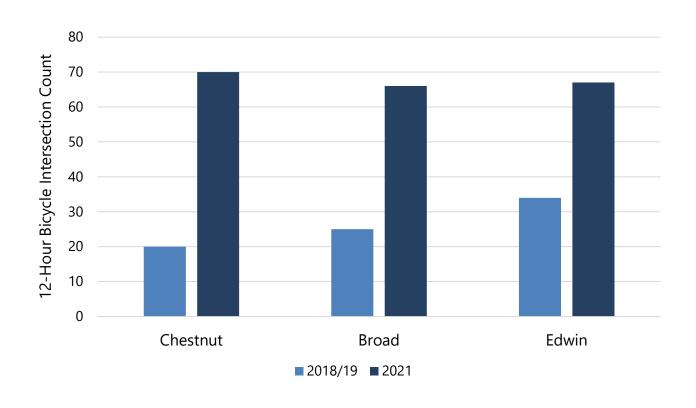
\*Before weather was sunny/dry, after weather was chilly/wet

#### **TAKEAWAY**

**Bike Volume Significantly Increased** 

(Poor Weather for "After" Data Collection)

# Charlotte Street 12-Hour Bicycle Count, 2018/19-2021



### **COUNTS<sup>1</sup> (PEDESTRIANS)**

2019 - 2021\* COMPARISON

#### **CHESTNUT STREET**

Down (-39%)

#### **BOARD STREET**

Up (+60%)

#### **EDWIN PLACE**

Up (+32%)

\*Before weather was sunny/dry, after weather was chilly/wet

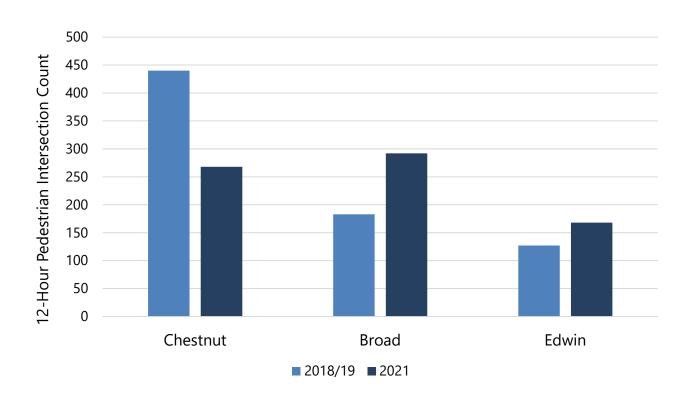
#### **TAKEAWAY**

**Ped Volume Change Varies by Intersection** 

(Poor Weather for "After" Data Collection)

# Charlotte Street 12-Hour Pedestrian Count<sup>1</sup>, 2018/19-2021

<sup>1</sup> Pedestrian Volumes are Not a Key Indicator of Road Diet Effectiveness for Charlotte Street Due to High Pedestrian Activity in "Before" Data



### **CRASHES**

2019 - 2021



#### LEFT TURN

Down 93% (-13 crashes)



#### **REAR END**

Up 100% (+2 crashes)



#### **SIDESWIPE**

Down 50% (-1 crash)



#### **RIGHT TURN**

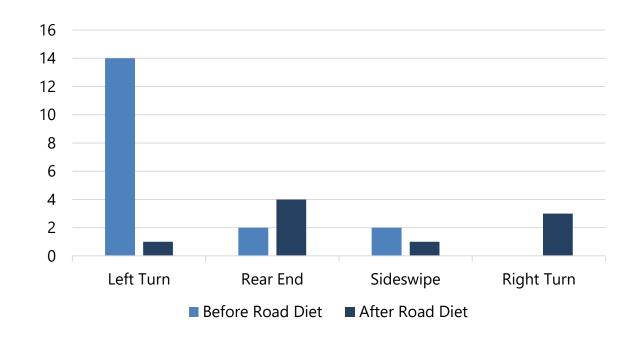
Up 300% (+3 crashes)

#### **TAKEAWAY**

Overall Crashes Down 59% (-9 Crashes Over 12 Months)

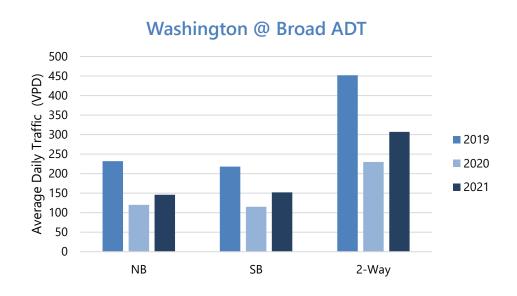
# **Before and After Road Diet Analysis of Select Crash Types**

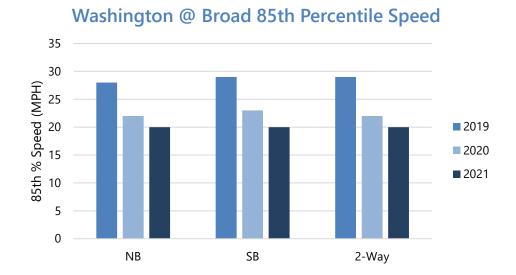
\*For more robust findings, a 3-year post-construction evaluation is recommended



## **WASHINGTON ROAD**

### Cut-through Comparison



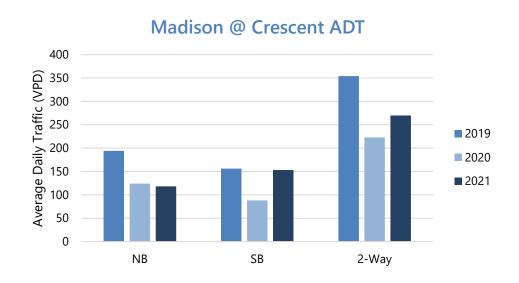


#### **TAKEAWAY**

ADT & Volume Decline on Side Streets with No Increase in Cut-Through Traffic

## **MADISON AVENUE**

## **Cut-through Comparison**





#### **TAKEAWAY**

ADT & Volume Decline on Side Streets with No Increase in Cut-Through Traffic