



# BLUE RIDGE ROAD STREETSCAPE STRATEGY



BLUE RIDGE CORRIDOR ALLIANCE  
ADOPTED AUGUST 2020

The Blue Ridge Road district is in the midst of a transformation. What has been an underdeveloped and disconnected area is becoming a vital urban place of culture, recreation, employment, learning and healing. To reach its full potential, the corridor that is the spine of the district must also be transformed. This report focused specifically on streetscape planning and design issues with a focus on safety for components within and immediately adjacent to the Blue Ridge Road right of way. An aspirational vision sets our sights on the ultimate transformation of the corridor, while the implementation strategy sets forth a path for incremental improvement in pursuit of that vision.

## A Vision for a Complete Street

*Blue Ridge Road is a safe, beautiful multimodal corridor that accommodates all users, and unifies and connects a series of diverse districts through thoughtful streetscape elements.*

*The Blue Ridge Road corridor is also a connector to the broader region. Transit routes and travel lanes connect people to the Triangle, and welcome visitors to regional destinations for healthcare, culture, employment, education and entertainment. Sidewalks and paths connect visitors to the heart of the region's recreational opportunities: city greenways, the NCMA Art Park, Prairie Ridge Ecostation, Schenck Forest and Umstead State Park beyond.*

## Prior Planning Initiatives

In 2012, the community came together to draft a vision for the area in the form of the Blue Ridge Road District Plan. This document puts forth an ambitious vision for a transformed district that features hubs of activity correlated to the anchor institutions, supported by a network of safe streets and urban mixed use development.

Per the District Study: “Blue Ridge Road will continue to be the primary transportation spine through the district. The design will adhere to Complete Street principles to vastly improve conditions for pedestrians and cyclists.”

This is a major shift from the current development pattern: major regional destinations isolated from one another along a major thoroughfare dominated by automobile traffic. The transformation of the district will not happen overnight. Rather, new development and capital projects will incrementally shift the district in a positive direction. This shift is already evident in the 8 years since the plan was adopted. Institutions such as Rex Hospital and the North Carolina Museum of Art are expanding and framing the corridor with buildings and public spaces. State Agencies are modernizing their facilities, moving operations, and exploring new investment. Increasingly, there is interest in residential development along the corridor, and new corporate headquarters such as Bandwidth are relocating to the district.

The 2012 plan envisions Blue Ridge Road area being served by a network of streets, thereby dispersing traffic, reducing trips by creating a mixed use environment, and thus allowing Blue Ridge Road to become a slower street with on-street parking in lieu of a travel lane, medians, and frequent intersections leading to slower travel speeds. As investment occurs within the corridor, it is imperative that the street and streetscape evolve with it to achieve the study’s vision of a complete street and cohesive district. Achieving this vision necessitates a phased approach, as Blue Ridge Road will continue to carry a high volume of traffic in the meantime as street networks are developed via incremental private development.



*Proposed street section from the district study, featuring urban development, planted medians, in road bike lanes and wide sidewalks. Source: [Blue Ridge Road District Study](#), City of Raleigh*

## Existing Road Conditions

### Vehicular Traffic

The Blue Ridge Road corridor is typically a 5 lane section, with 2 directional lanes and a center turning lane with occasional medians. There are also right turn lanes at higher volume driveways and intersections, and additional turning left turn lanes at larger intersections and on-ramps. While the dimensions of the street are fairly consistent, the Average Daily Trips (ADT) varies widely. In the vicinity of the North Carolina

Museum of Art, the ADT is between 25,000-29,000 trips per day. This level drops south of Wade Avenue to 21,000-17,000 trips per day near the Fairgrounds and NCSU Veterinary School. South of Hillsborough Street, traffic decreases significantly to just 9,100 trips a day at Beryl Drive. These numbers may fluctuate significantly based on future redevelopment and the grade separation of the Blue Ridge Rd/ Hillsborough Street intersection.

BLUE RIDGE ROAD EXISTING CROSS SECTIONS				
SECTION	# OF LANES	MEDIAN	BICYCLE LANES	PARKING
	4	Vegetative Median	No	No
	5	Center Turn Lane	No	No
	5	Center Turn Lane	Yes	No



*Blue Ridge Road Section north of District Drive*



*Blue Ridge Road Section from District Drive to Beryl Road*



*Blue Ridge Road Section south of Beryl Road*

Existing street sections Source: [Blue Ridge Road District Study, City of Raleigh](#)

Despite the varying ADTs, the speed limit is a consistent 45 miles per hour, with a road width ranging from 90 to 110 feet. Travel speeds are often in excess of the speed limit, particularly when there is a low volume of traffic such as weekends, which is often when pedestrian and bicycle traffic increases creating a tension between fast moving vehicles

and slower non-motorized traffic. There are relatively few signalized intersections given the corridor's length, and large block sizes without an intact secondary street network. These conditions create a high speed and relatively high volume street that, in turn informs both NCDOT policy regarding safety, as well as this document's proposal for placing bicycle users behind the curb to provide adequate protection from fast moving vehicular traffic.

### Transit

The Blue Ridge Corridor is served by multiple transit routes, including GoTriangle DRX and CRX routes, GoRaleigh's Route 27 and Route 100, and NCSU's Wolfline. Several transit stops along Blue Ridge Road have been improved recently with shelters,

including highly visible custom red shelters, benches and lighting.

Unfortunately, transit stop access can be challenging due to a disconnected sidewalk network, lack of bike lanes, and challenging intersections. There are park and ride lots and large employers in the district that drive



the placement of these routes, and further investment in safety and streetscape improvements for pedestrians and cyclists could enhance the desirability of transit usage.

### Sidewalks

Much of the corridor features 5 foot wide sidewalks on one or both sides of the street. However, there are gaps in this network that make traversing the corridor difficult and dangerous. These gaps range from small sections in front of one building to blocks-long gaps such as adjacent to the NCSU Veterinary School or the State of NC properties across from the NC Museum of Art. In the places where the sidewalks do exist, they are generally 5 feet in width, which while functional is insufficient for two people to comfortably walk side by side or pass one another. This incomplete network, combined with undersized dimension, lack of shade and buffer from fast moving vehicular traffic makes the Blue Ridge Road corridor a place that is not comfortable, or in certain places safe to walk.



### Bicycle Facilities

While bicycles are considered vehicles and have the legal right to use vehicular travel lanes, practically speaking Blue Ridge Road does not accommodate bicyclists well. The only striped bicycle lanes in the corridor are located south of Beryl Road and terminate without connecting to any other meaningful bicycle facilities. This is likely due to the facility installation at the time of street repaving rather than as a standalone project that could dictate project termini.



## Streetscape Elements

The corridor features an assortment of minimally-maintained landscaping elements, such as planted medians, and understory trees. These elements are not very visible given the scale of the corridor and travel speed. Space constraints and NCDOT requirements to place elements outside of the travel recovery zone further diminish their efficacy by placing street trees behind the sidewalk rather than providing a shaded buffer and sense of enclosure at the back of curb.

Most utilities are above ground, and portions of the corridor feature a Duke Energy high voltage transmission line with accompanying large scale metal poles. Street lights are generally mounted on wooden poles and spaced based on lighting for motorists rather than pedestrians. This combined with the suburban nature of development with buildings set far back from the road lend to a perception that the corridor feels inconsistently lit from a pedestrian's or cyclists' perspective.

## Ongoing Capital Projects

There are also two capital projects currently underway that will impact the design and use of the Corridor:

- The City is investing in multimodal street improvements via the [Blue Ridge Road Bicycle and Pedestrian project](#). The project includes the state's first protected intersection at Reedy Creek Road, with dedicated and protected crossing lanes for both cyclists and pedestrians. The project's feature element is a dedicated bicycle and pedestrian bridge across Wade Avenue, and multiuse path connections to the NCMA to the north, and the grade separation project's terminus at Trinity Road to the south.
- The State of North Carolina, in partnership with the City of Raleigh is undertaking the [grade separation of the Hillsborough Street-Blue Ridge Road intersection](#) to improve safety by eliminating the at-grade crossing of a rail line. This major capital project will include a multiuse path on both sides of Blue Ridge Road.

Private Development

The BRCA District continues to accommodate investment and growth. Recent examples include: NCMA Park, UNC Rex Cancer Center and several medical related office buildings and the new NC Department of Agriculture building. In addition, the Bandwidth Corporation recently announced intentions to develop their headquarters on the north west corner of the Edwards Mill and Reedy Creek intersection. Continued investment and development on State controlled properties along the Blue Ridge Road ROW and within the broader corridor/district the corridor is anticipated as state own lands are converted to other uses and owners. The expansion of the North Carolina Museum of Art sets the standard for a streetscape that guides a transition from a car-oriented



*Bicycle and Pedestrian facilities and streetscape elements at the NCMA Art Park*

place to a thoughtfully designed multimodal connection to culture and nature. Rex Hospital is currently constructing Phase One of a large healthcare district across from their current campus, and as a result a secondary street grid is beginning to emerge. Bandwidth has announced the future development of their headquarters on nearby

Edwards Mill Road, and continued investment in State-controlled properties along the corridor are contemplated.

## Streetscape Components

A streetscape is made up of interrelated components, all of which play a part in achieving the overall vision for the corridor. Each of these components plays an important part, and many are constrained by regulations, site conditions, and funding limitation. A phased approach to implementation will respond to these limitations while acting on design imperatives to transform the district through continued retrofits, investment and private development of adjacent properties. As Dan Gottlieb of the NCMA concisely stated, “Safety first, then amenities.”

This document frames the importance of each streetscape component, the imperative for their change, and a list of action items to meet this imperative.

### Sidewalk and Bicycle Lanes

ISSUE

While the UDO and Corridor Plan call for wide sidewalks and unprotected bicycle lanes in the roadbed, best practices for cyclists have evolved, especially on high volume/high speed roads. As such, the City’s Bicycle Plan advocates for the installation of separated bikeway along the corridor. This approach is exemplified by the installation of a separate bike path and sidewalk adjacent to the NCMA Art Park. While the NCMA frontage also provides generous grassed lawns between both the curb and bicycle lane, and a planted lawn between the bicycle lane and sidewalk, a narrower section can



Source: City of Raleigh Bicycle Plan

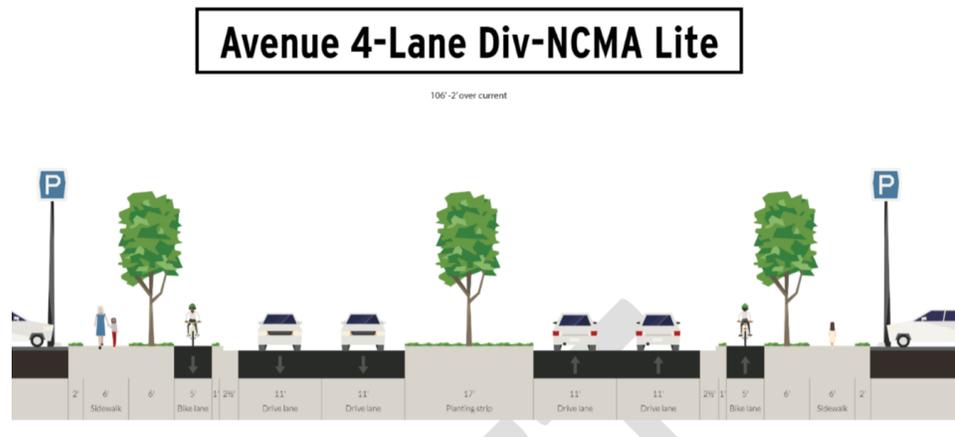
incorporate these elements with minimal additional widening of the right of way. The following components should be incorporated into all new development fronting the Blue Ridge Road corridor:

#### DESIGN RECOMMENDATION

- Paved one-way Bicycle Path- 5-6’ wide asphalt path, 8’ would be ideal
- Tree Lawn-4’ - 6’ wide with canopy trees spaces 30-40’ on center
- Street lights (including pedestrian-scale) interspersed within the trees
- Sidewalk- 6-10’ wide concrete path
- Alternate considerations for constrained sites – where topography or existing development makes placement of separate bicycle path and sidewalk impracticable, use of a minimum 10’ concrete multiuse path is acceptable.

#### RECOMMENDED ACTION ITEMS

- Advocate for City Council adoption of the “Avenue 4-Lane Divided” street section.



*Source: City of Raleigh Transportation staff concept*

- Advocate for city funding for infill of missing sidewalk gaps
- Advocate for city funding of upgrade to sidewalks to mixed use path or separated bicycle and pedestrian lanes as space permits and where near to mid-term redevelopment is not anticipated
- Participate in the Western Boulevard BRT station area planning initiatives to determine whether the separated bicycle and pedestrian pathways is sufficient for the type of redevelopment contemplated, or if a different treatment of both the street and streetscape is possible. Knowing that the ADT south of Beryl Road is significantly lower than the remainder of the corridor, a more urban style street with on street parking and an in-road protected bicycle facility may be possible through lane reduction, leaving more space for a wide urban sidewalk.

## Street Trees

### ISSUE

Street trees play an important role in creating a people space. They provide shade, beauty, protection, and a cooling microclimate. Street trees, when properly placed, can create a sense of enclosure that provides a visual cue to motorists to drive a slower speed, and create a cohesive frame for that connects the corridor's distinct districts.

City of Raleigh regulations require the installation of street trees as part of site development (via the Administrative Site Review process). When used, canopy trees are to be placed 30 to 40 feet on center, and understory trees are to be placed 20 feet on center. While canopy trees are desirable given the scale of the corridor, understory trees are often used given site constraints and above ground utility lines.

### RECOMMENDED ACTION ITEMS

- Coordinate with the City of Raleigh Urban Forester to plant canopy trees throughout corridor behind the sidewalk, leaving space for future sidewalk and bike lane installation as appropriate.
- Where needed, advocate for planting of canopy and understory trees on private property adjacent to the right of way.
- Consider a coordinated palette of planting materials that could be used by private property owners throughout the corridor to create cohesion while allowing for appropriate plant diversity. This could take the form of suggested use of certain flowering understory trees nearest intersections for example.
- Advocate for NCDOT permission to plant street trees at back of curb, where their presence is most effective for creating a people-friendly environment.

## Street Lighting and Utilities

### ISSUE

Street lighting also has an important role to play in creating a people-focused place. The corridor currently features 30' tall wooden poles with spacing and LED lighting levels oriented to the motorist. The placement of additional lighting sources, preferably in the form of pedestrian-scale poles, can enhance the corridor and provide a feeling of comfort and safety for users.

### RECOMMENDED ACTION ITEMS

- Survey the corridor for places where additional lighting is needed, particularly near bus stops, intersections, and heavily used sidewalks and trails. This survey could be coordinated with a survey of intersections by a NCSU College of Design studio in cooperation with City of Raleigh staff and the Blue Ridge Corridor Alliance.
- Encourage corridor property owners to use metal poles approved by Duke Energy, and to bury utility lines and install additional pedestrian-scale lighting during property development.
- Advocate for the use of metal poles and pedestrian-scale lighting in current and future capital projects.

## Street Furniture

### ISSUE

Coordinated palettes of street furniture, including benches, bicycle racks, waste cans, and bus shelter amenities can visually connect the corridor's districts and create a distinct identity. This palette should be informed by the NCMA Art Park and the custom GoRaleigh transit shelters which are contemporary, visible, and easily coordinated with the design palette for future private development along the corridor.

## RECOMMENDED ACTION ITEMS

- Coordinate installation of the GoRaleigh custom red transit shelters throughout the corridor, particularly in places where redevelopment occurs such as the Rex Cancer Center, and in coordination with the ongoing capital projects.
- Work with the NC Museum of Art, property owners, and City of Raleigh staff to identify acceptable street furnishings that can be maintained and replaced by the City of Raleigh as necessary.
- If the Alliance desires mandatory installation of certain street furnishings as part of redevelopment, the creation and adoption of a Streetscape Plan by City Council and subsequent incorporation into the Unified Development Ordinance will be required. As an interim measure, cooperation amongst the major property owners along the corridor can likely achieve progress on a coordinated use of street furnishings.

## Intersections

### ISSUE

The Corridor features relatively few signalized intersections, giving priority to through traffic along Blue Ridge Road. There are seven signalized intersections, several of which feature multiple turn lanes. These high-volume intersections can be challenging to traverse for anyone other than motorists, given the lack of dedicated walk signals, large volume of turning motorists, and large crossing distances. In addition to signalized intersections, there are 10 unsignalized intersections. These are typically right in-right out intersections, with left turn movements restricted by a center median, or 3-leg intersections that have lower vehicular volume. As redevelopment occurs, additional intersections will be formed through new street connections. This presents an opportunity to create additional marked or signalized intersections and create additional bicycle and pedestrian connections.

### RECOMMENDED ACTION ITEMS

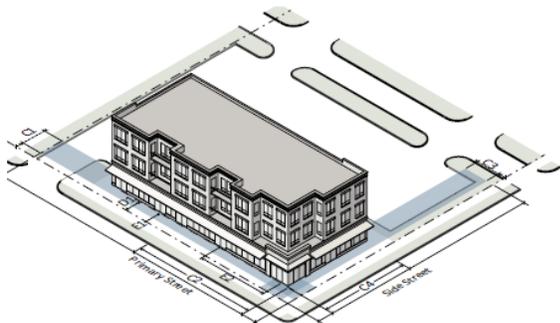
- Conduct a safety gap analysis to study intersection safety improvements such as properly placed ADA ramps, high visibility striping, pedestrian signals, bicycle accommodations, lighting, and landscaping. This would be an ideal opportunity for the NCSU College of Design to conduct a studio investigation of the corridor, in cooperation with the City of Raleigh, Blue Ridge Corridor Alliance, NCDOT, and property owners.
- Advocate for high visibility crosswalk markings, and automatic pedestrian signal installation at signalized intersections throughout the corridor.
- When capital projects or redevelopment impact or create intersections, advocate for tight turning radii and protected bicycle facilities, and discourage the use of slip lanes.

# Private Development Standards

## ISSUE

The corridor is currently dominated by suburban development typologies, with buildings and campuses set far back from the roadway, often with large parking lots closest to the street. This pattern is beginning to change with the adoption of the Unified Development Ordinance, which requires buildings to be set closer to and facing Blue Ridge Road. While limited parking is allowed adjacent to the street in some instances, most of the corridor is mapped with Urban Limited frontage which prohibits parking between the building and street and requires street-facing entrances. Future development will help better frame the corridor, and make access by modes other than cars not just possible but desirable.

**Sec. 3.4.7. Urban Limited (-UL)**



<b>A. Description</b>	
Intended for areas where parking between the building and street is not allowed. Buildings abut the street and sidewalk but to balance the needs of both the pedestrian and automobile lower street wall continuity is required.	
<b>B. Building Types Allowed</b>	
Townhouse (see Sec. 3.2.3.)	Mixed use building (see Sec. 3.2.6.)
Apartment (see Sec. 3.2.4.)	Civic building (see Sec. 3.2.7.)
General building (see Sec. 3.2.5.)	Open lot (see Sec. 3.2.8.)
<b>C. Build-to</b>	
C1 Primary street build-to (min/max)	0'/20'
C2 Building width in primary build-to (min)	50%
C3 Side street build-to (min/max)	0'/20'
C4 Building width in side build-to (min)	25%
<b>D. Additional Parking Limitations</b>	
D1	No on-site parking or vehicular surface area permitted between the building and the street

<b>E. Pedestrian Access</b>	
E1 Primary street-facing entrance required	yes
E2 Street-facing entrance spacing (max)	75'
<b>F. Streetscape Requirement</b>	
Main Street, or	see Sec. 8.5.2.A.
Mixed Use.	see Sec. 8.5.2.B.

*Excerpt from Raleigh Unified Development Ordinance*

## RECOMMENDED ACTION ITEMS

- Coordinate the addition of a frontage requirement to the zoning of properties at the south end of the corridor closest to Western Boulevard. This could take the form of a city-initiated rezoning or BRCA-sponsored rezoning as appropriate.
- Advocate for installation of bicycle and pedestrian facilities by private property owners, even when not required by the UDO. This will be particularly important during building upfits or small additions that do not trigger the installation requirements of the UDO.

## Implementation Strategy

Implementation of the Blue Ridge streetscape vision will require partnership and persistence. This section assigns responsible parties and timeframes to the streetscape component action items.

There are two high priority items to be accomplished as soon as possible:

- Safety Gap Analysis- in partnership with the NCSU College of Design undertake a study to identify ongoing specific safety issues throughout the corridor. This could take the form of a funded Design studio and ongoing partnership with the University.
- Rezone properties at south end of corridor to add an urban frontage.

ACTION	RESPONSIBLE PARTY
<b>Short Term (0-3 years)</b>	
Adopt updated street section in UDO	COR Transportation, COR Planning
Rezone to add frontages to properties at south end	COR Planning, Property Owners
Fund infill of sidewalk gaps	COR Transportation
Track and advocate for high quality development and safe street design	BRCA
Install additional transit amenities (shelters etc)	GoRaleigh, GoTriangle
Coordinate with Western Blvd BRT project	COR Planning, BRCA
Install Street Trees where space permits	COR PRCR Urban Forestry
<b>Medium Term (3-10 years)</b>	
Underground, relocate, and/or consolidate utility lines during development	Development Community, Duke Energy
Upgrade intersections to mast arms during development	Development Community, Duke Energy, COR Transportation, NCDOT
Install sidewalks/bike lanes/multiuse paths and street trees throughout corridor	COR Transportation, COR PRCR-Urban Forestry
Establish a coordinated street furnishings palette, consider banner program/wayfinding	Development Community
Install upgraded light fixtures- replace wooden poles, augment with pedestrian-scale lighting	Development Community, Duke Energy, COR Transportation, NCDOT
Consider creation of UDO-Adopted Streetscape Plan if necessary	COR Planning, Development Community

Long Term (10+ years)	
Underground power lines throughout corridor	COR Transportation, Duke Energy
Support transit planning initiatives to enhance service to corridor	GoRaleigh, GoTriangle, NCSU Wolfline
Reduce speed limit	COR Transportation, NCDOT
Introduce on-street parking where appropriate	COR Transportation, NCDOT
Revise policy to allow street trees at back of curb	NCDOT
Continue to build Master Plan street grid, including additional bridge over Wade Avenue	Development Community, COR Transportation, NCDOT