

CORRIDOR STUDY

OCONEE COUNTY MAY 2019



Acknowledgments

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Ste	ering	r Com	mittee
		, — —	

Amanda Brock, Oconee County Administrator

Paul Cain, Council District 3

John Elliot, Council District 5

Ed Halbig, City of Seneca

Stacy Lyles, Planning Commission

Alex Vassey, Planning Commission

Brandon Wilson, South Carolina Department of Transportation

Keith Moody, CATbus

Sammy Grant, CATbus

Janet Hartman, Oconee County Economic Alliance

Todd Steadman, City of Clemson

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Prepared by:

Prepared for:





Executive Summary

Highway 123 serves a multitude of roles for Oconee County. It is the primary connector between Seneca and Clemson, it is the gateway to both Oconee County and Clemson, and it has businesses that serve the residents and visitors to Oconee County and the Lake Hartwell and Lake Keowee area. Over time, the corridor has transitioned from this primary use to also being an extension of Clemson, with a growing number of projects for

student housing, hotels, and retail establishments on the eastern end of the corridor. In addition, there is much interest in development and redevelopment within the corridor all the way to Seneca. This change in context along the corridor requires that the County consider how the road needs to adapt to these changing uses.

This study examines opportunities along Hwy 123 between Seneca and Clemson. Hwy 123, also

known as Clemson Blvd, SC-28, and US-76, is a four-lane divided highway. Its original purpose was to provide a regional link between the activity hubs of Seneca and Clemson. The corridor has seen new development and redevelopment which has induced more trips to Hwy 123, rather than just along it. Understanding this coming growth can help Oconee County better prepare and have a say in how it manifests. There is

also demand for walking and biking infrastructure for people who wish to access transit, or the businesses along Hwy 123 on foot or bike. This study focuses on ways to maintain the easy regional connections the corridor is currently known for, while also supporting multimodal travel and making it easier and safer to access the destinations along Hwy 123.

The ideas presented here are the result of a visioning exercise that

included over 120 community members and stakeholders, including Hwy 123 property owners and residents, and several staff from organizations that have a stake in the success of Hwy 123. These individuals participated in a three-day design workshop that included a steering committee meeting, fieldwork, open studio hours, presentations to the County Council and the County Planning Commission, and a final design

pin-up. Over the course of these sessions, participants were asked to share their thoughts on the corridor, ranging from practical day-to-day concerns, to their "wild and crazy" ideas if their were not constraints. These concerns have been distilled into the desired outcomes listed above, which drive the infrastructure and policy recommendations in this report.

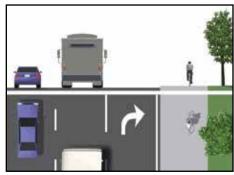
DESIRED OUTCOMES

The corridor has seen new development and redevelopment which has induced more trips to Hwy 123, rather than just along it. Understanding this growth can help Oconee County better prepare and have a say in how it manifests. These desired outcomes describe the future residents and visitors envision for Hwy 123.



Oconee County maintains and strengthens its identity as a rural, natural place

Gateway features at the county line and the Seneca city limits will reinforce local character.



It is easy to travel between Seneca and Clemson

Maintain Hwy 123's role as the fastest route between Seneca and Clemson by implementing operational improvements and managing traffic impact of new development.



People feel safe using Ease of access to Hwy 123 the businesses ar

Provide separated shared use path for people on foot or bike, and turn lanes or access roads for vehicles accessing adjacent parcels.



Ease of access to the businesses and neighborhoods along Hwy 123

Turning lanes and access roads will provide space for vehicles to transition from the 55-MPH roadway to adjacent parking and circulation for commercial activity. A streamlined signage policy could also improve legibility of the corridor.



People have several viable options of how to travel between Seneca and Clemson

Walking and biking options can be expanded with a shared use path along Hwy, a utility corridor greenway, and separated crossings at critical links. New designated bus stops will make transit service more intuitive and comfortable.



CHAPTER ' The Process This process was organized as a participatory design workshop focused on idea-sharing and empowering the local community to be the designer for the Highway 123 corridor. Over 120 people participated in this three-day workshop from March 18th - 20th to build a community-driven vision for improvements along Highway 123. The workshop focused on strategies to improve safety and mobility for all travel modes along Highway 123 between Seneca and Pickens County. The program included several opportunities for community members to share their ideas for the corridor, including a steering committee meeting, fieldwork, open studio hours, presentations to the County Council and the County Planning Commission, and a final design pin-up. This process created space for meaningful discussion about the role of the corridor and imagining how that role could shift with time and respond to the changes in context that have already and are expected to occur.

What we did

PRE-WORKSHOP



Research

The process began with researching the existing conditions along the corridor. This included compiling data, studying previous county plans, and conducting a remote analysis of the study extents.



DAY ONE



Fieldwork

A boots-on-the-ground analysis of existing conditions was conducted. Oconee County planning staff joined the consultant team to highlight recent and future change.

Stakeholder Workshop Twelve staff from Oconee

County, its municipalities, surrounding municipalities, and other local agencies came together for a workshop to brainstorm strengths, weaknesses, opportunities and threats to the corridor. The Steering Committee also shared their "big ideas" for Hwy 123, which inspired discussion about meaningful change.

Left: Fliers were passed out and posted around the County for one month in advance of the workshop to let people know about the

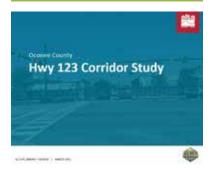
Right: Local media were involved throughout the process, with coverage in the The Journal, online, and in both local radio stations.



Planning Commission Workshop

The design team presented to the Planning Commission on the evening of day one. Roughly 50 members of the public attended the meeting to participate in the workshop that took place following the presentation. This group included residents of the neighborhoods around Hwy 123 and property and business owners who rely on the access Hwy 123 provides.. Like the Steering Committee, the public shared their thoughts on strengths, weaknesses, opportunities, and threats to the corridor, as well as their "big ideas".

DAY TWO



County Council Presentation

On the evening of day two, the design team presented the analysis done thus far and some potential solutions based on the community's feedback. The County Council voiced their support for this kind of proactive assessment. The Council's support for this plan is paramount in order to move forward with the recommendations.

DAY THREE



Open Design Studio

On both day two and day three, the team held open design studio hours from 10:00 am to 12:00 pm. The studio was open to the public to view the work that was done and in progress, and to have discussion about the corridor. Roughly 20 people attended the studio, with participants there for nearly the full two hours each day.



Open Design Pin-Up

The final program open to the public was a design pin-up, held on the evening of day three. The maps and workshop materials from the previous two days were presented, along with posters showing renderings of potential solutions. Community member attendance included Hwy 123 property and business owners, as well as citizens from around the county.



Who we heard from

100+ residents and stakeholders, including:

- Oconee County staff
- Oconee County Council members
- Oconee County Planning Commission
- People who drive along Hwy 123 regularly
- Residents of the neighborhoods along Hwy 123
- Developers
- Property Owners
- Business owners
- CATbus transit staff
- City of Seneca
- South Carolina Department of Transportation
- City of Clemson
- Oconee County Economic Alliance

The workshop consisted of the consultant team, in collaboration with the Alta team and key stakeholders, developing preliminary recommendations in an open studio environment. Staff and stakeholders were invited to provide input and participation at key meeting times and were able to actively participate or drop-in to the open studio work sessions.



What we heard

From Steering Committee

- Easy access between Seneca and Clemson
- Safety is a priority
- Too many curb cuts/ driveways
- Decelerating / stopped vehicles in the right lane cause safety concerns
- More multimodal options: potential for walking/ biking infrastructure; formalize bus stops
- Big ideas! Traffic circles, elevated crossings, express/local/HOV lanes, transit lanes in the median

From Planning Commission and Public

- Beautification
- Shortest trip between Seneca and Clemson
- Right turn lanes that have been put in help vehicular traffic – would like to see more
- Will development/growth bring increased traffic?
- Speeding is a concern.
 Speed limit is difficult to enforce.
- Bus stops
- Big ideas! Water taxis, elevated crossings, bypass, no left turns except at lights, flying cars



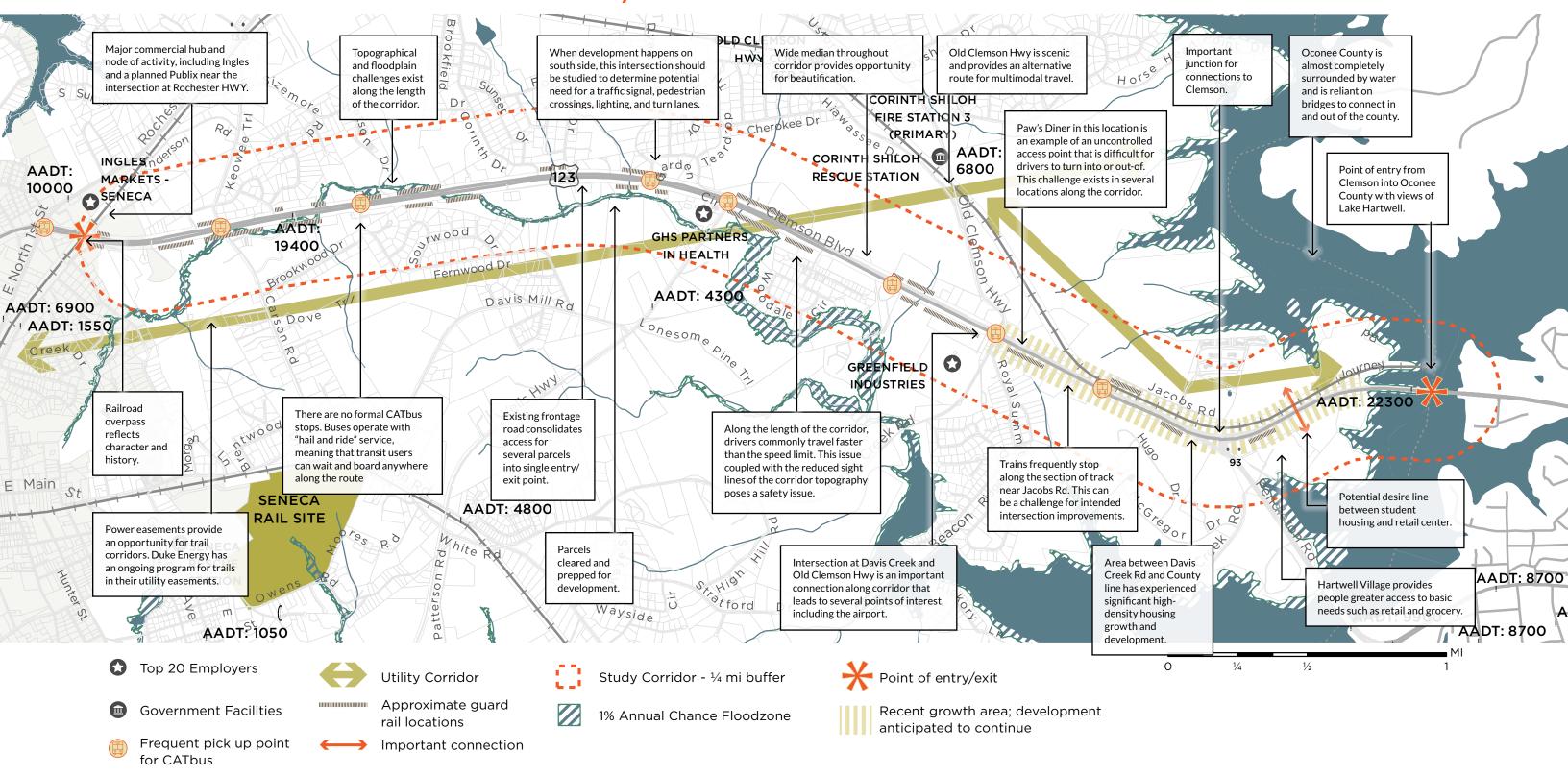


"Consolidate bus stops into safe locations"





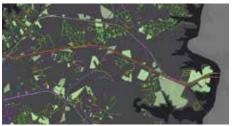
The Corridor Today





Opportunities















Growth

The Hwy 123 corridor is one of the largest current growth areas for the county given its proximity to Clemson and the fact that there are very few development controls in this area. The maps above show the recently closed construction permits (top) and open construction permits (bottom) showing that the growth is concentrated in the east end of the corridor. Recent and imminent projects include Epoch, a student housing complex that will be home to nearly 1,000 students. Right across the street from Epoch, there is a new commercial development-Hartwell Villagethat features a grocery store, clothing, fast food, a hotel, and other shops. **Understanding this** coming growth can help Oconee County better prepare and have a say in how it manifests.

Point of Entry/Exit for Oconee County

Because the County is almost completely surrounded by water, there are limited access points into the County; Hwy 123 is one of them. The corridor should welcome residents and visitors, letting them know that they are entering a place blessed with abundant natural resources and rural charm.

Parallel Utility Corridors

Two power easements run somewhat parallel to Hwy 123. Easements like these often make good candidates for greenways. Duke Energy, who owns these corridors in part, has a program for creating public facilities in their easements and has done this type of project elsewhere.

Right-of-way Space

The current paved roadway and median consume roughly 80 feet of the overall 260-foot right of way. SCDOT would not have to acquire right of way from private property owners if they wanted to do enhancements in that space.

Access to retail and healthy foot options

Commercial centers along the corridor offer access to goods and services, including three major grocery stores with a fourth planned near Rochester Hwy in Seneca. This allows Oconee County residents and visitors to purchase affordable food, restaurants, major employers, and other retail. Hartwell Village opened in 2018, further expanding the retail near Lake Hartwell. Connecting these resources with facilities for walking and biking, of which there are currently none, could help improve access.



Constraints



Limited Travel Options

Hwy 123 currently works well for those driving vehicles, but it lacks accommodations for those on foot or bike. The corridor does have CATbus operating as hail-and-ride service, meaning that there are no dedicated bus stops and buses stop without significant warning to other drivers. Transit riders must wait in the grass shoulder and buses pull over wherever the riders are waiting, unless it is deemed unsafe due to grades or other factors.



Safety

Hwy 123 is one of the top 15 crash corridors in the County. The road has a 55 mph speed limit, and the lack of shoulders or turn lanes makes it difficult for drivers to pass buses slowing down to pick up passengers, or other vehicles slowing down to turn.



Environmentally Sensitive Areas & Topography

Although the right-of-way extends far beyond the edge of the existing roadway, there are many places where environmental and topographical constraints exist immediately adjacent to the road. This could also be considered a strength in terms of managing the pace of development and growth along the corridor.



Parallel Railroad

There is a Norfolk Southern rail line that runs parallel to Hwy 123 for a stretch between Clemson and the Old Clemson Hwy intersection. This poses a challenge to connecting to the north side of the corridor, and presents some safety concerns where those connections exist.



Game Day Traffic

Hwy 123 is one of the key routes used for people going to and leaving Clemson University football games. While this only occurs seven times per year, it is something to be considered with any potential changes.





2010 Comprehensive Plan

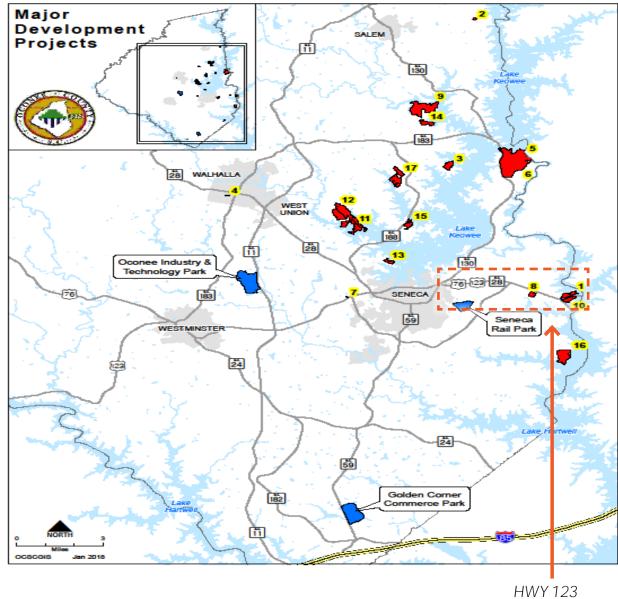
This Project presents an opportunity to further several of the transportation goals stated in the 2010 Comprehensive plan:

Work to upgrade road system in a manner that provides safe and efficient routes throughout the county, while limiting the negative impacts on sensitive areas.

Support the expansion of mass transit in Oconee County.

Encourage the expansion of bicycle and pedestrian routes in appropriate areas.

The Major Development projects map from the 2010 comprehensive Plan shows that even ten years ago, Hwy 123 had several major



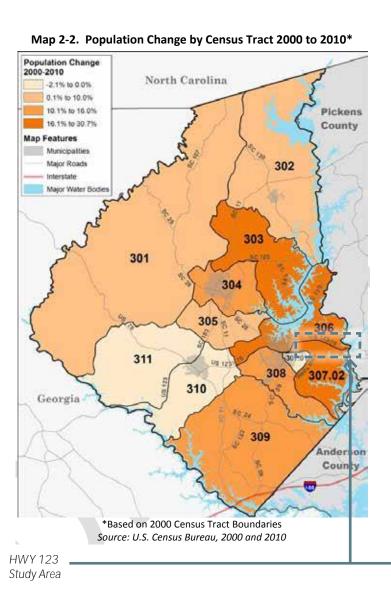
HWY 123 Study Area

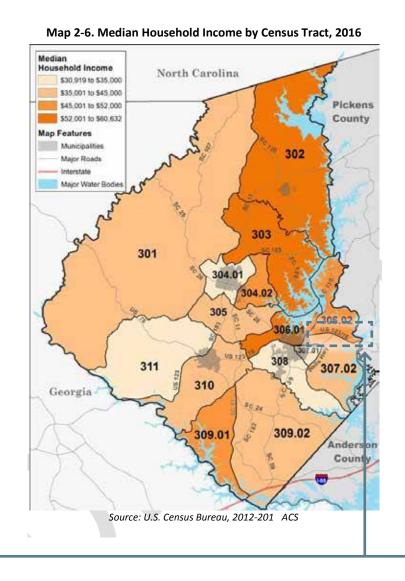


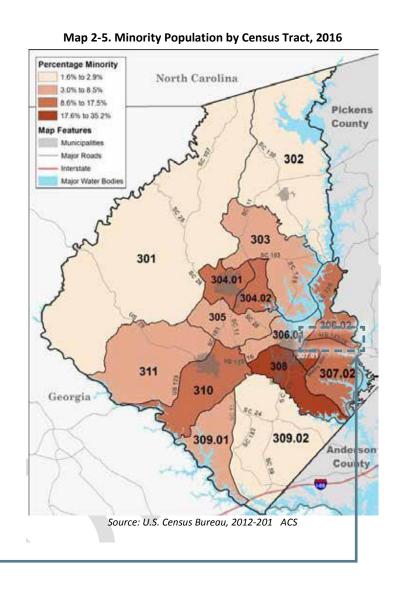
2030 Comprehensive Plan

The Oconee Comprehensive Plan is currently being developed, with completion scheduled for late 2019. The Current draft of the Population analysis presents the following relevant findings:

- Hwy 123 is one of the parts of the county that experienced relatively high growth rates from 2000-2010 (see map 2-2)
- Neighborhoods around Hwy 123, particularly in the western part of this study area, have lower median income (see map 2-6) and higher minority populations (see map 2-5) than other parts of the county. These findings prompt the necessity to understand the corridor based on the needs of the surrounding population.









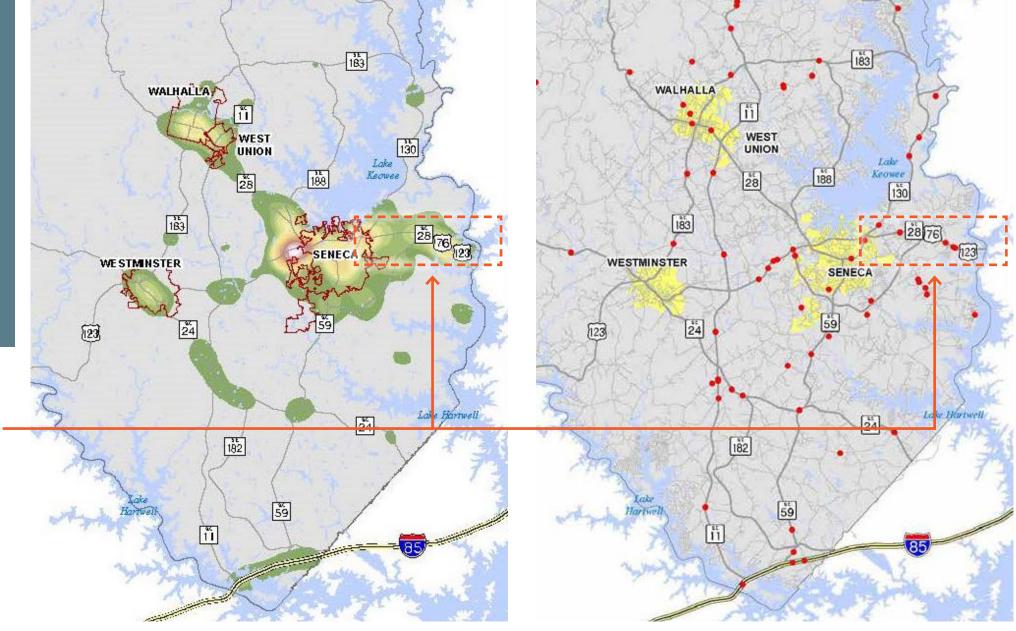
Oconee County Roadway Collision and Fatality Research (2018)

In 2018, Oconee County
Planning Department
undertook an internal crash
analysis and identified Hwy
123/US-76/SC-28 as three
of the top fifteen crash
corridors in the county. This
study focuses on the area
where these routes all come
together. The crash heat
map is included to the right.

There have been several fatal
crashes along the Corridor

There have been several fatal crashes along the Corridor since 2015. This indicates the need to not only reduce the number of collisions, but the severity of those collisions.

HWY 123 Study Area



Collison Heat Map, January 2012 - December 2017 Source: SC Department of Public Safety

Fatal Collisions, January 2012 - December 2017 Source: SC Department of Public Safety



Destination Oconee (2016)

Destination Oconee describes a unified brand and identity for Oconee County. It also includes several signage concepts for Oconee County and its municipalities. These concepts could be used at the Oconee County and Seneca Gateways. Wayfinding signage could also be used to make new walking and biking infrastructure intuitive and to encourage use.

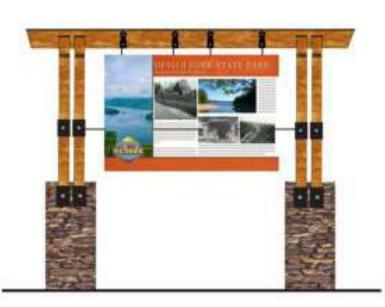














Infrastructure Recommendations













Corridorwide **Improvements**

INFRASTRUCTURE PROJECT A

Accessibility for Hwy 123 **Corridor**: Construct shared use path along one or both sides of Hwy 123)

INFRASTRUCTURE PROJECT B

Install right turn lanes to mitigate impact of new development

Potential Bus Stop Locations

INFRASTRUCTURE PROJECT C

Work with CATbus to identify locations for designated bus stops with pedestrian access

Potential Area

for Frontage **Roads with New Development**

INFRASTRUCTURE PROJECT D

Village Centers and Future Development: Construct consolidated access/ frontage roads with new development

Gateways

INFRASTRUCTURE PROJECT E

The Gateway to Oconee County: Install signage at county line

INFRASTRUCTURE PROJECT F

The Gateway to Seneca: Install signage at city limits

Walking and **Biking Bridge**

INFRASTRUCTURE PROJECT E

The Gateway to Oconee **County:** Work with SCDOT to create walking and biking connection across Lake Hartwell

Walking and **Biking Tunnel**

INFRASTRUCTURE PROJECT **G**

Walking and biking tunnel underneath rail line

Utility Corridor Greenway

INFRASTRUCTURE PROJECT H

Utility Corridor Greenway: Work with Duke Energy to build greenway in power corridor





Accessibility for Hwy 123 Corridor

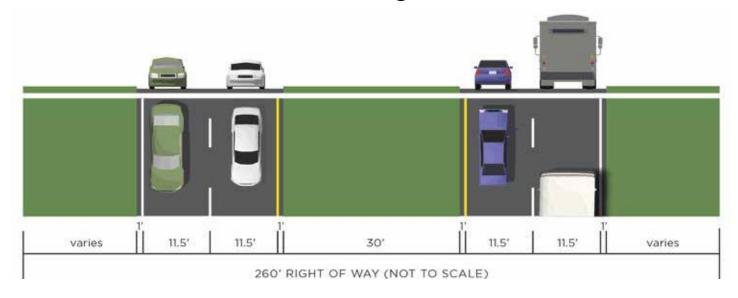
This design concept addresses one of the main concerns that were raised during the workshop: lack of dedicated infrastructure for people walking and biking. A shared use path could be construction on one or two sides of the street depending on destinations and topography.

Examples

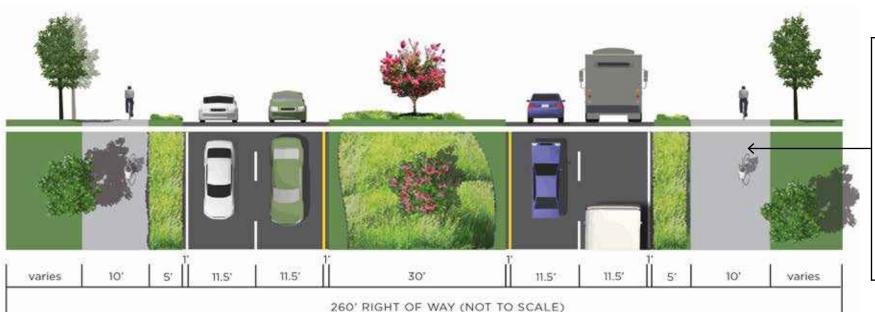




Existing



Future Concept



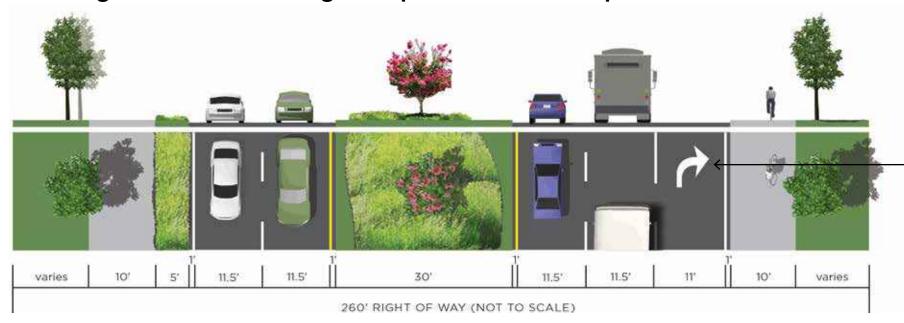
New separated path would offer transportation options for people who are interested in walking and biking. This improves safety for these people, and potentially may relieve congestion over the long term by reducing the proportion of trips that are made by vehicle.



Spot Treatments for Conflict Points

INFRASTRUCTURE PROJECT B

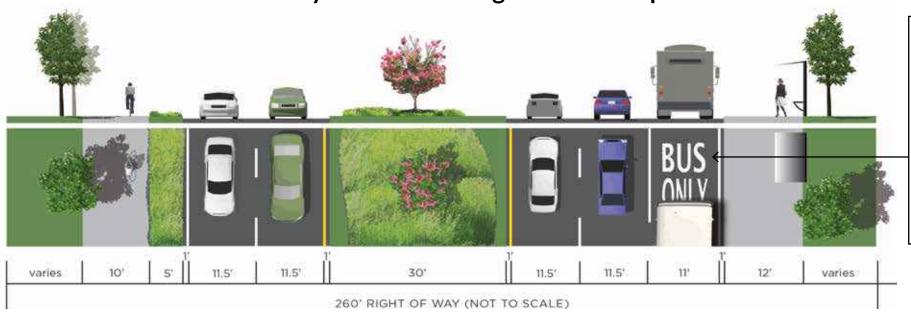
Install right turn lanes to mitigate impact of new development



Right-turn lanes for intersections and major driveways provide space for deceleration. Similarly, left-turn lanes could be constructed in the median.

INFRASTRUCTURE PROJECT C

Work with CATbus to identify and create designated bus stops



Bus pull-out area provides a safe space for buses to decelerate and stop when they need to pick up passengers. This design would require formalizing bus stops instead of the current "hail-and-ride" service.



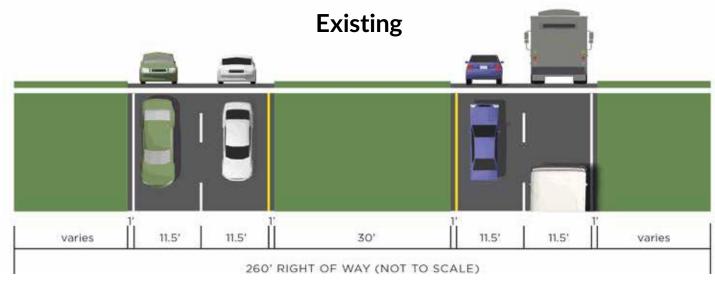
Village centers and future development

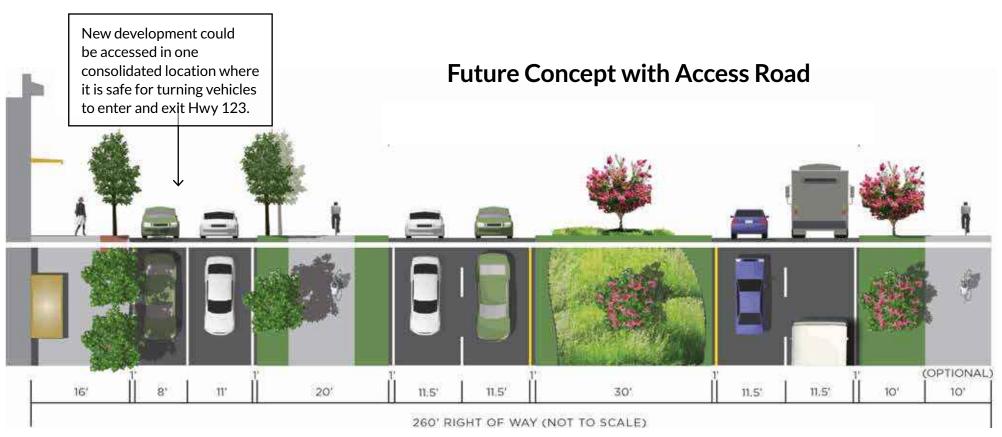
Community members shared they want to avoid a high concentration of curb cuts and driveways as new parcels get developed. A shared frontage or access road with accommodations for walking, biking, and parking would help alleviate these concerns and keep traffic moving smoothly through the middle of the corridor. Such a road exists along the corridor in Union Station. This strategy has been implemented successfully in many similar contexts.

Examples









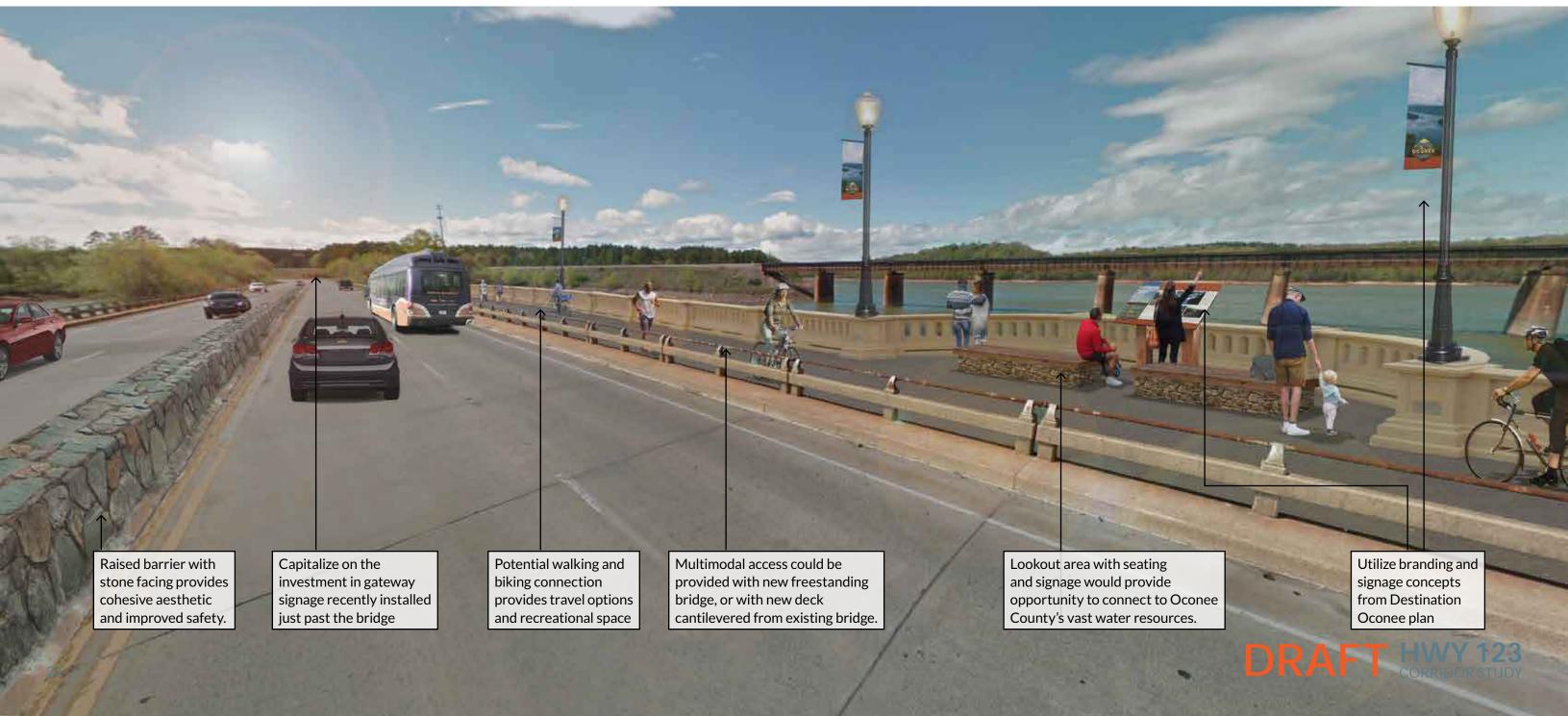


INFRASTRUCTURE PROJECT E

The Gateway to Oconee County

Oconee County relies heavily on bridges for regional connectivity because it is almost completely surrounded by water. The Hwy 123 bridge across Lake Hartwell to Clemson currently lacks accommodations for people on foot or bike. A multimodal connection would provide transportation options other than driving, potentially relieving congestion on the roadway itself.





INFRASTRUCTURE PROJECT F

The Gateway to Seneca

The railroad bridge across Hwy 123 already acts as a natural threshold into the City of Seneca. Formalizing this threshold as a gateway with signage, aesthetically cohesive materials, and intentional landscaping would reinforce the local brand and enhance sense of place.





INFRASTRUCTURE PROJECT G

Multimodal tunnel underneath rail line

Recent and ongoing development in the eastern end of the corridor continues t impact this area. New connections for people on foot and bike would relieve vehicular congestion on the Jacobs Rd intersection by allowing residents on the north side to access retail on the south side without driving.



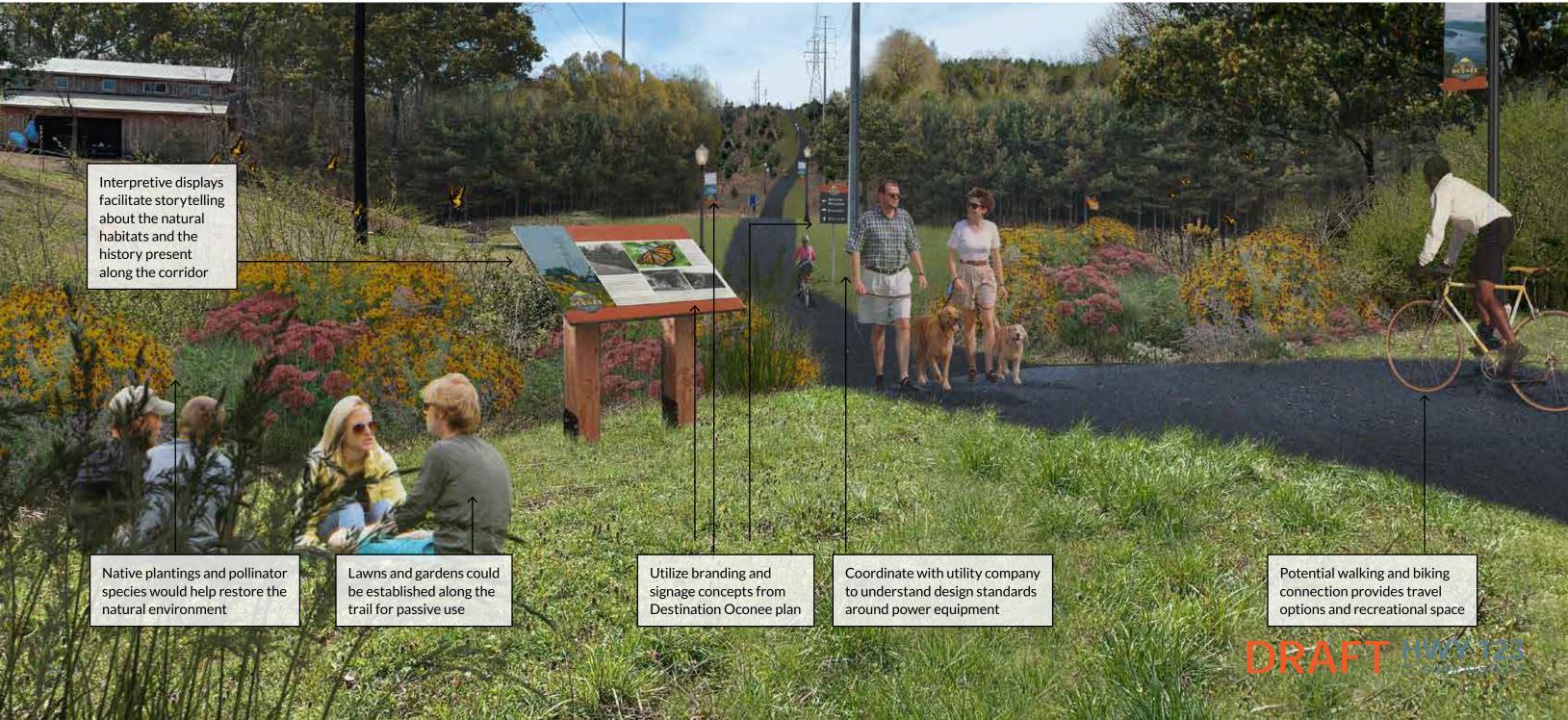


INFRASTRUCTURE PROJECT **H**

Utility Corridor Greenway

Many examples across the Country highlight utility corridors being utilized for shared paths and green ways. An existing utility corridor runs more of less parallel to Hwy 123, ultimately connecting to the student housing development at Epoch. A potential shared use path in this corridor would provide transportation options away from the vehicular traffic on Hwy 123.





Policy Recommendations

	DESIRED OUTCOMES				
	It is easy to travel between Seneca and Clemson	Oconee County maintains and strengthens its identity as a rural, natural place	People feel safe using Hwy 123	Ease of access to the businesses and neighborhoods along Hwy 123	People have several viable options of how to travel between Seneca and Clemson
POLICY PROJECT A Develop methodology to measure impacts of new development or redevelopment along corridor to establish thresholds where turn lanes/deceleration lanes would be required as a condition of development.	Mitigates conflict between through traffic and others entering and exiting adjacent parcels		Slower traffic stays out of the through lane	Makes it easier to turn right or left into adjacent parcels	
POLICY PROJECT B Look for opportunities to consolidate access through new or redevelopment by requiring or incentivizing sharing of driveways between adjacent parcels, or by implementing segments of access lane/frontage road to minimize new access points on Highway 123.	Minimizes conflict points	Creates a "village center" environment, with slower access roads separate from the through lanes.	Minimizes conflict points	Creates a safe, intuitive and comfortable space to access adjacent parking and businesses.	Creates a safe place to walk and bike along new development
POLICY PROJECT C Consider a corridor overlay district to allow architectural design standards, development review, and aggregation of density into clusters.		Creates a framework for signage and other aesthetic elements for new development			Creates a policy framework to encourage pedestrian and bicycle facilities in new development
POLICY PROJECT D Work with CATbus to transition from hail-and- ride service to formalized fixed route service with stops and pedestrian accommodations and access to facilities along the corridor.	Allows buses to clear the through lane before slowing and stopping to load or unload passengers		Creates safer loading/unloading area for bus riders		Creates safer loading/unloading area for bus riders
POLICY PROJECT E Develop a County policy stating the preferred or maximum number of allowable direct access points for parcels when they are submitted for development or redevelopment.	Minimizes conflict points	Allows County to manage commercial growth	Minimizes conflict points		



Implementation Strategy

Infrastructure Implementation Strategy

INFRASTRUCTURE PROJECTS		Timeline	Lead agency	Partners	Cost estimate*
A	Accessibility for Hwy 123: Construct shared use path along one or both sides of Hwy 123	5-10 yrs	SCDOT	Oconee County; adjacent property owners	\$\$\$
В	Install right turn lanes to mitigate impact of new development	Incremental	Private property developers	Oconee County; SCDOT	\$
С	Work with CATbus to identify locations for designated bus stops with pedestrian access (sidewalk or shared use path)	2-5 yrs	SCDOT	SCDOT	\$\$
D	Construct consolidated access/frontage roads with new development	Incremental	Private property developers	Oconee County; SCDOT	\$\$
E	Create multimodal connection across Lake Hartwell with Oconee County gateway	5-10 yrs	Oconee County	SCDOT; City of Seneca	\$\$\$
F	Create gateway into Seneca	2-5 yrs	City of Seneca	Oconee County; Norfolk Southern; SCDOT	\$
G	Construct walking and biking tunnel between Epoch/Harts Cove and Hartwell Village	5-10 yrs	Oconee County	Norfolk Southern; SCDOT; Epoch; Hartwell Village	\$\$\$

^{*}Cost represents order-of-magnitude estimate relative to other projects in this study

Policy Implementation Strategy

POLI	CY PROJECTS	Timeline	Lead agency	Partners	Cost estimate*
Α	Develop methodology to measure impacts of new or redevelopment along corridor to establish thresholds where turn lanes/deceleration lanes would be required as a condition of development	1-3 yrs	SCDOT	Oconee County; private property owners/developers	\$
В	Look for opportunities to consolidate access though new or redevelopment by requiring or incentivizing sharing of driveways between adjacent parcels, or by implementing segments of access lane/frontage road to minimize new access points on Highway 123	1-3 yrs	SCDOT	Oconee County; private property owners/ developers; Oconee County Economic Alliance	\$
С	Consider a corridor overlay district to allow architectural design standards, development review, and aggregation of density into nodes	2-5 yrs	Oconee County	Private property owners; Oconee County Economic Alliance	\$
D	Work with CATbus to move from hail-and-ride service to formalized stops with pedestrian access facilities along corridor	2-5 yrs	Oconee County	CATbus City of Seneca; major employers	\$
E	Develop a County policy stating the preferred or maximum number of allowable direct access points for parcels when they are submitted for development or redevelopment	1-3 yrs	Oconee County	SCDOT; private property owners/ developers; Oconee County Economic Alliance	\$

