

ROANE COUNTY TENNESSEE

TRAIL MASTER PLAN

JUNE 2020

PREPARED BY



Introduction

Access to wild places for outdoor recreation has become an economic driver in rural and suburban communities across the country. Greenways, trails, and bike lanes attract and retain residents, improve the health of active user groups, and can establish environmental corridors that preserve and restore wildlife habitats. IBI Placemaking, along with Health Design Partners, performed a Multi-Use Trail Master Plan and Health Design Assessment for Roane County, TN. The following study investigates the potential for new greenway, trail, and bike lane segments that provide access to active recreation opportunities, healthy food sources, and wildlife corridors throughout the county.

The goals and objectives of the Master Plan are as follows:

- **Connect existing and proposed greenways, trails, and bike lanes within the county and extend to adjacent county lines.**
- **Provide an alternate source of transportation, focused on pedestrian/bicycle circulation.**
- **Connect to neighborhoods, schools, and other community centers within the county.**
- **Connect to points of interest within Roane County, including but not limited to parks, local business districts, wildlife management areas, and water bodies.**
- **Provide access to healthy foods and promote active recreation, improving the health of Roane County citizens.**

The kickoff meeting for the Trail Master Plan occurred in March 2019 and the master planning process ran alongside the 10 year Parks and Recreation Master Plan for Roane County. The trail master plan and Health Design Assessment were funded through the Tennessee Department of Health "Healthy Active Built Environments Grant (AHBBE)". They were commissioned as an essential segment in conjunction with the 10 Year Parks and Rec Master Plan to cultivate data driven outdoor and adventure sports as an economic driver in non-urban communities with an abundance of raw natural assets.

The Multi-Use Trail Master Plan and Health Design Assessment will assist Roane County in the grant eligibility and grading process to obtain competitive grant awards from multiple funding sources. This funding can assist in the development of Roane County's future vision for Parks and Recreation.

Tasks included in the study are as follows:

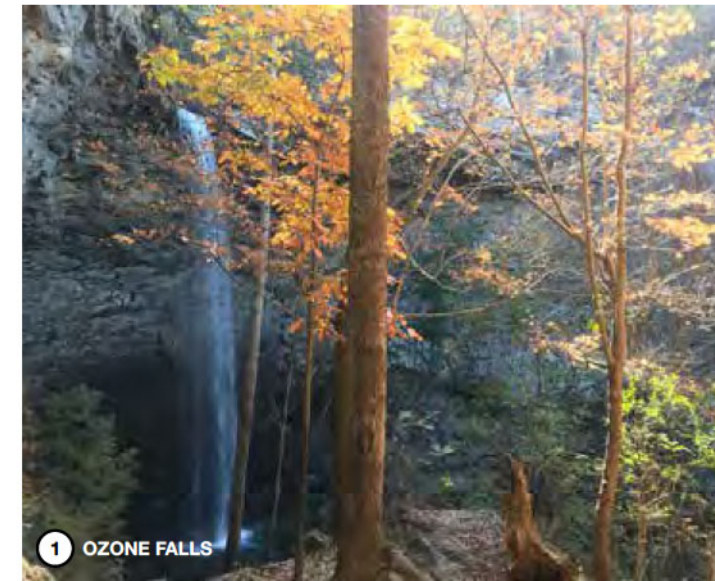
- Review of past planning studies, reports, and existing trails and greenways.
- Inventory and analysis of the proposed study area view in-field review, google earth, and GIS data analysis.
- The documentation of existing greenway, trail, and bike lane networks as they relate to countywide points of interest.
- The development of an overall trail framework plan, identifying proposed greenway, trail, and bike lane networks, and both trailhead and blueway access points.
- A breakdown of the greenway, trail and bike lane networks into specific segments, assigning relative difficulty and distance to each trail type.
- Section typicals of the various greenway, trail and bike lane conditions that could be found within the study area.
- Enlargements of specific study areas to prioritize in future planning and design phases.
- Precedent imagery of trailhead amenities and wayfinding signage that could be included in the study.
- Before and after perspective renderings showing potential improvements within the study area.
- An estimate of relative cost per greenway, trail, and bike lane segment for future phasing and prioritization.
- Health Design Assessment which analyzed county wide health data and influencing factors, which generated data driven design recommendations.

Other Planning Studies Reviewed:

- Roane County 10 Year Parks and Recreation Master Plan, 2020, IBI Placemaking
- Oak Ridge Natural Assets Guidebook, 2020, Legacy Parks Foundation
- Tennessee RiverLine Vision Booklet, 2019, UT School of Landscape Architecture
- Watts Bar Reservoir Land Management Plan, February 2009, Tennessee Valley Authority
- Tennessee 2020, Vision for Parks, People, and Landscapes, Status Review and Update, 2015-2020, November 2016, Tennessee Department of Environment and conservation

Existing Conditions Plan

The Existing Conditions Plan provides a photo inventory of popular destinations within and near Roane County, including but not limited to the Kingston Waterfront, Riley Creek Campground, Roane County Park / Caney Creek, Swan Pond, the North Boundary Greenway and Tom Fuller Park. The existing trails and greenways are overlaid on this map to show the relationship between these destinations and Roane County's existing trail inventory. The majority of trails and greenways within Roane County are located north of the river, in Rockwood, Kingston, Harriman, and Oak Ridge. Opportunities to connect to Cumberland County, Oliver Springs, and points of interest south of the river are readily available.



1 OZONE FALLS



2 MOUNT ROOSEVELT



3 TOM FULLER PARK



4 CANEY CREEK REC AREA



5 ROANE COUNTY PARK



6 RILEY CREEK CAMPGROUND



7 KINGSTON WATERFRONT



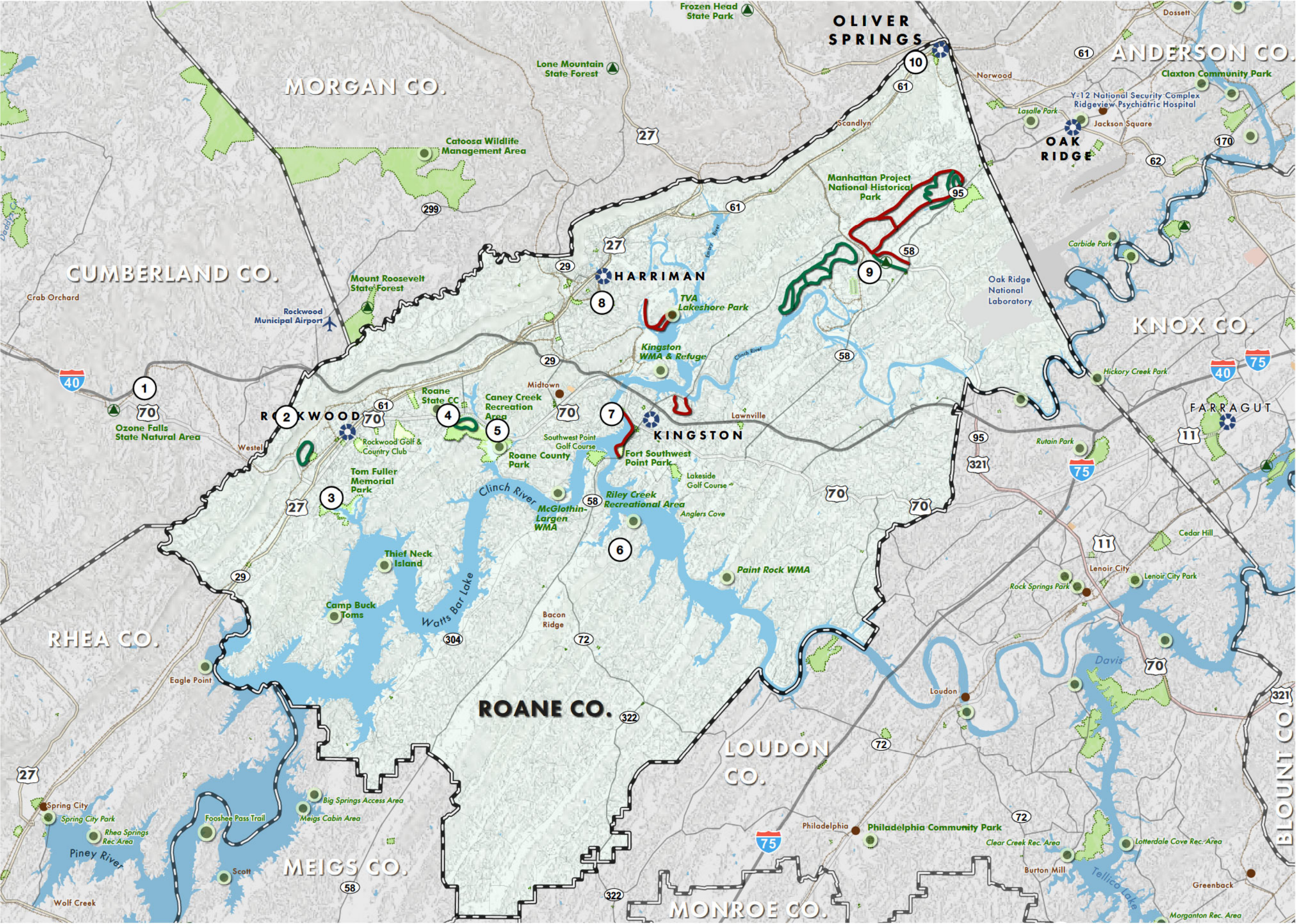
8 SWAN POND



9 WHEAT COMMUNITY



10 OLIVER SPRINGS



LEGEND

City

Local Town Or Place

State / National Park

County Boundary

District Boundary

Municipal Townships

Interstate

US Highway

State Highway

Local Road

Railroad

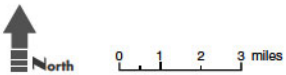
Water Body

State & Regional Parks

Airport

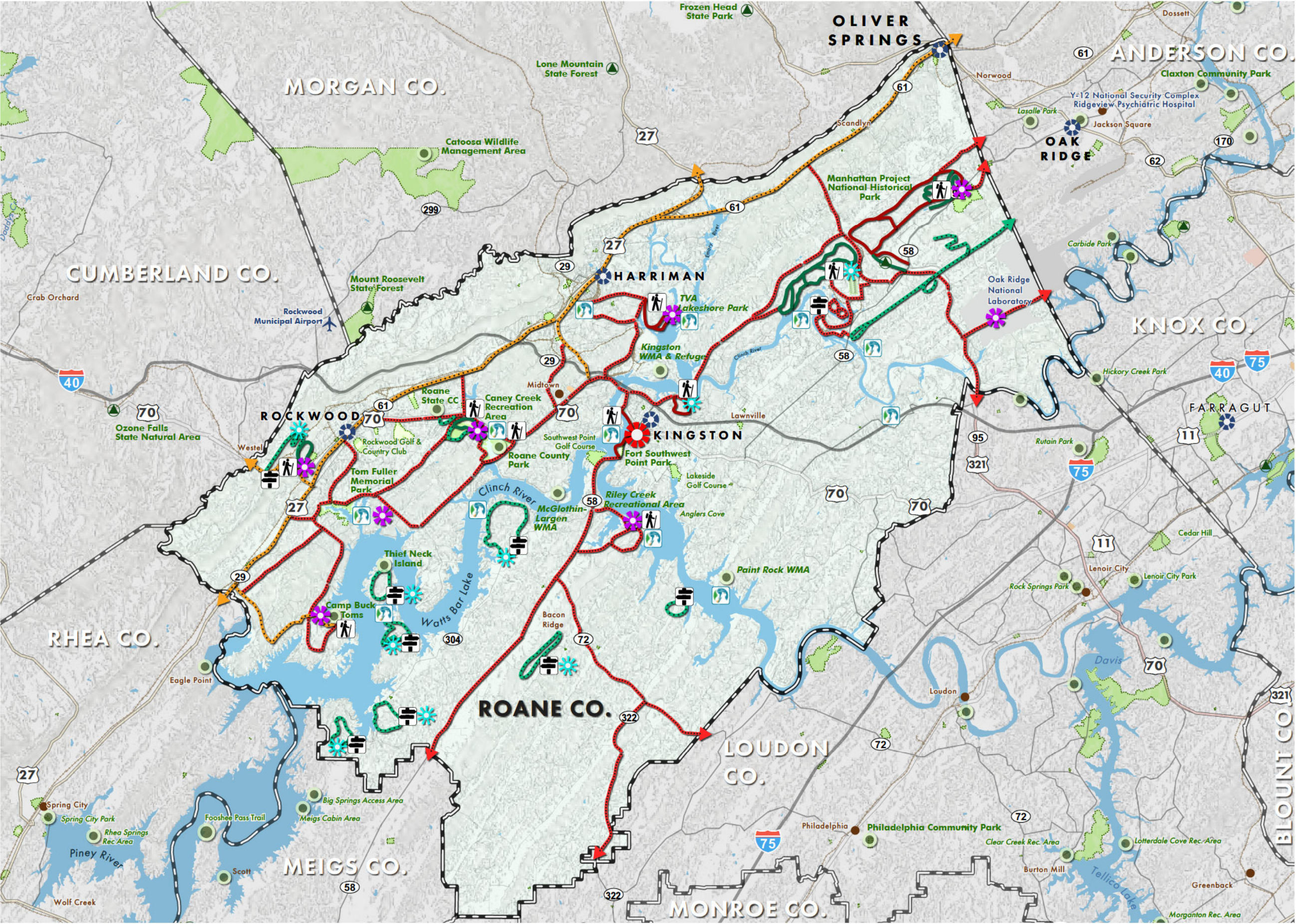
Greenway
 Existing

Trails
 Existing



Overall Framework Plan

The overall Framework Master Plan builds upon Roane County's existing trail and greenway infrastructure, expanding a interwoven network of greenways, hiking and biking trails, and bike lanes throughout the county. This framework plan seeks to connect recreational, economic, and environmentally significant areas through a pedestrian network that can be accessed from all parts of the county. In addition to the pedestrian framework, locations for blueway access as well as primary, secondary, and tertiary trailheads have been identified, providing access points to the trail network, Watts Bar Lake, the Emory River, and the Clinch River.



LEGEND

City

Local Town Or Place

State / National Park

County Boundary

District Boundary

Municipal Townships

Interstate

US Highway

State Highway

Local Road

Railroad

Water Body

State & Regional Parks

Airport

Primary Trailhead

Secondary Trailhead

Tertiary Trailhead

Information Kiosk

Directional Signage

Blueway Access

Healthy Food Access

Greenway

Existing

Proposed

Trails

Existing

Proposed

Bike Lane

Existing

Proposed

North

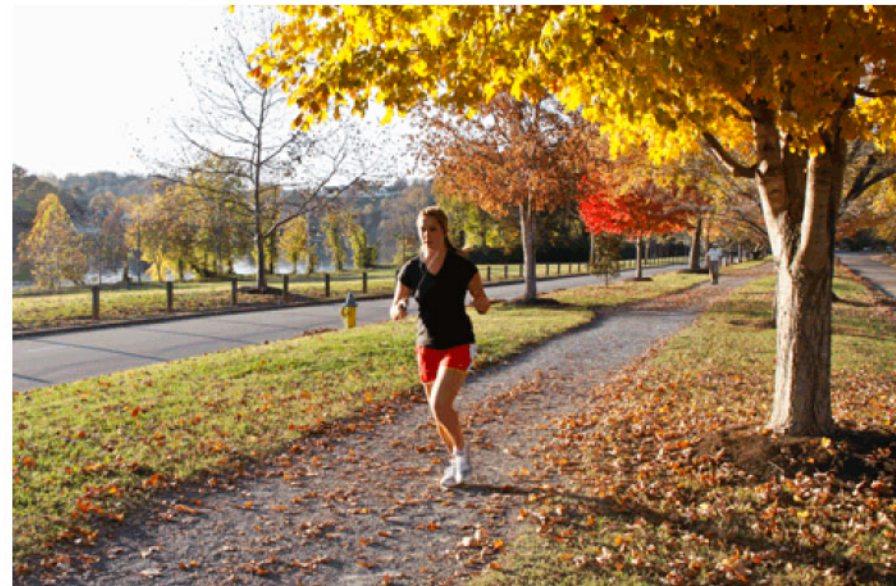
0 1 2 3 miles

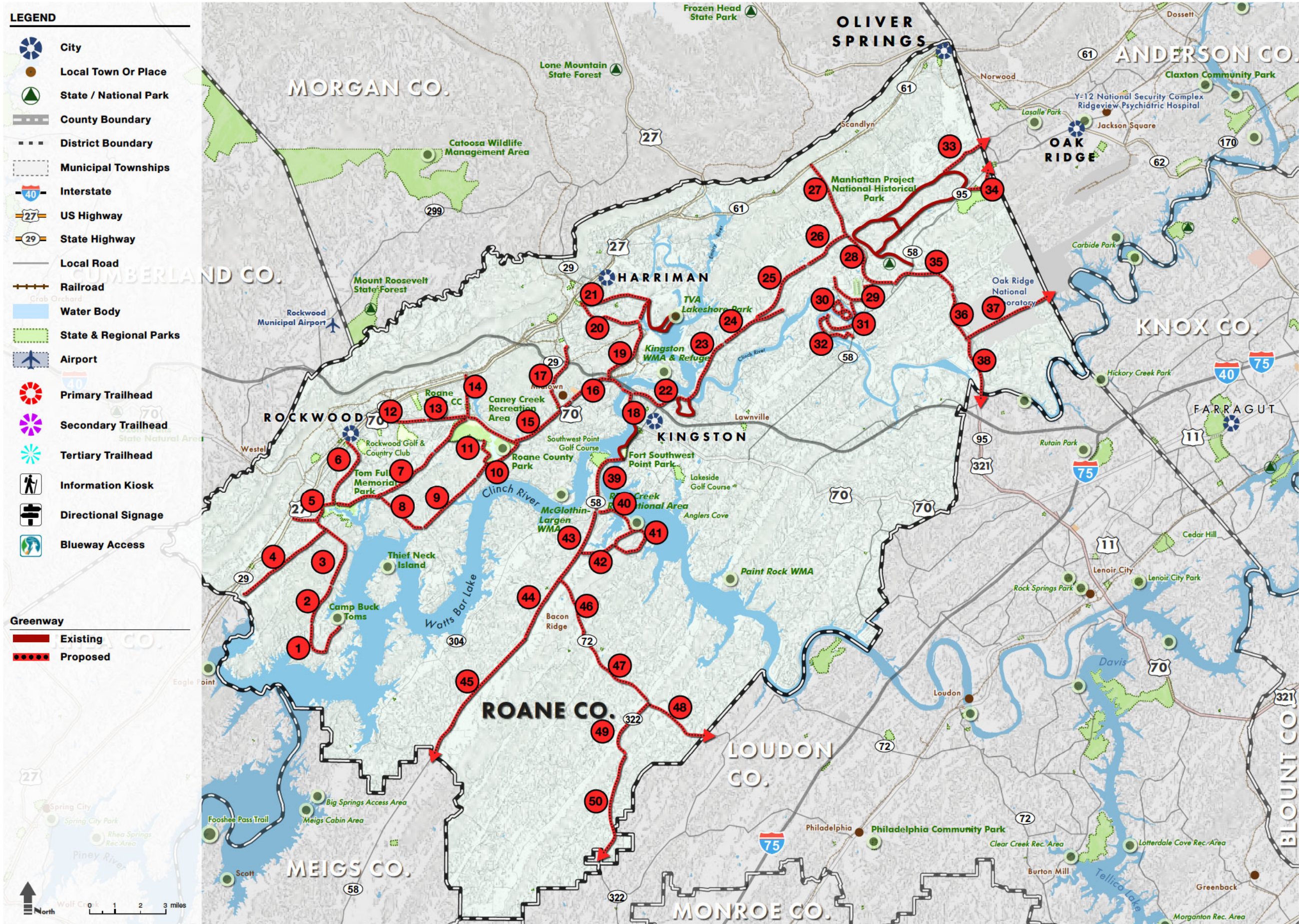
OVERALL FRAMEWORK MASTER PLAN



Greenway Plan

The greenway plan identifies all of the proposed greenway segments and calculates their approximate distance and difficulty based off of Google Earth and GIS data. The majority of greenways tend to follow along roads with wide shoulders and shallow cross slopes, as well as tie into existing greenway networks such as the North Boundary, Betty Brown Walking Trail, and Ladd Park Greenway. The proposed greenway network is the most expansive of the three proposed trail networks, with over 110 miles identified.



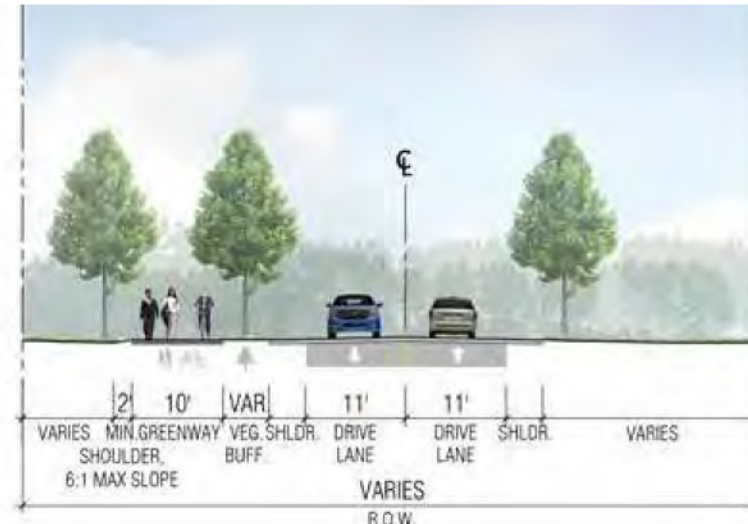
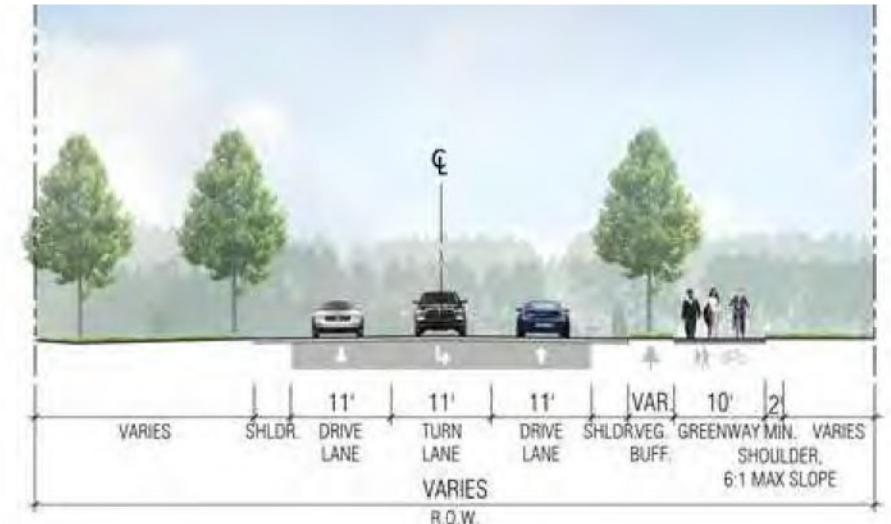
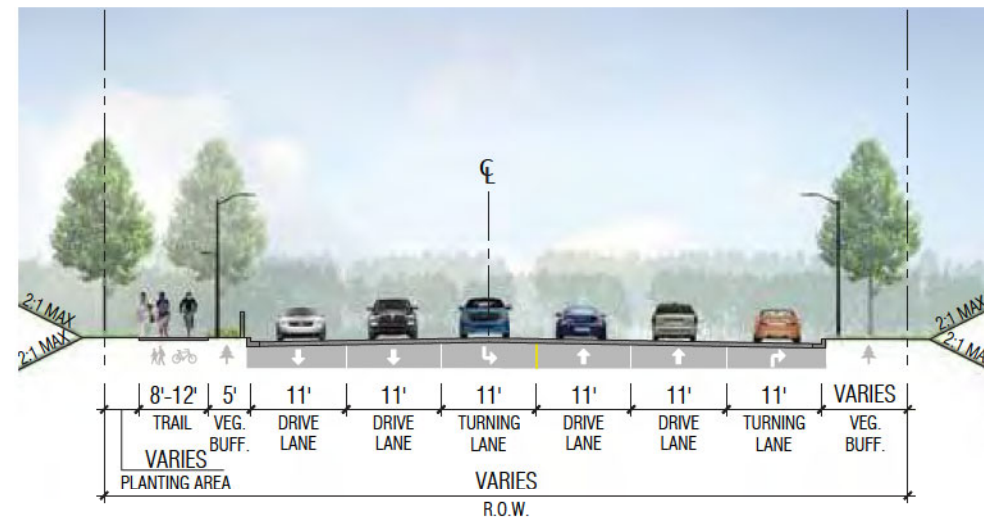


NUMBER	GREENWAY NAME	MILES	DIFFICULTY
1	Brillo to Buck Toms part 1	2.01	Blue square
2	Brillo to Buck Toms part 2	1.75	Green circle
3	Brillo to Buck Toms part 3	2.29	Black diamond
4	Brillo to Buck Toms part 4	3.11	Black diamond
5	Brillo to Buck Toms part 5	1.96	Blue square
6	Rockwood to Tom Fuller	2.49	Green circle
7	Caney Creek to Tom Fuller	2.16	Green circle
8	Caney Creek Run	2.1	Blue square
9	Caney Creek Run 2	2.27	Green circle
10	Caney Creek to Roane	2.3	Blue square
11	Caney Creek to Roane 2	1.82	Black diamond
12	Rockwood to Caney 1	1.75	Blue square
13	Rockwood to Caney 2	1.44	Green circle
14	Cardiff	1.25	Green circle
15	RCP to Hospital	2.08	Green circle
16	Hospital to Bridge	2.07	Green circle
17	Midtown Run	2.41	Blue square
18	Bridge to Kingston	.95	Green circle
19	WMA Run	2.06	Green circle
20	WMA and Harriman	2.17	Blue square
21	Harriman to River	3.07	Black diamond
22	Kingston 1	1.99	Green circle
23	Kingston 2	2.09	Black diamond
24	Kingston to Brashear	2.68	Black diamond
25	Brashear to Poplar 1	2.05	Green circle
26	Brashear to Poplar 2	1.95	Blue square
27	Blair Run	2.67	Blue square
28	Blair to 327	2.08	Green circle
29	Blair to Perimeter	2.52	Green circle
30	Perimeter loop	1.96	Blue square
31	Blair to River	2.39	Green circle
32	River to Turnpike	1.65	Green circle
33	Manhattan Trail	2.1	Green circle
34	Manhattan Trail 2	1.32	Green circle
35	327 to White Wing	2.24	Blue square
36	White Wing to oak	1.79	Blue square
37	Oak Ridge trail	3.09	Green circle
38	White Wing to River	2.46	Blue square
39	Southwest	2.53	Blue square
40	Riley Creek	1.64	Green circle
41	Creek to River	2.43	Black diamond
42	River to Cove	1.19	Green circle
43	Decatur Trail	1.59	Green circle
44	Bacon Ridge 1	2.03	Green circle
45	Bacon Ridge 2	5.06	Blue square
46	Paint Rock 1	2.06	Blue square
47	Paint Rock 2	3.30	Blue square
48	Loudon	2.29	Blue square
49	Sweetwater 1	2.04	Green circle
50	Sweetwater 2	3.59	Blue square

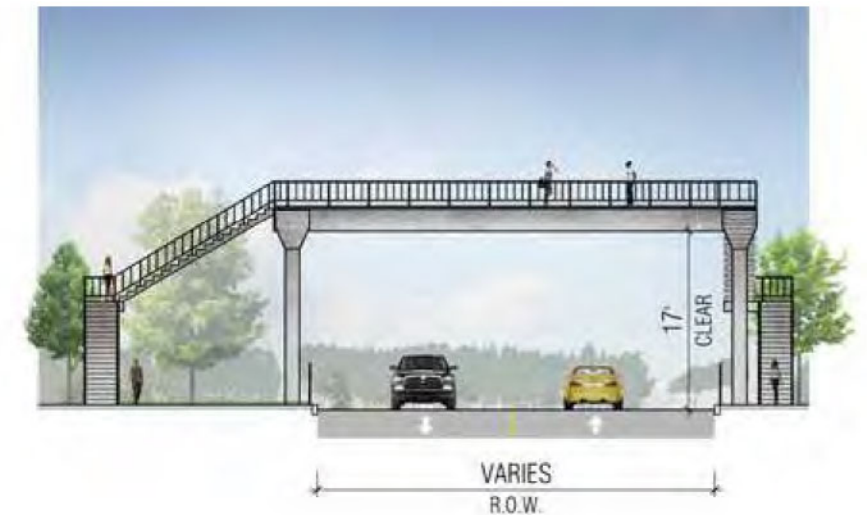
GREENWAY PLAN

Greenway Section Typicals

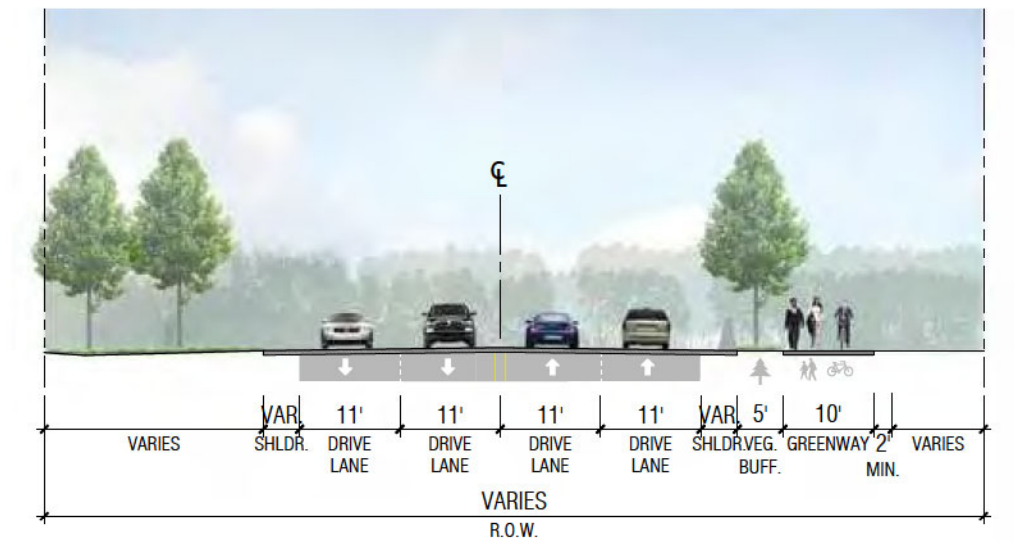
There are multiple typical conditions in which we could find a greenway in Roane County: adjacent to rural roads and highways, above and below road elevations, off road (similar to Ladd Park and North Boundary), and pedestrian bridge crossings. These section typicals provide a planning level view of potential constructibility, safety, and experiential qualities of the greenway segments.

**RURAL 2 LANE****RURAL 3 LANE**

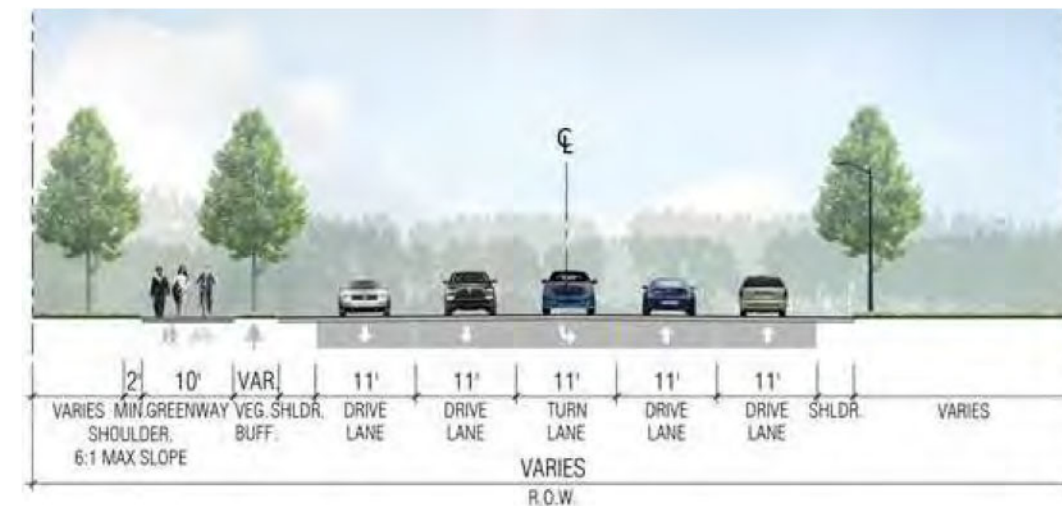
HIGHWAY



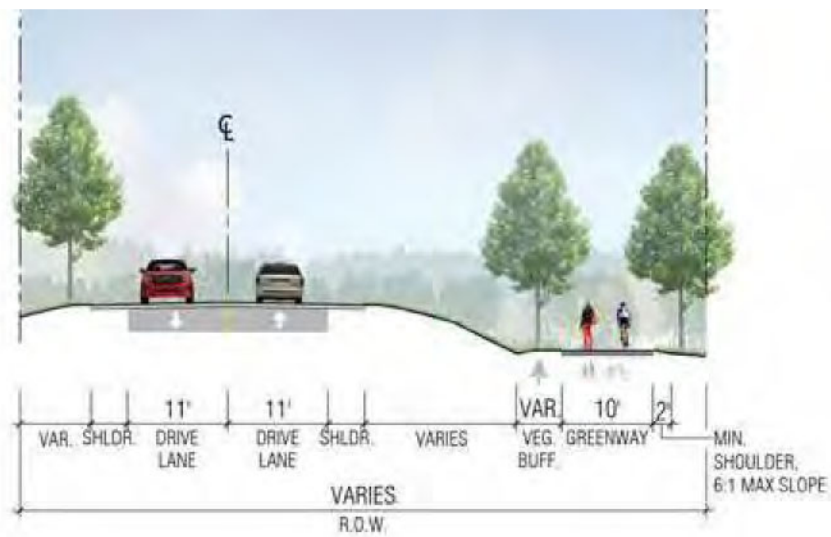
PEDESTRIAN BRIDGE



RURAL 4 LANE



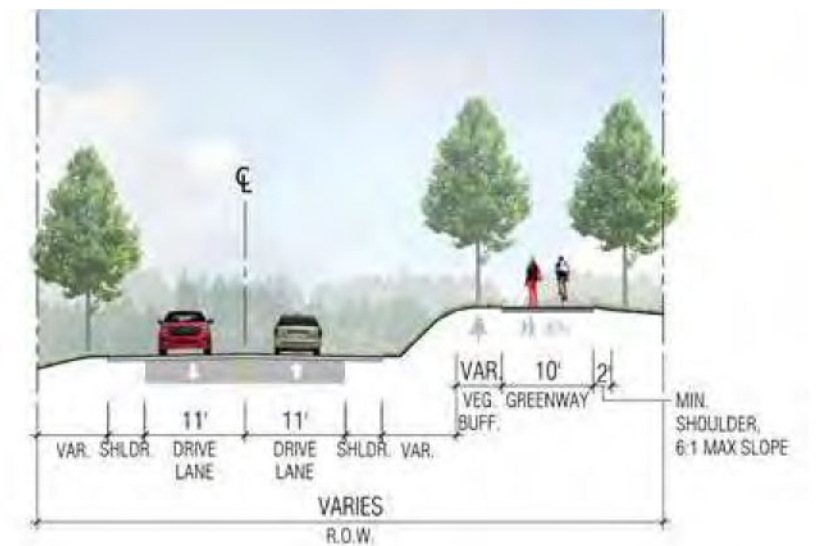
RURAL 5 LANE



GREENWAY BELOW ROAD



GREENWAY OFF ROAD

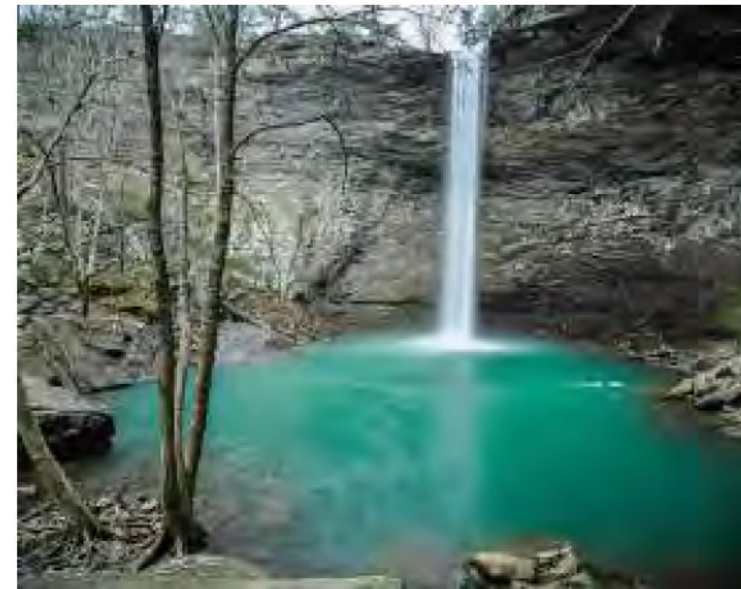


GREENWAY ABOVE ROAD

GREENWAY SECTION TYPICALS

Trail Plan

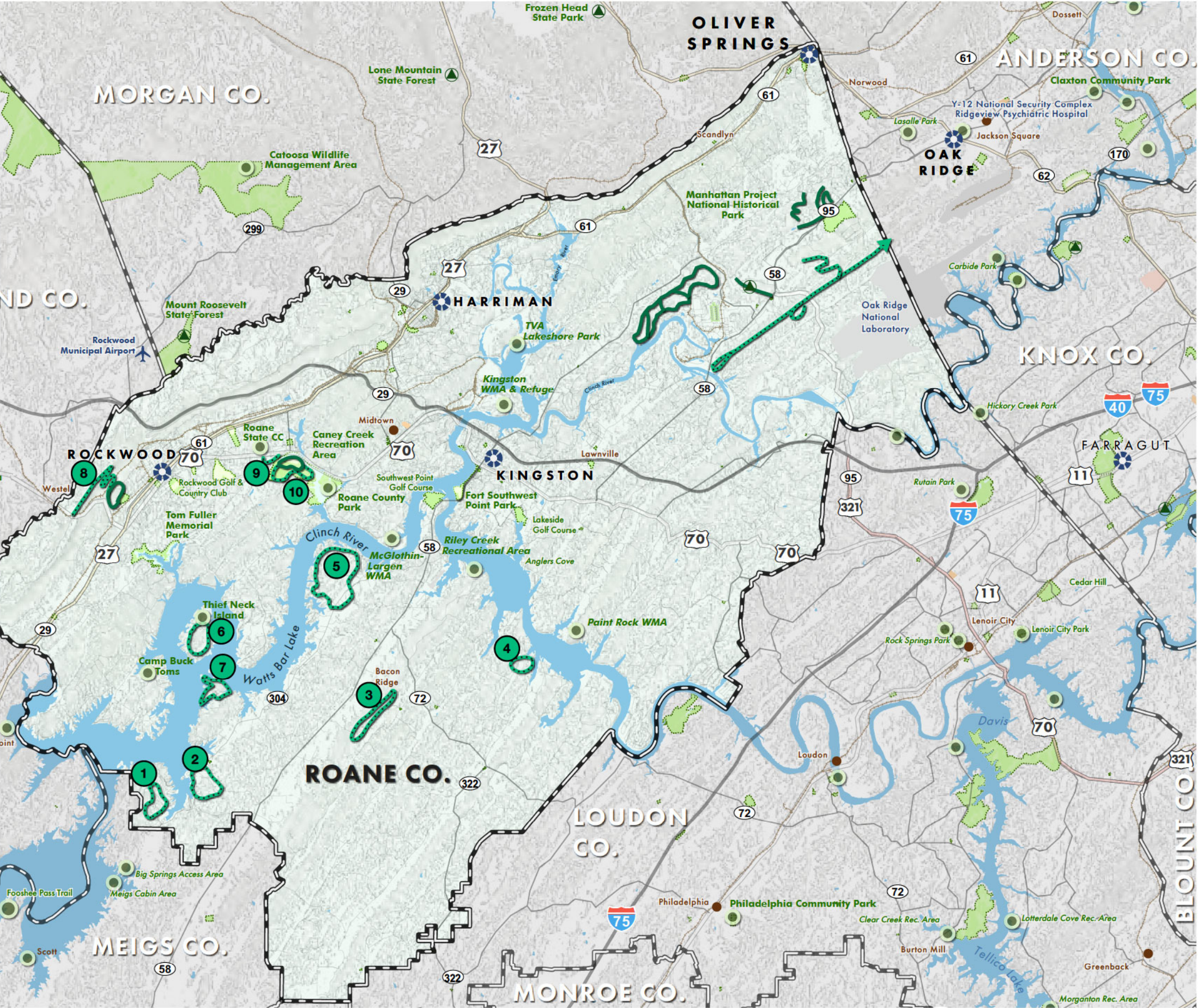
The proposed trails tie into existing networks at Black Oak Ridge, Rockwood Forest, and Caney Creek among others. The intent with the majority of the trails was to create loops at existing parks, along shorelines south of the river, in Wildlife Management Areas, and other environmentally significant areas within the county. There are 10 total trail segments proposed of varying distances and difficulties. If all of the proposed trails were to be constructed, this network would add more than 28 miles worth of trails to Roane County.



LEGEND

- City
- Local Town Or Place
- State / National Park
- County Boundary
- District Boundary
- Municipal Townships
- Interstate
- US Highway
- State Highway
- Local Road
- Railroad
- Water Body
- State & Regional Parks
- Airport
- Primary Trailhead
- Secondary Trailhead
- Tertiary Trailhead
- Information Kiosk
- Directional Signage
- Blueway Access

- Trails
- Existing
 - Proposed



NUMBER	TRAIL NAME	MILES	DIFFICULTY
1	Halfmoon Shores	3.23	◆
2	Blue Springs	1.95	◆
3	Bacon Ridge	2.50	◆◆
4	Paint Rock	.87	●
5	McGlothin-Largen	4.99	◆◆◆
6	Thief Neck Island	2.74	◆◆◆
7	Rockwood Ferry	4.15	◆◆◆
8	Mt Roosevelt to Rockwood	3.49	◆◆◆
9	Caney Creek Horse Trail	1.26	●
10	Caney Creek Rec Area	3.45	◆

TRAIL PLAN



Bicycle Plan

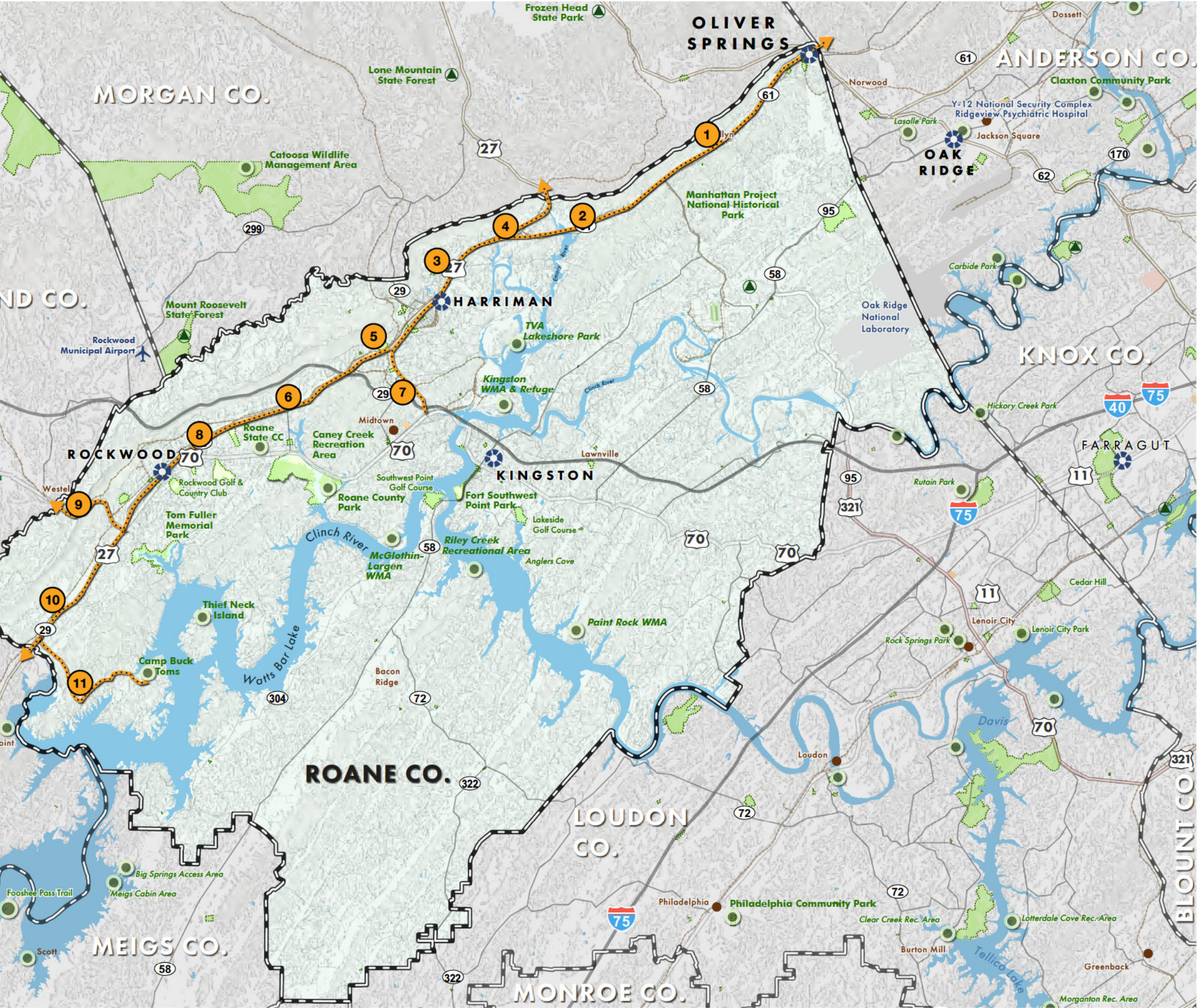
The bike lanes are primarily meant as county wide connectors, mainly following along heavily trafficked roads or those with wide enough shoulders to accommodate. The types of bike lanes proposed throughout Roane County vary from fully separated bike lanes, to advisory shoulders and sharrows.



LEGEND

- City
- Local Town Or Place
- State / National Park
- County Boundary
- District Boundary
- Municipal Townships
- Interstate
- US Highway
- State Highway
- Local Road
- Railroad
- Water Body
- State & Regional Parks
- Airport
- Primary Trailhead
- Secondary Trailhead
- Tertiary Trailhead
- Information Kiosk
- Directional Signage
- Blueway Access

- Bike Lane
- Existing
 - Proposed



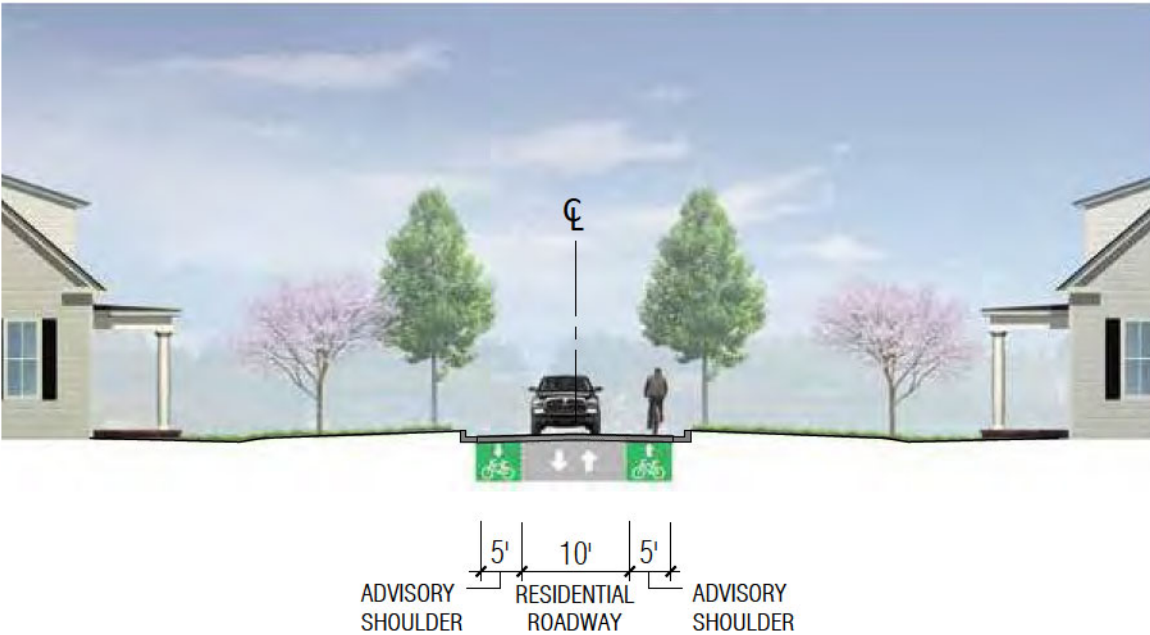
NUMBER	BIKE LANE NAME	MILES	DIFFICULTY
1	Oliver Springs to Blair Run	5.75	●
2	Blair Run to US HWY 27	4.95	■
3	US HWY 27 to Harriman	3.58	●
4	US HWY 27 to Morgan	1.3	●
5	Harriman to I-40	2.47	●
6	I-40 to Patton Ln	2.02	●
7	US 29 to US 70	1.02	■
8	Patton Ln to Rockwood	3.43	●
9	Rockwood to Cumberland	2.3	■
10	Rockwood to Rhea	4.34	■
11	Rhea to Buck Toms	6.79	■

BICYCLE PLAN



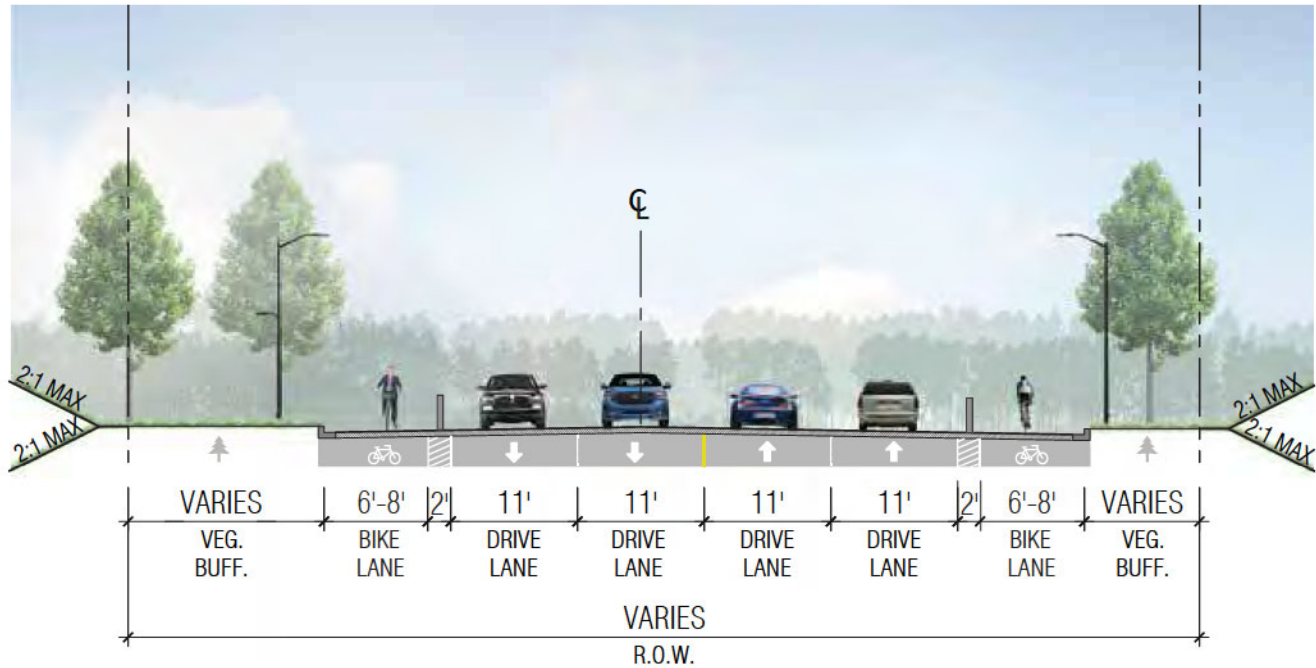
Trail & Bicycle Section Typicals

The typicals for the proposed trail and bicycle segments include hiking trails of various conditions, bridle trails, boardwalks, mountain bike trails, bike lanes, advisory lanes, and sharrows. Further planning and design studies are required to identify the trail or bike lane type for each proposed segment.

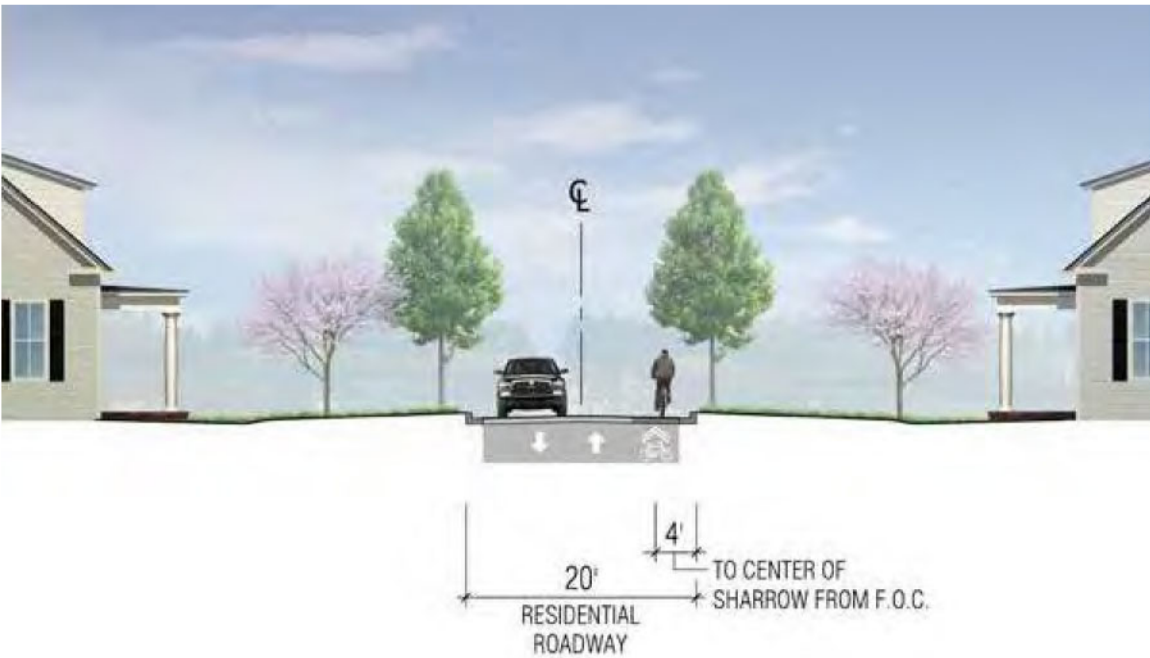


ADVISORY SHOULDER

BICYCLE

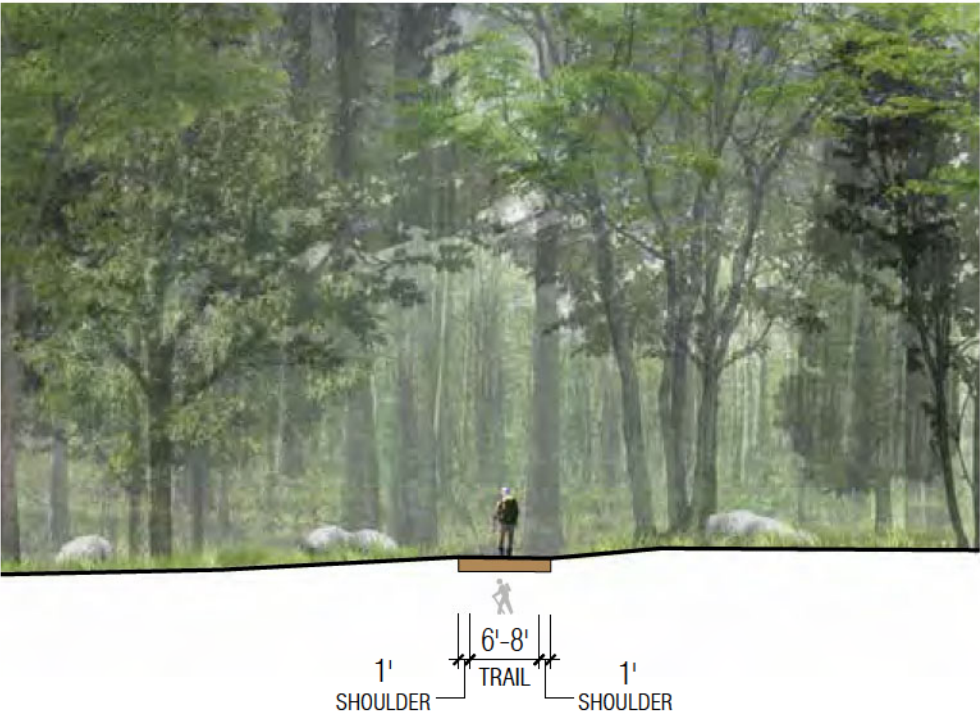


DEDICATED BIKE LANE

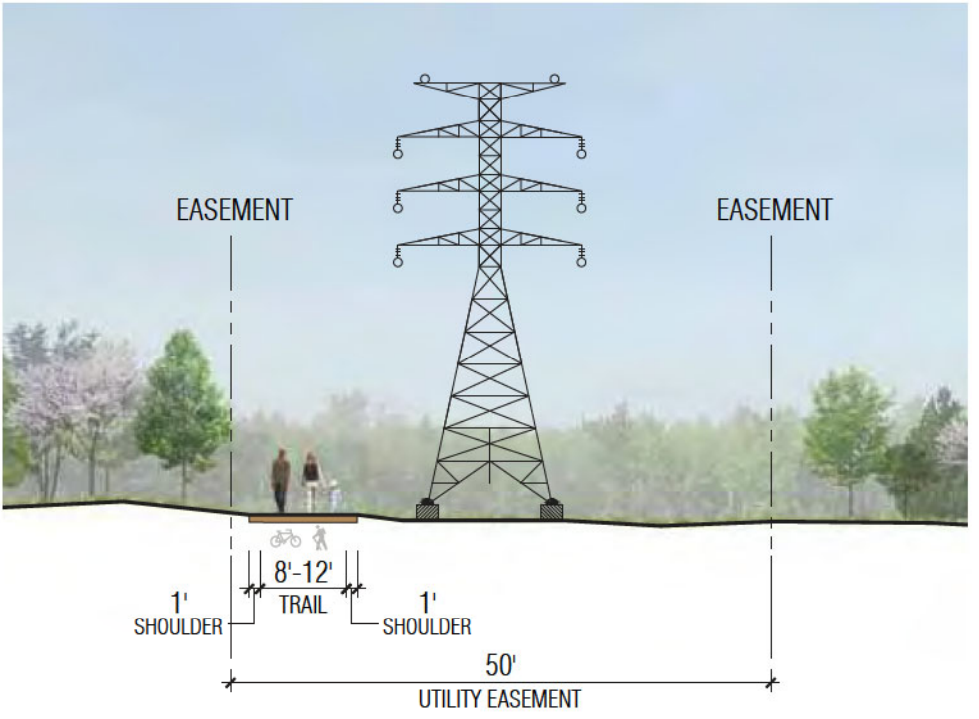


SHARROW

TRAILS



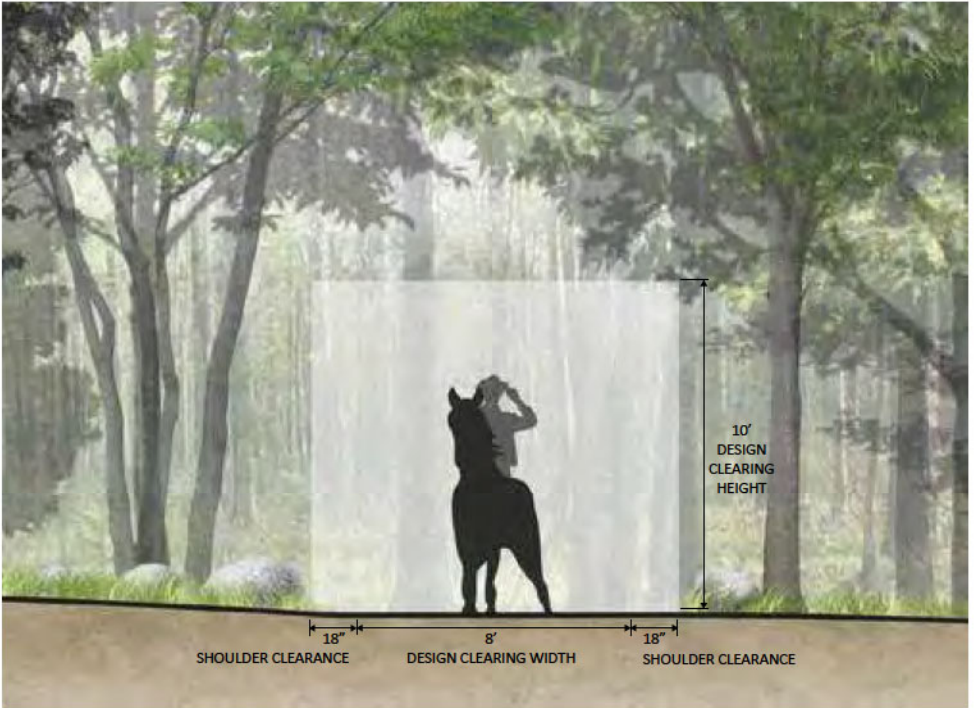
HIKING - COMPACTED SURFACE



HIKING - UTILITY EASEMENT



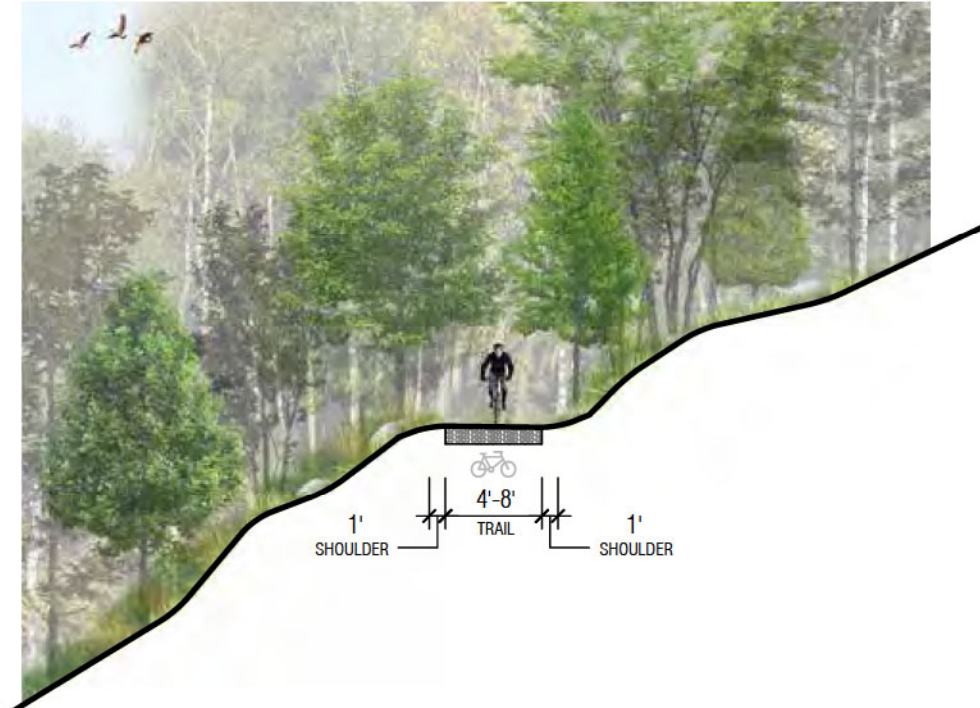
HIKING - CREEKSIDE



BRIDLE TRAIL



BOARDWALK



MOUNTAIN BIKING

TRAIL & BICYCLE SECTION TYPICALS

Healthy Food Access Plans

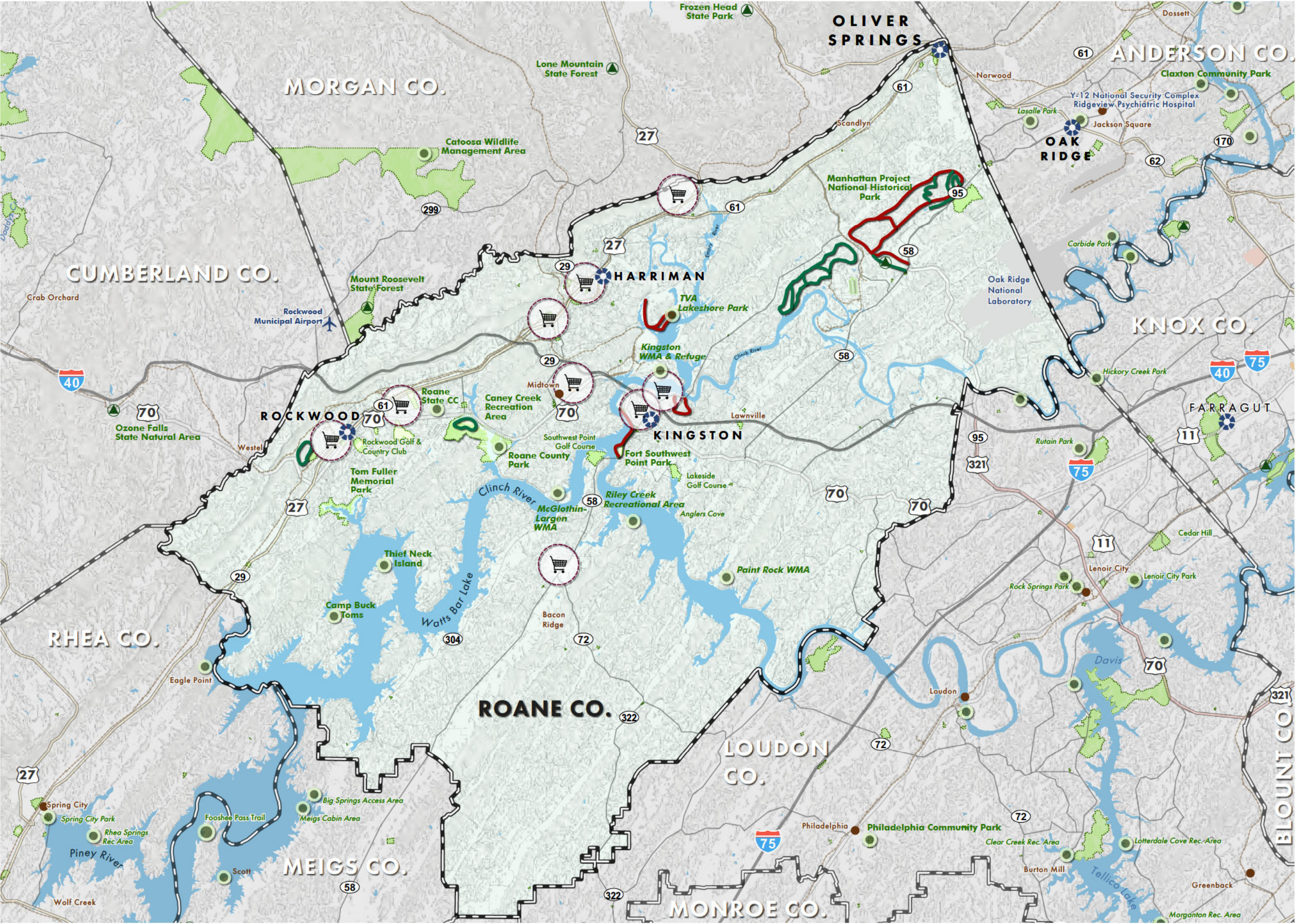
Existing and Proposed

As a response to the Healthy Active Built Environments Grant that helped fund the Roane County Trail Master Plan, the following two plans identify Healthy Food Access (Grocery Stores, farmers markets, etc) along the existing and proposed trail networks. Under the proposed network, all of the healthy food locations should be accessible via a pedestrian or bicycle connection.





HEALTHY FOOD ACCESS PLANS



LEGEND

City

Local Town Or Place

State / National Park

County Boundary

District Boundary

Municipal Townships

Interstate

US Highway

State Highway

Local Road

Railroad

Water Body

State & Regional Parks

Airport

Primary Trailhead

Secondary Trailhead

Tertiary Trailhead

Information Kiosk

Directional Signage

Blueway Access

Healthy Food Access

Greenway

Existing

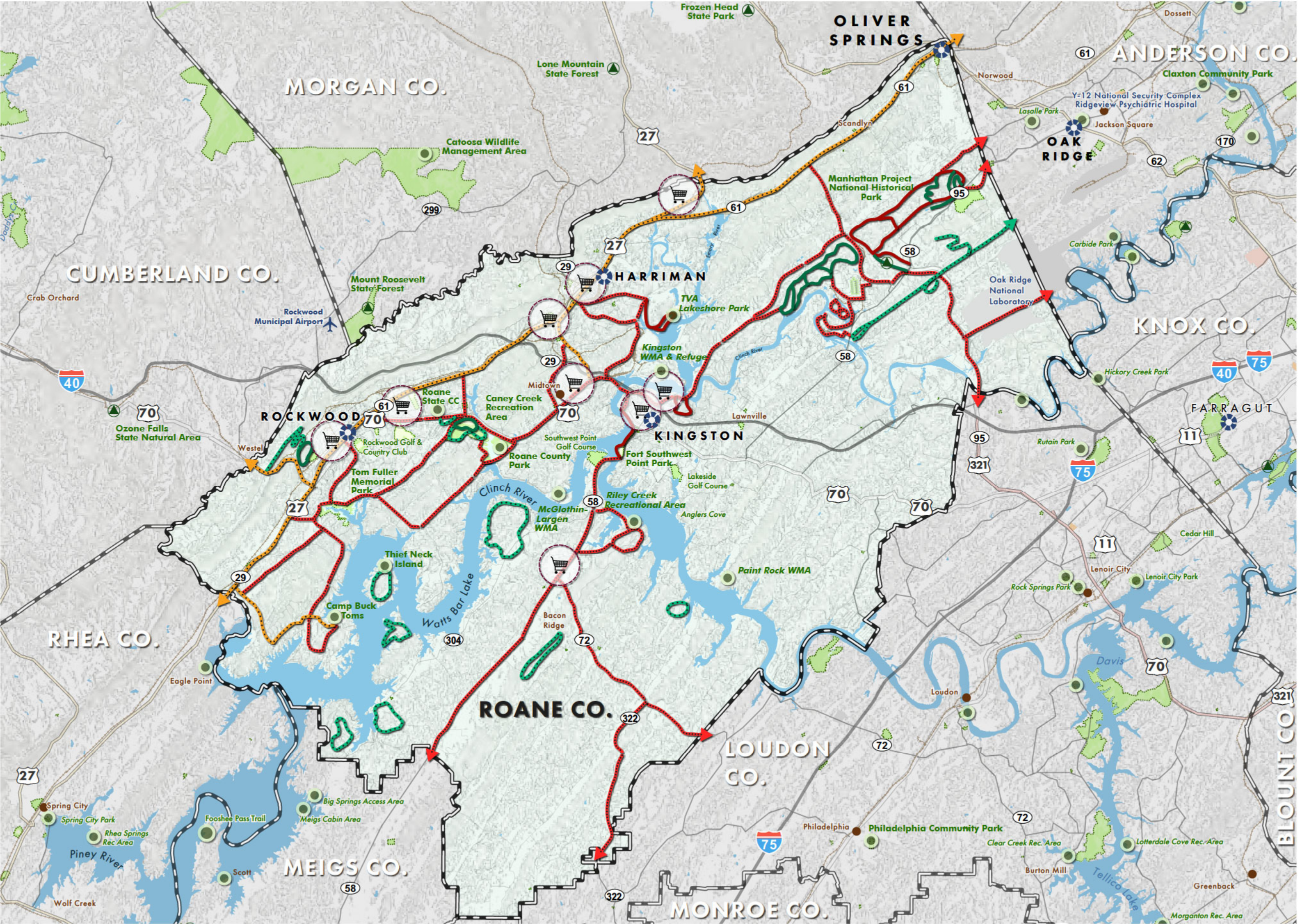
Trails

Existing



HEALTHY FOOD ACCESS PLANS

EXISTING



LEGEND

City

Local Town Or Place

State / National Park

County Boundary

District Boundary

Municipal Townships

Interstate

US Highway

State Highway

Local Road

Railroad

Water Body

State & Regional Parks

Airport

Primary Trailhead

Secondary Trailhead

Tertiary Trailhead

Information Kiosk

Directional Signage

Blueway Access

Healthy Food Access

Greenway

Existing

Proposed

Trails

Existing

Proposed

Bike Lane

Existing

Proposed

North

0 1 2 3 miles

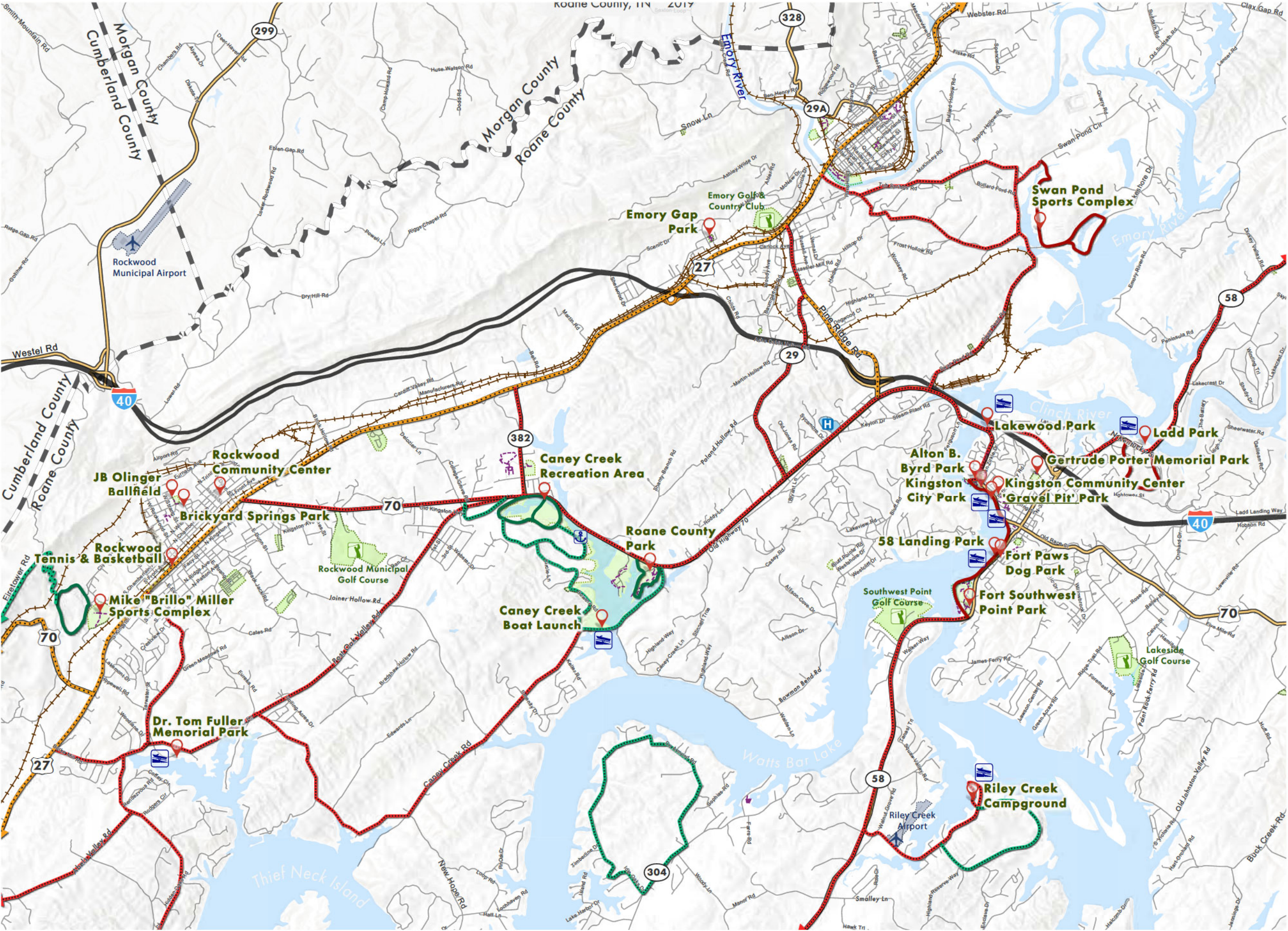
HEALTHY FOOD ACCESS PLANS

PROPOSED

Framework Master Plan Enlargement

This is an enlargement of the greenway, trail, and bike lane networks north of the river, showing connections to points of interest within Rockwood, Kingston, and Harriman. Popular locations within the county such as Roane County Park, Fort Southwest Point Park, Tom Fuller Park, Ladd Park, and Swan Pond, among others, are all connected throughout the multi-use network.





LEGEND

- Existing County / Municipal Park
- Boat Access
- Local Town Or Place
- State / National Park
- County Boundary
- District Boundary
- Municipal Townships
- Interstate
- US Highway
- State Highway
- Local Road
- Railroad
- Water Body
- Marina
- Golf Course
- Airport

Greenway

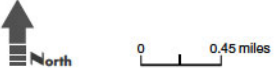
- Existing
- Proposed

Trails

- Existing
- Proposed

Bike Lane

- Existing
- Proposed



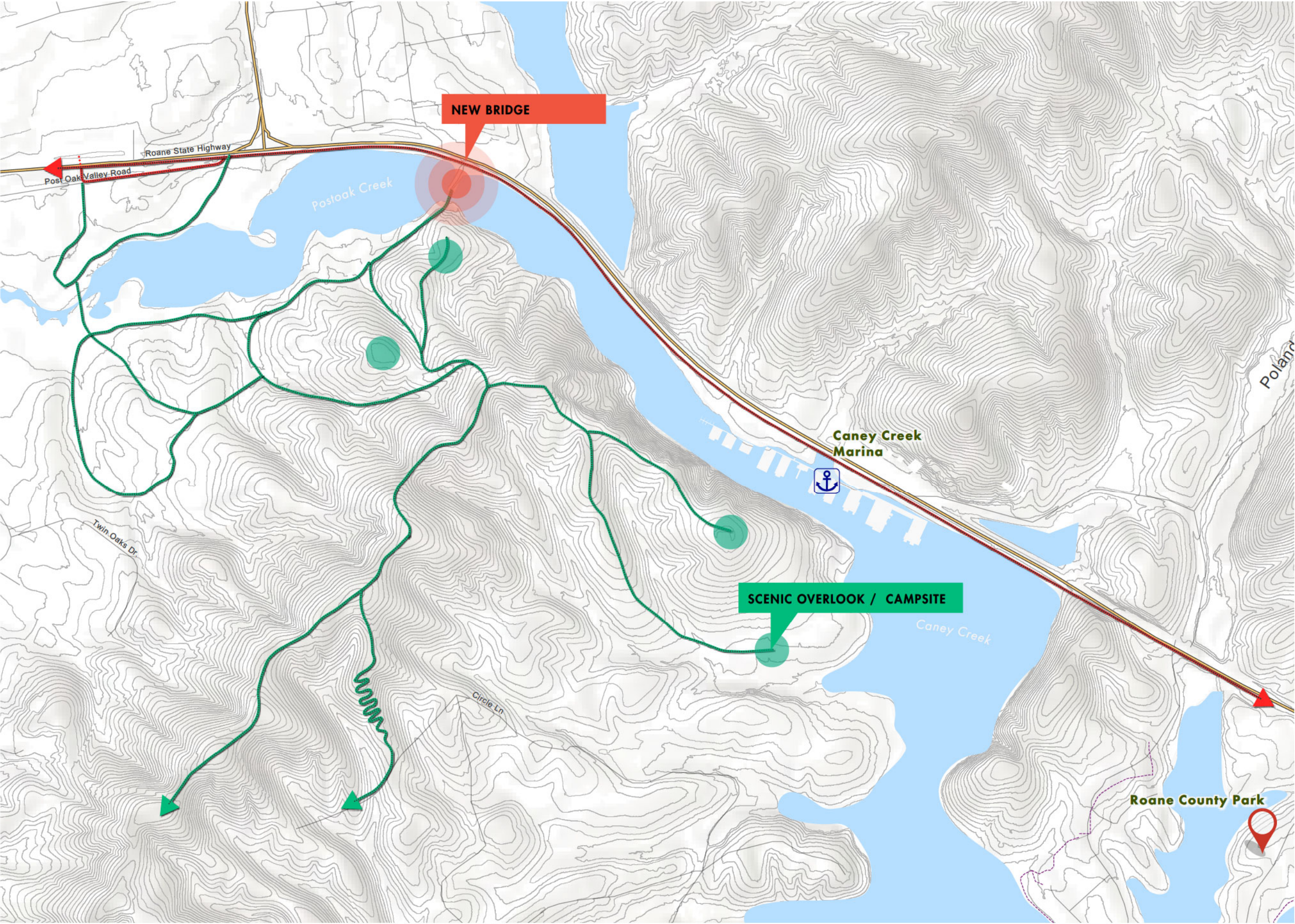
FRAMEWORK MASTER PLAN ENLARGEMENT



Caney Creek Recreation Area Enlargement

This enlargement focuses on the Caney Creek Recreation Area given that the development of this area for recreational access has been deemed a priority in the short term. As of now there are approximately 5 miles of hiking trails proposed for this area, including bridle trails connecting to the Expo Center at Roane State Community College. The inclusion of a new bridge to provide access to the site from Roane State Highway as well as organized group campsites have also been proposed for future phases of construction.





LEGEND

Existing County / Municipal Park

Marina

Greenway

Proposed

Trails

Proposed

Bike Lane

Proposed

CANEY CREEK RECREATION AREA ENLARGEMENT


Kingston Trail Village

This plan shows the potential location of a trail village in the large parking lot between Kingston United Methodist and Bethel Presbyterian Church in the heart of Kingston. This is an ideal location for a primary trailhead due to its downtown location, proximity to Watts Bar Lake, Kingston Parks, and the existing Betty Brown Memorial Greenway, as well as its high accessibility to food, retail, and civic spaces. It is recommended that a future workshop be held to further investigate the feasibility of this site as a trail village.






LEGEND

 **Boat Access**

Greenway

 **Existing**

KINGSTON TRAIL VILLAGE

Precedent Imagery

These images show examples of trailhead facilities, lodging, boat storage buildings, information kiosks, and wayfinding that could be integrated within the trail network. The primary trailheads would typically have larger trailhead facilities, lodging, and storage buildings; the secondary trailheads would have dedicated parking, information kiosks, picnic areas, and restrooms; and the tertiary trailheads would have trail maps and other wayfinding signage.

TRAILHEAD FACILITIES



LODGING



BOAT / CANOE STORAGE



INFORMATION KIOSKS



WAYFINDING SIGNAGE



PRECEDENT IMAGERY

Experiential Renderings

These perspective renderings show “before and after” visual representations of greenway, bike lane, and trail development within certain areas of the county. The areas used for the renderings are Decatur Highway (Bike Lane), Caney Creek Recreation Area (Trail), and Roane State Highway (Greenway).

BIKE LANE



HIKING TRAIL



MULTI-USE GREENWAY



EXPERIENTIAL RENDERINGS

Cost Estimate

GREENWAYS

	NAME	DISTANCE (MILES)	DIFFICULTY	COST / MILE	TOTAL COST
1	Brillo to Buck Toms Part 1	2.01	Moderate	\$428,750	\$861,788
2	Brillo to Buck Toms Part 2	1.75	Easy	\$428,750	\$750,313
3	Brillo to Buck Toms Part 3	2.29	Difficult	\$428,750	\$981,838
4	Brillo to Buck Toms Part 4	3.11	Very Difficult	\$428,750	\$1,333,413
5	Brillo to Buck Toms Part 5	1.96	Moderate	\$428,750	\$840,350
6	Rockwood to Tom Fuller	2.49	Easy	\$428,750	\$1,067,588
7	Caney Creek to Tom Fuller	2.16	Easy	\$428,750	\$926,100
8	Caney Creek Run	2.10	Moderate	\$428,750	\$900,375
9	Caney Creek Run 2	2.27	Easy	\$428,750	\$973,263
10	Caney Creek to Roane	2.30	Moderate	\$428,750	\$986,125
11	Caney Creek to Roane 2	1.82	Difficult	\$428,750	\$780,325
12	Rockwood to Caney 1	1.75	Moderate	\$428,750	\$750,313
13	Rockwood to Caney 2	1.44	Easy	\$428,750	\$617,400
14	Cardiff	1.25	Easy	\$428,750	\$535,938
15	RCP to Hospital	2.08	Easy	\$428,750	\$891,800
16	Hospital to Bridge	2.07	Easy	\$428,750	\$887,513
17	Midtown Run	2.41	Moderate	\$428,750	\$1,033,288
18	Bridge to Kingston	0.95	Easy	\$428,750	\$407,313
19	WMA Run	2.06	Easy	\$428,750	\$883,225
20	WMA and Harriman	2.17	Moderate	\$428,750	\$930,388
21	Harriman to River	3.07	Difficult	\$428,750	\$1,316,263
22	Kingston 1	1.99	Easy	\$428,750	\$853,213
23	Kingston 2	2.09	Difficult	\$428,750	\$896,088
24	Kingston to Brashear	2.68	Difficult	\$428,750	\$1,149,050
25	Brashear to Poplar 1	2.05	Easy	\$428,750	\$878,938
26	Brashear to Poplar 2	1.95	Moderate	\$428,750	\$836,063
27	Blair Run	2.67	Moderate	\$428,750	\$1,144,763
28	Blair to 327	2.08	Moderate	\$428,750	\$891,800
29	Blair to Perimeter	2.52	Easy	\$428,750	\$1,080,450
30	Perimeter Loop	1.96	Moderate	\$428,750	\$840,350
31	Blair to River	2.39	Easy	\$428,750	\$1,024,713
32	River to Turnpike	1.65	Easy	\$428,750	\$707,438
33	Manhattan Trail	2.1	Easy	\$428,750	\$900,375
34	Manhattan Trail 2	1.32	Easy	\$428,750	\$565,950
35	327 to White Wing	2.24	Moderate	\$428,750	\$960,400
36	White Wing to Oak	1.79	Moderate	\$428,750	\$767,463
37	Oak Ridge Trail	3.09	Easy	\$428,750	\$1,324,838
38	White Wing to River	2.46	Moderate	\$428,750	\$1,054,725
39	Southwest	2.53	Moderate	\$428,750	\$1,084,738
40	Riley Creek	1.64	Easy	\$428,750	\$703,150
41	Creek to River	2.43	Difficult	\$428,750	\$1,041,863
42	River to Cove	1.19	Easy	\$428,750	\$510,213
43	Decatur Trail	1.59	Easy	\$428,750	\$681,713

	NAME	DISTANCE (MILES)	DIFFICULTY	COST / MILE	TOTAL COST
44	Bacon Ridge 1	2.03	Easy	\$428,750	\$870,363
45	Bacon Ridge 2	5.06	Moderate	\$428,750	\$2,169,475
46	Paint Rock 1	2.06	Moderate	\$428,750	\$883,225
47	Paint Rock 2	3.3	Moderate	\$428,750	\$1,414,875
48	Loudon	2.29	Moderate	\$428,750	\$981,838
49	Sweetwater 1	2.04	Easy	\$428,750	\$874,650
50	Sweetwater 2	3.59	Moderate	\$428,750	\$1,539,213
TOTAL		110.29			\$47,286,838

TRAILS

	NAME	DISTANCE (MILES)	DIFFICULTY	COST / MILE	TOTAL COST
1	Halfmoon Shores	3.23	Difficult	\$217,550	\$702,687
2	Blue Springs	1.95	Moderate	\$217,550	\$424,223
3	Bacon Ridge	2.50	Very Difficult	\$217,550	\$543,875
4	Paint Rock	0.87	Easy	\$217,550	\$189,269
5	McGlothin-Largen	4.99	Very Difficult	\$217,550	\$1,085,575
6	Thief Neck Island	2.74	Very Difficult	\$217,550	\$596,087
7	Rockwood Ferry	4.15	Very Difficult	\$217,550	\$902,833
8	Mt Roosevelt to Rockwood	3.49	Very Difficult	\$217,550	\$759,250
9	Caney Creek Horse Trail	1.26	Easy	\$217,550	\$274,113
10	Caney Creek Recreation Area	3.45	Moderate	\$217,550	\$750,548
TOTAL		28.63			\$6,228,457

BIKE LANES

	NAME	DISTANCE (MILES)	DIFFICULTY	COST / MILE	TOTAL COST
1	Oliver Springs to Blair Run	5.75	Easy	\$47,520	\$273,240
2	Blair Run to US HWY 27	4.95	Moderate	\$47,520	\$235,224
3	US HWY 27 to Harriman	3.58	Easy	\$47,520	\$170,122
4	US HWY 27 to Morgan	1.30	Easy	\$47,520	\$61,776
5	Harriman to I-40	2.47	Easy	\$47,520	\$117,374
6	I-40 to Patton Ln	2.02	Easy	\$47,520	\$95,990
7	US 29 to US 70	1.02	Moderate	\$47,520	\$48,470
8	Patton Ln to Rockwood	3.43	Easy	\$47,520	\$162,994
9	Rockwood to Cumberland	2.30	Difficult	\$47,520	\$109,296
10	Rockwood to Rhea	4.34	Moderate	\$47,520	\$206,237
11	Rhea to Buck Toms	6.79	Very Difficult	\$47,520	\$322,661
TOTALS		37.95			\$1,803,384

BREAKDOWN PER TYPE

NAME	QUANTITY	UNIT	UNIT COST	TOTAL per mile
BIKE LANE				
Surface Material: Thermoplast Bike Lane on Asphalt	5,280.00	LF	\$4.00	\$21,120.00
Flexstake Traffic Delineators spaced @ 5 feet o.c.	1,056.00	EA	\$25.00	\$26,400.00
				\$47,520.00
TRAIL - MOUNTAIN BIKE				
Surface Material: Compacted Dirt / Aggregate	52,800.00	SF	\$2.00	\$105,600.00
Grading	1.00	MI	\$3,800.00	\$3,800.00
Compacted Soil Subbase	52,800.00	SF	\$2.00	\$105,600.00
Clearing/Grubbing	1.00	MI	\$2,550.00	\$2,550.00
				\$217,550.00
TRAIL - HIKING				
Surface Material: Compacted Dirt / Aggregate	52,800.00	SF	\$2.00	\$105,600.00
Grading	1.00	MI	\$3,800.00	\$3,800.00
Compacted Soil Subbase	52,800.00	SF	\$2.00	\$105,600.00
Clearing/Grubbing	1.00	MI	\$2,550.00	\$2,550.00
				\$217,550.00
GREENWAY				
Surface Material: Concrete	52,800.00	SF	4.00	\$211,200.00
Grading	1.00	MI	3,800.00	\$3,800.00
Crushed Aggregate	52,800.00	SF	2.00	\$105,600.00
Compacted Soil Subbase	52,800.00	SF	2.00	\$105,600.00
Clearing/Grubbing	1.00	MI	2,550.00	\$2,550.00
				\$428,750.00
WETLAND BOARDWALK TRAIL				
Surface Material: Wood Decking	52,800.00	SF	65.00	\$3,432,000.00
Piers/Footings	264.00	EA	90.00	\$23,760.00
Grading	1.00	MI	3,800.00	\$3,800.00
Compacted Soil Subbase	52,800.00	SF	2.00	\$105,600.00
Clearing/Grubbing	1.00	MI	2,550.00	\$2,550.00
				\$3,567,710.00

		INFLUENCING DESIGN FACTORS				
		COST	DRAINAGE	HEALTH	SAFETY	RIDERSHIP ATTRACTION
TRAIL TYPE / SURFACE MATERIAL	NATURAL	LOW: \$.50/sf	GOOD	EXCELLENT	POOR	FAIR
	COMPACTED SOIL	LOW: \$2.00/sf	FAIR	EXCELLENT	FAIR	FAIR
	STRIPING	MEDIUM / HIGH: \$4/lf	GOOD	EXCELLENT	FAIR	FAIR
	AGGREGATE	MEDIUM / HIGH: \$4/sf	GOOD	EXCELLENT	GOOD	GOOD
	WOOD DECKING	HIGH: \$67/sf	EXCELLENT	EXCELLENT	GOOD	GOOD
	CONCRETE / ASPHALT	HIGH: \$9/sf	FAIR	EXCELLENT	EXCELLENT	EXCELLENT
MATERIAL MATRIX						

FOR COORDINATION ONLY - NOT FOR CONSTRUCTION

Note: This conceptual cost opinion is for planning purposes only and the data needs to be reviewed and adjusted, as necessary, by the general contractor to determine the final construction budget.

SOURCES

- Biking/Hiking/Deer Path/Creekside:**
<http://atfiles.org/files/pdf/designbonneville.pdf>
- Multi-use/Highway/Rail with Trail:**
<https://iowadot.gov/iowabikes/trails/chapter-five-cost-analysis>
- Multi-use/Highway/Rail with Trail:**
<http://www.americantrails.org/resources/ManageMaintain/MilwMaintcost.html>
- Multi-use/Highway/Rail with Trail:**
https://www.parks.ca.gov/pages/1324/files/how_much_will_that_trail_cost_fri2007.pdf
- Biking/Hiking/Deer Path/Creekside:**
http://nirpc.org/media/3539/appendix_b___trailcosts.pdf
- Elevated Wetland:**
<https://www.permatrak.com/news-events/how-to-cost-estimate-commercial-boardwalk>