

Roanoke County

Safe Streets and Roads for All

Comprehensive Safety Action Plan

Prepared by Timmons Group
Fall 2024



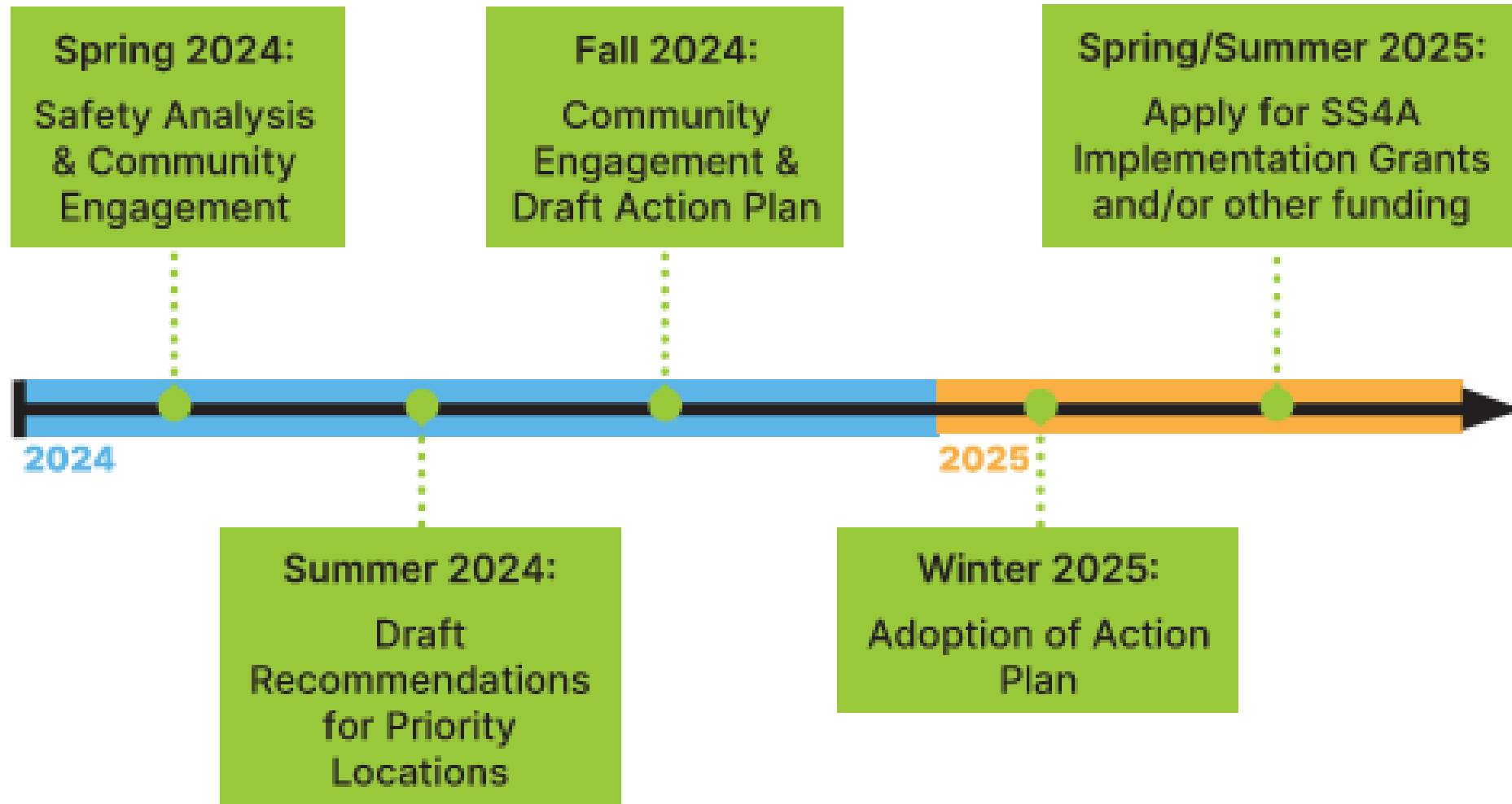
Board of Supervisors Update
December 17, 2024



Agenda

- Project Schedule
- Safe Streets & Roads for All (SS4A)
- Crash Summary
- Community Engagement
- Input Needed
- Questions / Discussion

Project Schedule



Safe System Approach



Crash Summary



Figure 1. Severe Crashes by Year, Roanoke County (2015-2023)

MOST COMMON CRASH TYPES

Fatal and Serious Injury Crashes Only
Roanoke County (2015-2023)

Fixed Object
Off-Road



37%

Angle



27%

Rear End



13%

Head On



6%

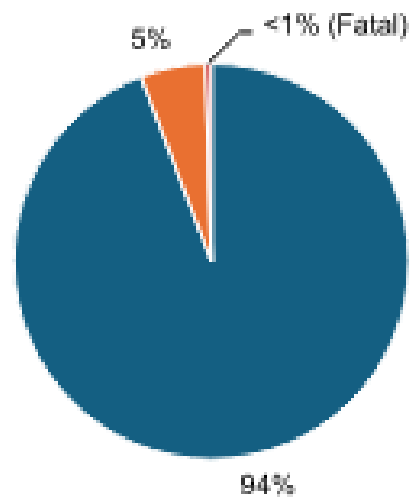
Pedestrian



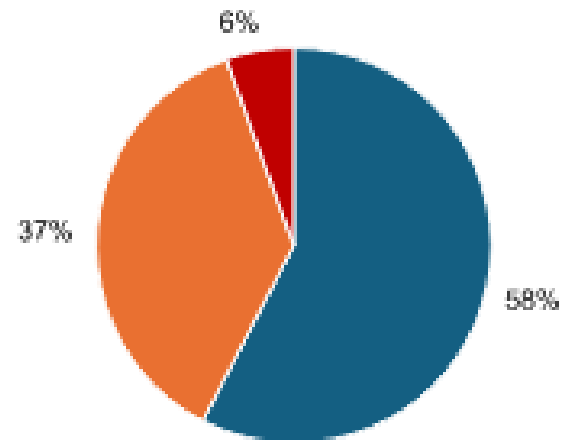
5%

Crash Summary

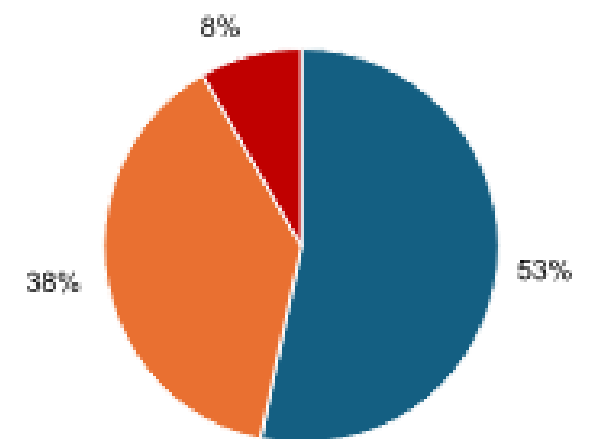
Crash Severity of Motorists



Crash Severity of Motorcyclists

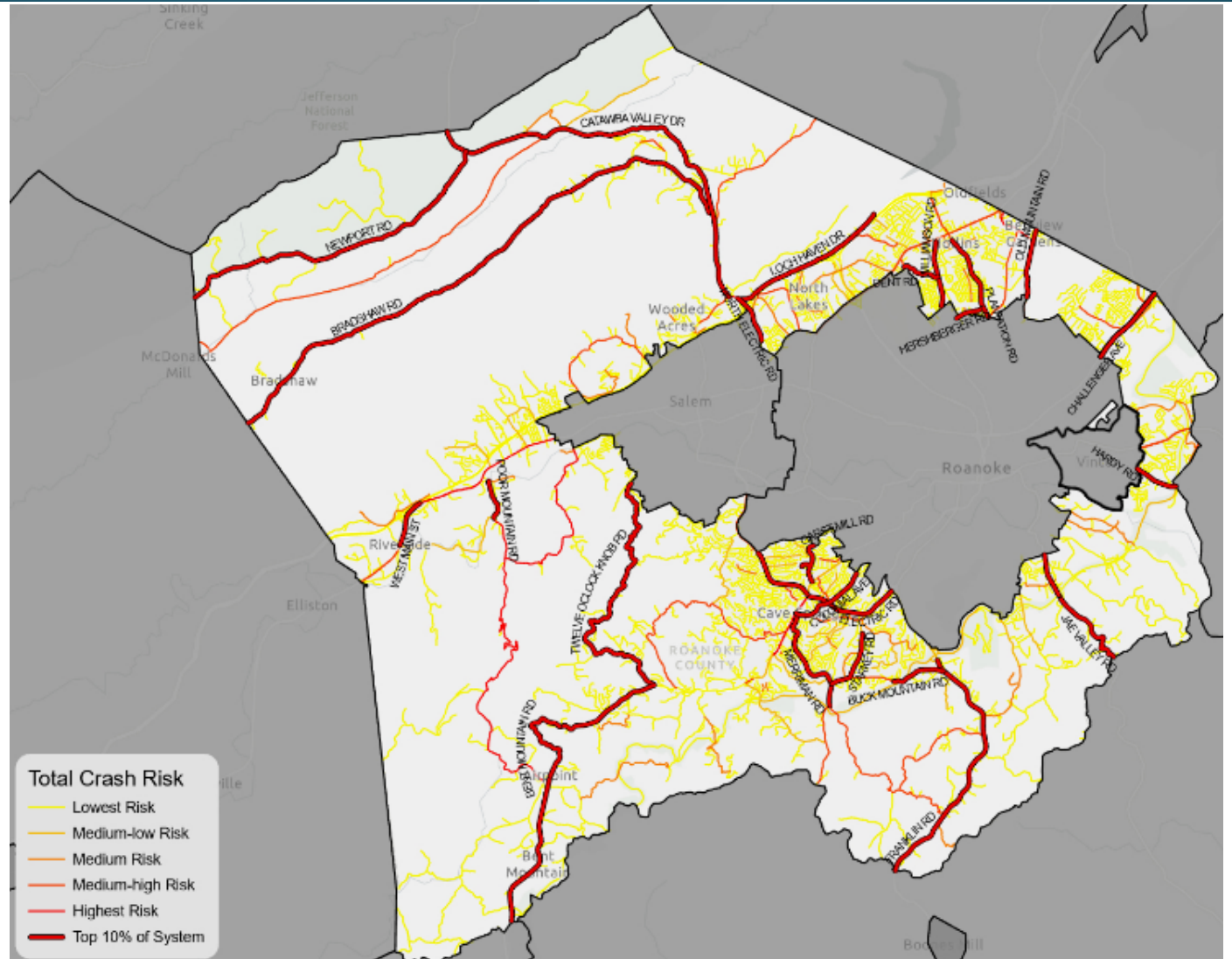
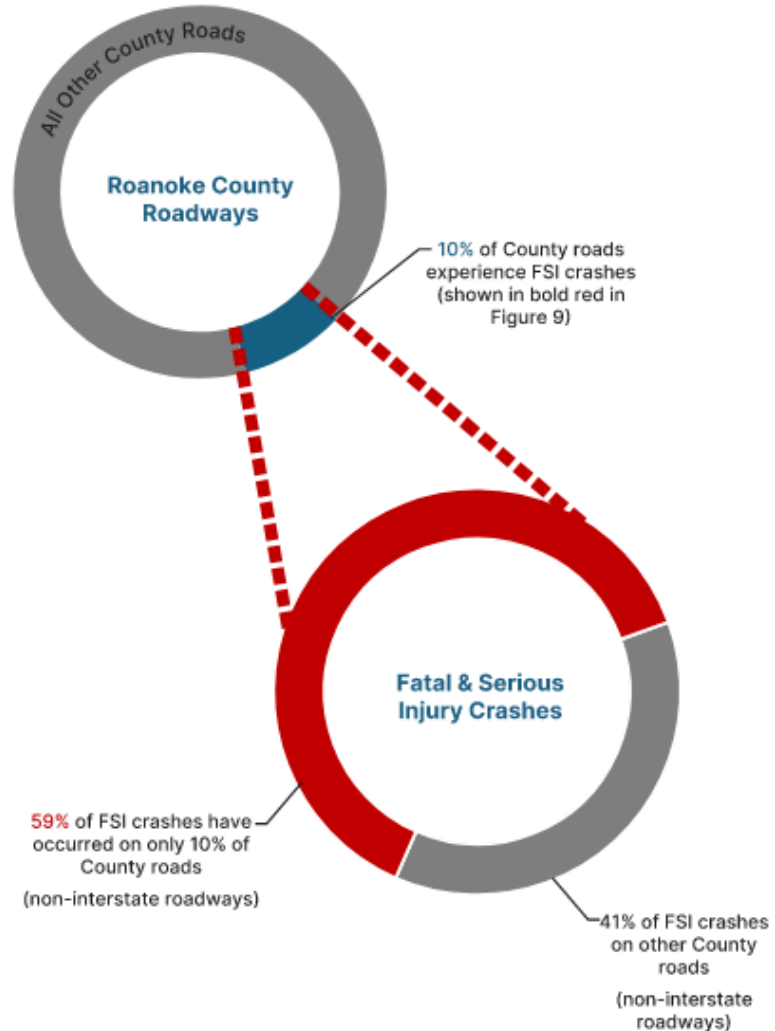


Crash Severity of Bicyclists & Pedestrians



-  Serious Injuries
-  Fatalities
-  All Other Crash Types

High Injury Network



Roanoke County Top 10 Corridors

Route	From	To	Serious Injury Crashes	Fatal Crashes	Planned Improvements
Challenger Avenue	Roanoke City Line	Botetourt County Line	29	4	Funded SMART SCALE improvements at West Ruritan Road, Carson Road, East Ruritan Road/Bonsack Road, Huntridge Road and Cloverdale Road intersections
Electric Road	Brambleton Avenue	Roanoke City Line	25	1	Funded improvements include a Diverging Diamond Interchange at Route 220, intersection improvements between Route 220 & Starkey Road, widening bicycle lanes and sidewalks between Ogden Road & Starkey Road
Electric Road	Brambleton Avenue	Glen Heather Drive	17	1	Pedestrian improvements funded at Postal Drive & Brambleton Avenue intersections; RCUT funded at Glen Heather Drive & Stoneybrook Drive
Plantation Road	Williamson Road	Hershberger Road	15	2	Currently conducting Office of Intermodal Planning & Investment Project Pipeline Study, to be used for Summer 2024 SMART SCALE application to improve the Williamson Road & Plantation Road intersection
West Main Street	West River Road	Pleasant Run Drive	13	1	Currently conducting Office of Intermodal Planning & Investment Project Pipeline Study for a peanut roundabout, to be used for Summer 2024 SMART SCALE application
Bent Mountain Road	Back Creek Orchard Road	Tinsley Lane	11	1	
Bradshaw Road	Catawba Valley Drive	Montgomery County Line	10	2	
Jae Valley Road	Blue Ridge Parkway	Franklin County Line	10	1	
Garst Mill Road	Brambleton Avenue	Roanoke City Line	7	1	
Starkey Road	Benois Road	Merriman Road	7	0	Construction of new roundabout at Starkey Road & Buck Mountain Road intersection nearing completion

Bent Mountain Road
3 miles from Back Creek Orchard Road to Tinsley Lane

Bradshaw Road
13.4 miles from Catawba Valley Drive to Montgomery County Line

West Main Street
1.4 miles from West River Road to Pleasant Run Drive

Electric Road
2 miles from Brambleton Avenue to Glen Heather Drive

Garst Mill Road
1.5 miles from Brambleton Avenue to Roanoke City Line

Electric Road
2.8 miles from Brambleton Avenue to Roanoke City Line

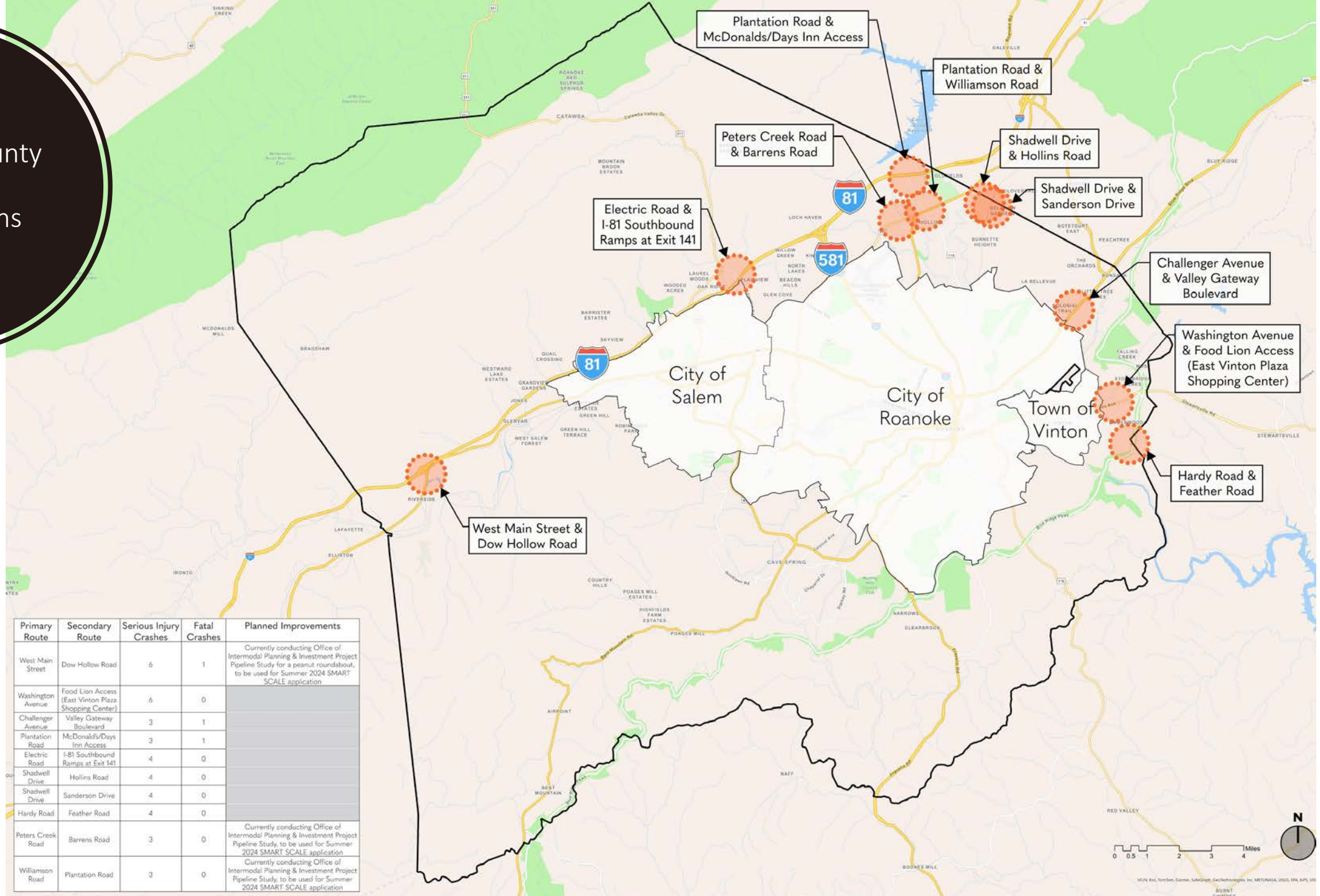
Starkey Road
1.9 miles from Benois Road to Merriman Road

Jae Valley Road
2.8 miles from Blue Ridge Parkway to Franklin County Line

Challenger Avenue
2.4 miles from Roanoke City Line to Botetourt County Line

Plantation Road
2.2 miles from Williamson Road to Hershberger Road

Roanoke County Top 10 Intersections



Primary Route	Secondary Route	Serious Injury Crashes	Fatal Crashes	Planned Improvements
West Main Street	Dow Hollow Road	6	1	Currently conducting Office of Intermodal Planning & Investment Project Pipeline Study for a peanut roundabout, to be used for Summer 2024 SMART SCALE application
Washington Avenue	Food Lion Access (East Vinton Plaza Shopping Center)	6	0	
Challenger Avenue	Valley Gateway Boulevard	3	1	
Plantation Road	McDonalds/Days Inn Access	3	1	
Electric Road	I-81 Southbound Ramps at Exit 141	4	0	
Shadwell Drive	Hollins Road	4	0	
Shadwell Drive	Sanderson Drive	4	0	
Hardy Road	Feather Road	4	0	
Peters Creek Road	Barrens Road	3	0	Currently conducting Office of Intermodal Planning & Investment Project Pipeline Study, to be used for Summer 2024 SMART SCALE application
Williamson Road	Plantation Road	3	0	Currently conducting Office of Intermodal Planning & Investment Project Pipeline Study, to be used for Summer 2024 SMART SCALE application

Community Engagement

Community Meetings



235
survey
responses
recorded

75
total attendees
at in-person
meetings

Over
1,000
total community
members
reached*

Spring 2024 Meetings

- Monday, April 29th from 5-7 pm: Roanoke County (South) at the Brambleton Center Gymnasium
- Thursday, May 2nd from 5-7 pm: Roanoke County (North) at the Hollins Library

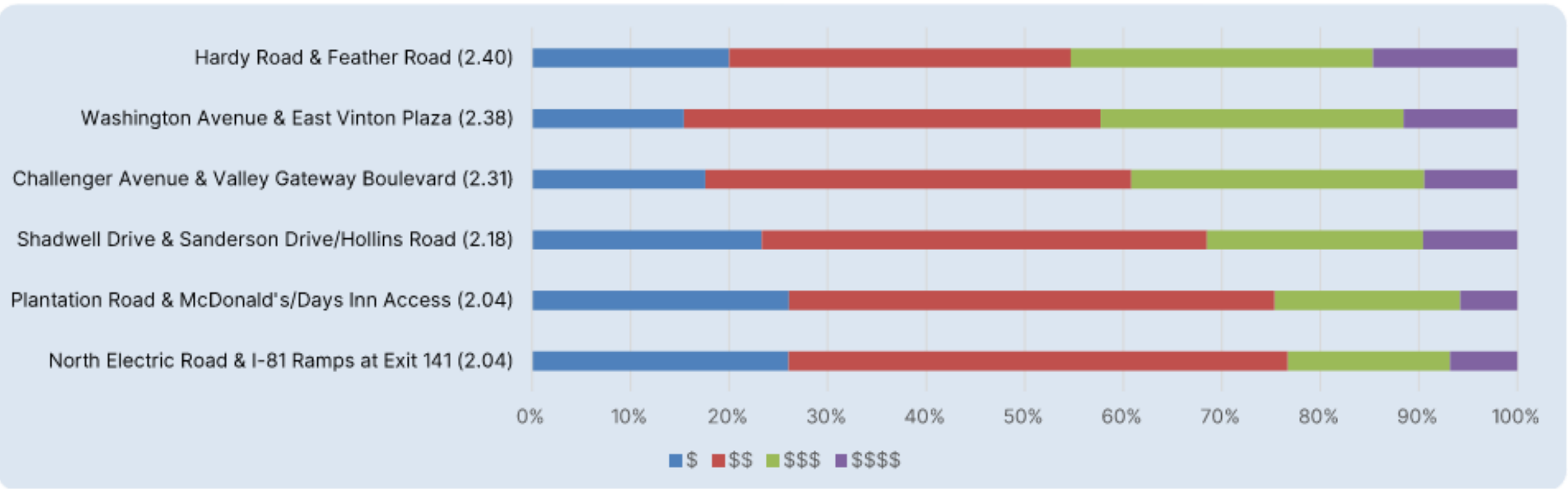
Fall 2024 Meetings

- Thursday, September 5th: Roanoke County (North) at the Hollins Library
- Monday, September 9th: Roanoke County (South) at the South County Library

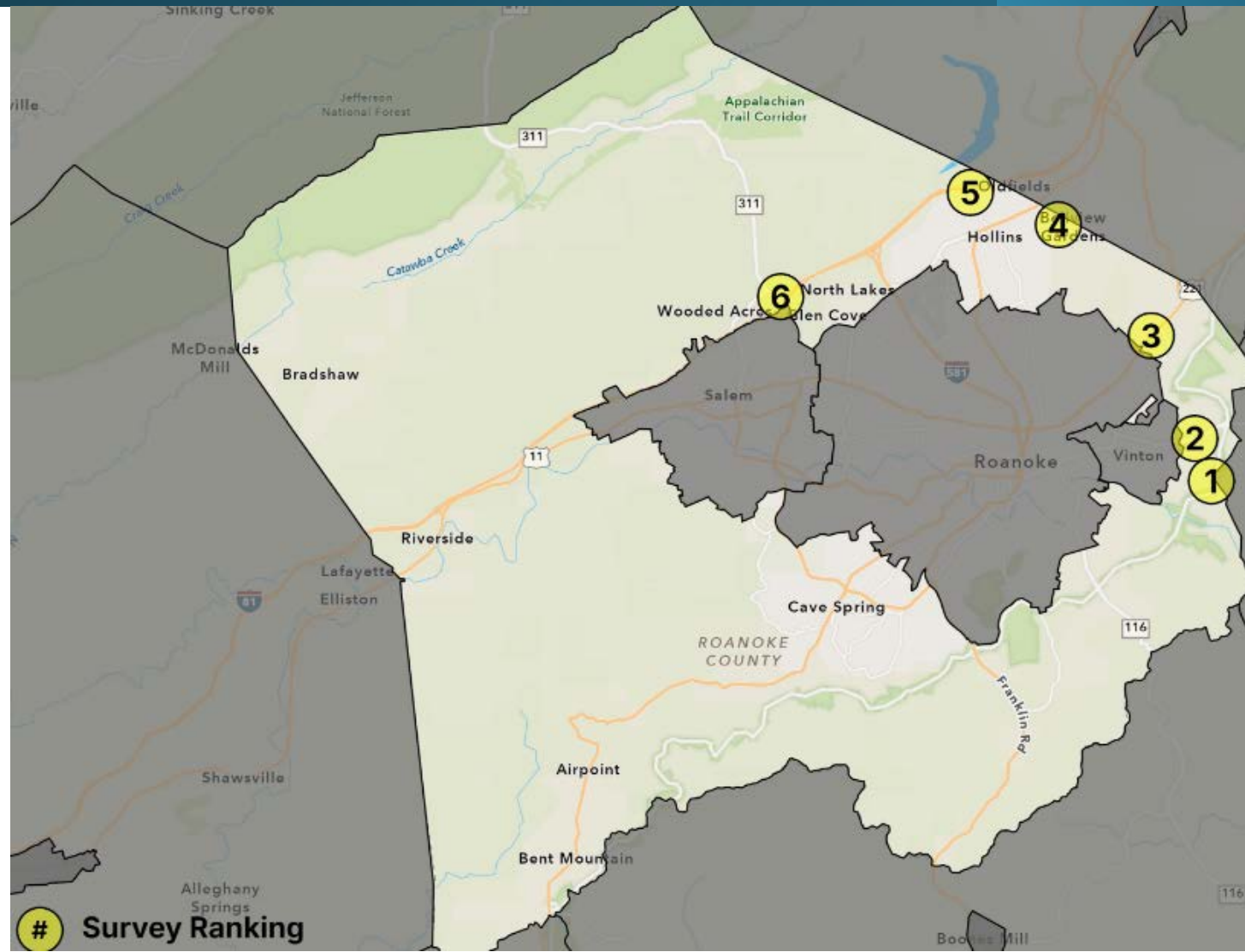
* Includes Spring and Fall survey respondents and meeting attendees, observation app respondents, AGOL Dashboard views, and AGOL StoryMap views

Survey Results – Intersections

- How much would you spend on each location?



Survey Results – Intersections



Survey Results – Intersections

Washington Avenue & East Vinton Plaza



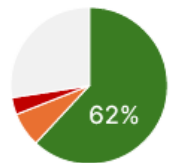
IF YOU WERE IN CHARGE, HOW MUCH MONEY WOULD YOU BE WILLING TO SPEND TO IMPROVE THIS INTERSECTION?

How would you rank the proposed improvements?

- 1 Consider left-turn offset



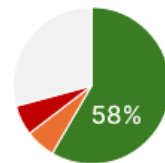
ROAD AND INTERSECTION DESIGN



- 2 Consider access management



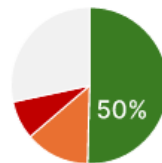
LAND USE



- 3 Conduct a speed study



INTERSECTION AND CORRIDOR STUDIES



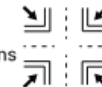
North Electric Road & I-81 Ramps at Exit 141



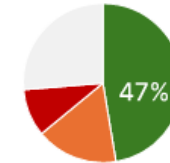
IF YOU WERE IN CHARGE, HOW MUCH MONEY WOULD YOU BE WILLING TO SPEND TO IMPROVE THIS INTERSECTION?

How would you rank the proposed improvements?

- 1 Evaluate intersection reconfiguration to reduce I-81 median, shortening the turning distance for northbound left turns



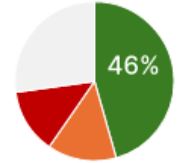
ROAD AND INTERSECTION DESIGN



- 2 Evaluate reducing southbound approach to one through lane



ROAD AND INTERSECTION DESIGN



Hardy Road & Feather Road



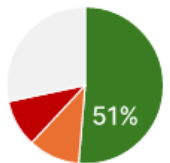
IF YOU WERE IN CHARGE, HOW MUCH MONEY WOULD YOU BE WILLING TO SPEND TO IMPROVE THIS INTERSECTION?

How would you rank the proposed improvements?

- 1 Evaluate a roundabout



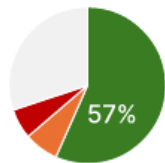
ROAD AND INTERSECTION DESIGN



- 2 Consider install of advance warning signage



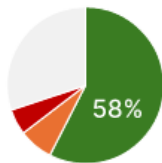
ROAD AND INTERSECTION DESIGN



- 3 Improve sight distance



ROAD AND INTERSECTION DESIGN



Plantation Road & McDonald's/Days Inn Access



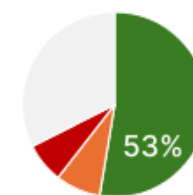
IF YOU WERE IN CHARGE, HOW MUCH MONEY WOULD YOU BE WILLING TO SPEND TO IMPROVE THIS INTERSECTION?

How would you rank the proposed improvements?

- 1 Evaluate extending the existing two-way left-turn lane



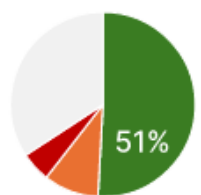
ROAD AND INTERSECTION DESIGN



- 2 Consider access management



LAND USE



Survey Results – Intersections

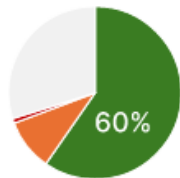
Shadwell Drive & Sanderson Road/Hollins Road



How would you rank the proposed improvements?

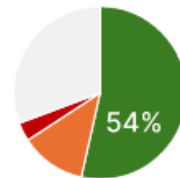
- 1 Improve sight distance

ROAD AND INTERSECTION DESIGN



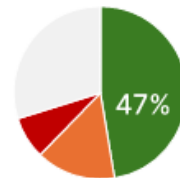
- 2 Consider installation of guardrail at SW corner of Hollins Road

ROAD AND INTERSECTION DESIGN



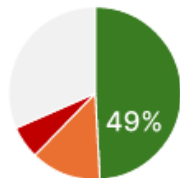
- 3 Conduct a speed study

INTERSECTION AND CORRIDOR STUDIES



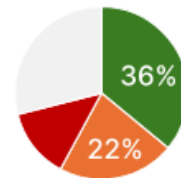
- 4 Evaluate a left-turn lane on Shadwell Drive onto Sanderson Drive

ROAD AND INTERSECTION DESIGN



- 5 Evaluate a peanut roundabout

ROAD AND INTERSECTION DESIGN



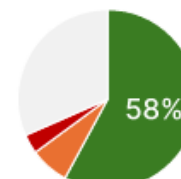
Challenger Avenue & Valley Gateway Boulevard



How would you rank the proposed improvements?

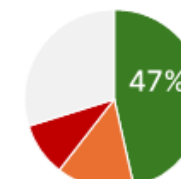
- 1 Review signal timings; potentially longer all-red times

ROAD AND INTERSECTION DESIGN



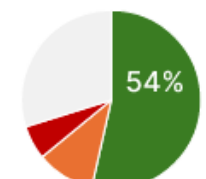
- 2 Consider lowering speed limit from City boundary to this intersection

ROAD AND INTERSECTION DESIGN



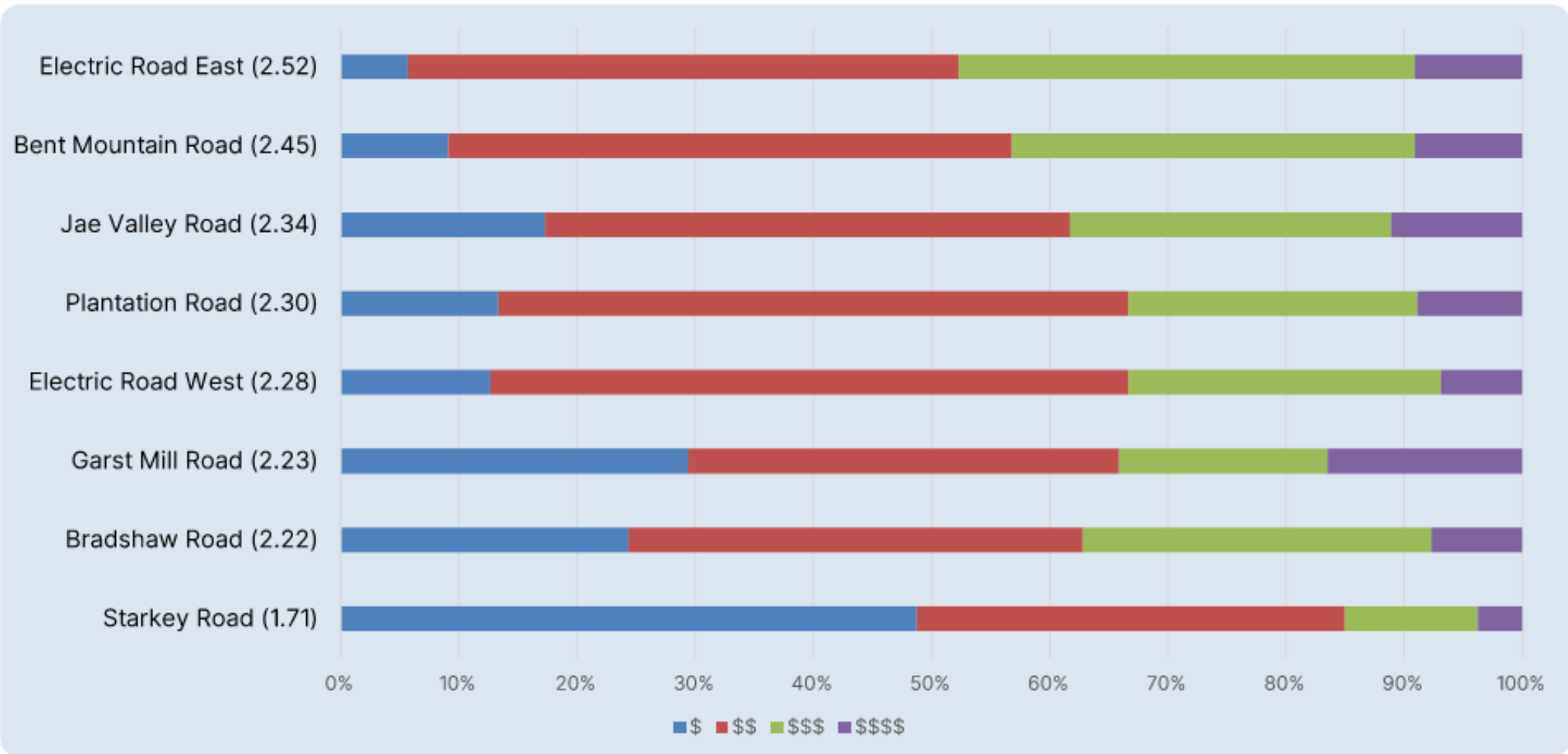
- 3 Evaluate moving existing stop bar and extend existing concrete median closer to intersection

ROAD AND INTERSECTION DESIGN

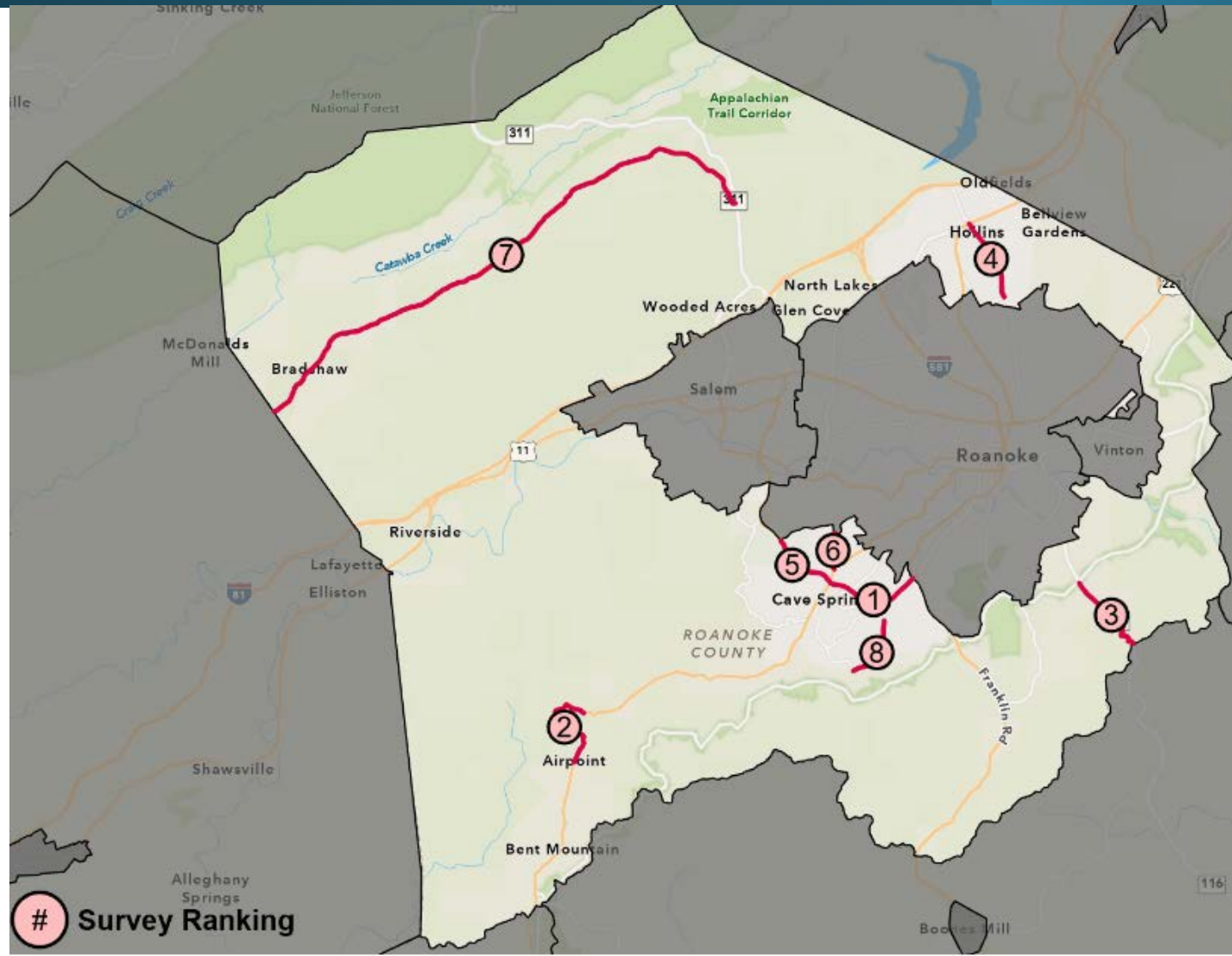


Survey Results – Corridors

- How much would you spend on each location?



Survey Results – Corridors



Survey Results – Corridors

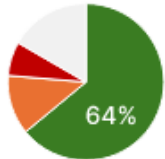
Plantation Road



How would you rank the proposed improvements?

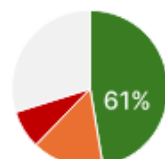
- 1 Consider increasing enforcement

ENFORCEMENT AND POLICIES



- 2 Conduct a multimodal corridor study

INTERSECTION AND CORRIDOR STUDIES



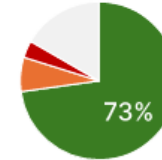
Bent Mountain Road



How would you rank the proposed improvements?

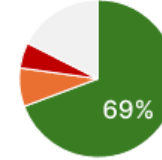
- 1 Consider installing centerline or shoulder rumble strips

ROAD AND INTERSECTION DESIGN



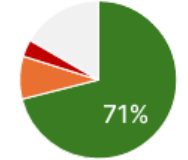
- 2 Consider tree cutting at select curves, where possible

ROAD AND INTERSECTION DESIGN



- 3 Evaluate condition and spacing of existing chevrons; consider signage upgrades

ROAD AND INTERSECTION DESIGN



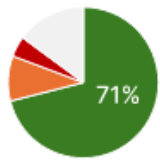
Electric Road East



How would you rank the proposed improvements?

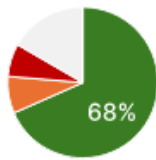
- 1 Conduct an intersection study at Colonial Avenue

INTERSECTION AND CORRIDOR STUDIES



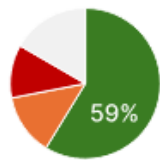
- 2 Evaluate Restricted Crossing U-Turn (RCUT) improvements east of Colonial Avenue

ROAD AND INTERSECTION DESIGN



- 3 Evaluate Thru-Cut improvements east of Colonial Avenue

ROAD AND INTERSECTION DESIGN



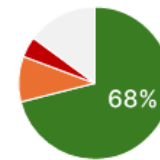
Electric Road West



How would you rank the proposed improvements?

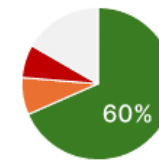
- 1 Conduct a corridor study or a road safety audit for Electric Road (from Bower Road to Brambleton Avenue)

INTERSECTION AND CORRIDOR STUDIES



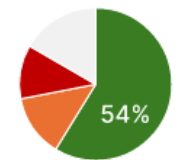
- 2 Evaluate Restricted Crossing U-Turn (RCUT) improvements at select intersections

ROAD AND INTERSECTION DESIGN



- 3 Evaluate Thru-Cut improvements at select intersections

ROAD AND INTERSECTION DESIGN



Survey Results – Corridors

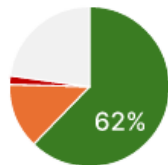
Jae Valley Road

How would you rank the proposed improvements?

- 1 Evaluate condition and spacing of existing chevrons; consider signage upgrades



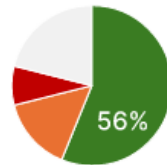
ROAD AND INTERSECTION DESIGN



- 2 Consider installation of high friction surface treatment (HFST) at select curves



ROAD AND INTERSECTION DESIGN



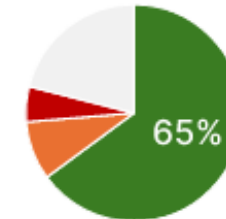
Garst Mill Road

How would you rank the proposed improvements?

- 1 Evaluate and install pedestrian improvements, specifically to the Brambleton Avenue commercial corridor



INTERSECTION AND CORRIDOR STUDIES



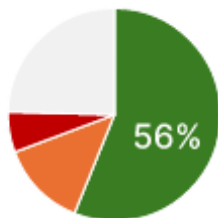
Starkey Road

How would you rank the proposed improvements?

- 1 Conduct a multimodal corridor study



ROAD AND INTERSECTION DESIGN



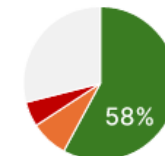
Bradshaw Road

How would you rank the proposed improvements?

- 1 Evaluate potential upgrades to existing advisory speed signage



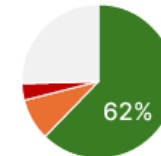
ROAD AND INTERSECTION DESIGN



- 2 Consider installing centerline or shoulder rumble strips



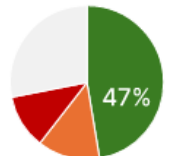
ROAD AND INTERSECTION DESIGN



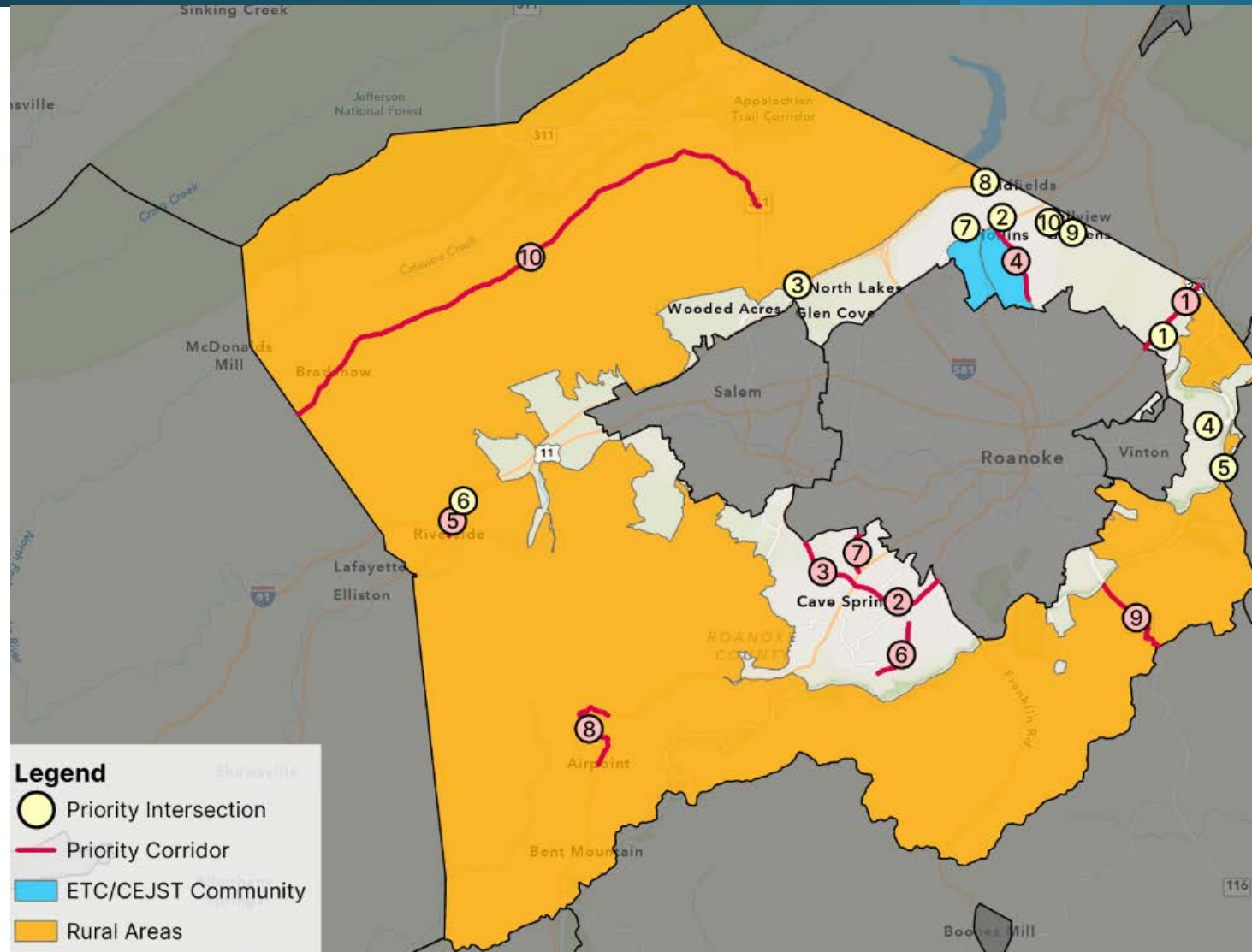
- 3 Conduct a multimodal corridor study



INTERSECTION AND CORRIDOR STUDIES



Equity Analysis



Additional Input Needed

Commitment to Safety

- A commitment to safety is needed through an official public commitment (e.g., resolution, policy, ordinance, etc.) by the governing body related roadway fatalities and serious injuries.
- The commitment must include a goal and timeline for eliminating roadway fatalities and serious injuries achieved through one, or both, of the following:
 1. The target date for achieving zero roadway fatalities and serious injuries; OR
 2. An ambitious percentage reduction of roadway fatalities and serious injuries by a specific date with an eventual goal of eliminating roadway fatalities and serious injuries.

Commitment to Safety

- The Virginia Strategic Highway Safety Plan (VSHSP) has an interim goal of reducing fatalities and serious injuries by 50% by 2045.

The Planning Commission recommends considering adopting a similar goal.

Selection of a Project for Future Application

- FHWA Funding Cycle for 2025 will open approximately March 2025
- Requires 20% funding commitment to receive matching 80% from FHWA

Planning staff requested \$500,000 CIP funding for FY 2026 and \$500,000 for FY 2027 to start accruing a match for a 2025 application. Match funding is needed by the time awarded funding is expended and reimbursement is requested.

- Need to select a project to develop for submission to FHWA considering:
 - Anticipated safety benefit
 - Equity status
 - Estimate and amount of required County match
 - Community support
 - If unsuccessful, eligibility for other funding programs (SMART SCALE, Surface Transportation Block Grant/Carbon Reduction Program, Highway Safety Improvement Program, Transportation Alternatives Program, etc.)

Selection of a Project for Future Application

Project Types

- Areas that need further study (5)
- Small-scale safety improvements, maintenance and signal coordination that can be accomplished by VDOT or City of Roanoke staff in the short term without an application (6)
- Education or Training Campaigns
- Larger projects (5)

Selection of a Project for Future Application

Larger Projects (none are located in Equity areas)

1. Washington Ave. at East Vinton Shopping Plaza Left Turn Offset and Access Management
 - 6 Serious Injuries
 - Anticipated lowest cost
 - Community Ranking: Left Turn Offset – 1/3 (highest), Access Management – 2/3
 - VTrans District Priority Score (Draft 2023 Prioritized Mid-term needs): 2.22 which is highest of the five projects
 - Needs: Construction District Safety Improvement (Very High), Transportation Demand Management (High), Bicycle Access (High), Transit Access (Very High)
2. Route 419 at Exit 141 Intersection/Lane Reconfiguration
 - 5 Serious Injuries
 - Anticipated second lowest cost
 - Community Ranking: Intersection Reconfiguration – 1/3 (highest), Lane Reduction – 2/3
 - VTrans District Priority Score (Draft 2023 Prioritized Mid-term needs): 1.29 which is third out of five projects
 - Needs: Capacity Preservation (Low), Transportation Demand Management (Medium), Bicycle Access (Very High), Transit Access (Very High), Economic Development (Low)

Selection of a Project for Future Application

Larger Projects, Continued (none are located in Equity areas)

3. Hardy Road at Feather Road Roundabout

- 1 Fatality, 5 Serious Injuries
- Anticipated moderate cost compared to other projects
- Community Ranking: Roundabout – 1/3 (highest)
- VTrans District Priority Score (Draft 2023 Prioritized Mid-term needs): 0.71 which is lowest of the five projects
 - Needs: Transportation Demand Management (Low), Bicycle Access (Low), Transit Access (Medium), Construction District Safety Improvement (Low)

4. Garst Mill Road Pedestrian Improvements

- 1 Fatality, 7 Serious Injuries
- Anticipated second highest cost
- Community Ranking: 1/1
- VTrans District Priority Score (Draft 2023 Prioritized Mid-term needs): 0.92, which is fourth of the five projects
 - Needs: Transportation Demand Management (Low), Pedestrian Access (Low), Bicycle Access (Medium), Transit Access (High)

Selection of a Project for Future Application

Larger Projects, Continued (none are located in Equity areas)

5. Shadwell/Sanderson/Hollins Road Peanut Roundabout OR Left Turn onto Sanderson
 - 4 Serious Injuries
 - Anticipated highest cost
 - Community Ranking: Left Turn onto Sanderson – 4/5, Peanut Roundabout – 5/5 (last)
 - VTrans District Priority Score (Draft 2023 Prioritized Mid-term needs): 1.37, which is second of the five projects
 - Needs: Transportation Demand Management (Low), Bicycle Access (Medium), Transit Access (High), Construction District Safety Improvement (High)



Questions and
Discussion