



IMAGINE

CROZET

Crozet Master Plan Update

**Transportation Analysis &
2045 Alternatives**

Crozet CAC Meeting | December 9, 2020

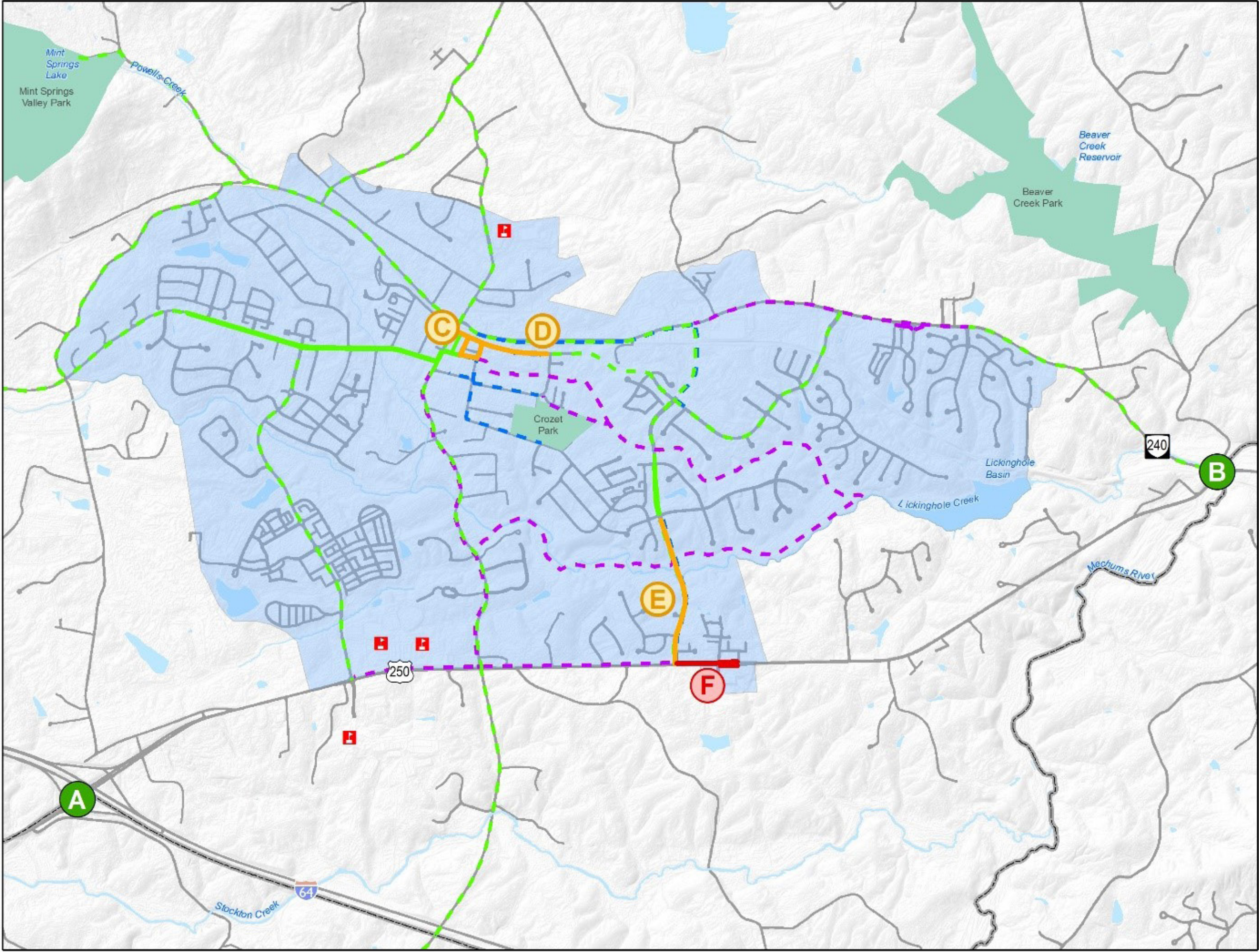
Purpose

- Welcome & Crozet Master Plan Transportation Engagement Summary (5 minutes)
- Transportation Analysis Overview (10 minutes)
- Downtown Crozet Analysis & 2045 Alternatives (30 minutes)
- Route 250 Analysis & Implementation Options (30 minutes)
- General Questions, Comments & Next Steps (10 minutes)

Summary of Previous Engagement

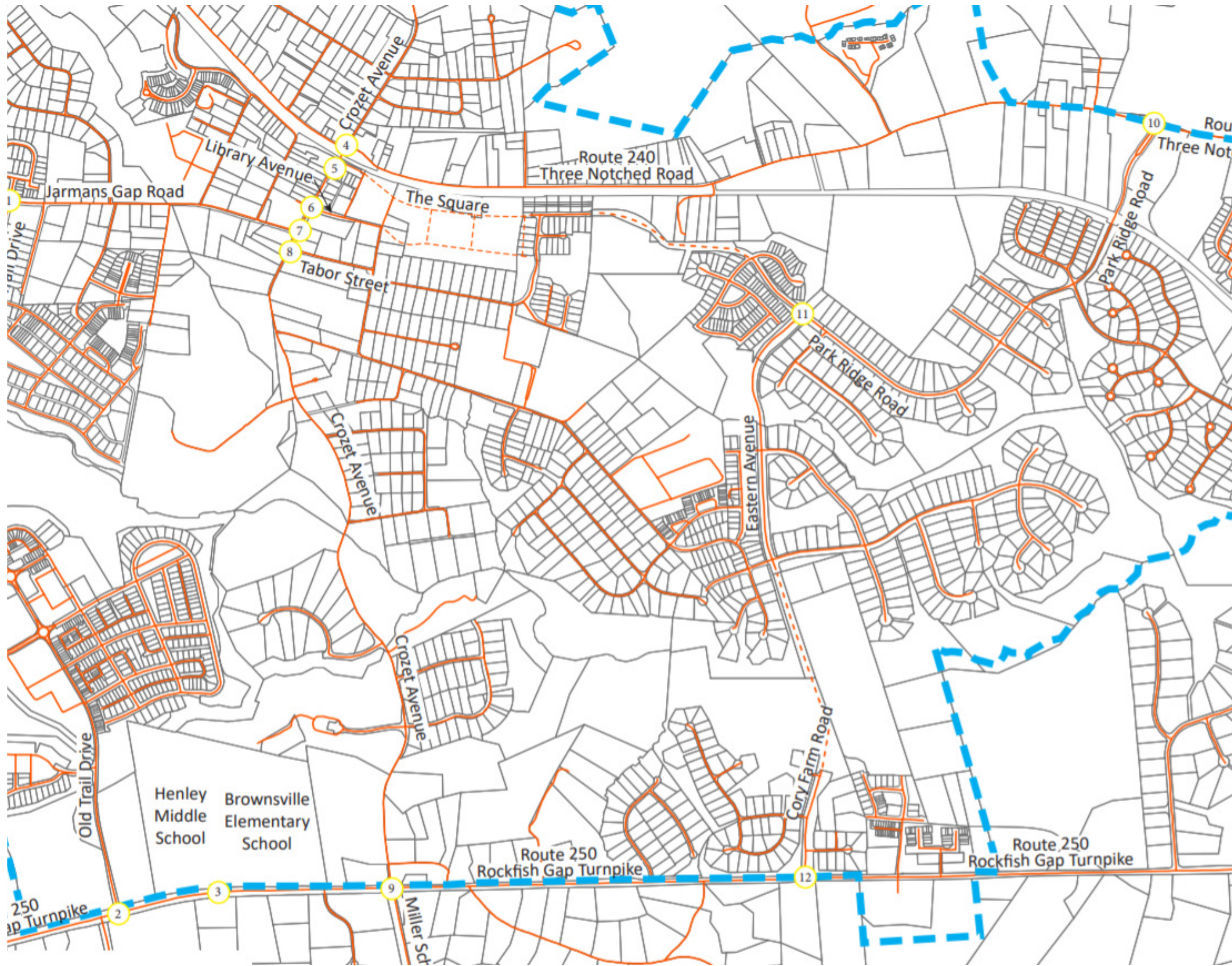
- **Fall 2019 | Community Workshops & Connectivity Tour**
 - Connecting neighborhoods and commercial centers by ensuring they are walkable and bikeable
 - Addressing emerging transit options and reducing automobile dependency
 - Resolving traffic congestion near Old Trail Drive, Brownsville ES/Henley MS/Western Albemarle HS and Downtown
- **Summer 2020 | Bike & Pedestrian Virtual Workshop**
 - Crowd-sourced suggestions for improving bicycle and pedestrian connectivity: Wickham Pond, Highlands, Route 250 corridor
 - Downtown Crozet as highest priority area for improvements, followed by Crozet Connector Trail
- **Summer 2020 | Roadways & Transit Virtual Workshop**
 - Downtown Crozet, along Crozet Avenue as priority area for intersection improvements
 - 69% of participants thought the County should pursue a roundabout at intersection of Old Trail Drive and Route 250
 - Important considerations for Crozetians considering riding transit (1) frequency of service, (2) stop location and (3) length of trip time

Status of 2010 Crozet Master Plan Projects



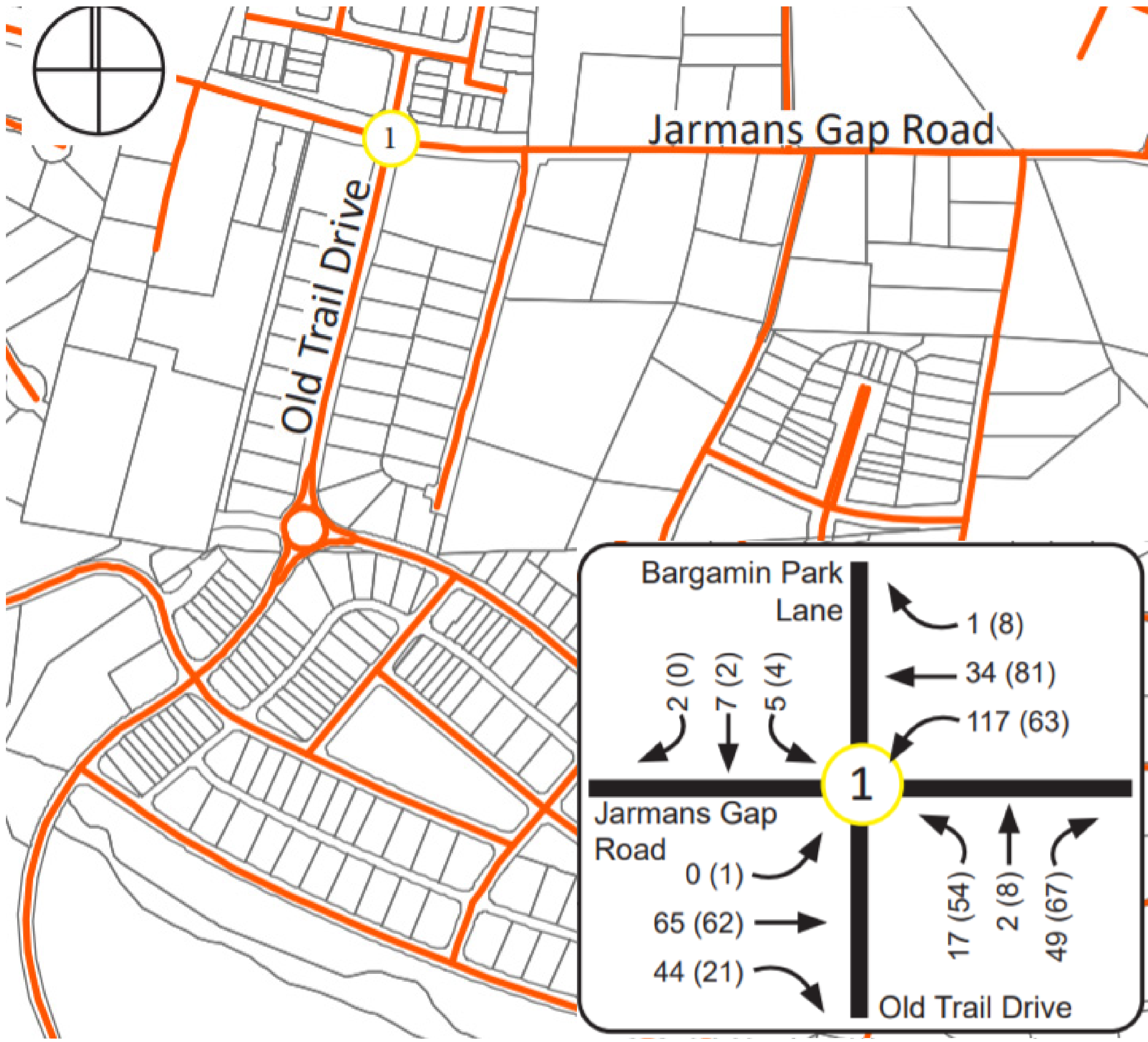
- A: I-64/Exit 107 Park and Ride
- B: Route 250/240 Roundabout
- C: Crozet Square Reconstruction
- D: Barnes Lumber Redevelopment/
Library Avenue/Park Ridge
Extension
- E: Eastern Ave South Extension
- F: US 250 West Sidewalk

Study Background for 2020 Update



- Funded by County and through Barnes Lumber ZMA proffer
- Initially intended to support Barnes Lumber ZMA: focusing on transportation operations in Downtown area along Crozet Ave
- Expanded to evaluate entire Crozet Development Area and look 25 years into future
- Consultant hired to perform study
- Future conditions evaluated for 2045
- Intersection operations evaluated using traffic modeling software

Intersection Analysis



First: Look at current traffic volumes

Example: Jarmans Gap intersection with Bargamin Park Lane and Old Trail Drive

Definitions

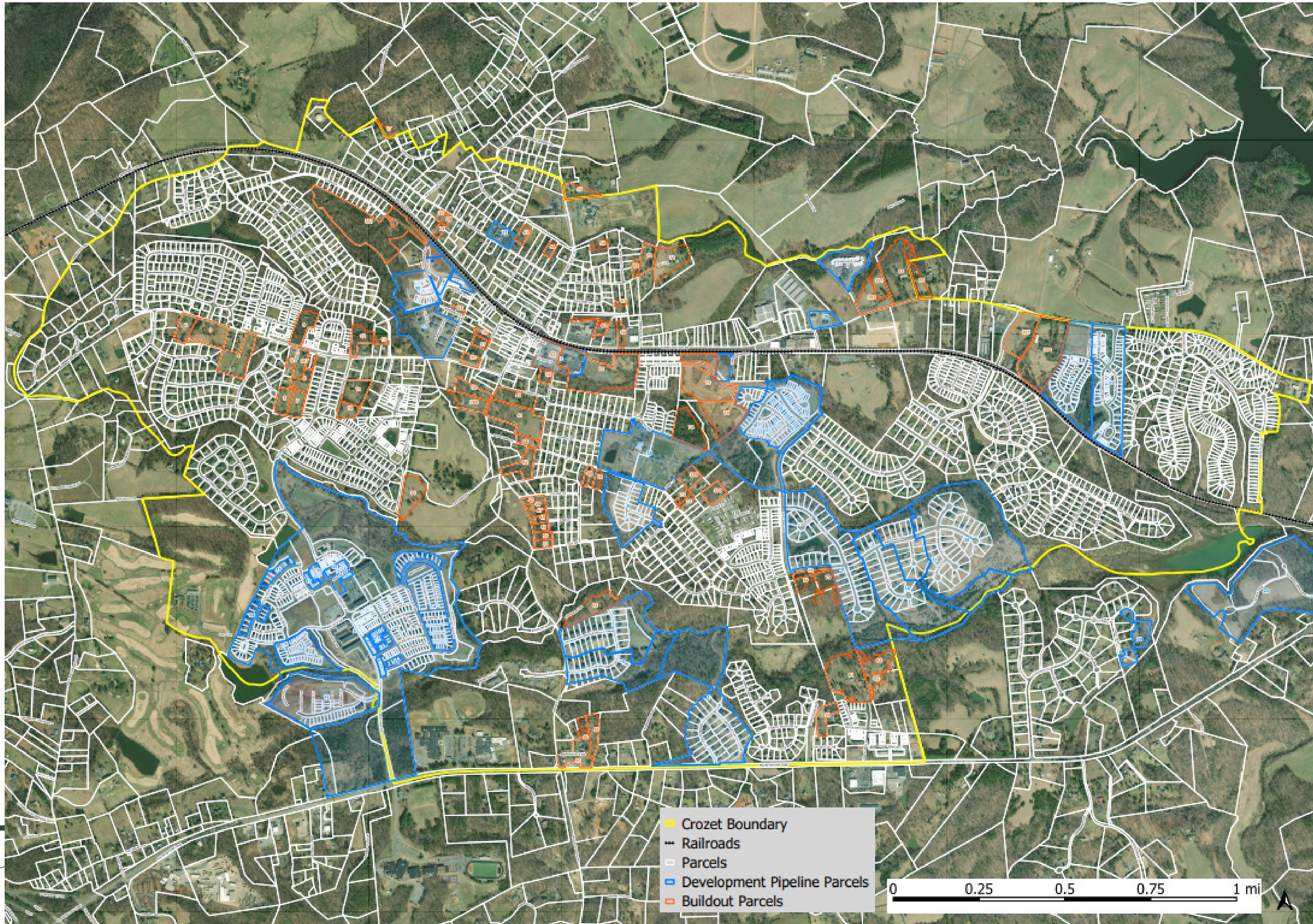
Intersection	Approach	Movement	Storage	Effective Storage	Existing AM			Existing PM		
					LOS	Delay	Queue	LOS	Delay	Queue
1. Jarmans Gap Road/ Old Trail Drive	Jarmans Gap Road	EBL/T*	-	-	A	0.0	0	A	7.4	2
		EBR	30	70	A	0.0	23	A	0.0	0
	Jarmans Gap Road	WBL	95	160	A	7.8	64	A	7.5	37
		WBT/R	-	-	A	0.0	0	A	0.0	0
	Old Trail Drive	NBL/T	-	-	B	13.5	32	B	11.7	64
		NBR	180	200	A	9.0	49	A	8.9	53
	Bargamin Park	SBL/T/R	-	-	B	12.3	31	B	11.1	33

Delay (seconds)

Queue (length)

Level of Service (A through F)

Future Traffic Volumes and Trip Assignment

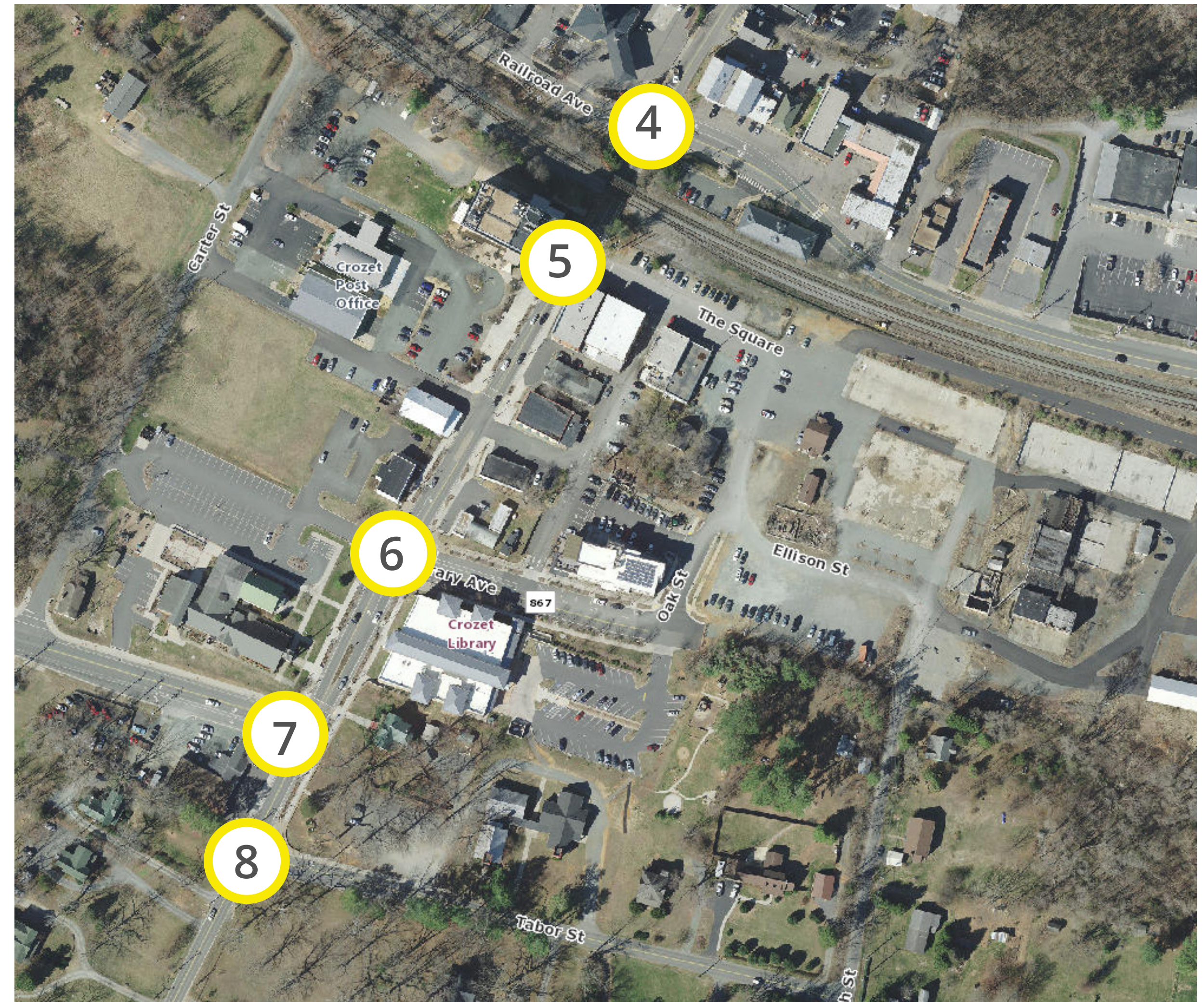


Downtown Crozet | Existing Conditions

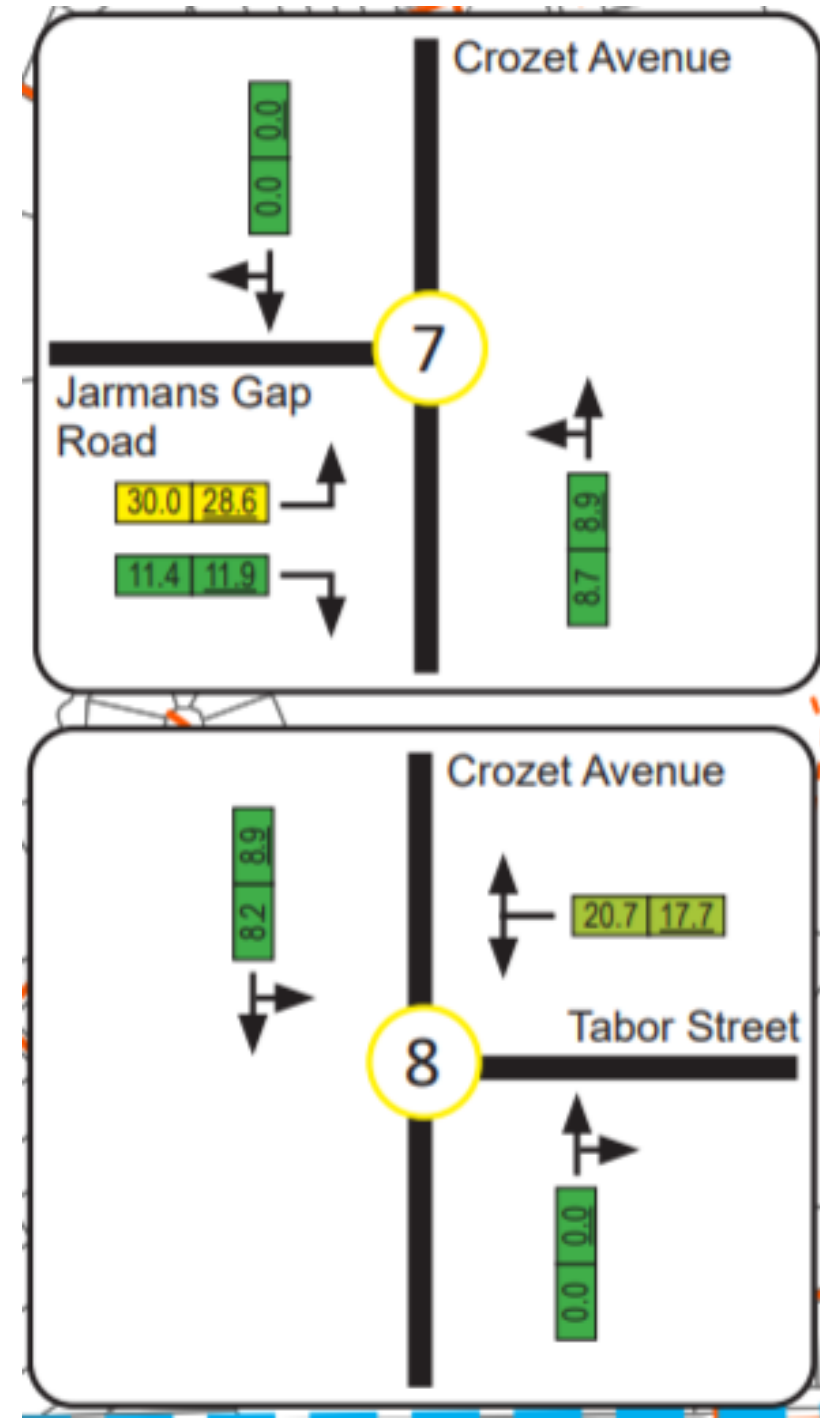
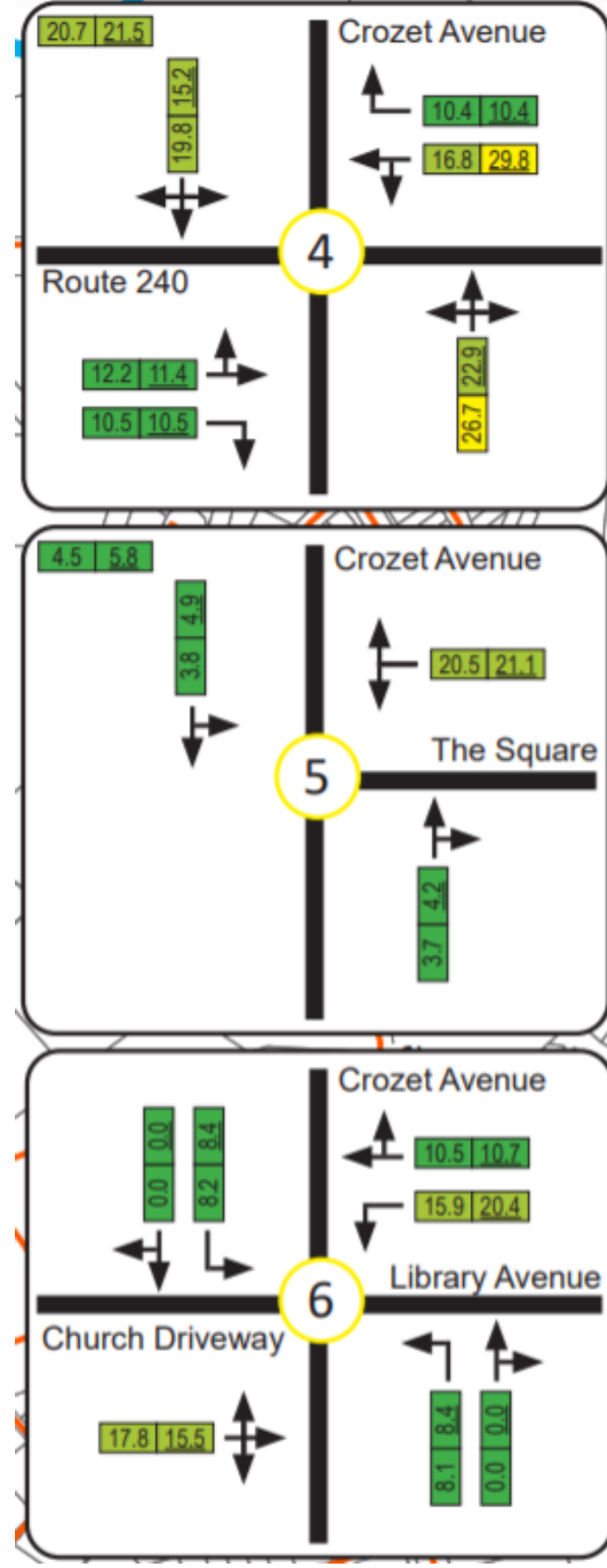
Intersections 4 through 8

Delay and Level of Service currently not failing

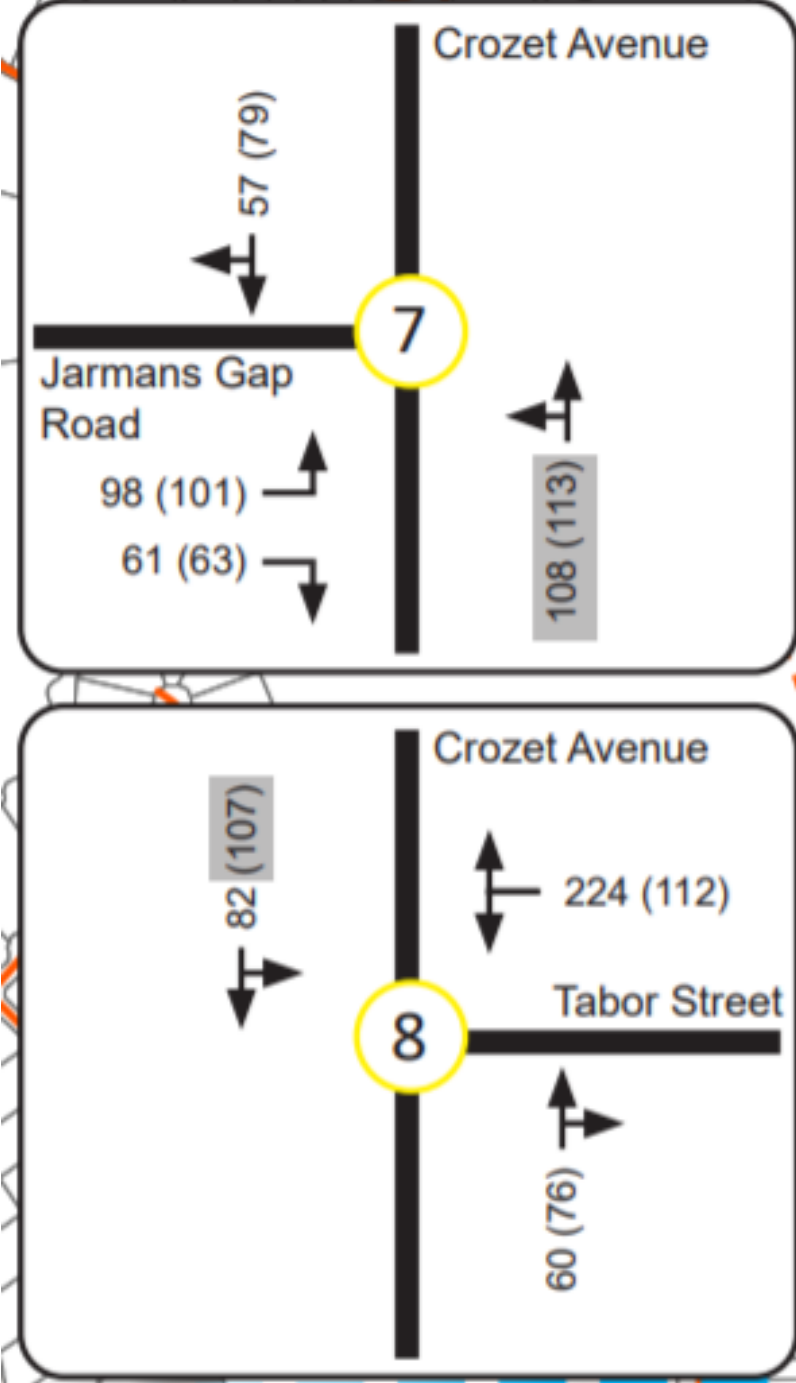
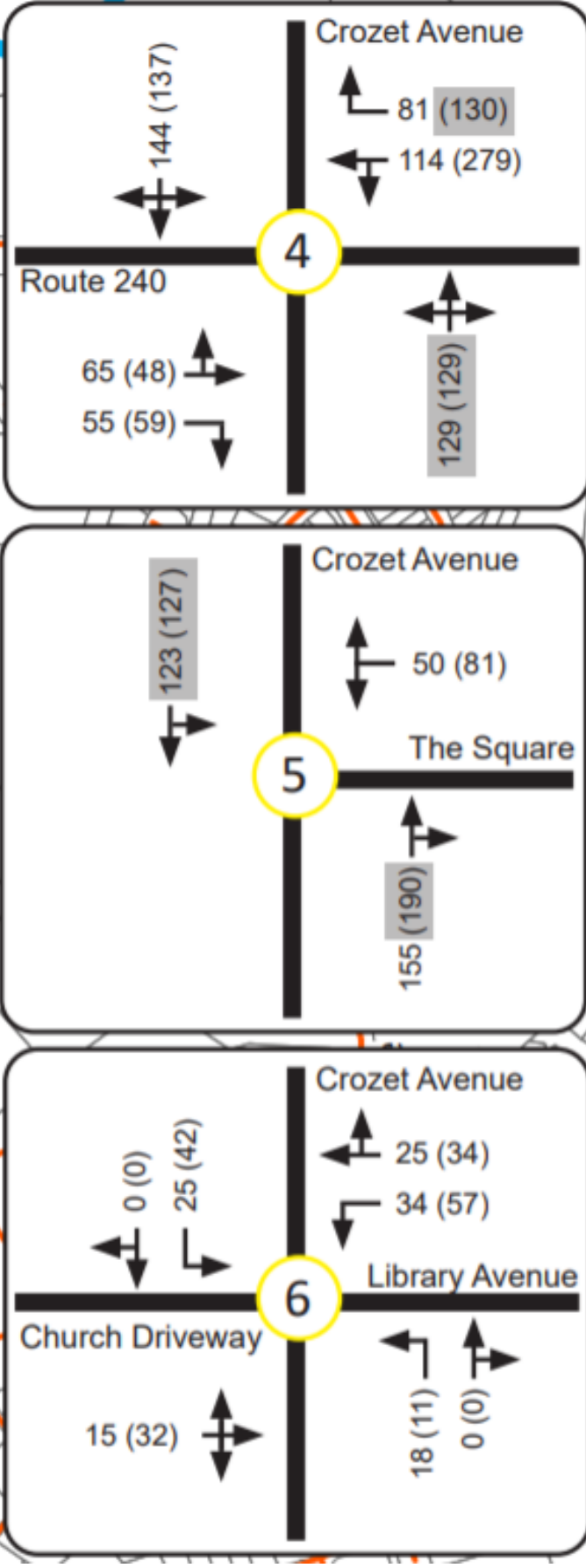
Queues on Crozet Ave extend into adjacent intersections



Downtown Crozet | Existing Conditions



Downtown Crozet | Existing Conditions



Downtown Crozet | Future Conditions

Queues expected to extend beyond storage areas and through adjacent intersections

Especially at: westbound approach at Three Notch'd; northbound approach at Tabor; and eastbound approach on Jarman's Gap

Westbound Library Ave queue expected to extend beyond Oak Street - causing delays in the Barnes Lumber internal network

Some movements experience LOS F



Downtown: Connectivity Improvements

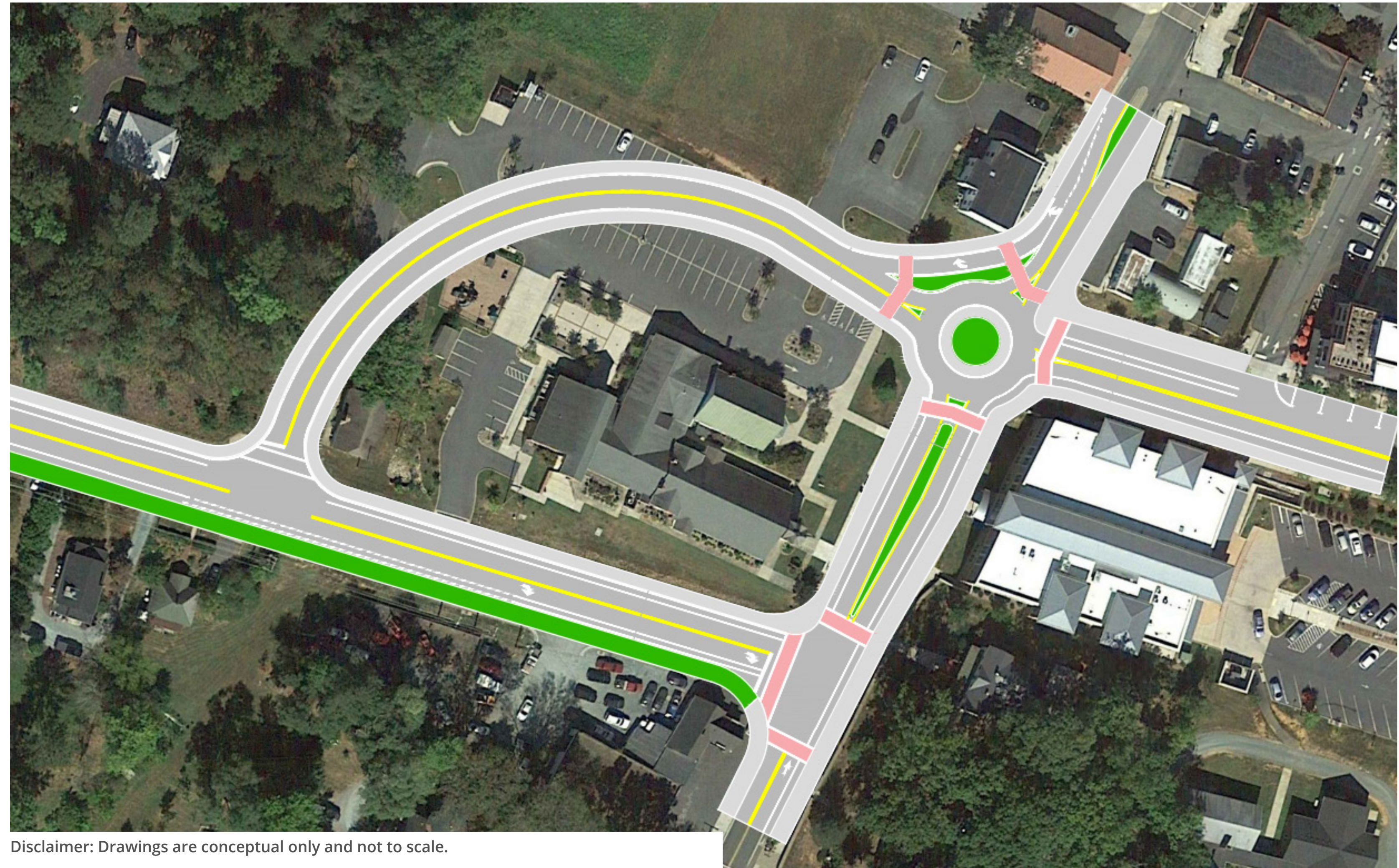
- Improve LOS and queuing on Tabor Street
- Dunvegan Lane reduces congestion on Crozet Ave more significantly than High Street
- High Street alone with access change to Tabor Street shifts traffic to Library Ave, exacerbating challenges there
- Connections address challenges at Tabor but additional improvements are needed along Crozet Ave



Disclaimer: Drawings are conceptual only and not to scale.

Downtown: Quadrant Intersection

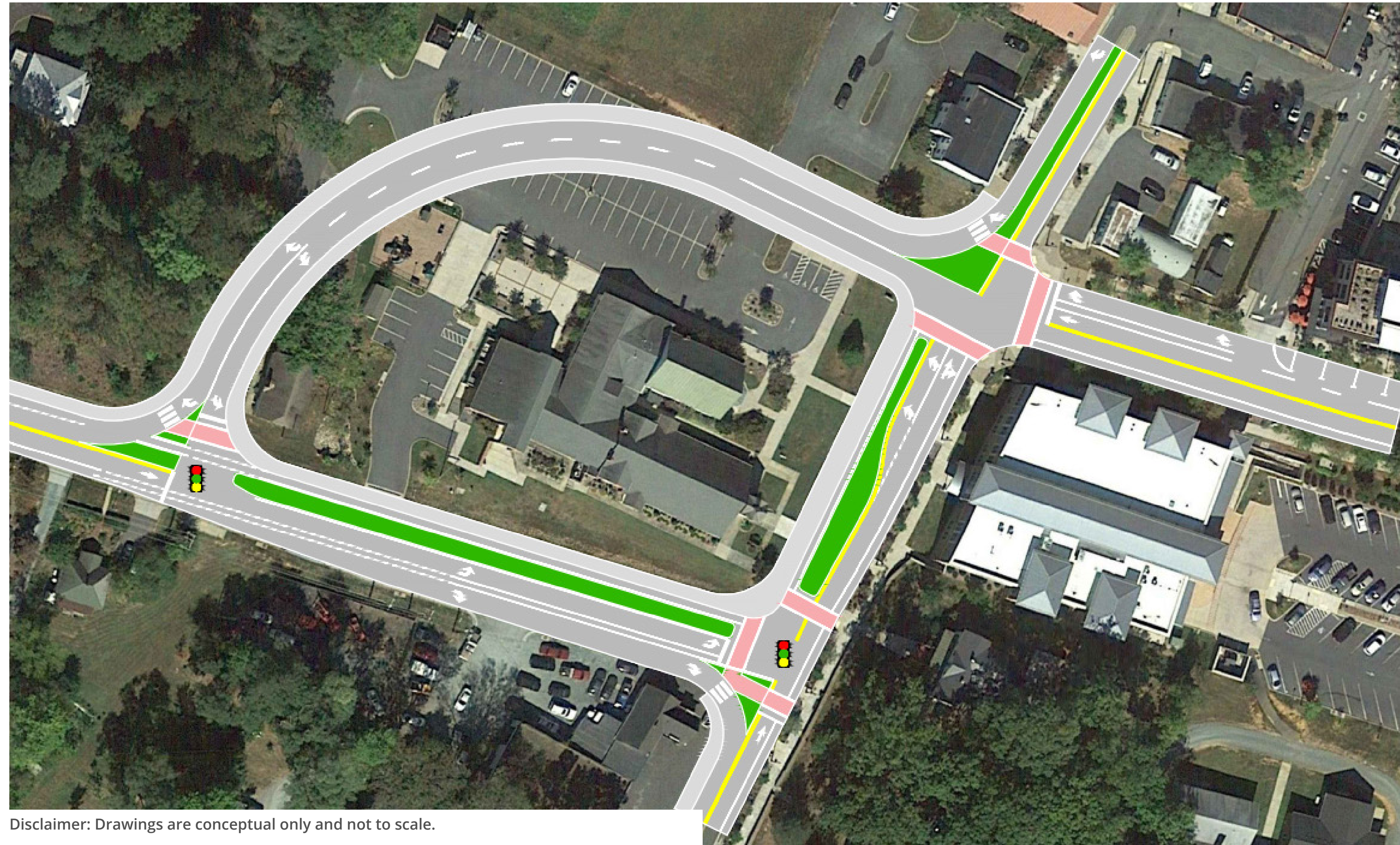
- Southbound queue at Library Ave no longer extends through adjacent intersections
- Northbound queue reduced to manageable



Disclaimer: Drawings are conceptual only and not to scale.

Downtown: Big Circle

- Addresses the expected traffic operations concerns
- Northbound queue on Crozet Ave occasionally extends through the Tabor Street intersection



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Three Notch'd Road / Crozet Ave Intersection

- Intersection was evaluated for signal and additional turn lanes
- Extensive queuing and significant property impacts caused this to be removed from consideration
- A roundabout appears to relieve most, but not all, queuing issues - however, significant property impacts would result
- Addition of a new railroad crossing between Crozet Ave and Park Ridge Drive could significantly improve operations at this and other intersections - further evaluation is needed to **determine feasibility**



Discussion & Feedback



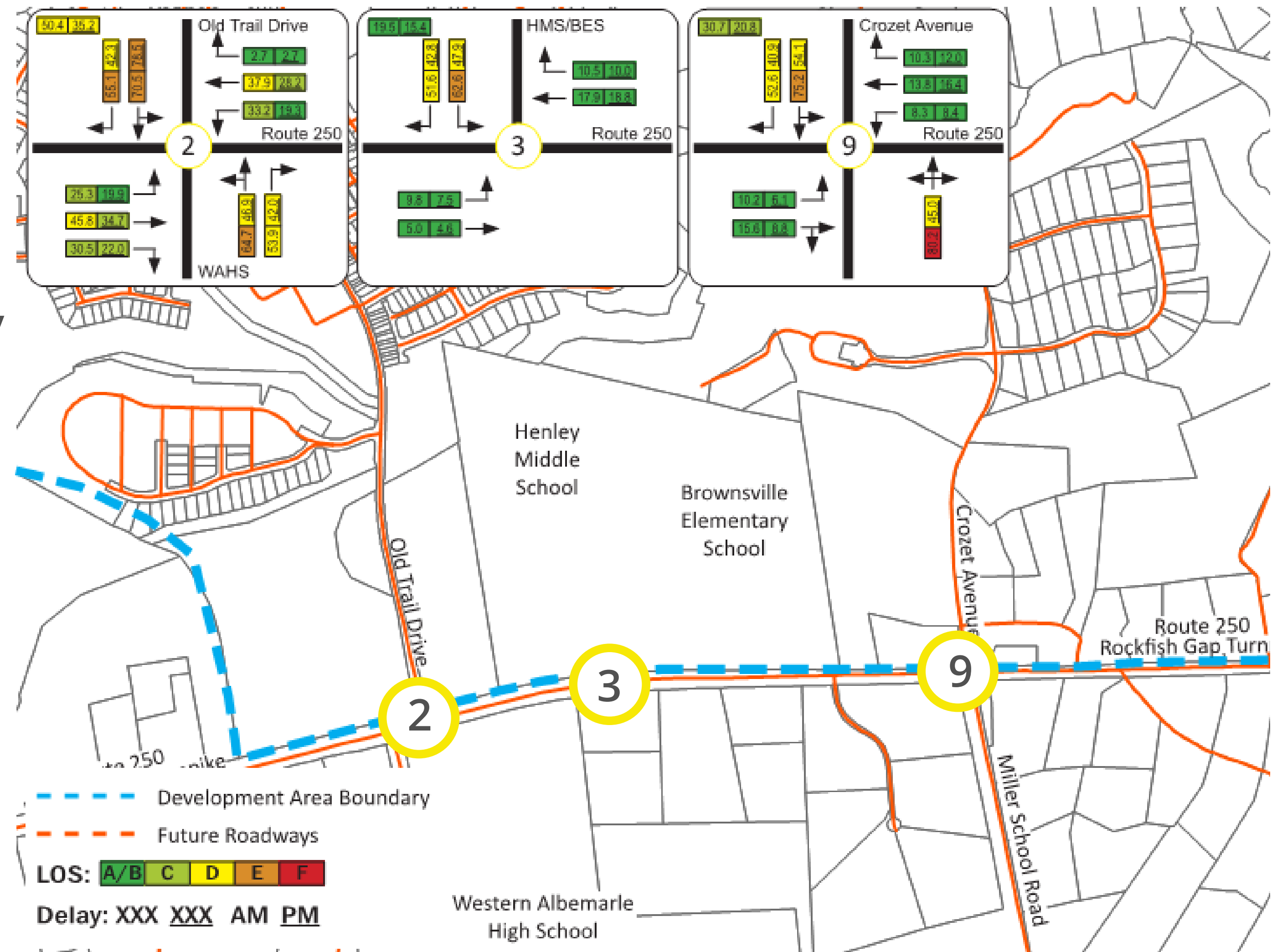
Rt. 250 | Existing Conditions

Intersections 2, 3, and 9

Queues on the eastbound approach at WAHS and on the westbound approach at HMS/BES are lengthy and extend beyond provided storage areas

Several Crozet Ave intersections currently experience LOS E

Miller School Road intersection experiences LOS E and F on northbound and southbound approaches

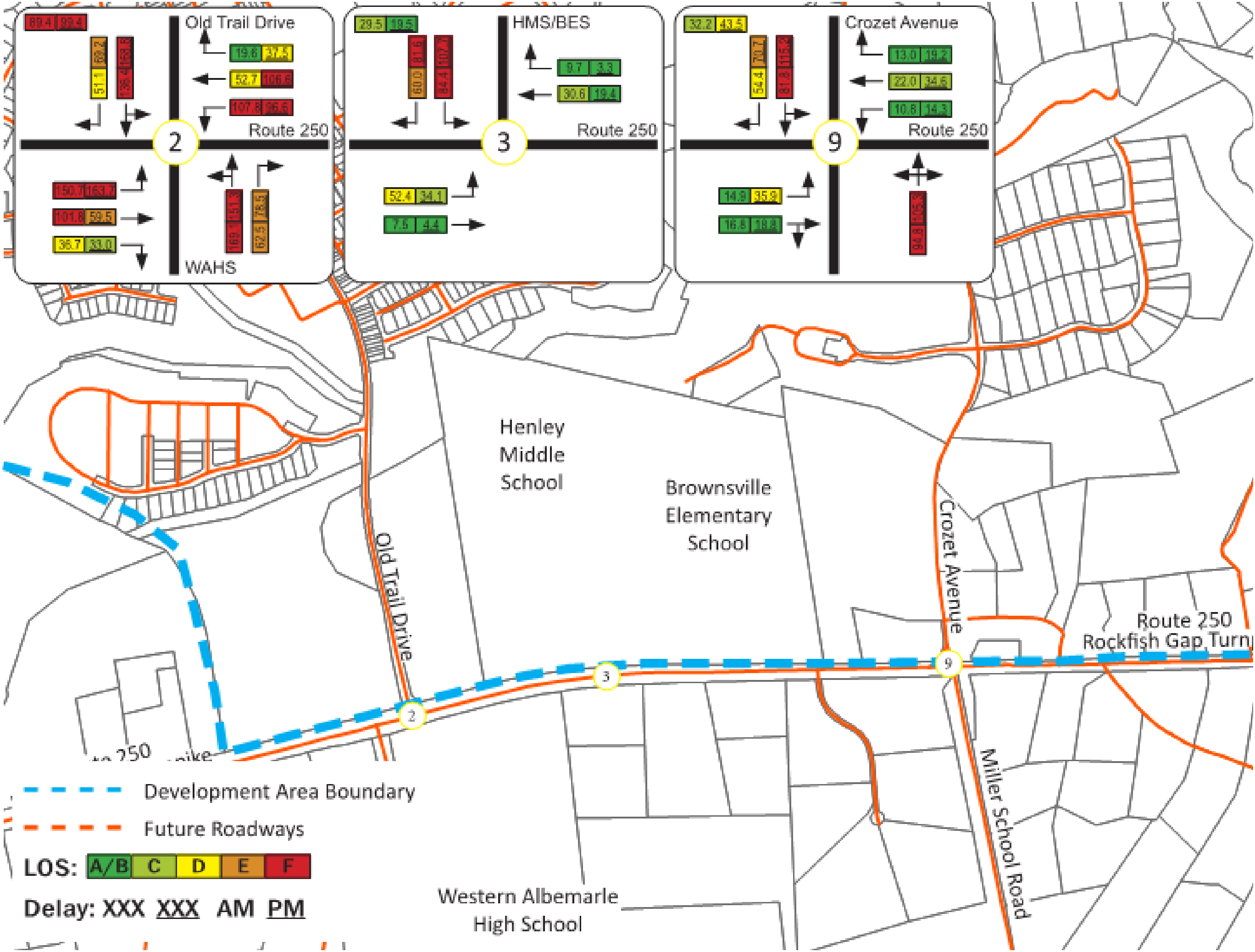


Rt. 250 | Future Conditions

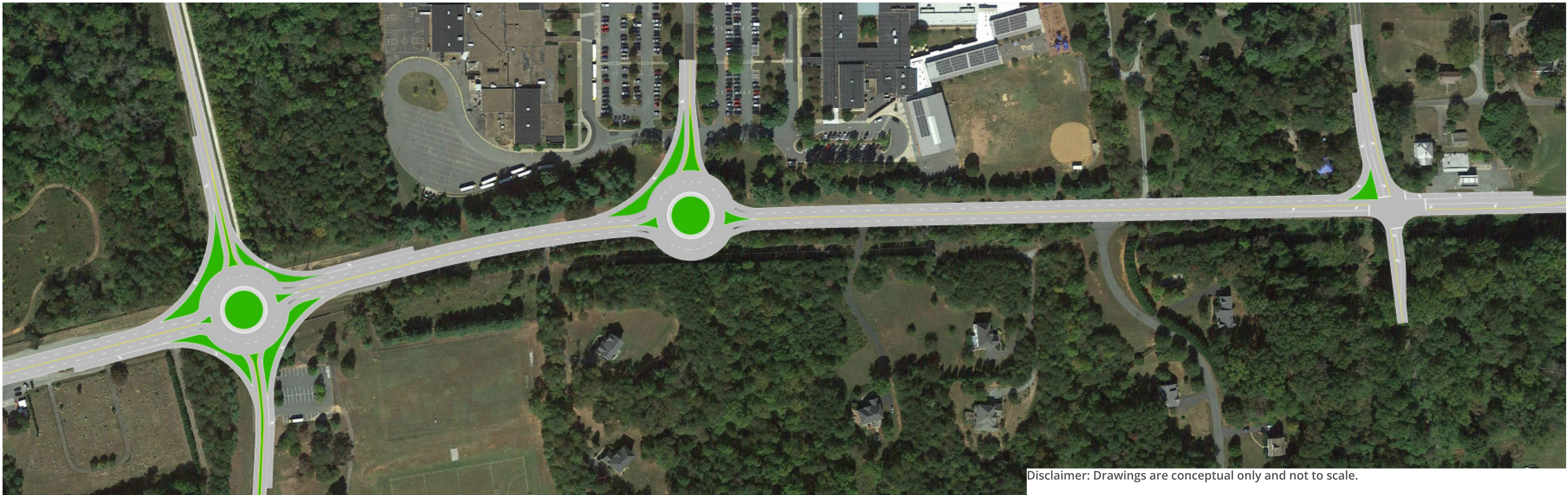
Queues on all approaches at WAHS and westbound and southbound approaches at HMS/BES expected to be lengthy and extend beyond storage areas

All approaches at WAHS and HMS/BES approach expected to experience LOS F

Miller School Road intersection expected to experience LOS F on northbound and southbound approaches along with lengthy queues



Rt. 250 | Alternatives



- Analysis indicates two-lane roundabouts would operate at LOS D or better and queues not expected to extend beyond storage areas
- Route 250 would need to provide two lanes per direction
- Phasing possible

Discussion & Feedback



Other Questions & Comments?

Next Steps

January 12 (tentative): Planning Commission Work Session on Land Use

January 13: next CCAC meeting on Conservation and Transportation