

Welcome

CVTPO

INTERSECTION SAFETY
STUDY

AMHERST COUNTY SWG

AUGUST 14, 2024

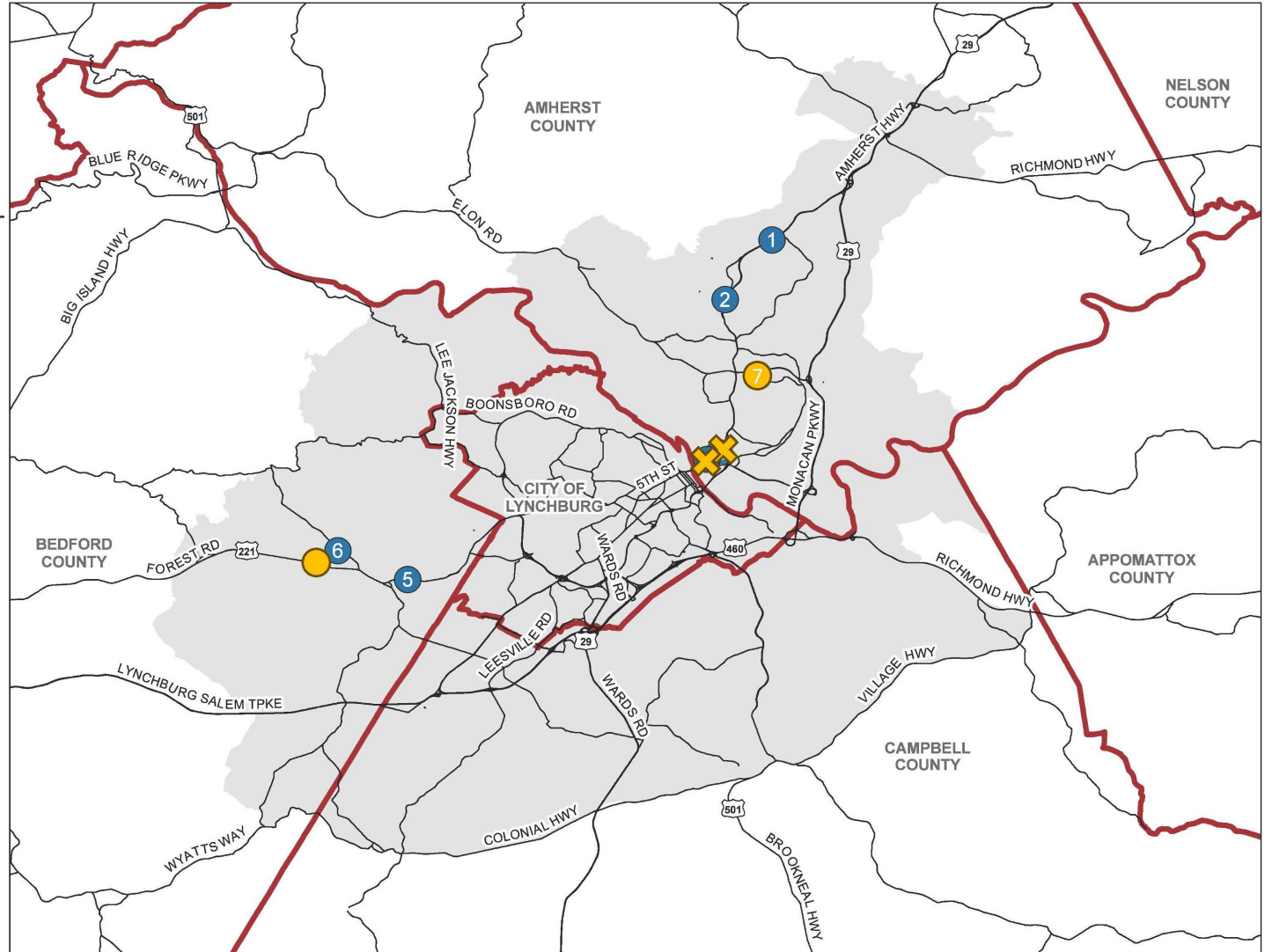


Agenda

Project Scope and Purpose

Study Locations

Next Steps





Project Scope and Purpose

VDOT funded project, administered by the CVTPO

Locations identified by localities

Safety improvements and traffic conditions (2023/2024 and 2050) evaluated

Study Locations

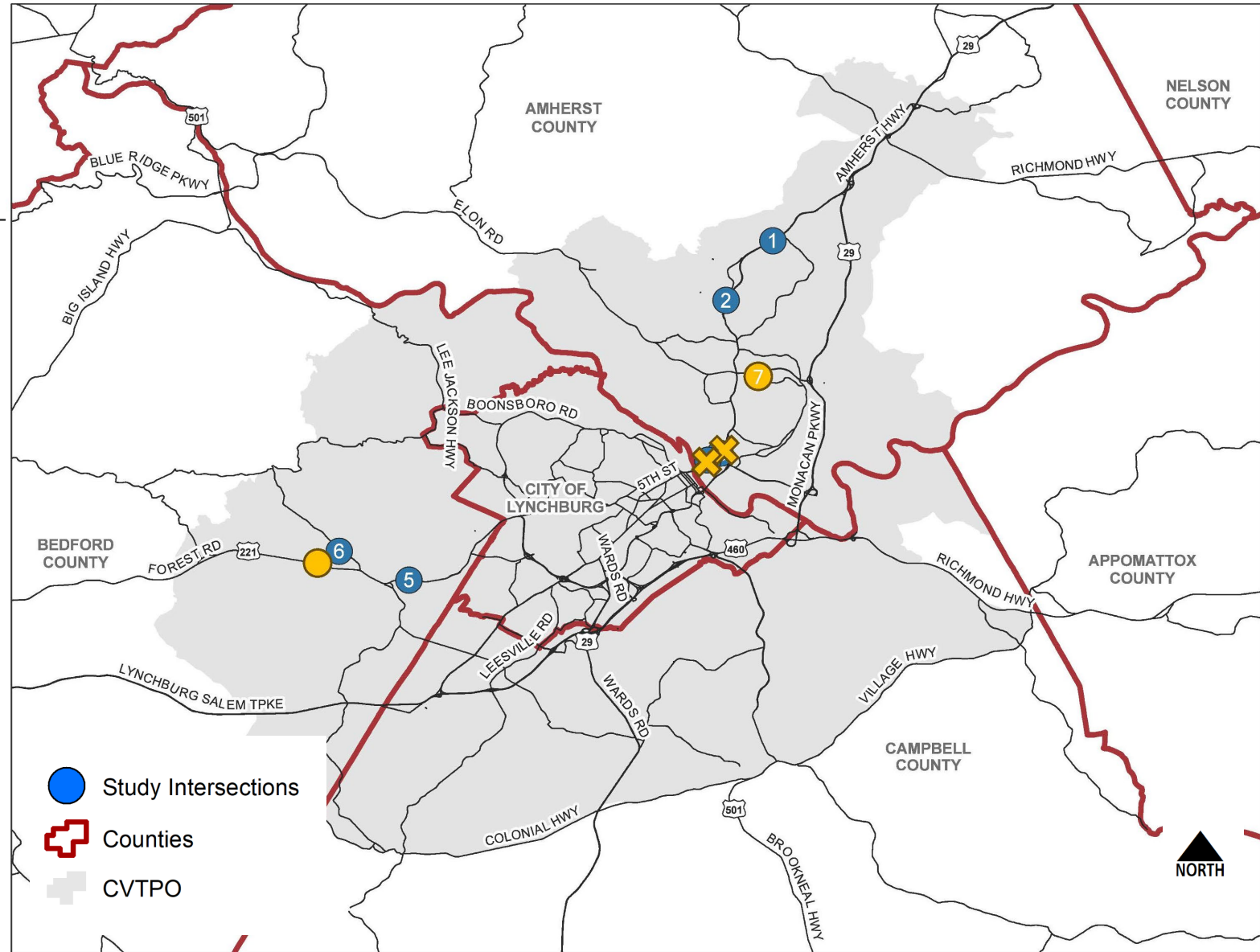
Amherst County

- 1. Amherst Highway (BUS 29) and Sprouse Drive
- 2. Amherst Highway (BUS 29) and Rothwood Road (657)
- 7. Amelon Expressway (130) at Amelon Road (669)/Amelon Center Parkway

Bedford County

- 5. Forest Road (221) and Rustic Village Road/Gumtree Road (609)
- 6. Perrowville Road (663) and Mays Mill Road (662)

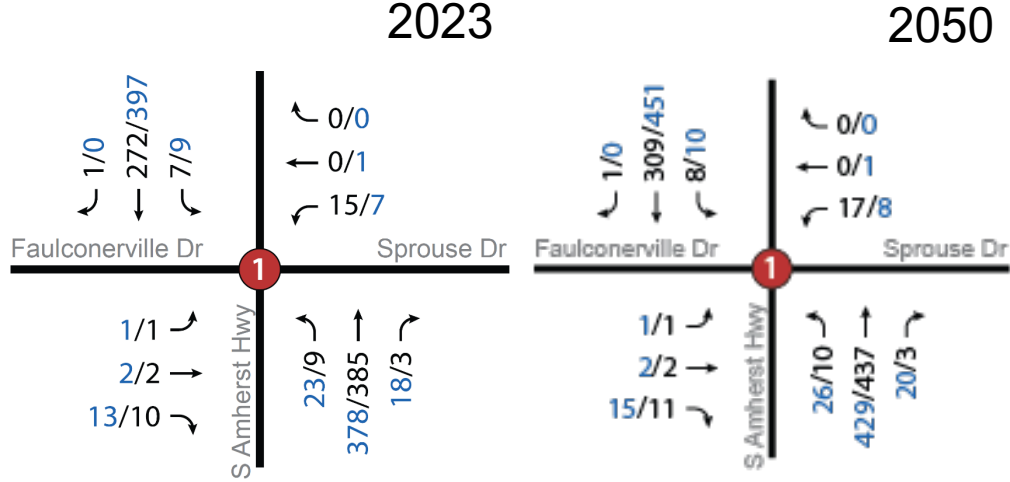
Mays Mill Bridge



Amherst Highway (BUS 29) and Sprouse Drive

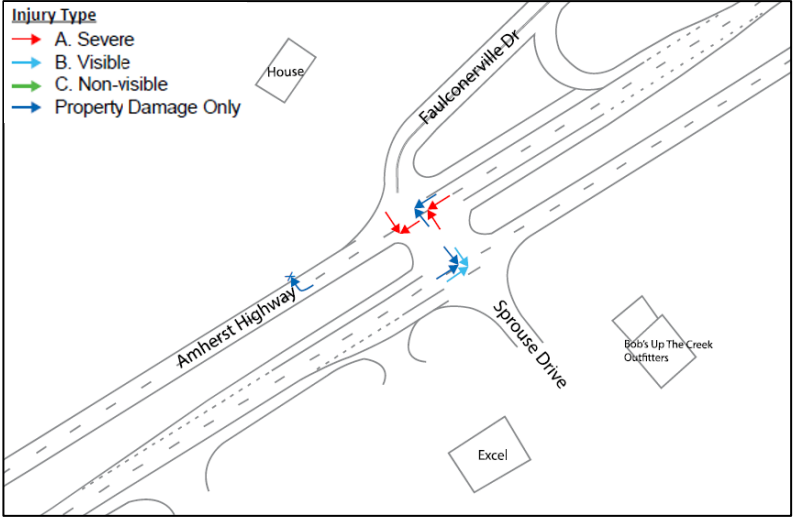


Peak Hour Volumes
AM (7:00-8:00)/PM (5:00-6:00)



Concerns

- Angle collisions
- No pavement markings in median
- No stop bars

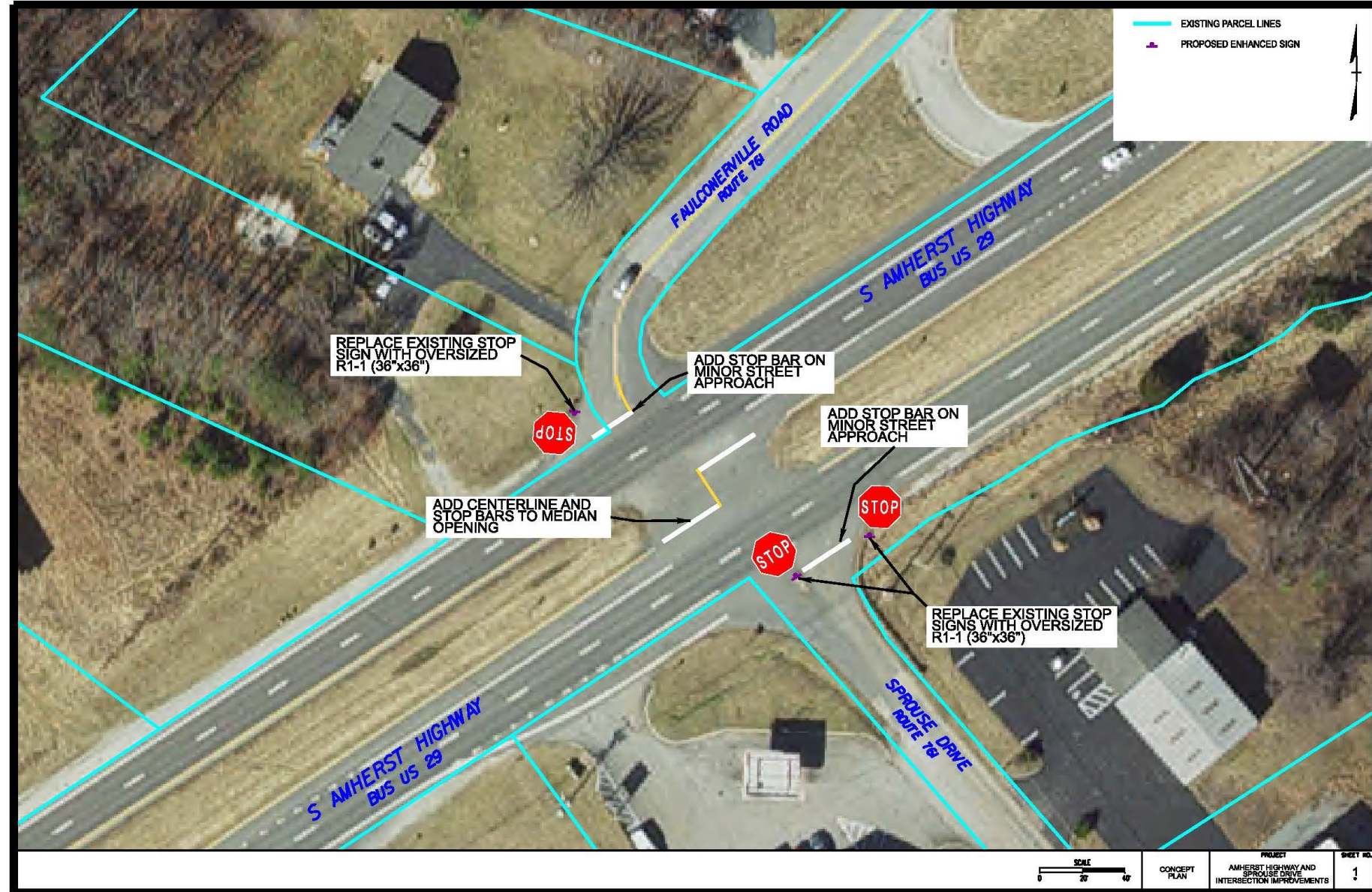


Southbound approaching Sprouse Drive

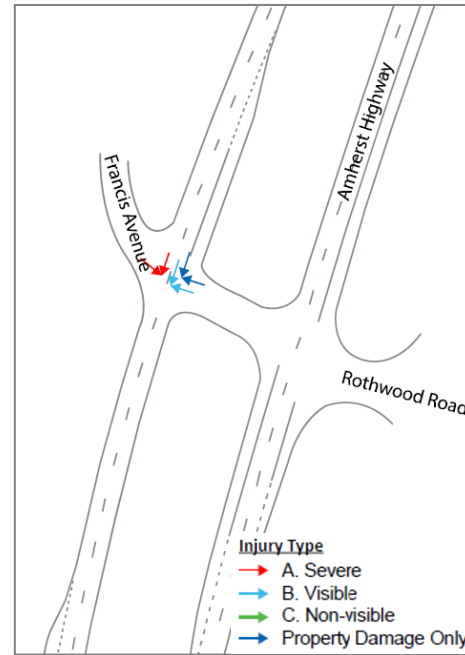
Amherst Highway (BUS 29) and Sprouse Drive

Recommendations

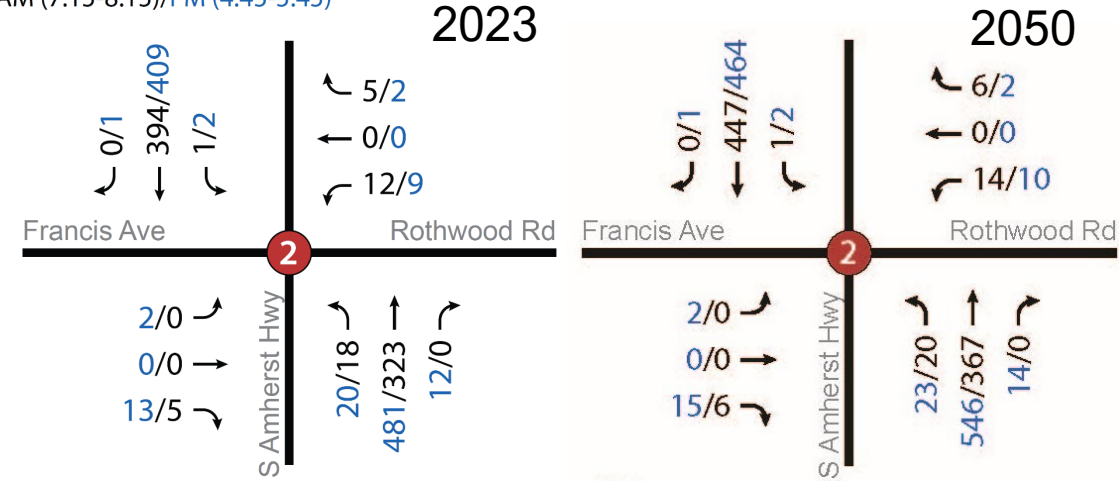
- Stop bars on side street approaches
- Stop bars in median opening
- Oversized stop signs on side street approaches
- Double yellow centerline in median opening



Amherst Highway (BUS 29) and Rothwood Road (657)



Peak Hour Volumes
AM (7:15-8:15)/PM (4:45-5:45)



Concerns

- Angle collisions
- Sight distance
 - Looking north from Francis Avenue approximately 550 feet
 - Looking north from median approximately 520 feet
 - Stopping sight distance 495 feet
 - Intersection sight distance 650 feet
 - Looking south from Rothwood Road must pull all the way up
- No pavement markings in median
- No stop bars



Looking north at southbound lanes from median

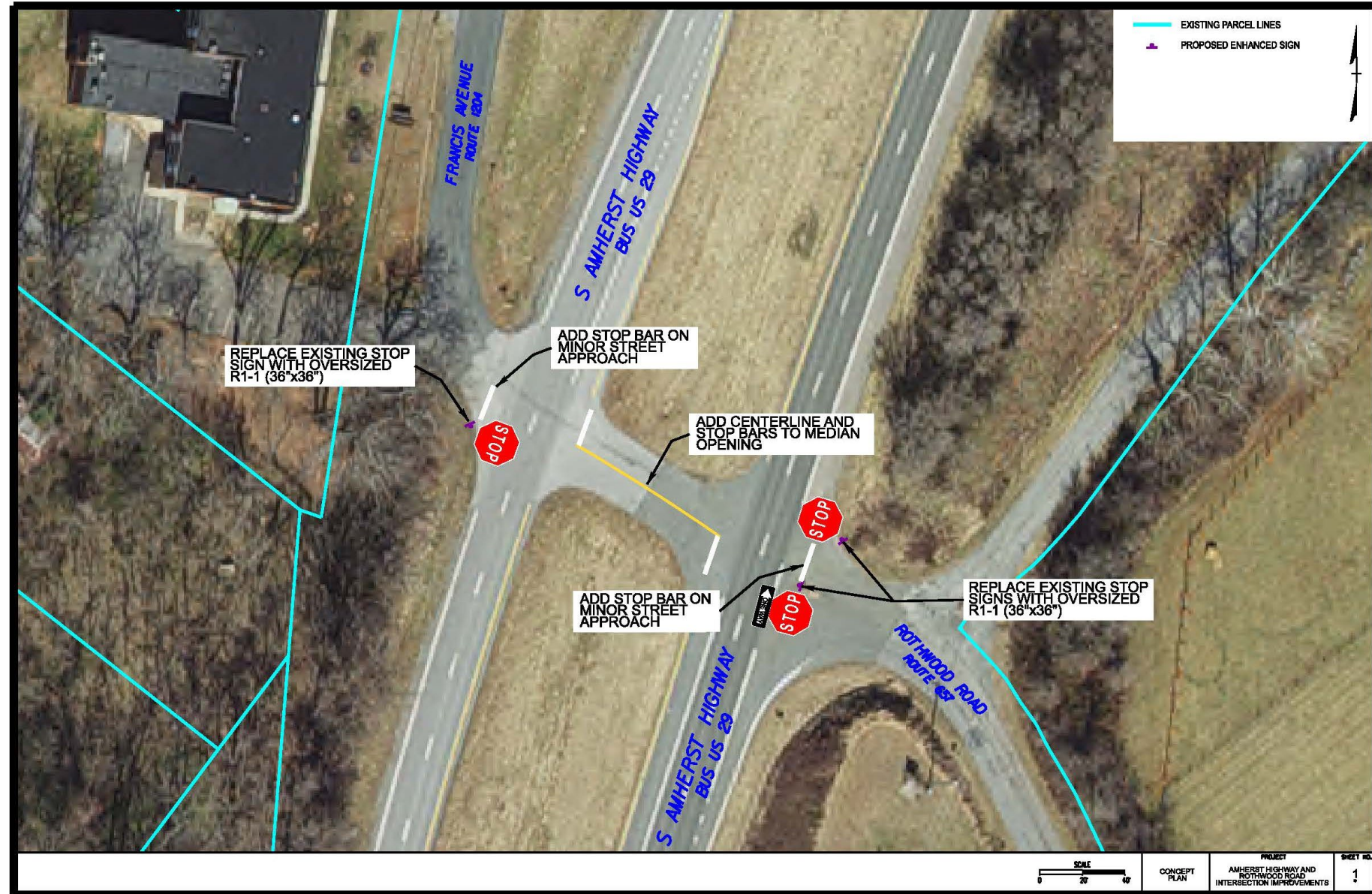


Southbound approaching Rothwood Road

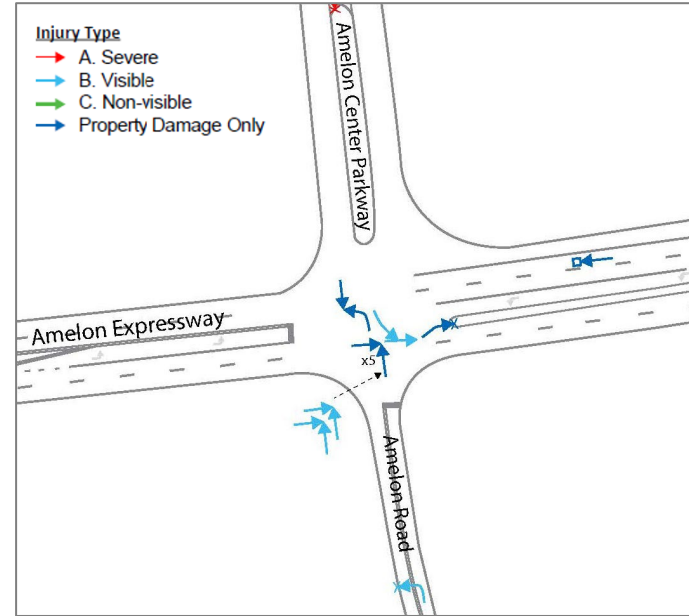
Amherst Highway (BUS 29) and Rothwood Road (657)

Recommendations

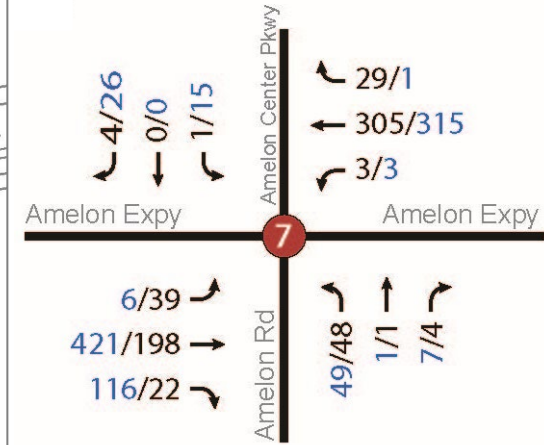
- Stop bars on side street approaches
- Stop bars in median opening
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Amelon Expressway (130) at Amelon Road (669)/Amelon Center Parkway



Peak Hour Volumes
AM (7:15-8:15)/PM (4:30-5:30) 2024



Eastbound approaching Amelon Road/Amelon Center Parkway



Westbound approaching Amelon Road/Amelon Center Parkway

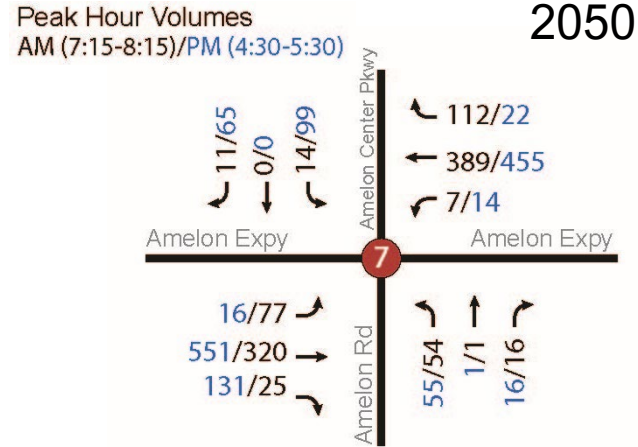
County requested intersection

- Significant development in the area

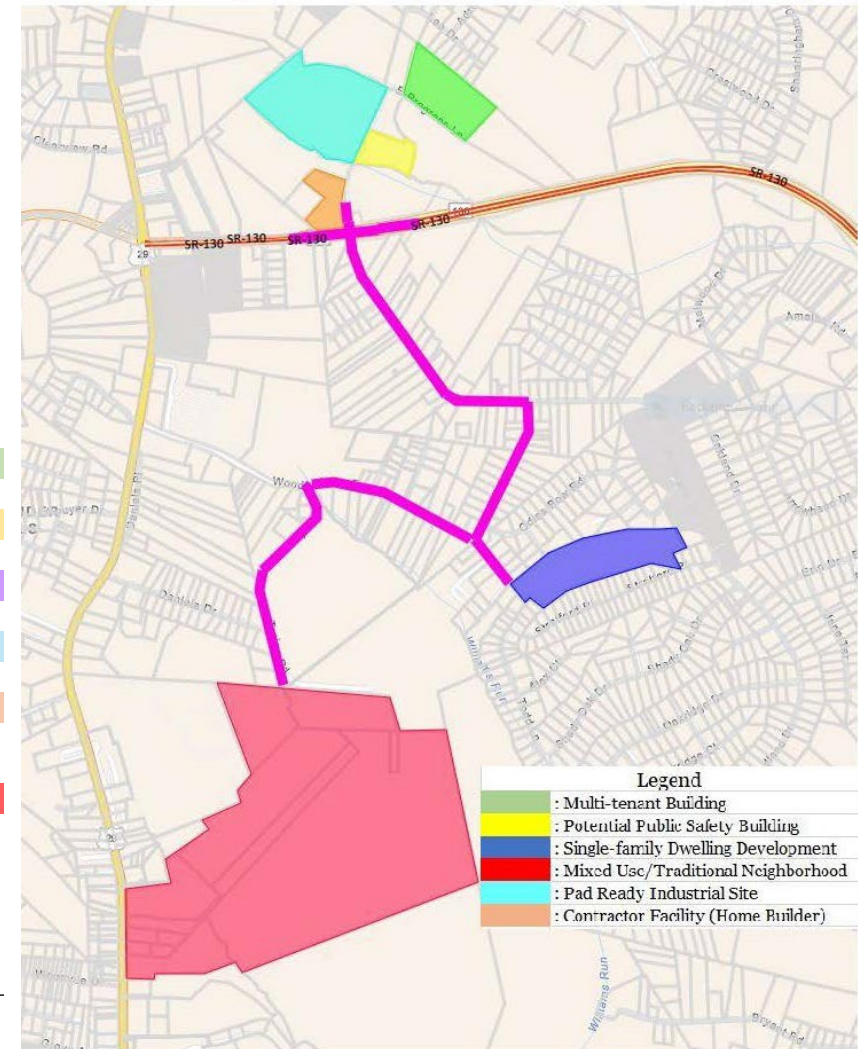
Amelon Expressway (130) at Amelon Road (669)/Amelon Center Parkway

County Provided Land Use Information

- Trip generation, assignment, distribution assumptions developed
- 2050 traffic volumes established



Amelon Expressway/Amelon Commerce Center Parkway/ Amelon Road Intersection



Legend	
Green	: Multi-tenant Building
Yellow	: Potential Public Safety Building
Purple	: Single-family Dwelling Development
Blue	: Pad Ready Industrial Site
Orange	: Contractor Facility (Home Builder)
Red	: Mixed Use/Traditional Neighborhood (Madison Heights Town Center)

TripGen 11th Edition	Quantity	Unit	LU Code	Description	Total	AM Peak		PM Peak		
						In	Out	Total	In	Out
Green: Multi-tenant Building										
Industrial	42.5	1,000 sf	130	Industrial Park	14	12	2	14	3	11
Yellow: Public Safety Building										
Public Safety Building	-	-	-	**20 vpd (15% AM peak, 10% PM peak)	3	2	1	2	0	2
Purple: Single-family Dwelling Development										
Single-family Dwellings	42	du	210	Single-Family Detached Housing	34	8	26	44	28	16
Blue: Pad Ready Industrial Site										
Industrial Site	200	employees	130	Industrial Park	114	98	16	128	26	102
Orange: Contractor Facility (Home Builder)										
Industrial - Warehouse	21.85	1,000 sf	150	Warehousing	4	3	1	4	1	3
Office/Showroom	13	employees	710	General Office Building	6	6	0	6	1	5
Red: Mixed Use/Traditional Neighborhood (Madison Heights Town Center)										
Commercial	75	1,000 sf	821	Shopping Plaza (40-150k) - No Supermarket	130	80	50	389	191	198
Apartments	500	du	221	Multifamily Housing (Mid-Rise)	208	48	160	195	119	76
Townhomes	250	du	215	Single-Family Attached Housing	124	31	93	146	86	60
Patio homes	250	du	210	Single-Family Detached Housing	171	43	128	235	148	87
Single-family Dwellings	100	du	210	Single-Family Detached Housing	74	19	55	99	63	36
Trips Before Reduction					707	221	486	1064	607	457
Internal Trips					7	2	5	39	22	17
Pass-by Trips								156	89	67
New Trips					700	219	481	869	496	373

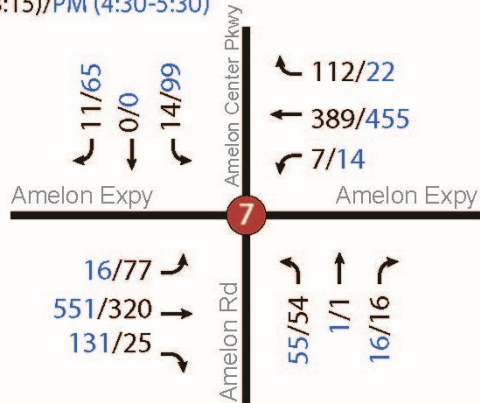
Amelon Expressway (130) at Amelon Road (669)/Amelon Center Parkway

2050 Traffic Operations

- Southbound left turn LOS F
- Single lane roundabout analyzed
- Addresses primary crash concern

Peak Hour Volumes
AM (7:15-8:15)/PM (4:30-5:30)

2050



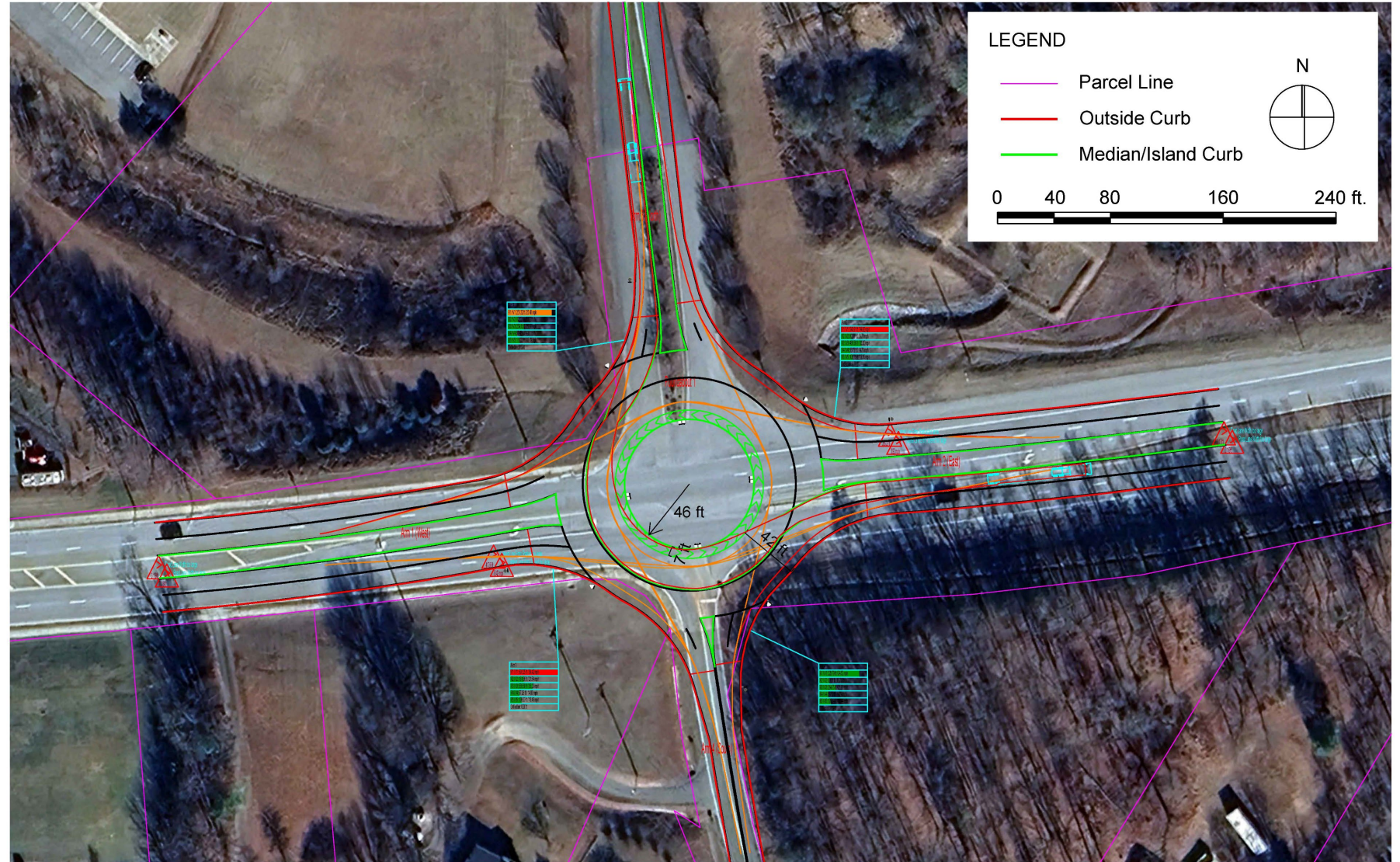
Approach	Movement	Effective Storage	2050 No Build AM			2050 No Build PM		
			LOS	Delay (sec)	Max Queue (ft)	LOS	Delay (sec)	Max Queue (ft)
Amelon Expressway and Amelon Road/Amelon Center Parkway						<i>Unsignalized</i>		
Amelon Expressway	EBL	210	A	9.6	98	A	9.1	53
	EBT	-	A	0.0	6	A	0.0	2
	EBT/R	-	A	0.0	0	A	0.0	2
Amelon Expressway	WBL	300	A	8.0	22	A	9.1	30
	WBT	-	A	0.0	8	A	0.0	15
	WBT/R	-	A	0.0	32	A	0.0	10
Amelon Road	NBL/T/R	-	C	15.1	86	C	20.2	100
Amelon Center Parkway	SBL/T	-	D	28.0	73	F	54.3	207
	SBR	200	B	10.8	60	B	11.1	130

Approach	Movement	Effective Storage	2050 Single Lane Roundabout AM			2050 Single Lane Roundabout PM		
			LOS	Delay (sec)	Max Queue (ft)	LOS	Delay (sec)	Max Queue (ft)
Amelon Expressway and Amelon Road/Amelon Center Parkway						<i>Roundabout</i>		
Amelon Expressway	EBL/T/R	-	A	6.6	79	B	14.3	198
Amelon Expressway	WBL/T/R	-	B	10.7	126	A	8.1	101
Amelon Road	NBL/T/R	-	A	5.2	12	A	8.1	21
Amelon Center Parkway	SBL/T/R	-	A	7.1	8	B	12.0	59
Intersection			A	8.6		B	11.6	

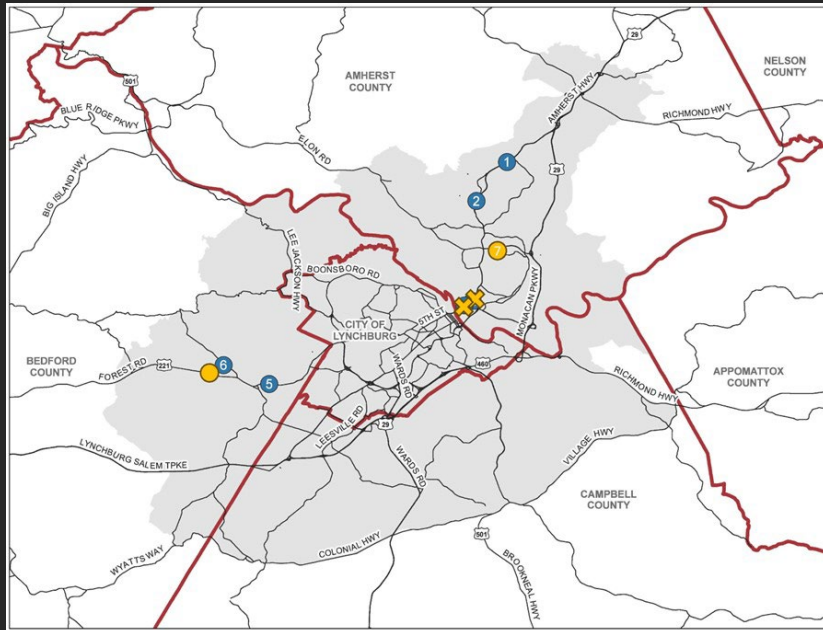
Amelon Expressway (130) at Amelon Road (669)/Amelon Center Parkway

Roundabout

- 2-lane shown for impact purposes
- 190-foot inscribe diameter
- WB 67 wheel path shown



Next Steps



Develop Cost Estimates

Prepare Final Report