STAPLES MILL ROAD
SMALL AREA PLAN

Staples Mill Road Small Area Plan
Phase 2

Stakeholder Group Meeting 4

November 4, 2022

VDOT
Virginia Department of Transportation

Agenda

- Ongoing Work
- Alternatives Analysis
  - Goals-based screening updates
  - Road diet analysis
- Next steps
  - Draft Recommendations
  - Remaining Milestones
  - After the Study

Phase 2 Scope

1 – Online Community Outreach

Website, community stakeholder interviews, surveys

2 - Existing and Future No-build Evaluation

Analysis

- Land use
- Traffic
- Multimodal access
- Safety

3 - Goals/ Objectives

Analysis

- Refine goals/ objectives
- Develop evaluation measures

Feedback

Stakeholder Group #1
Public Meeting #1

4 - Develop Alternatives

Analysis

- Intersections
- Cross-sections
- Network

Feedback

Stakeholder Group #2

5 - Refine Alternatives

Analysis

- Concept sketches
- Operational analyses
- Alternatives evaluation matrix

Feedback

Stakeholder Group #3
Public Meeting #2

6 – Small Area Plan Report

Analysis

- Refine alternatives
- Planning level cost estimates
- Document recommendations

Feedback

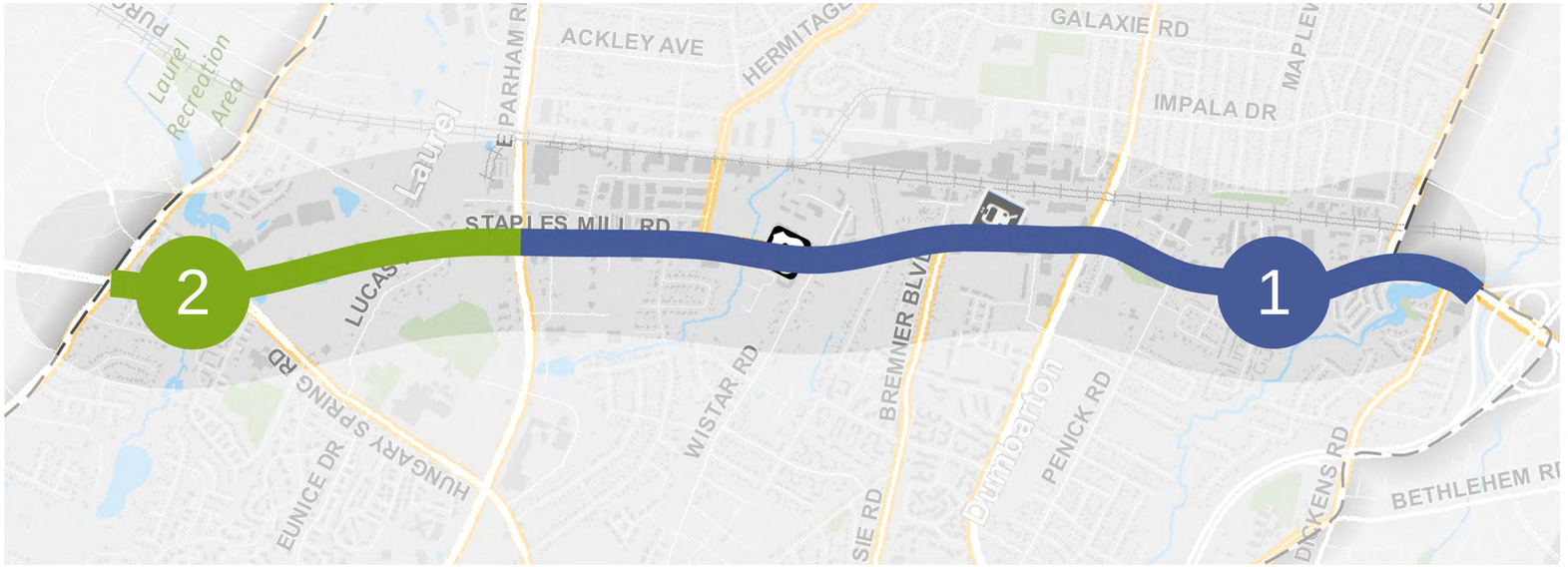
Stakeholder Group #4

Alternatives Analysis Corridor Updates

Corridor Sections

1. **South of E Parham Road:** Three through lanes with median separation.
2. **North of E Parham Road**: Two through lanes with median separation.

- Turn lanes are provided at intersections and major driveways.



KITTELSON & ASSOCIATES

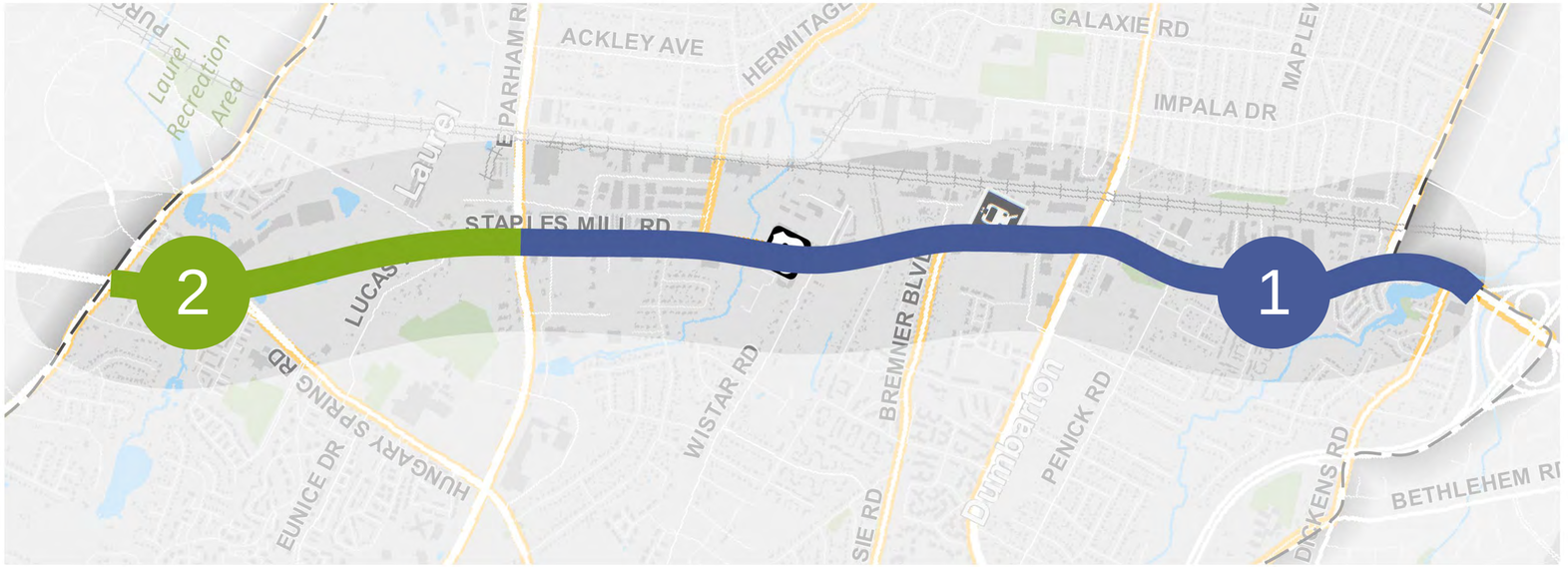
Corridor Issues and Opportunities

"It is extremely unsafe to walk to Broad Street or Staples Mill where some of the buses are. Should be sidewalks along these roads or some type of **multi-use trail to get around**."

"Current community character lacks actual community. This area is built for cars, not people."

"Creating a safe connection for bike/ped users would **improve job access**…"

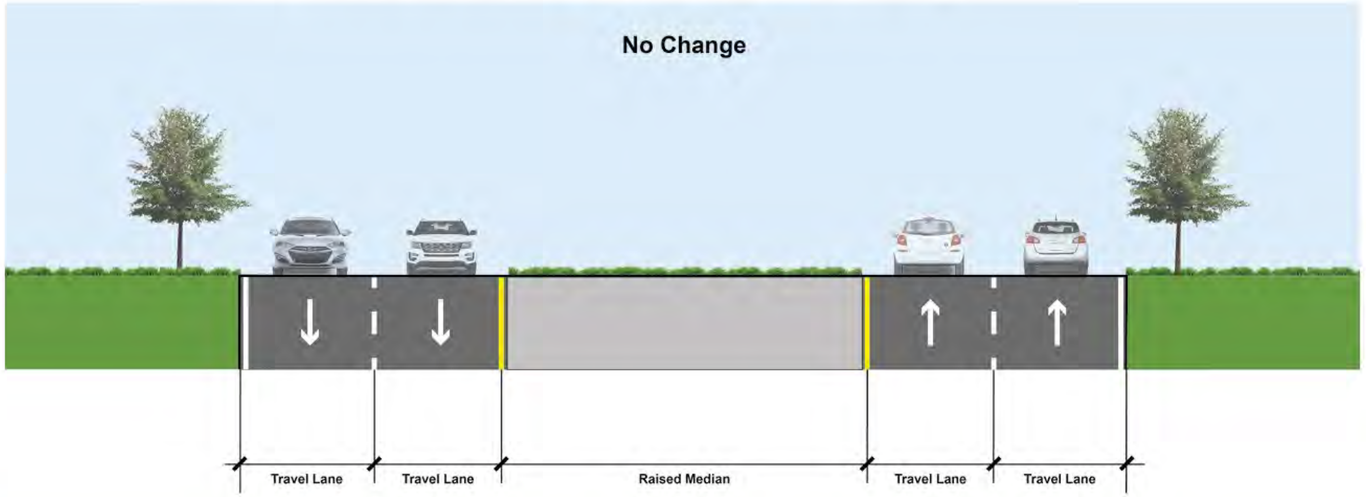
– *Issues and Opportunities Survey*



KITTELSON & ASSOCIATES

Staples Mill Road North of E Parham Road (Existing)

North of E Parham Road: Existing

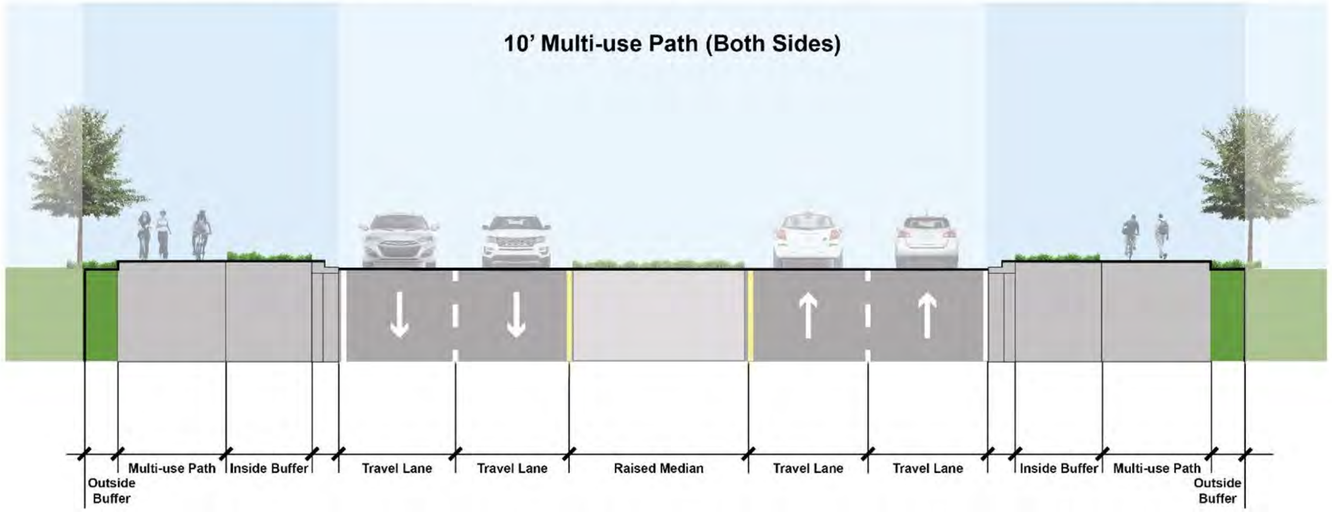


Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
No buffer between non-motorized users and motorists.	Incomplete sidewalk discourages bicycle and pedestrian use. Buses experience slower travel times in general purpose lanes.	ADA-accessible facilities are missing on one or both sides of the street.	Sidewalk is disconnected from employment and transit.	No right-of-way impacts or drainage impacts

"Lack of sidewalks, poorly signalized and protected intersections, and an absence of bicycle" and transit infrastructure are a major obstacle to growth in this area." – *Transportation Options Survey*

Staples Mill Road North of E Parham Road (Option A)

North of E Parham Road: Shared Use Path and Mixed Transit Lane



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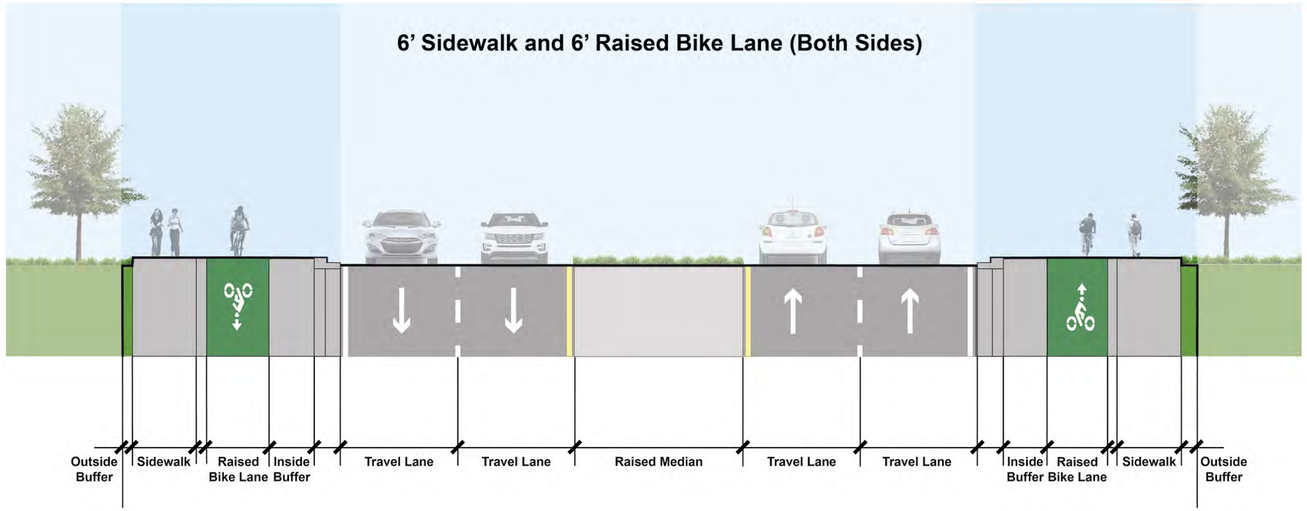
Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
Buffer between non-motorized users and motorists for some of street segment.	Shared-use path encourages bicycle and pedestrian use.	ADA-accessible facilities are present on both sides of the street.	Shared-use path is connected to employment and transit.	No right-of-way impacts and minor drainage impacts.

“I think the shared use path option is ideal. Limits the construction needed for both sidewalks and a bike lane, but provides safe access for both pedestrians and bikers.” – *Transportation Options Survey*

Staples Mill Road North of E Parham Road (Option B)

North of E Parham Road: Sidewalk, Bike Lane, and Mixed Transit Lane



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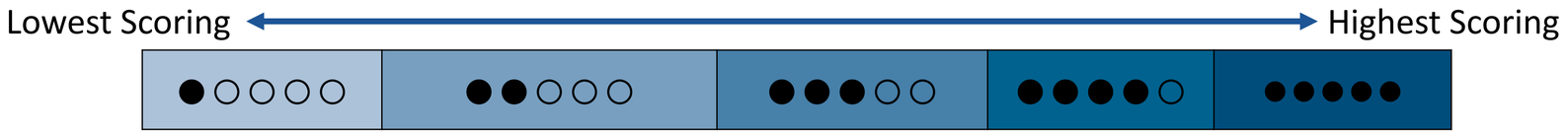
Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
Buffer between non-motorized users and motorists for some of street segment.	Continuous sidewalk and separated bicycle facility encourage bicycle and pedestrian use.	ADA-accessible facilities are present on both sides of the street.	Sidewalk and bike lanes are connected to employment and transit.	No right of way impacts and minor drainage impacts.

"Cyclist-specific infrastructure with grade separation is the way to save this corridor. This plan is fantastic and will make economic and environmental improvements while making things safer." – *Transportation Options Survey*

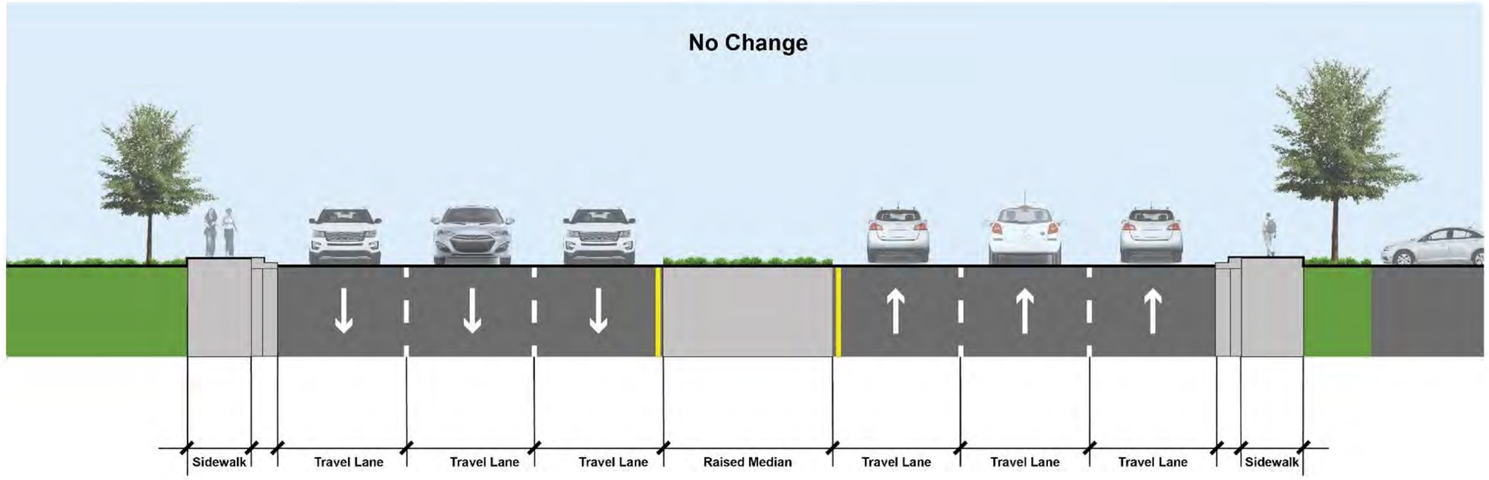
Staples Mill Road North of E Parham Road

		Manage Congestion	Community and Environmental Health	Support Economic Development	Improve Safety and Comfort	Reflect Community Character	Impacts	Survey Ranking
Along Staples Mill Road **(1 mi)**	No-Build	●●○○○	●○○○○	●●○○○	●●○○○	●●●○○	**$0**	**1.46**
	Option A: 10’ Multi-Use Path (Both Side)	●●●●○	●●○○○	●●●●○	●●●●○	●●●●●	**$14.4M**	**3.63**
	Option B: 6’ Sidewalk and 6’ Separated Bike Lane (Both Sides)	●●●●○	●●○○○	●●●○○	●●●●○	●●●●●	**$13.0M**	**4.34**



Staples Mill Road South of E Parham Road (Existing)

South of E Parham Road: Existing

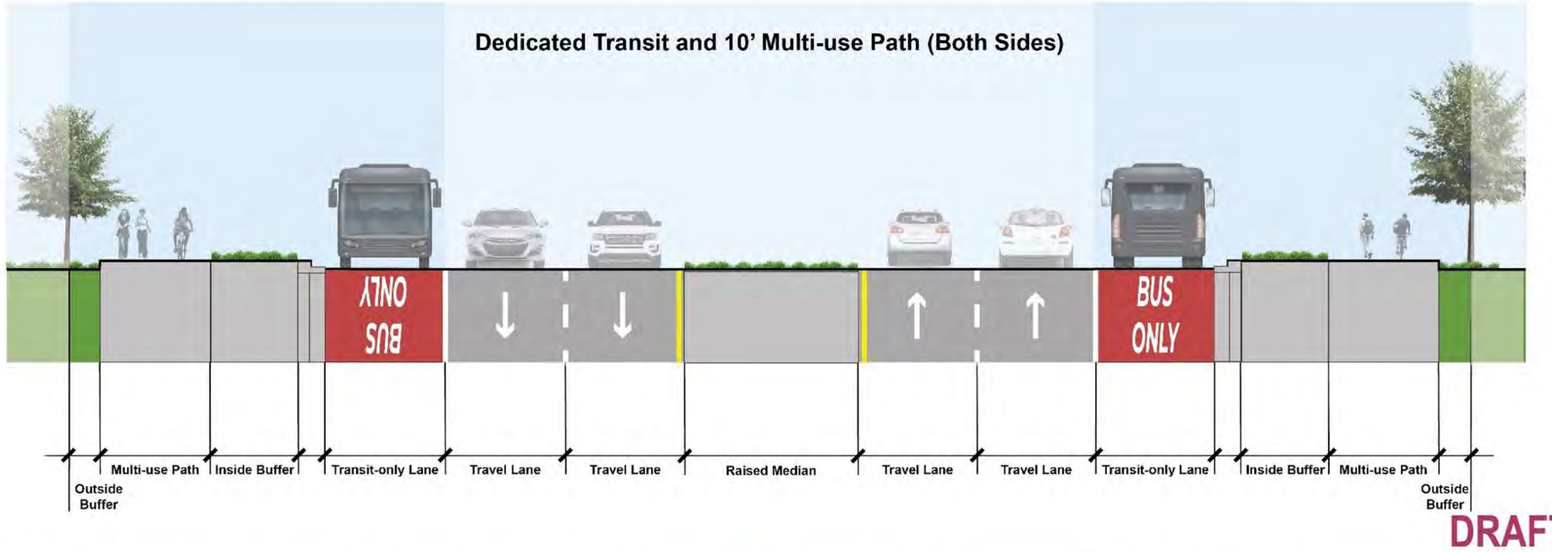


Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
No buffer between non-motorized users and motorists.	Buses experience slower travel times in general purpose lanes.	ADA-accessible facilities are missing on one or both sides of the street.	Sidewalk is disconnected from employment and transit.	No right-of-way impacts or drainage impacts

"Sidewalks support walking but biking still a challenge." – *Issues and Opportunities Survey*

Staples Mill Road South of E Parham Road (Option 1A)

South of E Parham Road: Shared Use Path and Curbside Transit Lane



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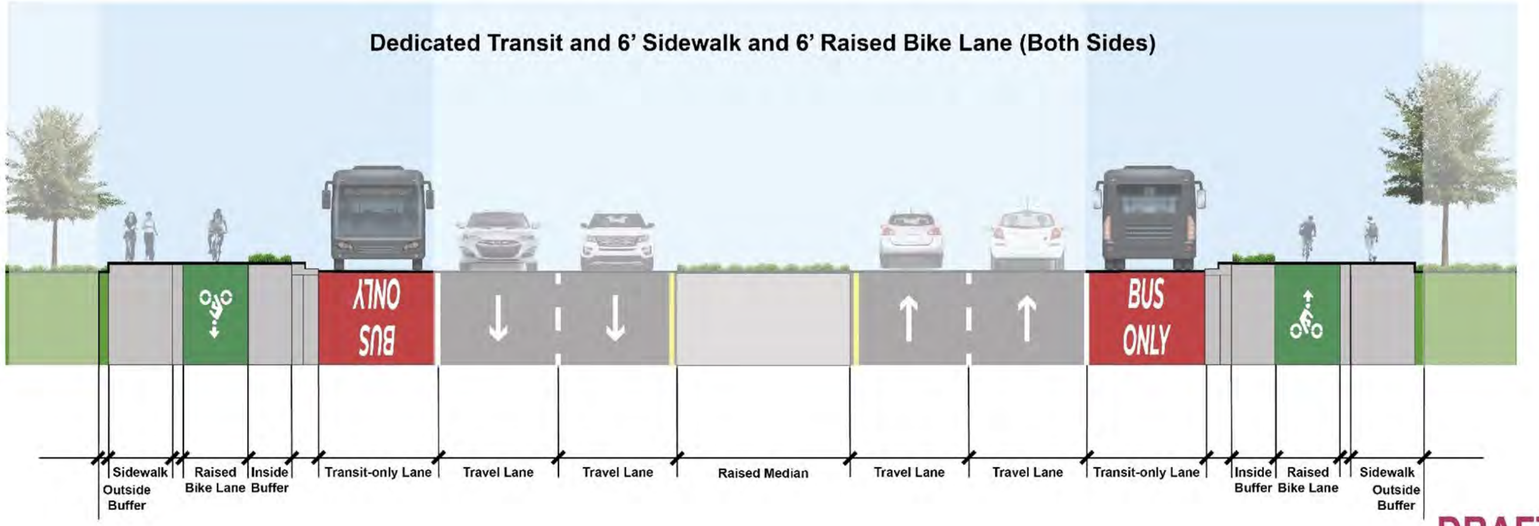
Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
Exclusive curbside transit lane separates non-motorized users from motorists.	Buses experience reliable, faster travel times in dedicated lanes, and motorists experience increased travel times during rush hour.	ADA-accessible facilities are present on both sides of the street.	Shared-use path is connected to employment and exclusive curbside transit lane in both directions.	Minor right-of-way and drainage impacts.

"A dedicated transit lane would improve transit frequency and reliability, potentially encouraging some demand to switch from cars to transit and decreasing congestion. It would also improve safety by reducing sudden lane changes from drivers caught behind buses. " – *Issues and Opportunities Survey*

Staples Mill Road South of E Parham Road (Option 1B)

South of E Parham Road: Sidewalk, Bike Lane, and Curbside Transit Lane



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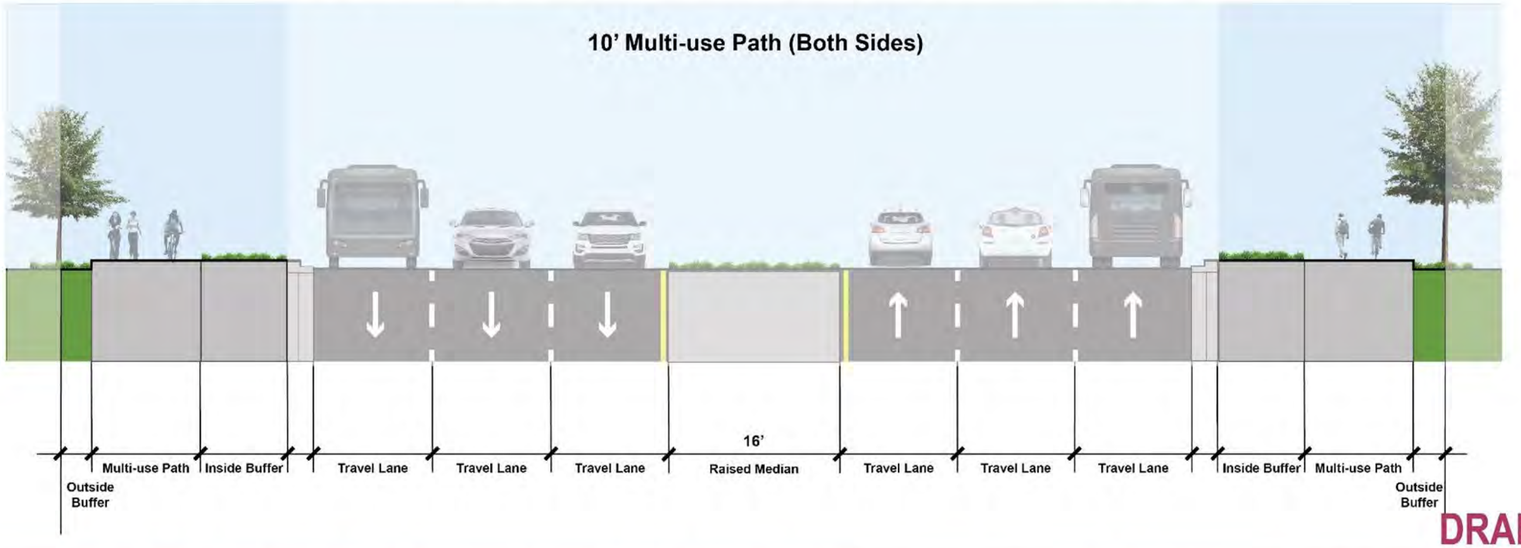
Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
Exclusive curbside transit lane separates non-motorized users from motorists.	Buses experience reliable, faster travel times in dedicated lanes, and motorists experience increased travel times during rush hour.	ADA-accessible facilities are present on both sides of the street.	Sidewalk and bike lanes are connected to employment and exclusive curbside transit lane in both directions.	Minor right-of-way and drainage impacts.

"Having a continuous grade separated throughway makes this area much safer and useful to everyone." – *Issues and Opportunities Survey*

Staples Mill Road South of E Parham Road (Option 2A)

South of E Parham Road: Shared Use Path and Mixed Transit Lane



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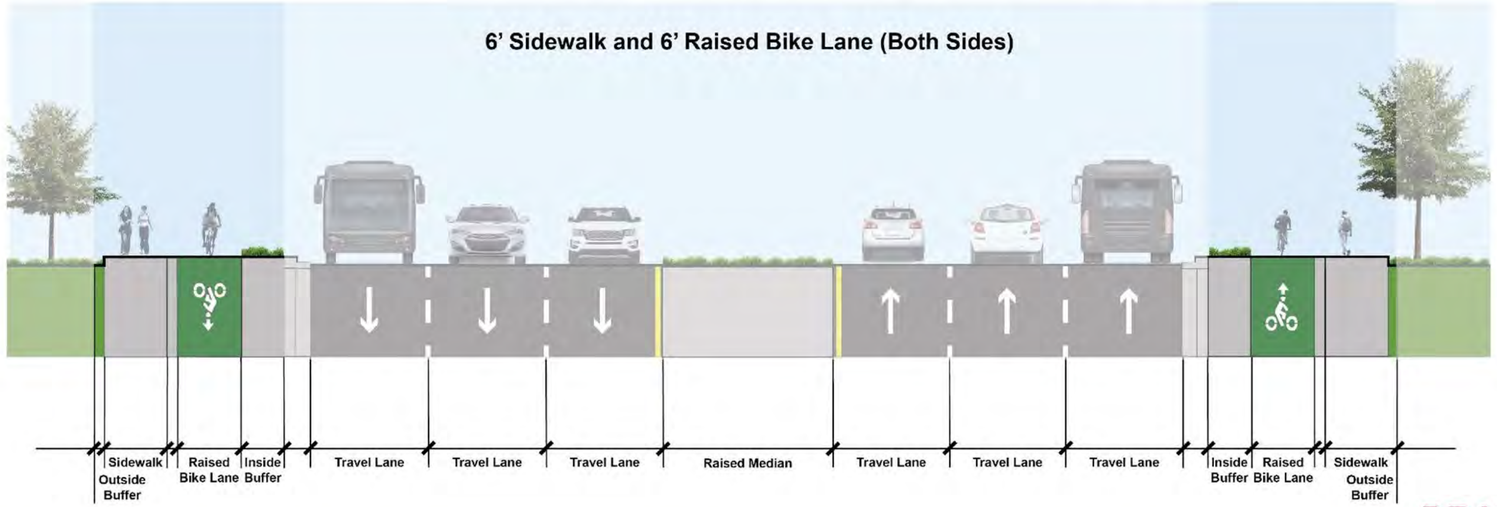
Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
Buffer between non-motorized users and motorists for some of street segment.	Shared-use path encourages bicycle and pedestrian use.	ADA-accessible facilities are present on both sides of the street.	Shared-use path is connected to employment and curbside mixed bus-traffic lane in both directions.	Minor right-of-way and drainage impacts.

"Given the extremely limited public transit on Staples Mill, it makes more sense to have this "mixed transit" lane" – *Issues and Opportunities Survey*

Staples Mill Road South of E Parham Road (Option 2B)

South of E Parham Road: Sidewalk, Bike Lane, and Mixed Transit Lane



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Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
Buffer between non-motorized users and motorists for some of street segment.	Continuous sidewalk and separated bicycle facility encourage bicycle and pedestrian use.	ADA-accessible facilities are present on both sides of the street.	Sidewalk and bike lanes are connected to employment and curbside mixed bus-traffic lane in both directions.	Minor right-of-way and drainage impacts.

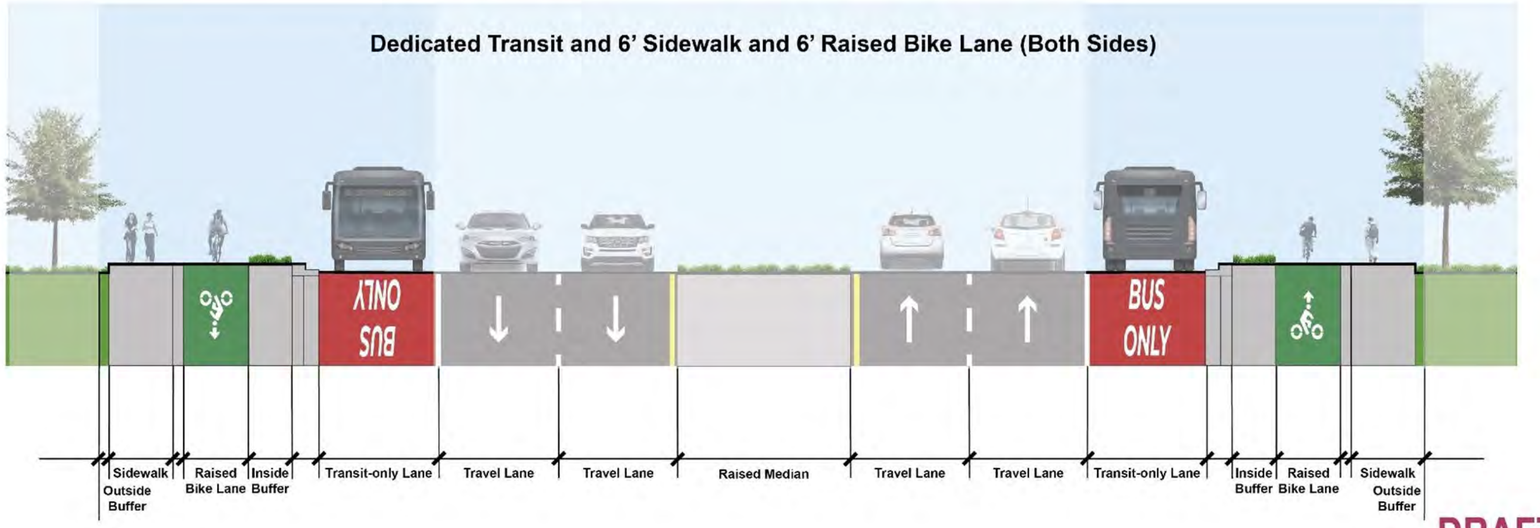
"Good for bikes but if we can increase bus use and reduce car traffic, we are going to want the infrastructure to do so." – *Issues and Opportunities Survey*

Staples Mill Road South of E Parham Road

		Manage Congestion	Community and Environmental Health	Support Economic Development	Improve Safety and Comfort	Reflect Community Character	Impacts	Survey Ranking
Along Staples Mill Road (2.5 mi)	No-Build	●●○○○	●●●○○	●●○○○	●○○○○	●●●○○	**$0**	**1.51**
	Option 1A: Dedicated Curbside Transit and 10’ Multi-Use Path (Both Sides)	●●●●●	●●●●○	●●●●○	●●●○○	●●●●●	**$45.4M**	**3.24**
	Option 1B: Dedicated Curbside Transit, 6’ Sidewalk, and 6’ Separated Bike Lane (Both Sides)	●●●●●	●●●●○	●●●●○	●●●○○	●●●●●	**$40.1M**	**3.94**
	Option 2A: Mixed Transit Lane and 10’ Multi-Use Path (Both Sides)	●●●●○	●●●●○	●●●●○	●●●○○	●●●●●	**$42.1M**	**3.13**
	Option 2B: Mixed Transit Lane, 6’ Sidewalk, and 6’ Separated Bike Lane (Both Sides)	●●●●○	●●●●○	●●●●○	●●●○○	●●●●●	**$36.9M**	**3.50**

Lowest Scoring ⟷ Highest Scoring

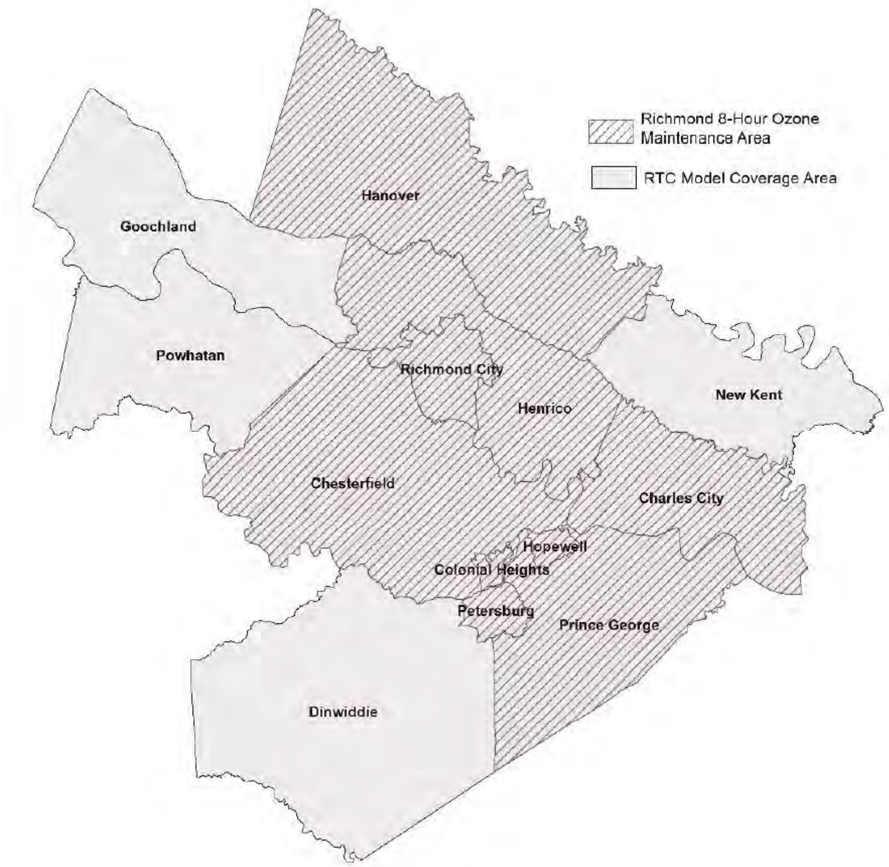
●○○○○	●●○○○	●●●○○	●●●●○	●●●●●



What are the operational impacts of repurposing a travel lane in either direction to a transit-only lane on Staples Mill Road?

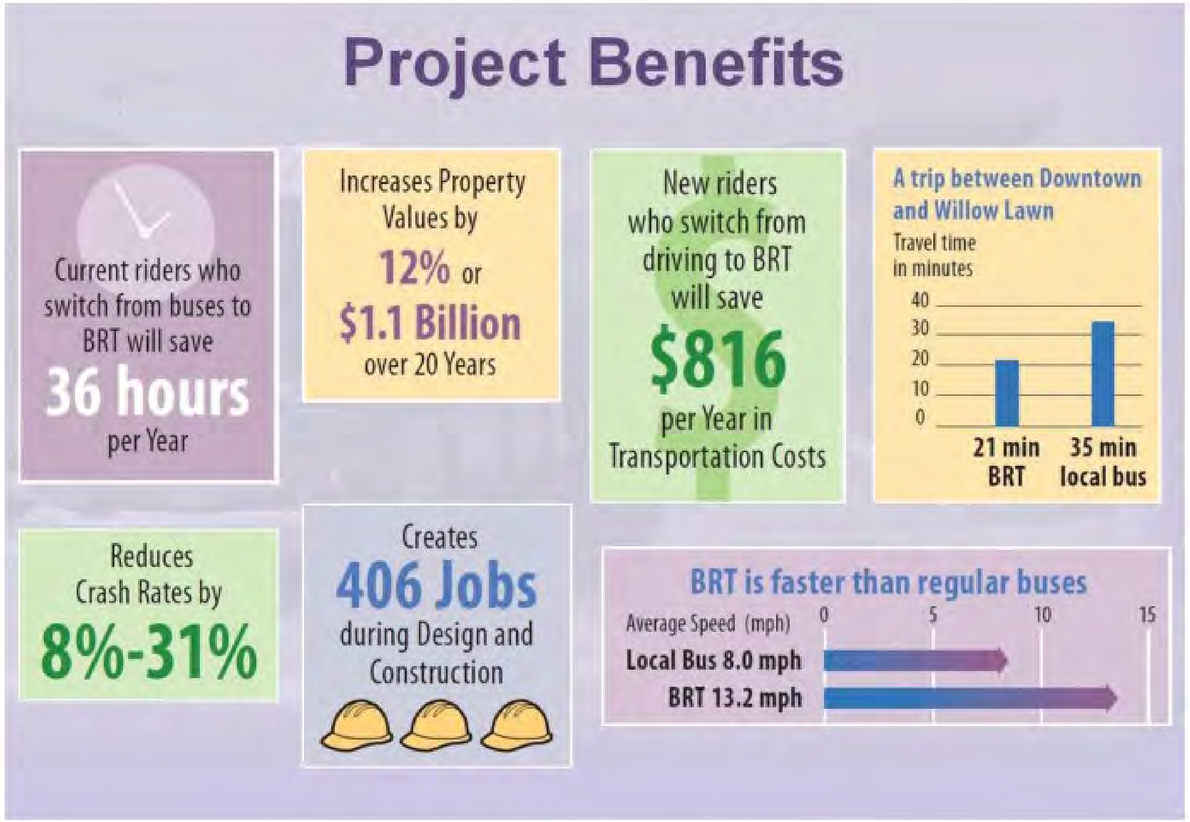
Dedicated Transit Lane Analysis – Tools and Method

- Richmond/Tri-Cities Regional Travel Demand Model (RTC Model)
- Model **2** scenarios:
  - 2040 No-Build (existing roadway configuration)
  - 2040 Build (transit-only lanes)



Dedicated Transit Lane Analysis – Tools and Method

- 2040 Build (transit-only lanes)
  - Cross section changes: Reallocate one travel lane in each direction to transit-only lanes
  - Dedicated transit extents: Staples Mill Road from E Parham Road to Broad Street
  - Dedicated transit characteristics: assume amenities and travel times are similar to Pulse BRT
  - Expected mode shift:
    - **+/- 10%** from SOV to Transit
    - Applied to trips between TAZ pairs adjoining regional BRT routes



Dedicated Transit Lane Analysis - Tools and Method

- Compare 2040 Build and No Build model outputs to identify percent change in volumes along study streets
- Apply percent change to 2040 Build Synchro model and report **intersection-level** operational changes

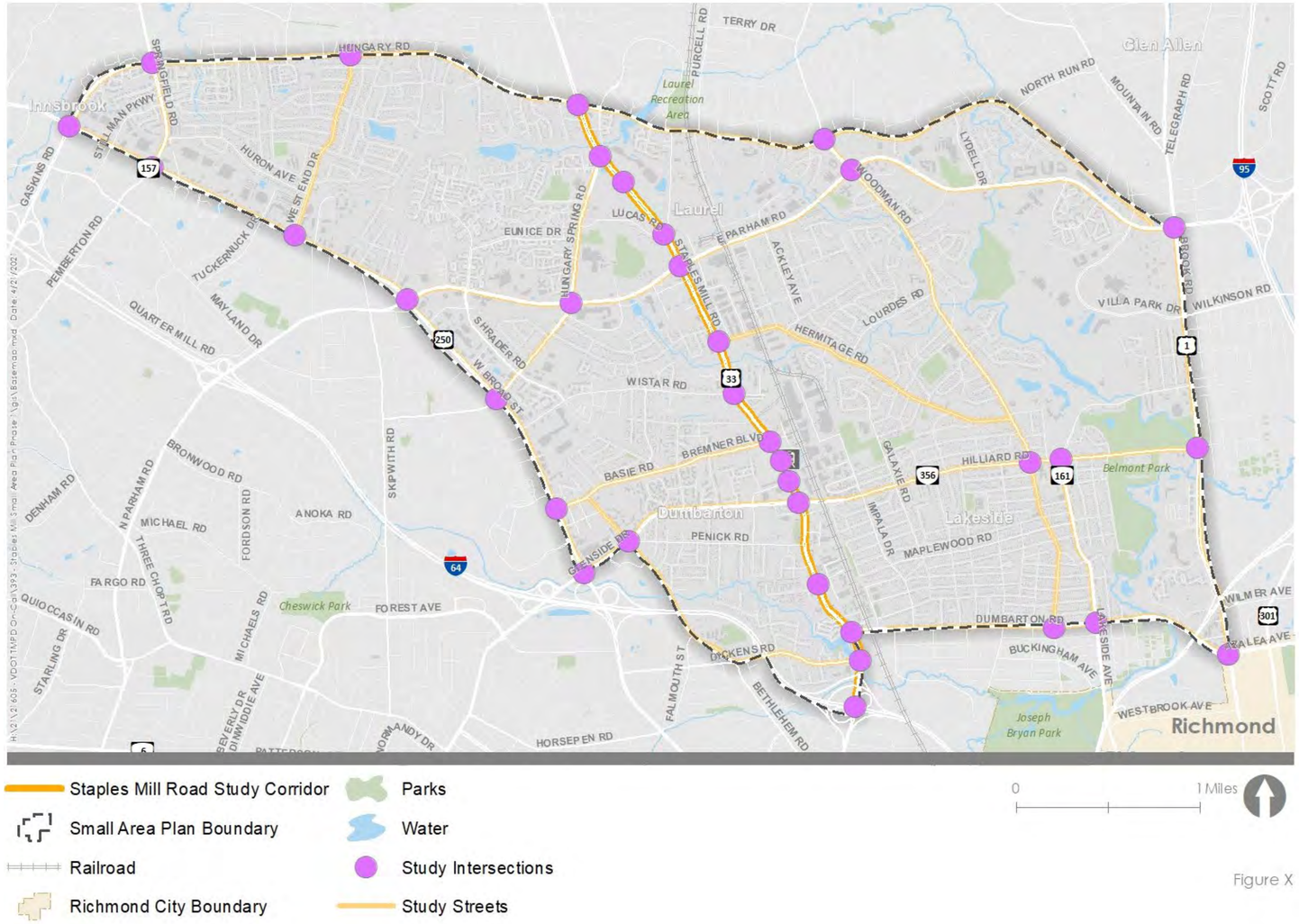


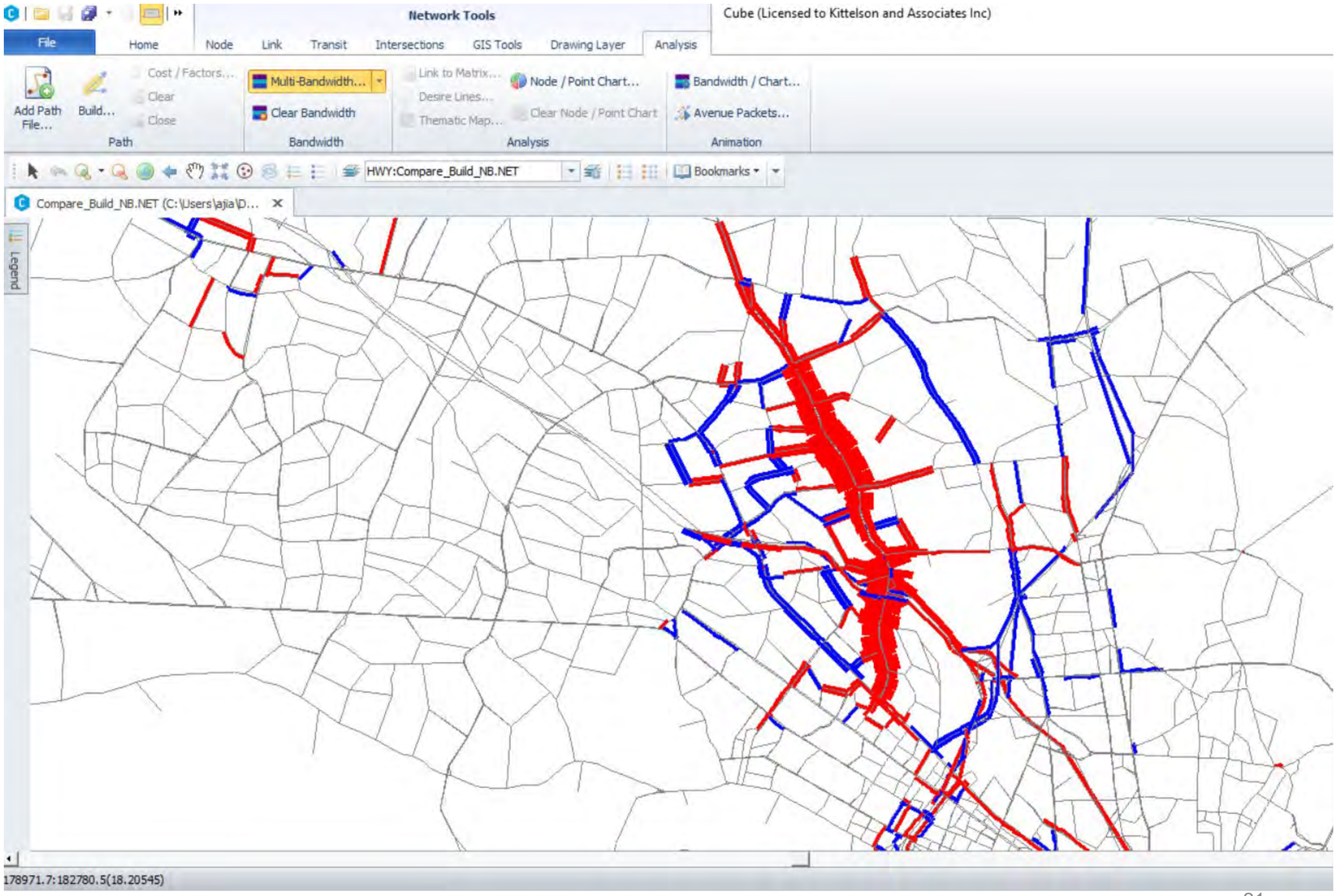
Figure X

Dedicated Transit Lane Analysis – Operational Outcomes

Change in volumes:
2040 No Build to 2040 Build

- Volume decrease
- Volume increase

Width of line corresponds to magnitude of change



Dedicated Transit Lane Analysis – Operational Outcomes

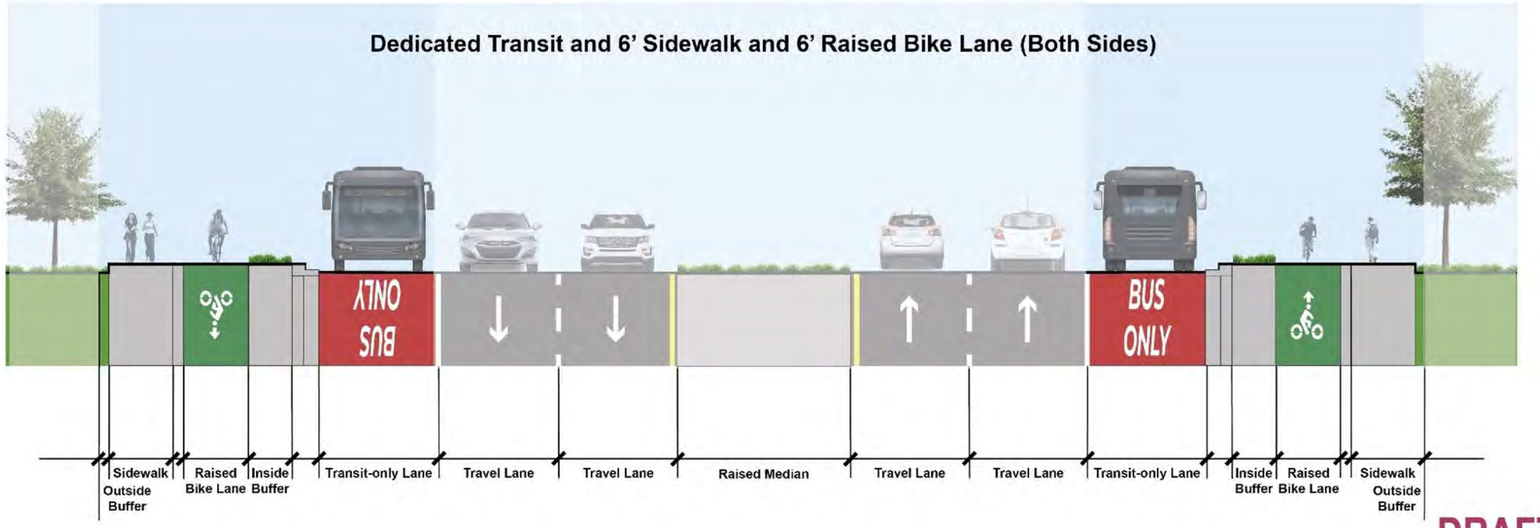
- **No** study intersections where LOS changes from acceptable in No Build to unacceptable in Build
- Factors increasing intersection delay:
  - Road Diet
  - LPI and No RTOR treatments at priority intersections
- Factors reducing intersection delay:
  - Modeled changes in trip patterns
  - Signal timing adjustments at priority intersections

Intersection	Peak Hour	No-Build	Build	Change in Delay
		Intersection delay (sec) and level of service	Intersection delay (sec) and level of service	In d 23 on)
W. Broad Street/Gaskins Road	AM Peak	93.4 (F)	92.8 (F)	-0.6
(#1)	PM Peak	82.7 (F)	82.4 (F)	-0.3
W. Broad Street/Pemberton Road/Springfield Road	AM Peak	34.2 (C)	34.3 (C)	0.1
(#2)	PM Peak	41.7 (D)	41.9 (D)	0.2
W. Broad Street/West End Drive/Commercial Entrance	AM Peak	26.1 (C)	26.4 (C)	0.3
(#3)	PM Peak	30.8 (C)	31.1 (C)	0.3
W. Broad Street/N. Parham Road/E. Parham Road	AM Peak	48.8 (D)	48.9 (D)	0.1
(#4)	PM Peak	77.5 (E)	77.8 (E)	0.3
W. Broad Street/Hungary Spring Road	AM Peak	46.9 (D)	46.8 (D)	-0.1
(#5)	PM Peak	65 (E)	65.1 (E)	0.1
W. Broad Street/Bethlehem Road/Entrance to Volvo	AM Peak	13.2 (B)	13.4 (B)	0.2
(#6)	PM Peak	15.9 (B)	16.1 (B)	0.2
W. Broad Street/Glenside Drive	AM Peak	55.7 (E)	55.5 (E)	-0.2
(#7)	PM Peak	89.8 (F)	89.7 (F)	-0.1
Staples Mill Road/Hungary Road	AM Peak	41.7 (D)	43.8 (D)	2.1
(#8)	PM Peak	55.3 (E)	53.8 (D)	-1.5
Staples Mill Road/Hungary Spring Road	AM Peak	28.5 (C)	29.1 (C)	0.6
(#9)	PM Peak	38.7 (D)	41.9 (D)	3.2
Staples Mill Road/Staples Mill Square Shopping Center	AM Peak	22.1 (C)	22.4 (C)	0.3
(#10)	PM Peak	36.8 (D)	37.9 (D)	1.1
Staples Mill Road/Old Staples Mill Road/Lucas Road	AM Peak	39.8 (D)	38.7 (D)	-1.1
(#11)	PM Peak	36.1 (D)	32.8 (C)	-3.3
Staples Mill Road/E. Parham Road	AM Peak	49.1 (D)	50.9 (D)	1.8
(#12)	PM Peak	67 (E)	59.4 (E)	-7.6
Staples Mill Road/Hermitage Road/Commercial Entrance	AM Peak	22 (C)	27.6 (C)	5.6
(#13)	PM Peak	24.4 (C)	42 (D)	17.6
Staples Mill Road/Wistar Road (#14)	AM Peak	17.3 (B)	18.3 (B)	1
	PM Peak	21.1 (C)	23.9 (C)	2.8
Staples Mill Road/Bremner Boulevard	AM Peak	20 (B)	26.8 (C)	6.8
(#15)	PM Peak	22.4 (C)	25.8 (C)	3.4
Staples Mill Road/Amtrak Station	AM Peak	24.7 (C)	34.6 (C)	9.9
(#16)	PM Peak	22.4 (C)	25.1 (C)	2.7
Staples Mill Road/Crockett Street/Entrance to Dumbarton Square	AM Peak	12.9 (B)	13.3 (B)	0.4
(#17)	PM Peak	17.6 (B)	21.2 (C)	3.6
Staples Mill Road/Hilliard Road/Glenside Drive	AM Peak	67.3 (E)	61.6 (E)	-5.7
(#18)	PM Peak	80.2 (F)	66.6 (E)	-13.6
Staples Mill Road/Aspen Avenue/Townhouse Road	AM Peak	16.2 (B)	20 (C)	3.8
(#19)	PM Peak	19.4 (B)	23.7 (C)	4.3
Staples Mill Road/Dumbarton Road/Wharfside Road	AM Peak	40.2 (D)	42.8 (D)	2.6
(#20)	PM Peak	44.1 (D)	35.7 (D)	-8.4

Dedicated Transit Lane Analysis – Operational Outcomes

- **No** study intersections where LOS changes from acceptable in No Build to unacceptable in Build
- Factors increasing intersection delay:
  - Road Diet
  - LPI and No RTOR treatments at priority intersections
- Factors reducing intersection delay:
  - Modeled changes in trip patterns
  - Signal timing adjustments at priority intersections

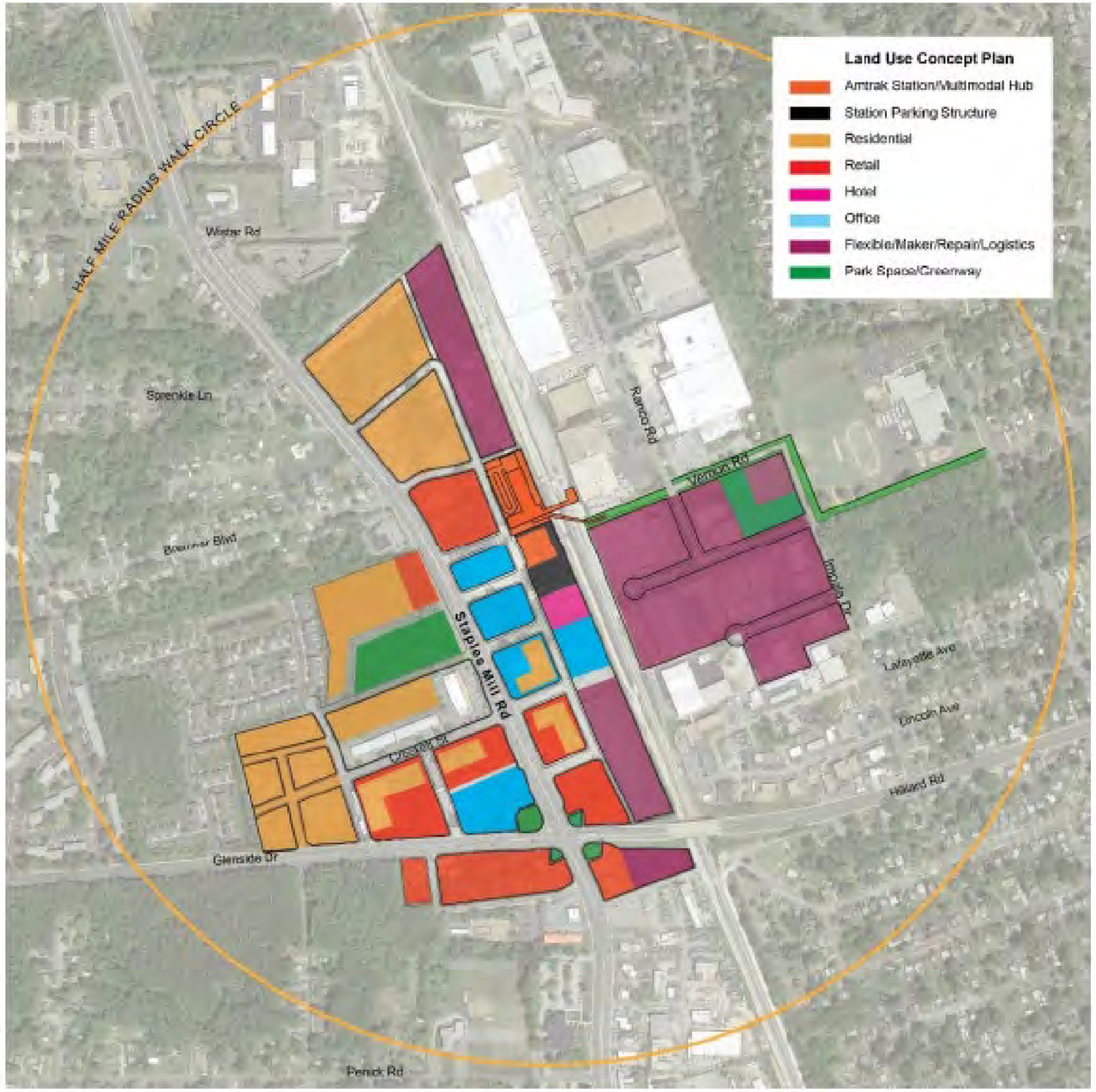
Intersection	Peak Hour	No-Build	Build	Change in Delay
		Intersection delay (sec) and level of service	Intersection delay (sec) and level of service	Intersection delay (sec)
Staples Mill Road/Dickens Road/Entrance to Comcast	AM Peak	35 (D)	22.8 (C)	-12.2
(#21)	PM Peak	31.2 (C)	32.6 (C)	1.4
Brook Road/E. Parham Road	AM Peak	40.3 (D)	40.3 (D)	0
(#22)	PM Peak	44.9 (D)	44.9 (D)	0
Brook Road/Hilliard Road/Hilliard Avenue	AM Peak	30.3 (C)	30.3 (C)	0
(#23)	PM Peak	31.7 (C)	31.6 (C)	-0.1
Brook Road/Dumbarton Road/Azalea Avenue	AM Peak	46.2 (D)	45.5 (D)	-0.7
(#24)	PM Peak	69 (E)	67.7 (E)	-1.3
Springfield Road/Gaskins Road/Hungary Road	AM Peak	52.2 (D)	51 (D)	-1.2
(#25)	PM Peak	135.6 (F)	124.8 (F)	-10.8
Hungary Road/West End Drive	AM Peak	13.6 (B)	14.5 (B)	0.9
(#26)	PM Peak	49 (D)	49.3 (D)	0.3
Hungary Road/Woodman Road	AM Peak	22.8 (C)	31.2 (C)	8.4
(#27)	PM Peak	67.1 (E)	71.5 (E)	4.4
E. Parham Road/Hungary Spring Road	AM Peak	20 (B)	21.8 (C)	1.8
(#28)	PM Peak	23.2 (C)	25.1 (C)	1.9
E. Parham Road/Woodman Road	AM Peak	20.7 (C)	26.8 (C)	6.1
(#29)	PM Peak	34.2 (C)	44.8 (D)	10.6
Glenside Drive/Bethlehem Road	AM Peak	28.4 (C)	22.2 (C)	-6.2
(#30)	PM Peak	62.1 (E)	30.8 (C)	-31.3
Hilliard Road/Hermitage Road	AM Peak	40.1 (D)	40.1 (D)	0
(#31)	PM Peak	45.5 (D)	45.4 (D)	-0.1
Lakeside Avenue/Hilliard Road	AM Peak	43.2 (D)	42.5 (D)	-0.7
(#32)	PM Peak	41.3 (D)	40.7 (D)	-0.6
Dumbarton Road/Hermitage Road/Westlake Avenue	AM Peak	5.5 (A)	5.1 (A)	-0.4
(#33)	PM Peak	7.9 (A)	7.8 (A)	-0.1
Lakeside Avenue/Dumbarton Road	AM Peak	63.6 (E)	77.4 (E)	13.8
(#34)	PM Peak	63.5 (E)	63 (E)	-0.5



How will dedicated transit on Staples Mill Road interact with the Staples Mill TOD Concept?

Staples Mill TOD Concept

- **Amtrak Station** as multimodal hub
- **Mix** of land uses along and across Staples Mill Road

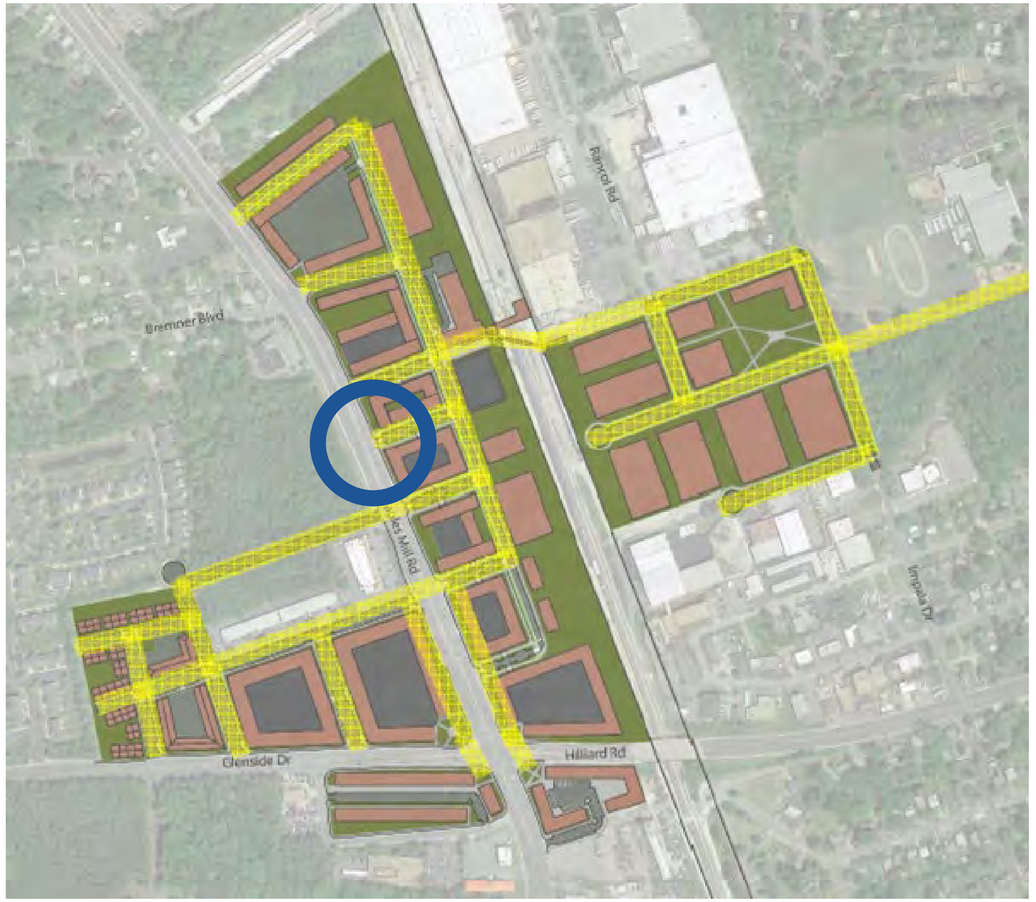


Staples Mill TOD Concept

- Comfortable, safe, and connected streets for all road users

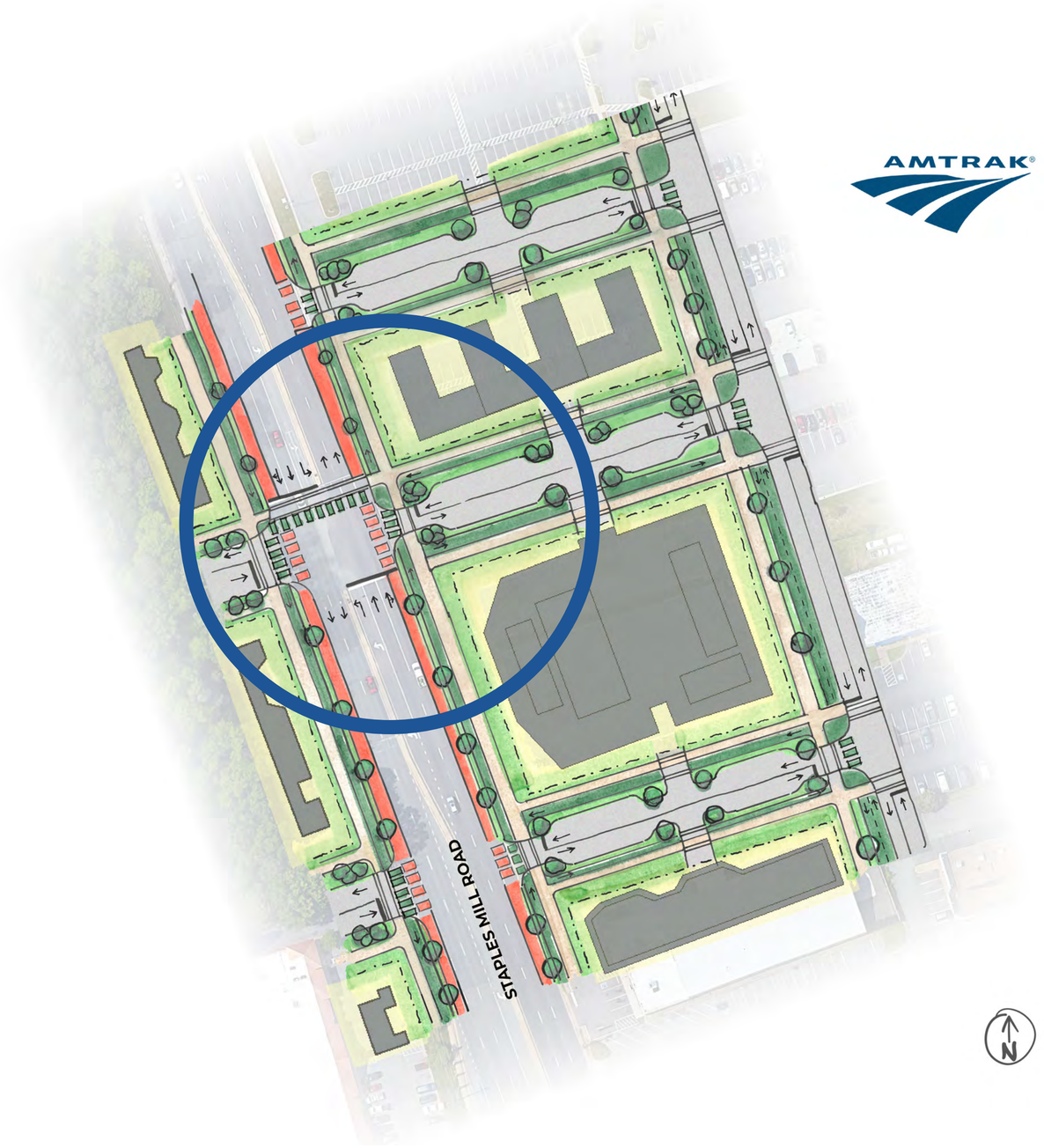
Staples Mill TOD Concept

- Comfortable, safe, and connected streets for all road users
- **New** connection at Staples Mill Road/Amtrak Station



Staples Mill TOD Concept

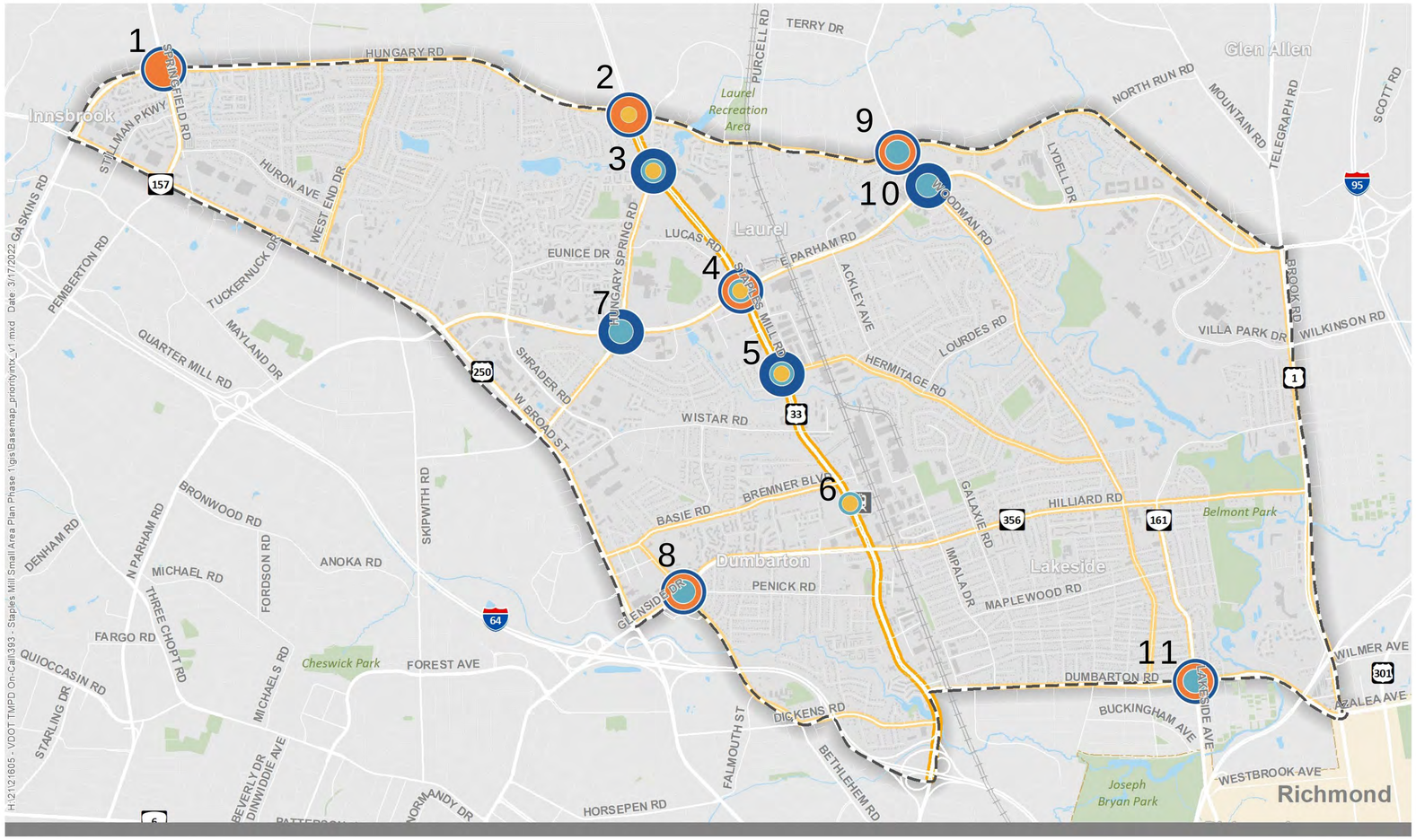
- Dedicated transit **increases access** to Staples Mill Road Station, surrounding communities, and Richmond



Alternatives Analysis Intersection Updates

Intersection Options

1. Springfield Rd and Gaskins Rd/Hungary Rd
2. Staples Mill Rd and Hungary Rd
3. Staples Mill Rd & Hungary Spring Rd
4. Staples Mill Rd & E. Parham Rd
5. Staples Mill Rd & Hermitage Rd/Commercial Ent.
6. Staples Mill Rd & Amtrak Station
7. E. Parham Rd & Hungary Spring Rd
8. Glenside Dr & Bethlehem Rd
9. Hungary Rd and Woodman Rd
10. E. Parham Rd and Woodman Rd
11. Lakeside Ave and Dumbarton Rd



Priority Intersections by Issue

- Community Interest
- TOD Proximity
- Future Congestion (2040)
- Safety Concerns

0 1 Miles

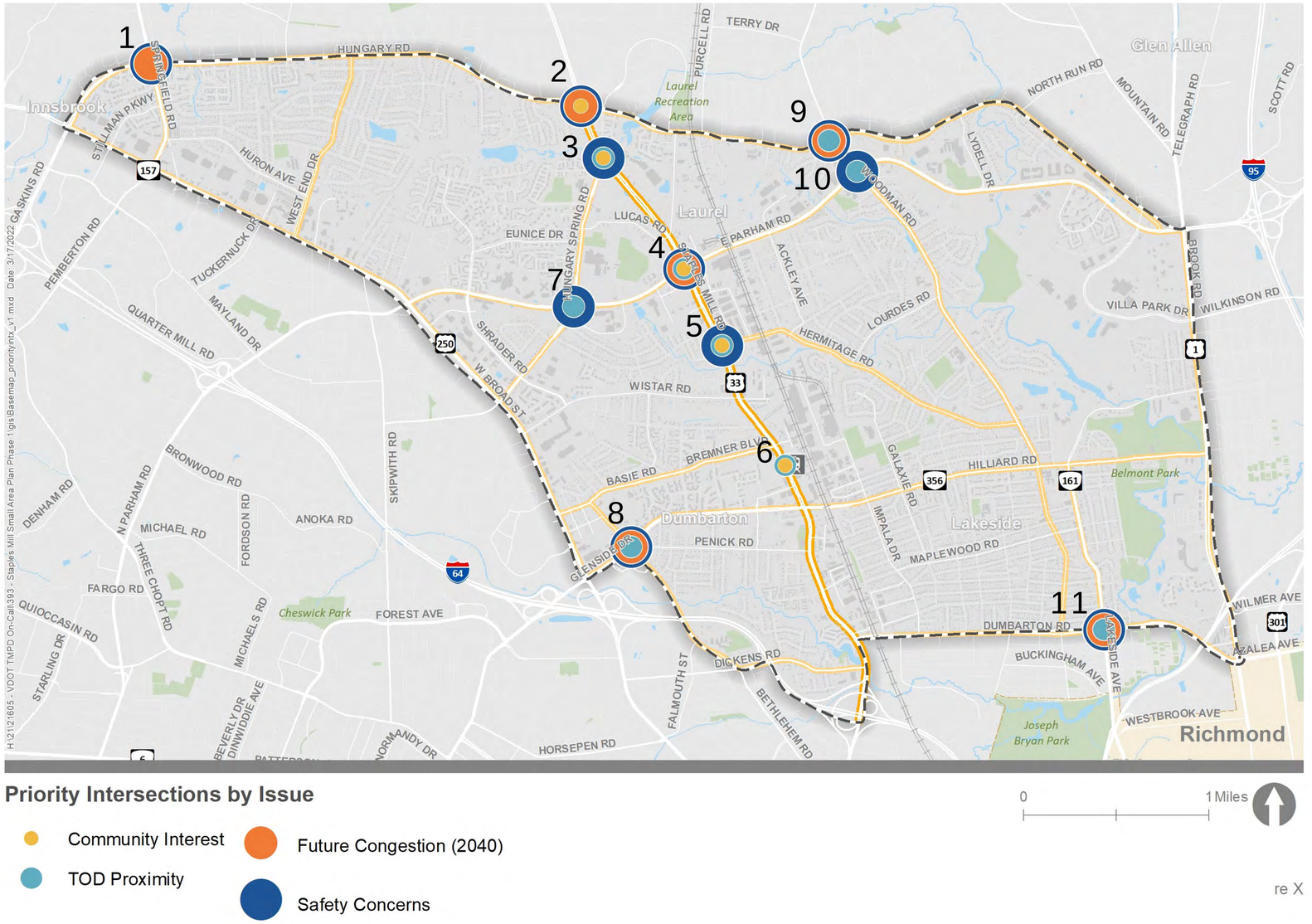
Intersection Issues and Opportunities

"**Streetlighting** is needed badly along this corridor. The bright lights from commercial properties distract and make it **hard to see pedestrians** along the roadway."

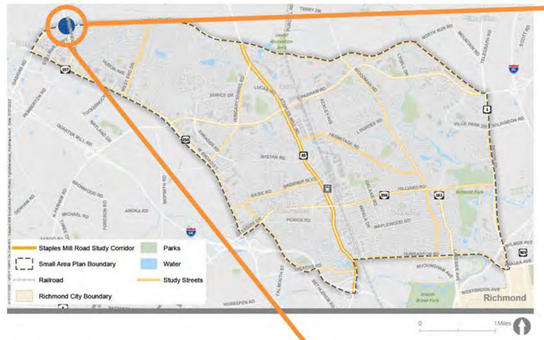
"There is **a lot of foot traffic** on this road and there is not crosswalks or crosswalk signals at the intersections. Some of the sidewalks along Staples Mill need to connect to one another."

"Connections between the station and buses should be safe and easy. **Walking should be possible**."

- Issues and Opportunities Survey

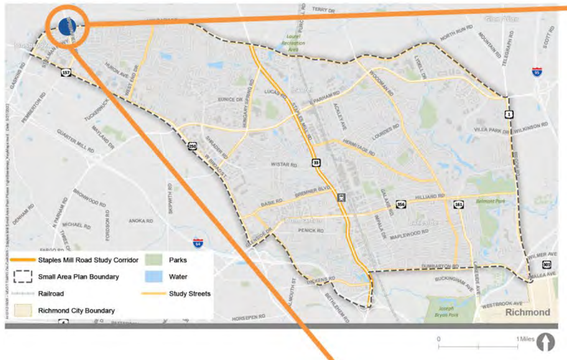


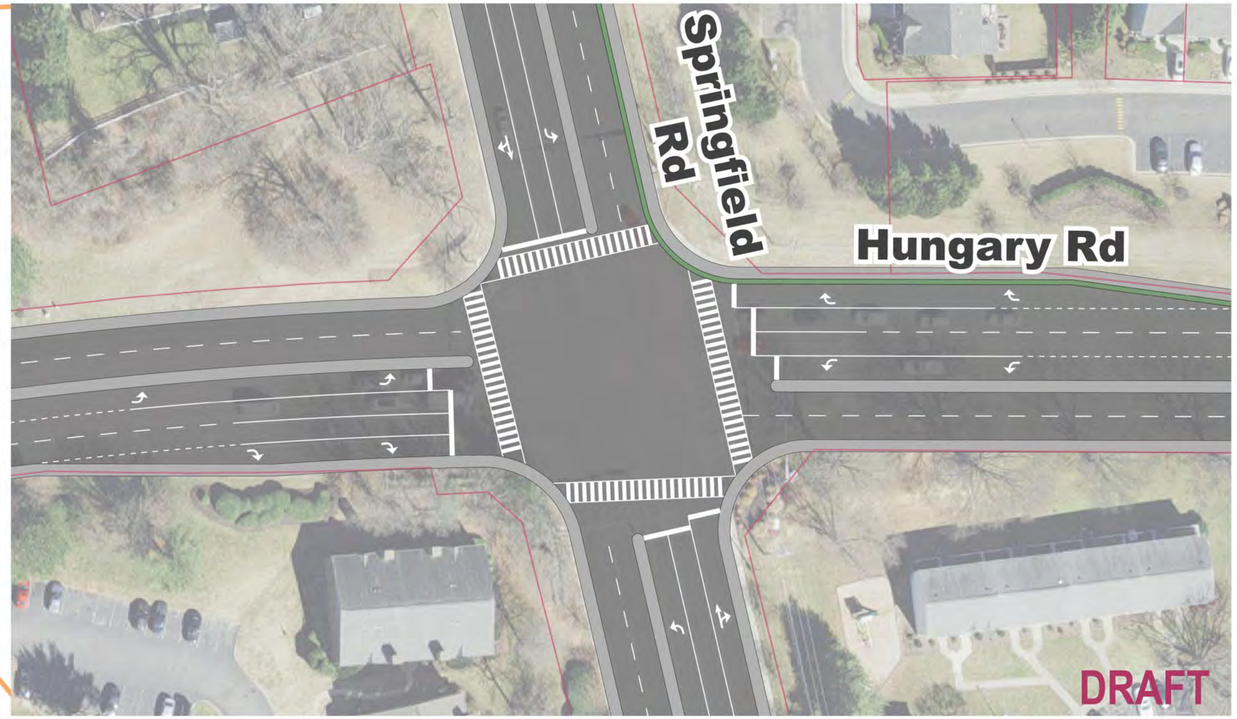
Springfield Road and Gaskins Road/Hungary Road: Existing



Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
High crash intersection with no pedestrian crossings.	Motorists experience delays during rush hour. Pedestrians experience delay all day.	Intersection has many missing facilities for people walking and biking.	Multimodal facilities are disconnected from employment.	No right-of-way impacts or drainage impacts.

Springfield Road and Gaskins Road/Hungary Road: Concept





N

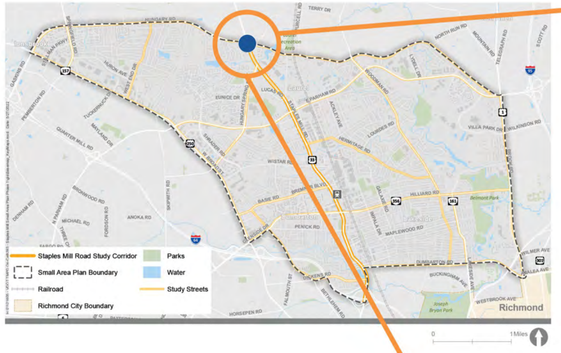
Not To Scale

Intersection Elements

- IMPLEMENT LEADING PEDESTRIAN INTERVAL
- ADD INTERSECTION LIGHTING
- ADD PEDESTRIAN SIGNAL HEADS
- UPGRADE CURB RAMPS
- ADD NO RIGHT-TURN ON RED
- ASPHALT
- SIDEWALK/MEDIAN
- LANDSCAPE
- PARCEL LINES

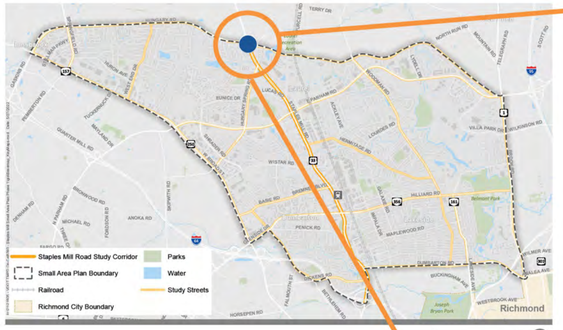
Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
Increases pedestrian visibility with crosswalks and signal timing. Improves nighttime visibility with intersection lighting.	Maintains travel time for cars and reduces pedestrian delay with signal timing.	Improves ADA-accessible crossings for bicyclists and pedestrians.	Provides multimodal facilities connected to employment.	Minor right-of-way and drainage impacts.

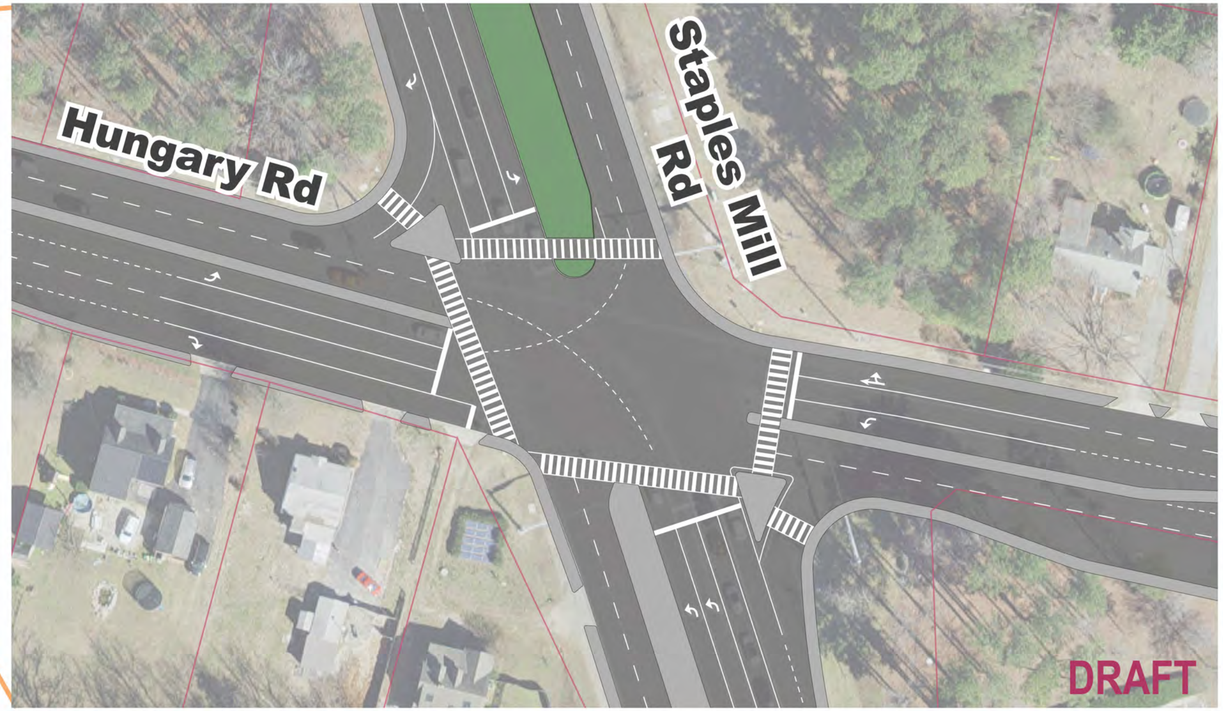
Staples Mill Road and Hungary Road: Existing



Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
High crash intersection with no pedestrian crossings.	Motorists experience delays during rush hour. Pedestrians experience delay all day.	Intersection has no multimodal facilities for people walking and biking.	No multimodal facilities connected to employment.	No right-of-way impacts or drainage impacts.

Staples Mill Road and Hungary Road: Concept





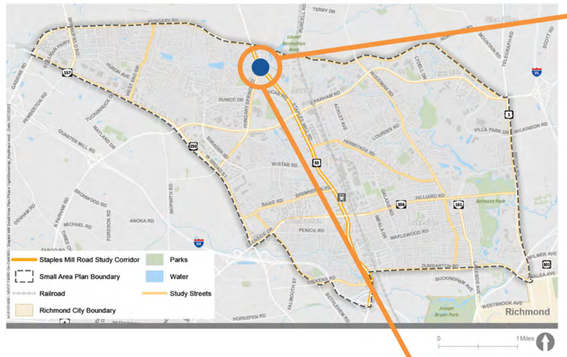
N
Not To Scale

Intersection Elements

- ADD PEDESTRIAN SIGNAL HEADS
- UPGRADE CURB RAMPS
- ADD INTERSECTION LIGHTING
- ASPHALT
- SIDEWALK/MEDIAN
- LANDSCAPE
- PARCEL LINES

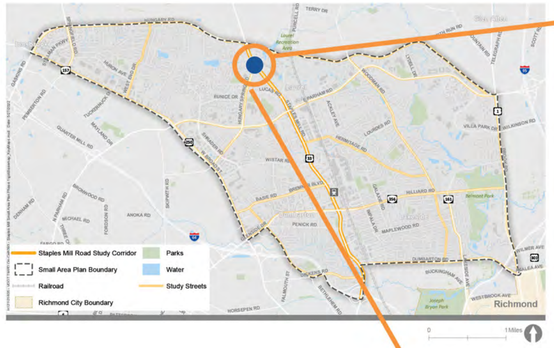
Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
Increases pedestrian visibility with crosswalks and signal timing. Reduces crossing distance for pedestrians. Improves nighttime visibility with intersection lighting.	Maintains travel time for cars and reduces pedestrian delay with signal timing.	Improves ADA-accessible crossings for bicyclists and pedestrians.	Provides multimodal facilities connected to employment.	Minor right-of-way and drainage impacts.

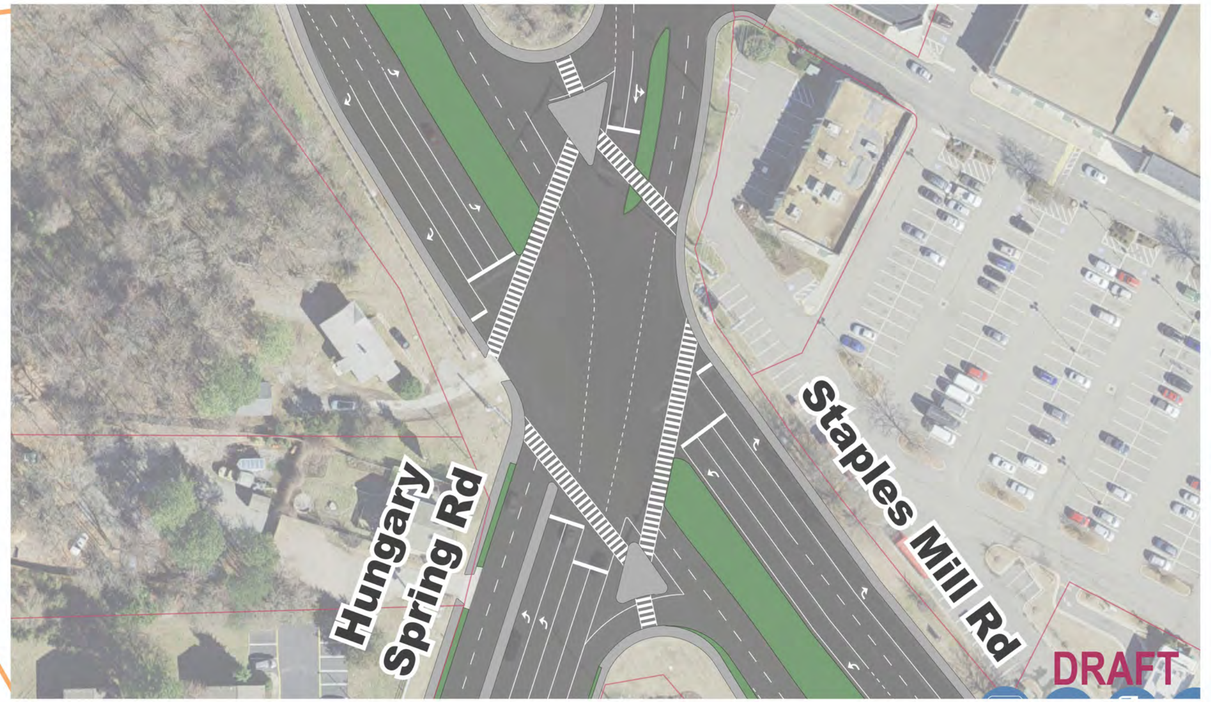
Staples Mill Road and Hungary Spring Road: Existing



Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
High crash intersection with no pedestrian crossings.	Motorists generally don't experience delays. Pedestrians experience delay all day.	Intersection has many missing facilities for people walking and biking.	Multimodal facilities are disconnected from employment.	No right-of-way impacts or drainage impacts.

Staples Mill Road and Hungary Spring Road: Concept





N

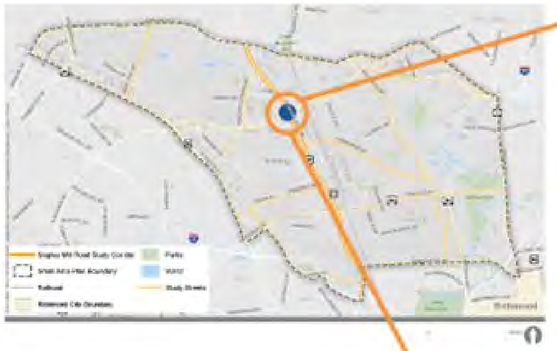
Not To Scale

Intersection Elements

- ADD INTERSECTION LIGHTING
- ADD PEDESTRIAN SIGNAL HEADS
- UPGRADE CURB RAMPS
- ASPHALT
- SIDEWALK/MEDIAN
- LANDSCAPE
- PARCEL LINES

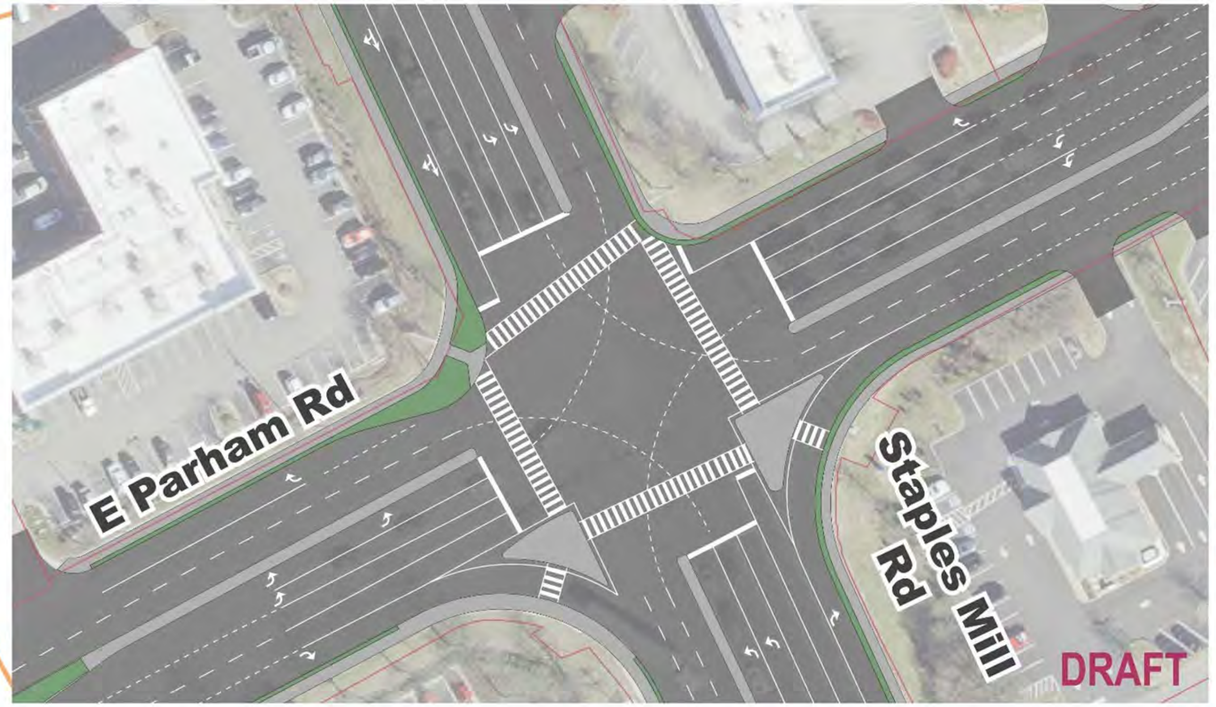
Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
Increases pedestrian visibility with crosswalks and signal timing. Improves nighttime visibility with intersection lighting.	Maintains travel time for cars and reduces pedestrian delay with signal timing.	Improves ADA-accessible crossings for bicyclists and pedestrians.	Provides multimodal facilities connected to employment.	Minor right-of-way and drainage impacts.

Staples Mill Road and East Parham Road: Existing



Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
High crash intersection with no pedestrian crossings.	Motorists experience delays during rush hour. Pedestrians experience delay all day.	Intersection has missing facilities for people walking and biking.	Multimodal facilities are disconnected from employment and transit.	No right-of-way impacts or drainage impacts.

Staples Mill Road and East Parham Road: Concept



N

Not To Scale

Intersection Elements

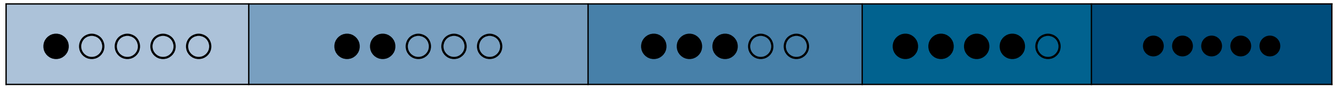
- ADD PEDESTRIAN SIGNAL HEADS
- UPGRADE CURB RAMPS
- ADD NO RIGHT-TURN ON RED
- ADD INTERSECTION LIGHTING
- IMPLEMENT LEADING PEDESTRIAN INTERVAL
- ASPHALT
- SIDEWALK/MEDIAN
- LANDSCAPE
- PARCEL LINES

Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
Increases pedestrian visibility with crosswalks and signal timing. Improves nighttime visibility with intersection lighting.	Maintains travel time for cars and buses, and reduces pedestrian delay with signal timing.	Improves ADA-accessible crossings for bicyclists and pedestrians.	Provides multimodal facilities connected to employment and transit.	No right-of-way impacts and minor drainage impacts.

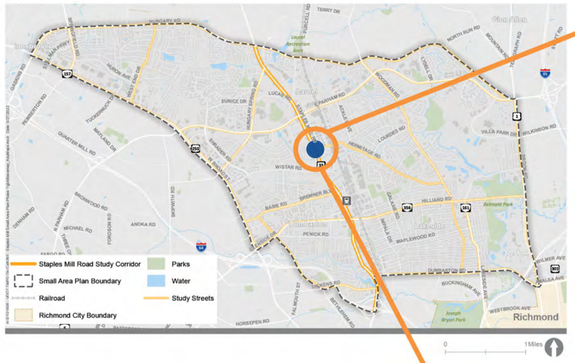
Intersection Options – Part 1

	Manage Congestion	Community and Environmental Health	Support Economic Development	Improve Safety and Comfort	Reflect Community Character	Impacts	Survey Ranking
Existing: Springfield Road and Gaskins Road/Hungary Road	●○○○○	●●○○○	●●○○○	●●○○○	●●●○○	$0	1.50
Proposed: Springfield Road and Gaskins Road/Hungary Road	●●○○○	●●○○○	●●○○○	●●●○○	●●●●●	$1.21M	4.39
Existing: Staples Mill Road and Hungary Road	●○○○○	●●○○○	●●○○○	●○○○○	●●●○○	$0	1.50
Proposed: Staples Mill Road and Hungary Road	●●●○○	●●●○○	●●●●○	●●●○○	●●●●●	$2.32M	4.32
Existing: Staples Mill Road and Hungary Spring Road	●●○○○	●●○○○	●●○○○	●○○○○	●●●○○	$0	1.51
Proposed: Staples Mill Road and Hungary Spring Road	●●●○○	●●●●○	●●●●○	●●●○○	●●●●●	$1.66M	4.34
Existing: Staples Mill Road and East Parham Road	●○○○○	●●○○○	●●○○○	●●○○○	●●●○○	$0	1.53
Proposed: Staples Mill Road and East Parham Road	●●●●○	●●●●○	●●●●○	●●●●○	●●●●●	$1.28M	4.32

Lowest Scoring ⟷ Highest Scoring

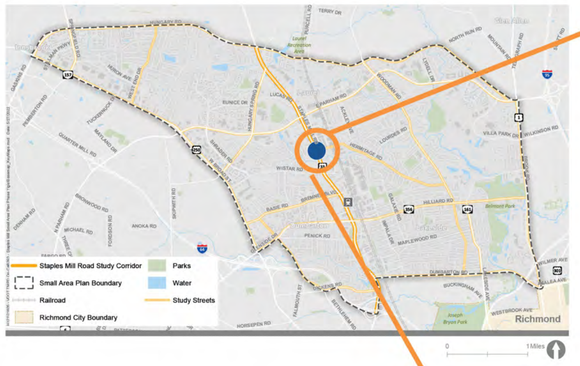


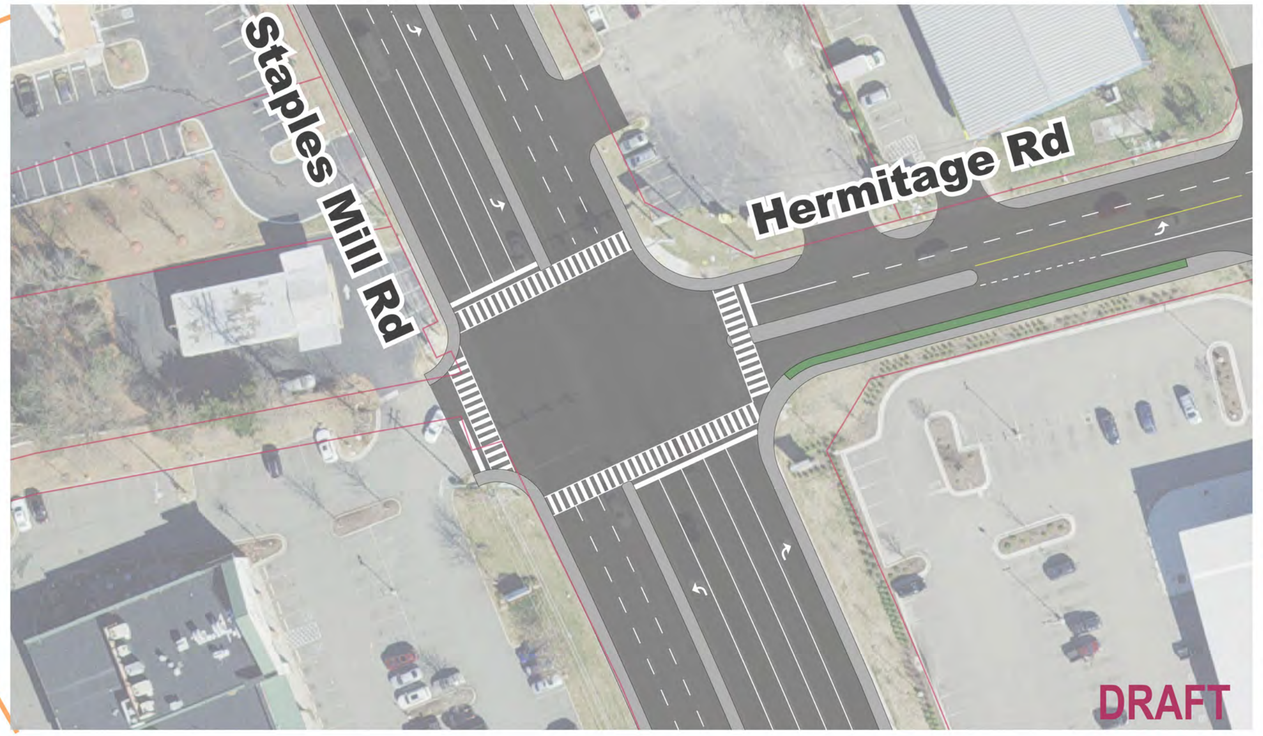
Staples Mill Road and Hermitage Road: Existing



Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
Intersection experiences safety challenges and narrow sidewalks.	Motorists generally don't experience delays. Pedestrians experience delay all day.	Intersection has missing facilities for people walking and biking.	Multimodal facilities are disconnected from employment and transit.	No right-of-way impacts or drainage impacts.

Staples Mill Road and Hermitage Road: Concept





N

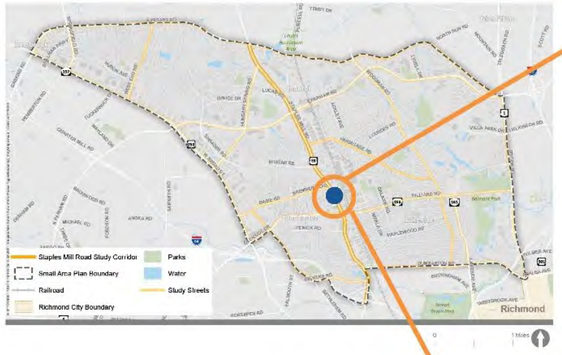
Not To Scale

Intersection Elements

- IMPLEMENT LEADING PEDESTRIAN INTERVAL
- ADD INTERSECTION LIGHTING
- ADD PEDESTRIAN SIGNAL HEADS
- UPGRADE CURB RAMPS
- ADD NO RIGHT-TURN ON RED
- ASPHALT
- SIDEWALK/MEDIAN
- LANDSCAPE
- PARCEL LINES

Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
Increases pedestrian visibility with crosswalks and signal timing. Improves nighttime visibility with intersection lighting.	Slightly increases travel time for cars and buses, and reduces pedestrian delay with signal timing.	Improves ADA-accessible crossings for bicyclists and pedestrians.	Provide multimodal facilities connected to employment and transit.	Minor right-of-way and drainage impacts.

Staples Mill Road and Amtrak Station: Existing

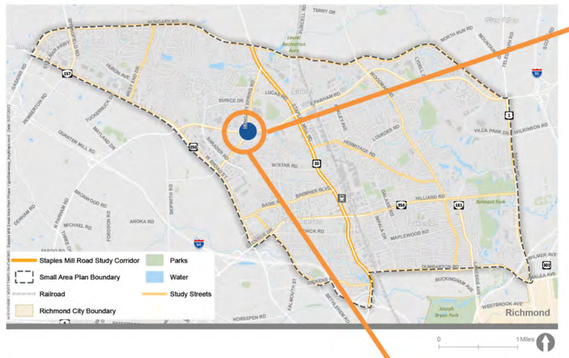


Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
No pedestrian crossings.	Motorists generally don't experience delays. Pedestrians experience delay all day.	Intersection has many missing facilities for people walking and biking.	Multimodal facilities are disconnected from employment and transit.	No right-of-way impacts or drainage impacts.

Staples Mill Road and Amtrak Station: Concept

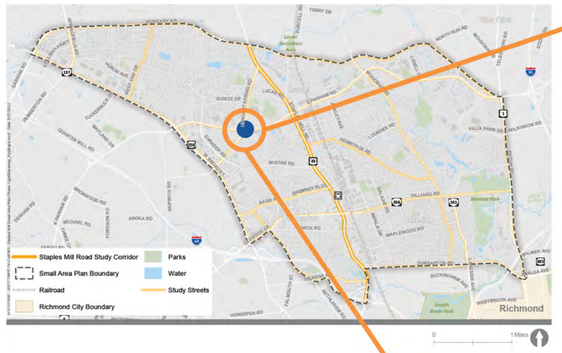
Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
Increases pedestrian visibility with crosswalks and signal timing. Improves nighttime visibility with intersection lighting.	Maintains travel time for cars and buses, and reduces pedestrian delay with signal timing.	Improves ADA-accessible crossings for bicyclists and pedestrians.	Provide multimodal facilities connected to employment and transit.	Minor right-of-way and drainage impacts.

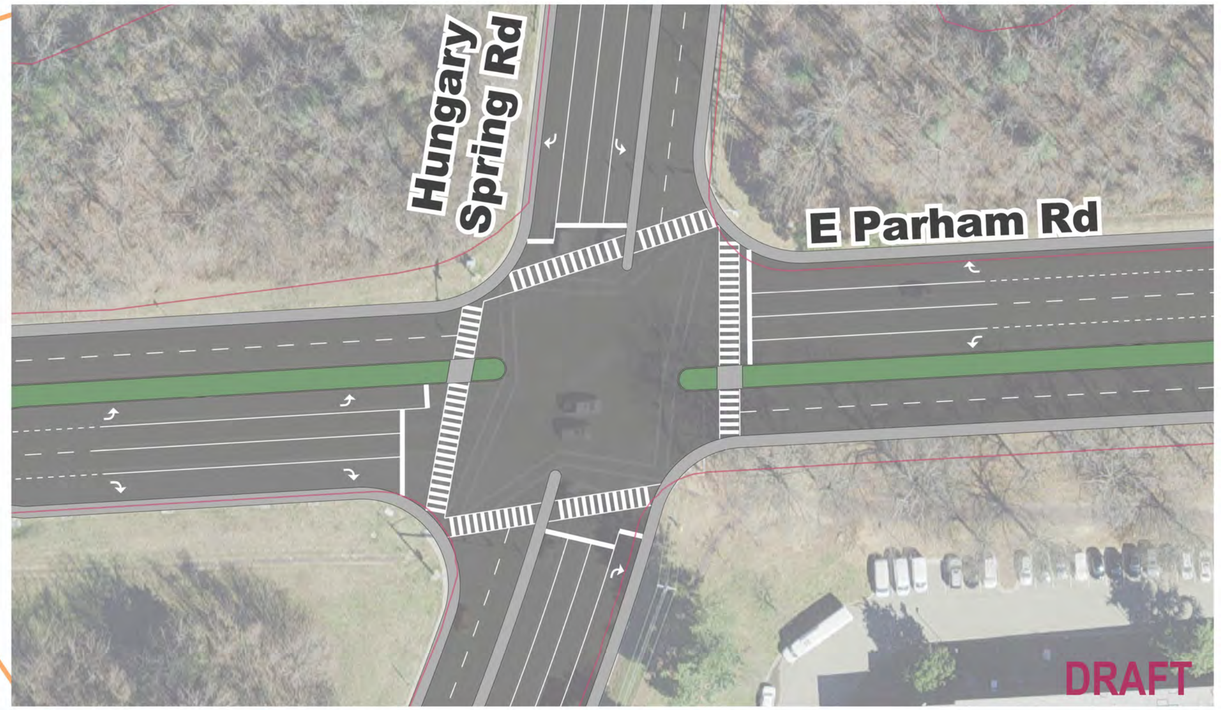
East Parham Road and Hungary Spring Road: Existing



Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
High crash intersection and outdated pedestrian crossings.	Motorists generally don't experience delays. Pedestrians experience delay all day.	Intersection has missing facilities for people walking and biking.	Multimodal facilities are disconnected from employment and transit.	No right-of-way impacts or drainage impacts.

East Parham Road and Hungary Spring Road: Concept





N

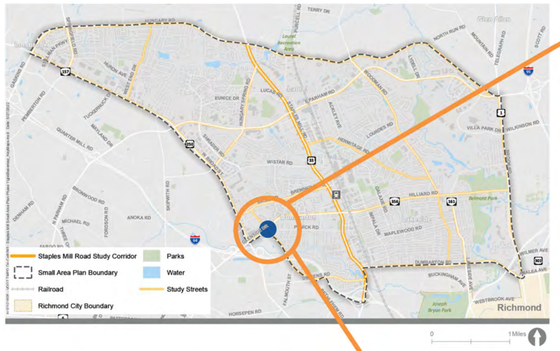
Not To Scale

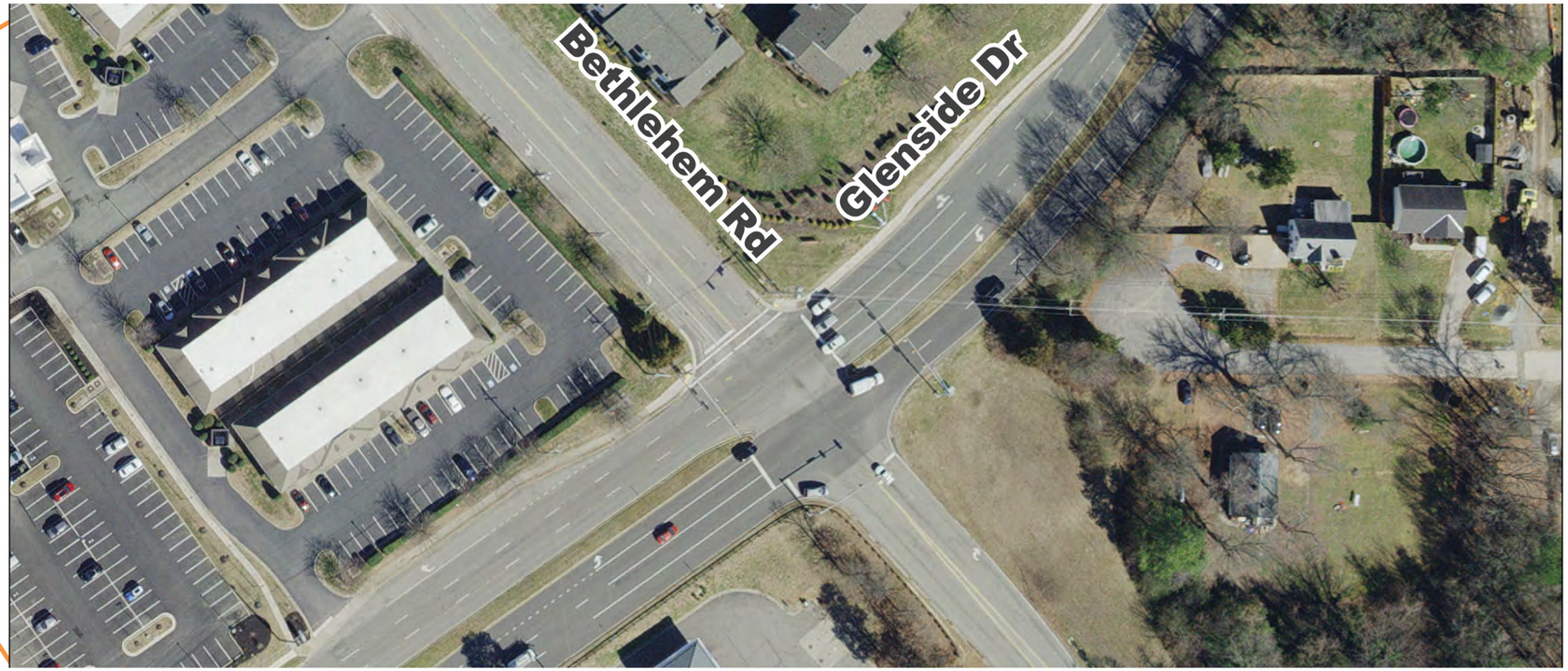
Intersection Elements

- UPDATE SIGNAL HARDWARE
- ADD PEDESTRIAN SIGNAL HEADS
- UPGRADE CURB RAMPS
- ASPHALT
- SIDEWALK/MEDIAN
- LANDSCAPE
- PARCEL LINES

Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
Increases pedestrian visibility with enhanced crosswalks and signal timing. Reduces crossing distance for pedestrians. Improves nighttime visibility with intersection lighting.	Maintains travel time for cars and buses, and reduces pedestrian delay with signal timing.	Improves ADA-accessible crossings for bicyclists and pedestrians.	Provide multimodal facilities connected to employment and transit.	Minor right-of-way and drainage impacts.

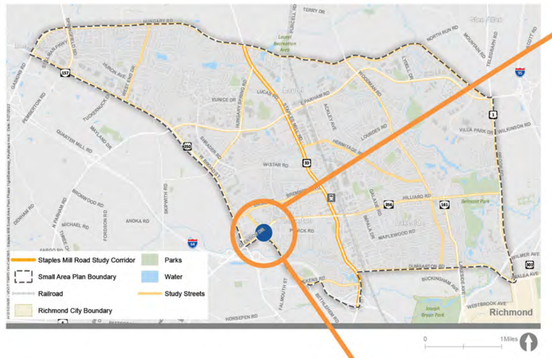
Glenside Drive and Bethlehem Road: Existing

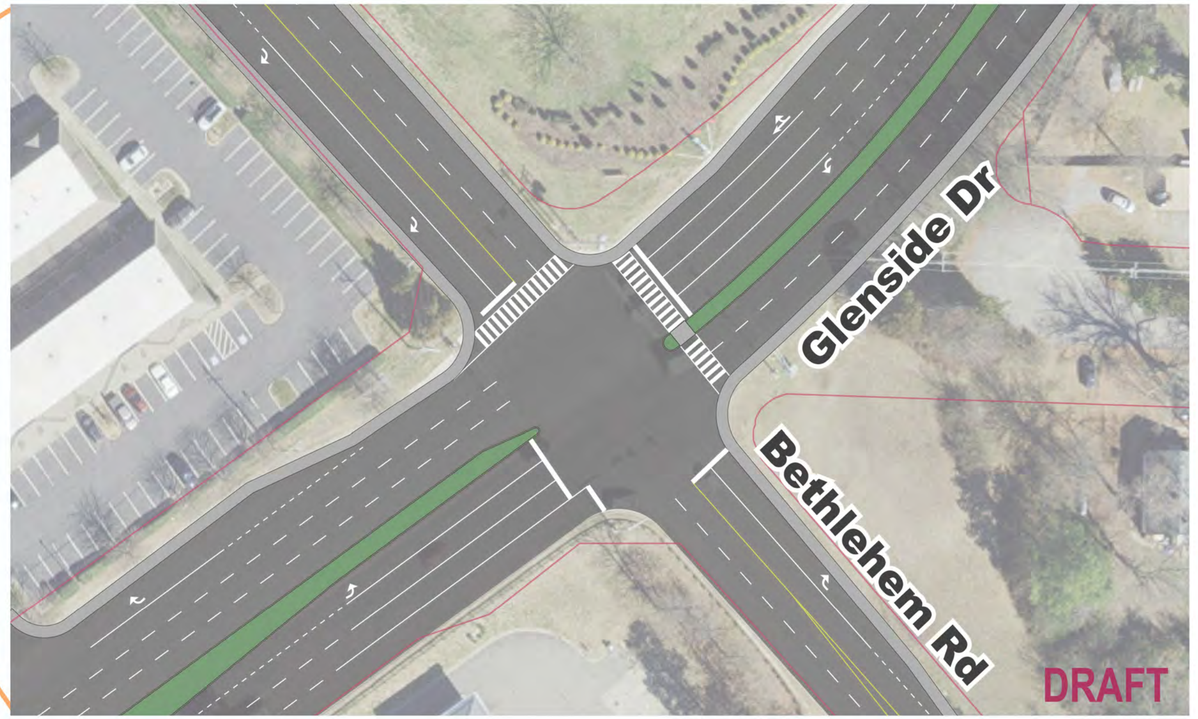




Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
High crash intersection with no pedestrian crossings.	Motorists experience delays during rush hour. Pedestrians experience delay all day.	Intersection has many missing facilities for people walking and biking.	Multimodal facilities are disconnected from employment.	No right-of-way impacts or drainage impacts.

Glenside Drive and Bethlehem Road: Concept





N

Not To Scale

Intersection Elements

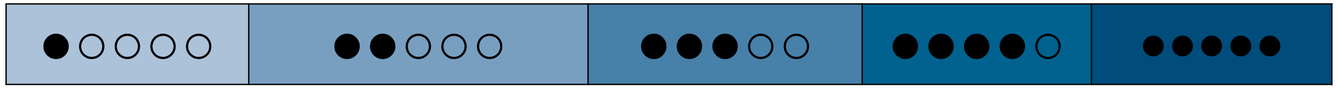
- ADD PEDESTRIAN SIGNAL HEADS
- UPGRADE CURB RAMPS
- UPDATE SIGNAL HARDWARE
- PROVIDE PROTECTED LEFT TURN PHASE
- ASPHALT
- SIDEWALK/MEDIAN
- LANDSCAPE
- PARCEL LINES

Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
Increases pedestrian visibility with crosswalks and signal timing. Reduces crossing distance for pedestrians. Addresses motorist crashes with travel lane and signal timing adjustments.	Improves travel time for cars and reduces pedestrian delay with signal timing.	Improves ADA-accessible crossings for bicyclists and pedestrians.	Provide multimodal facilities connected to employment.	Minor right-of-way and drainage impacts.

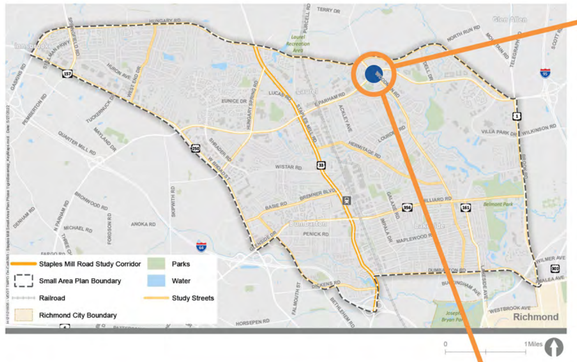
Intersection Options – Part 2

	Manage Congestion	Community and Environmental Health	Support Economic Development	Improve Safety and Comfort	Reflect Community Character	Impacts	Survey Ranking
Existing: Staples Mill Road and Hermitage Road	●●○○○	●●○○○	●●○○○	●●○○○	●●●○○	$0	1.58
Proposed: Staples Mill Road and Hermitage Road	●●●●○	●●●●○	●●●●○	●●●○○	●●●●●	$730K	4.31
Existing: Staples Mill Road and Amtrak Station	●●○○○	●●●○○	●●○○○	●●○○○	●●●○○	$0	1.42
Proposed: Staples Mill Road and Amtrak Station	●●●●○	●●●●●	●●●●○	●●●○○	●●●●●	$530K	4.48
Existing: East Parham Road and Hungary Spring Road	●●○○○	●●●○○	●●○○○	●●●○○	●●●○○	$0	1.50
Proposed: East Parham Road and Hungary Spring Road	●●●○○	●●●●○	●●●●○	●●●●○	●●●●●	$1.55M	4.43
Existing: Glenside Drive and Bethlehem Road	●●○○○	●●○○○	●●○○○	●●○○○	●●●○○	$0	1.46
Proposed: Glenside Drive and Bethlehem Road	●●●●○	●●●○○	●●●○○	●●●○○	●●●●●	$1.72M	4.34

Lowest Scoring ◄——————————————————————► Highest Scoring

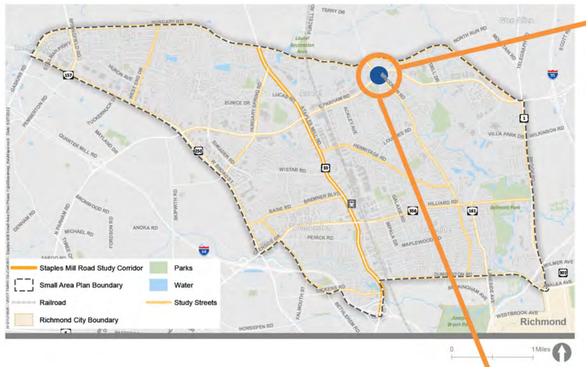


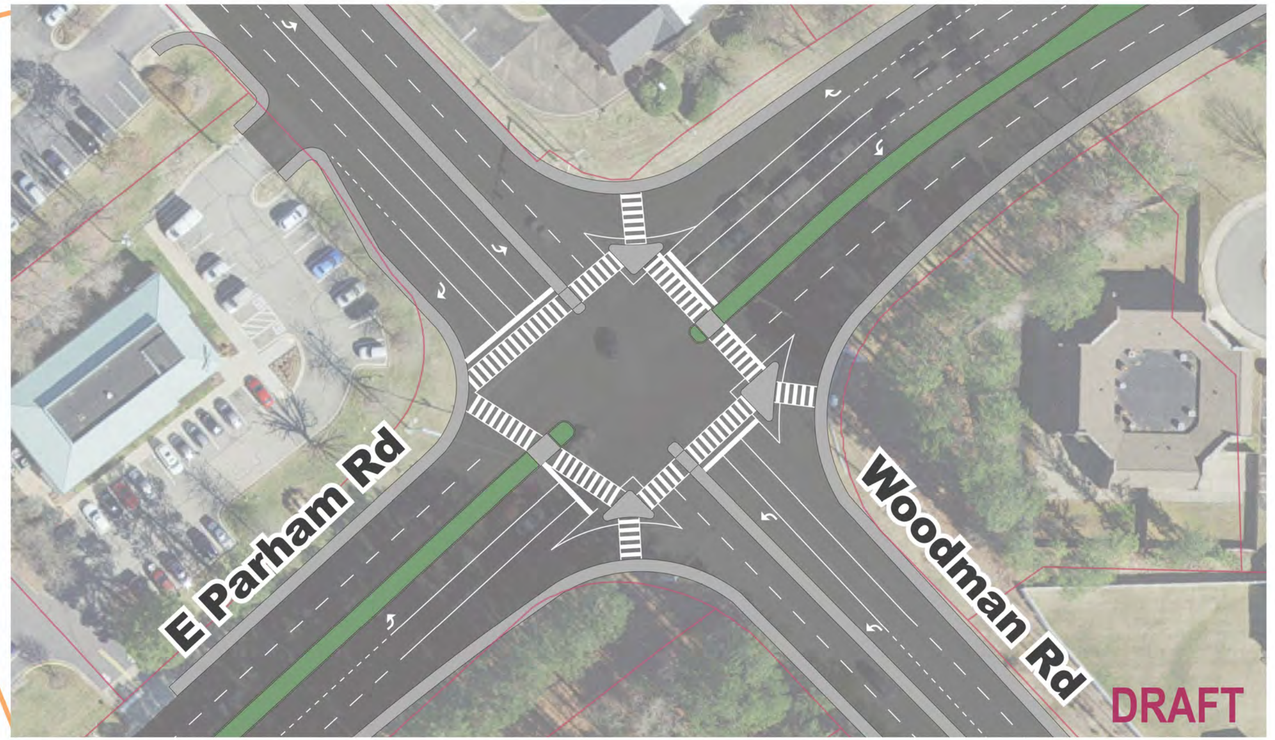
East Parham Road and Woodman Road: Existing



Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
High crash intersection with no pedestrian crossings.	Motorists generally don't experience delays. Pedestrians experience delay all day.	Intersection has no multimodal facilities for people walking and biking.	No multimodal facilities connected to employment.	No right-of-way impacts or drainage impacts.

East Parham Road and Woodman Road: Concept





N

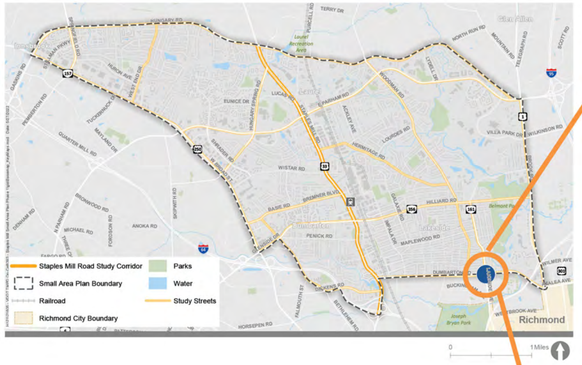
Not To Scale

Intersection Elements

- UPDATE SIGNAL HARDWARE
- ADD PEDESTRIAN SIGNAL HEADS
- UPGRADE CURB RAMPS
- ASPHALT
- SIDEWALK/MEDIAN
- LANDSCAPE
- PARCEL LINES

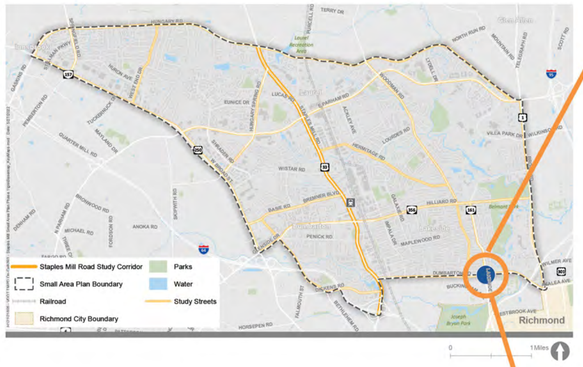
Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
Increases pedestrian visibility with crosswalks and signal timing. Reduces crossing distance for pedestrians.	Maintains travel time for cars and reduces pedestrian delay with signal timing.	Improves ADA-accessible crossings for bicyclists and pedestrians.	Provides multimodal facilities connected to employment.	Minor right-of-way and drainage impacts.

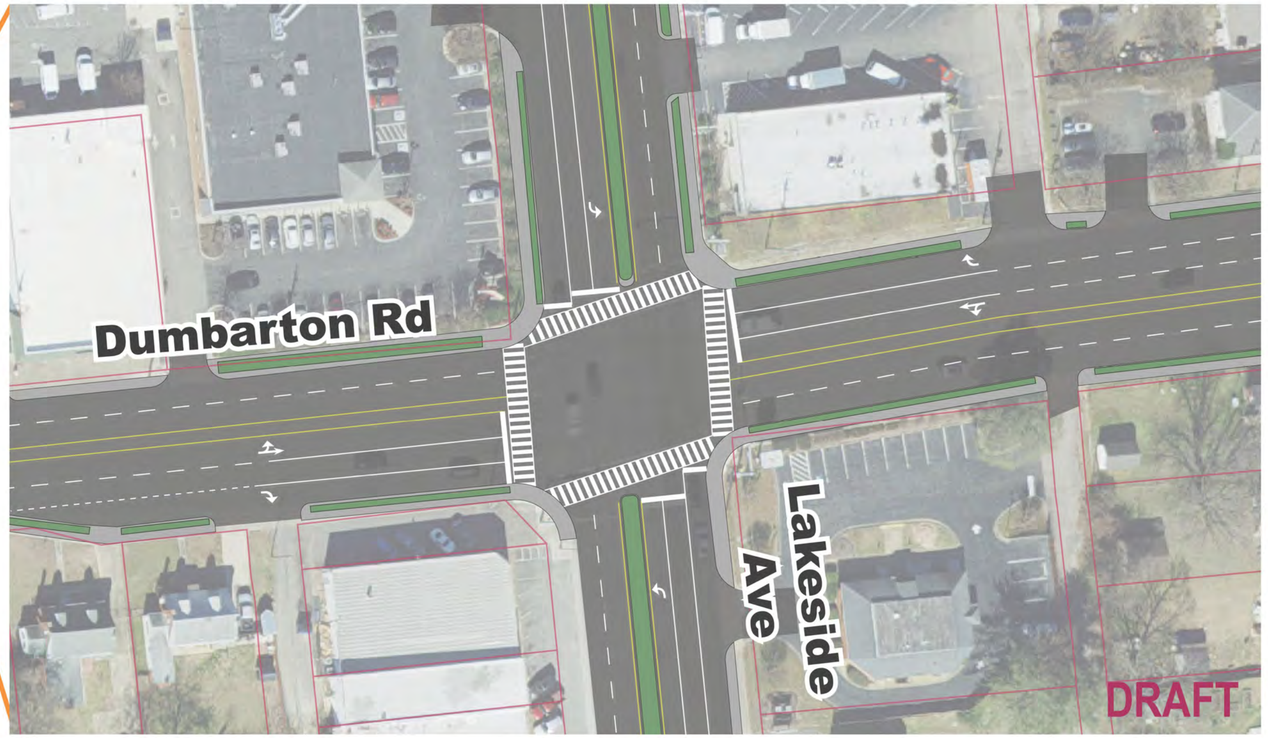
Lakeside Avenue and Dumbarton Road: Existing



Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
High crash intersection.	Motorists experience delays during rush hour. Pedestrians experience delay all day.	Intersection has missing facilities for people walking and biking.	Multimodal facilities are disconnected from employment.	No right-of-way impacts or drainage impacts.

Lakeside Avenue and Dumbarton Road: Concept





N

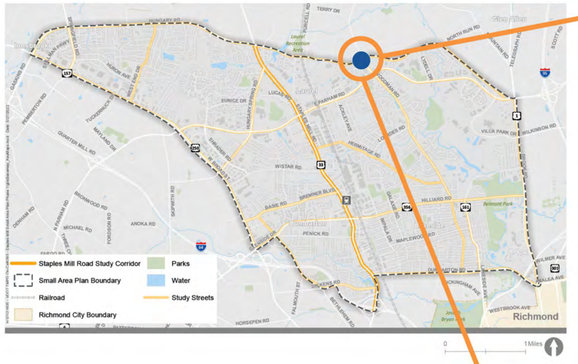
Not To Scale

Intersection Elements

- IMPLEMENT LEADING PEDESTRIAN INTERVAL
- UPGRADE CURB RAMPS
- ADD NO RIGHT-TURN ON RED
- ASPHALT
- SIDEWALK/MEDIAN
- LANDSCAPE
- PARCEL LINES

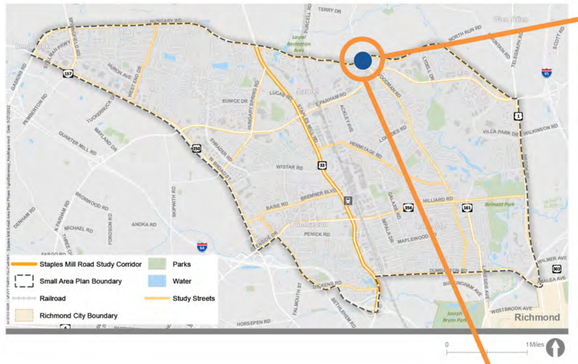
Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
Increases pedestrian visibility with enhanced crosswalks and signal timing. Reduces crossing distance for pedestrians.	Maintains travel time for cars and reduces pedestrian delay with signal timing.	Improves ADA-accessible crossings for bicyclists and pedestrians.	Provides multimodal facilities connected to employment.	No right-of-way impacts and minor drainage impacts.

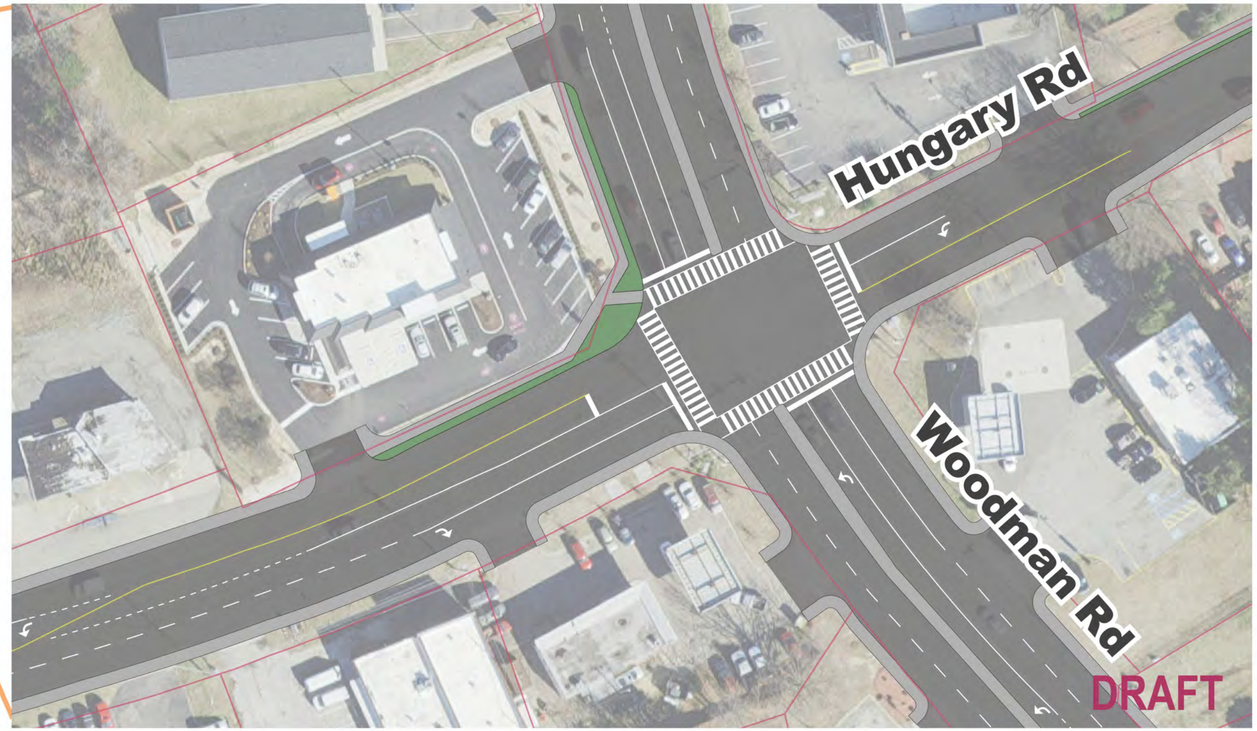
Hungary Road and Woodman Road: Existing



Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
High crash intersection with no pedestrian crossings.	Motorists experience delays during rush hour. Pedestrians experience delay all day.	Intersection has many missing facilities for people walking and biking.	Multimodal facilities are disconnected from employment.	No right-of-way impacts or drainage impacts.

Hungary Road and Woodman Road: Concept





N

Not To Scale

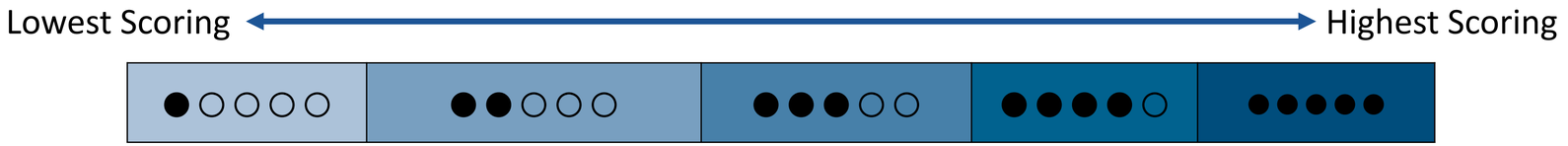
Intersection Elements

- ADD PEDESTRIAN SIGNAL HEADS
- UPGRADE CURB RAMPS
- ADD NO RIGHT-TURN ON RED
- UPDATE SIGNAL HARDWARE
- ADD INTERSECTION LIGHTING
- IMPLEMENT LEADING PEDESTRIAN INTERVA
- ASPHALT
- SIDEWALK/MEDIAN
- LANDSCAPE
- PARCEL LINES

Improve Safety and Comfort	Manage Congestion	Foster Community and Environmental Health	Support Economic Development	Impacts
Increases pedestrian visibility with crosswalks and signal timing. Improves nighttime visibility with intersection lighting.	Maintains travel time for cars and reduces pedestrian delay with signal timing.	Improves ADA-accessible crossings for bicyclists and pedestrians.	Provides multimodal facilities connected to employment.	Minor right-of-way and drainage impacts.

Intersection Options – Part 3

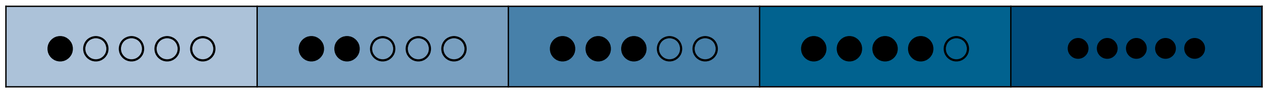
	Manage Congestion	Community and Environmental Health	Support Economic Development	Improve Safety and Comfort	Reflect Community Character	Impacts	Survey Ranking
Existing: East Parham Road and Woodman Road	●●○○○	●●○○○	●●○○○	●○○○○	●●●○○	$0	1.48
Proposed: East Parham Road and Woodman Road	●●●○○	●●○○○	●●○○○	●●●●○	●●●●●	$2.55M	4.37
Existing: Lakeside Avenue and Dumbarton Road	●●○○○	●●●●○	●●●○○	●●●○○	●●●○○	$0	1.53
Proposed: Lakeside Drive and Dumbarton Road	●●●○○	●●●●○	●●●○○	●●●○○	●●●●●	$700K	4.42
Existing: Hungary Road and Woodman Road	●○○○○	●●○○○	●●○○○	●●○○○	●●●○○	$0	1.46
Proposed: Hungary Road and Woodman Road	●●○○○	●●○○○	●●○○○	●●●○○	●●●●●	$2.42M	4.34



Intersection Options – All Proposed

	Staples Mill Rd & E. Parham Rd	Staples Mill Rd & Hungary Rd	Staples Mill Rd & Hungary Spring Rd	Staples Mill Rd & Hermitage Rd	Hungary Rd & Woodman Rd	Glenside Dr & Bethlehem Rd	Lakeside Ave & Dumbarton Rd	Staples Mill Rd & Amtrak Station	Springfield Rd & Gaskins Rd	E. Parham Rd & Hungary Spring Rd	E. Parham Rd & Woodman Rd
Congestion	●●●●○	●●●○○	●●●○○	●●●●○	●●○○○	●●●●○	●●●○○	●●●●○	●●○○○	●●●○○	●●●○○
Environment + Health	●●●●○	●●●○○	●●●●○	●●●●○	●●○○○	●●●○○	●●●●○	●●●●●	●●○○○	●●●●○	●●○○○
Economic Development	●●●●○	●●●●○	●●●●○	●●●●○	●●○○○	●●●○○	●●●○○	●●●●○	●●○○○	●●●●○	●●○○○
Safety	●●●●○	●●●○○	●●●○○	●●●○○	●●●○○	●●●○○	●●●○○	●●●○○	●●●○○	●●●●○	●●●●○
Community Character	●●●●●	●●●●●	●●●●●	●●●●●	●●●●●	●●●●●	●●●●●	●●●●●	●●●●●	●●●●●	●●●●●
Survey Ranking	**4.3**	**4.3**	**4.3**	**4.3**	**4.4**	**4.3**	**4.4**	**4.5**	**4.4**	**4.4**	**4.4**
Planning-Level Cost	**1.3M**	**$2.3M**	**$1.5M**	**$730K**	**$2.4M**	**$1.7M**	**$700K**	**$530K**	**$1.2M**	**$1.6M**	**$2.6M**

Lowest Scoring ◄——————————► Highest Scoring



Next Steps

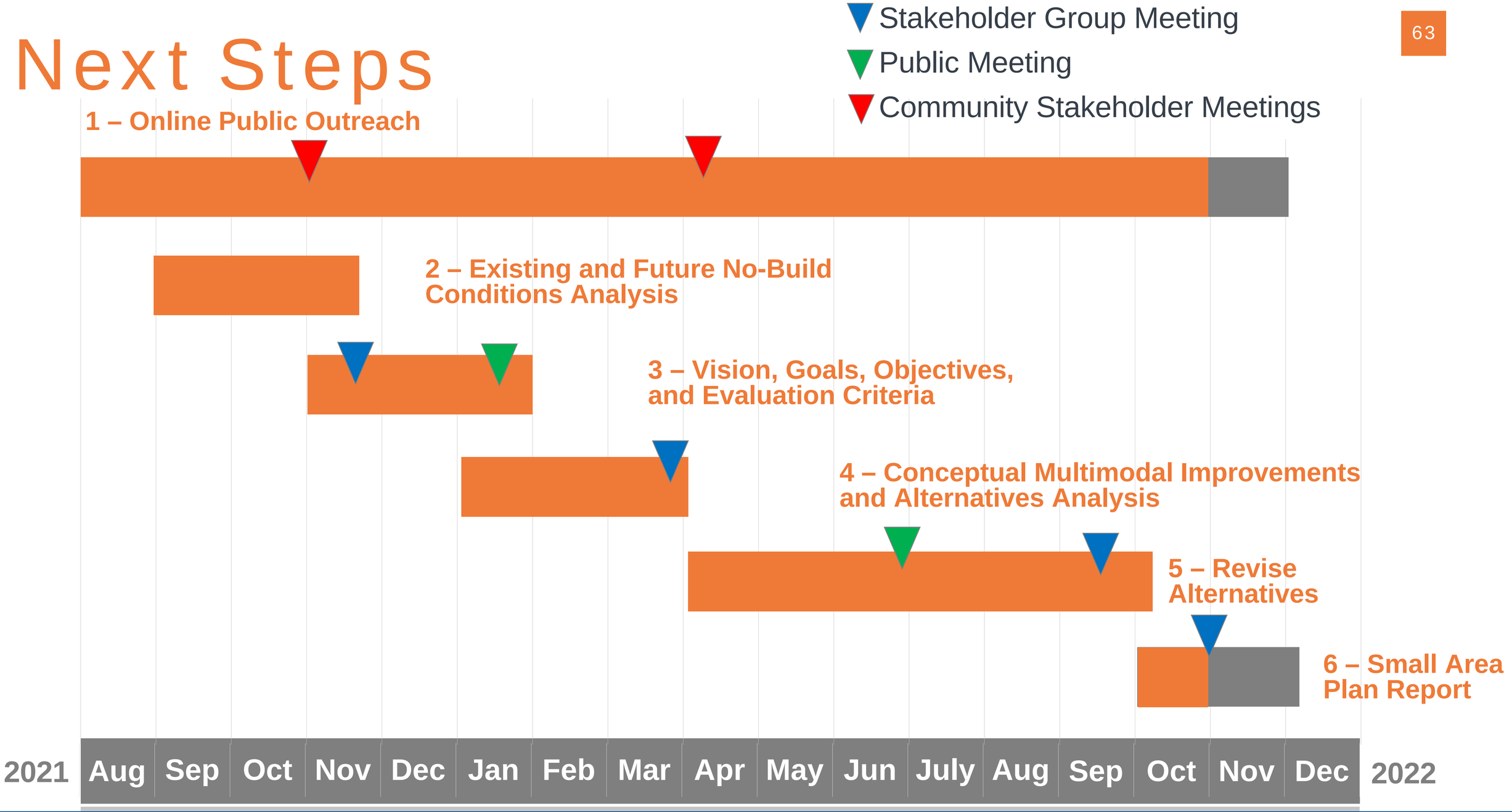
Small Area Plan - Draft Recommendations

- **What are the Plan's short-term recommendations?**
  - Implement priority intersection projects
  - Improve lighting on Staples Mill Road
  - Conduct a full Transit Alternatives Analysis to vet feasibility of dedicated transit on Staples Mill Road
- **What are the Plan's long-term recommendations?**
  - Construct consistent, continuous bicycle and pedestrian facilities on Staples Mill Road
  - Implement recommendations from the Transit Alternatives Analysis on the feasibility of dedicated transit on Staples Mill Road
- **Land Use Opportunities**
  - Incorporate Plan recommendations into future TOD planning for Staples Mill Road Amtrak Station Area
  - Incorporate Plan recommendations into Transportation Element of Henrico County Comprehensive Plan Update

Remaining Milestones

1. **Week of October 31**: SG Meeting #4
2. **Week of November 7:** First Small Area Plan draft for Stakeholder Group
3. **Week of November 14:** Stakeholder Group Comments Due
4. **Week of December 5:** Final Small Area Plan Draft

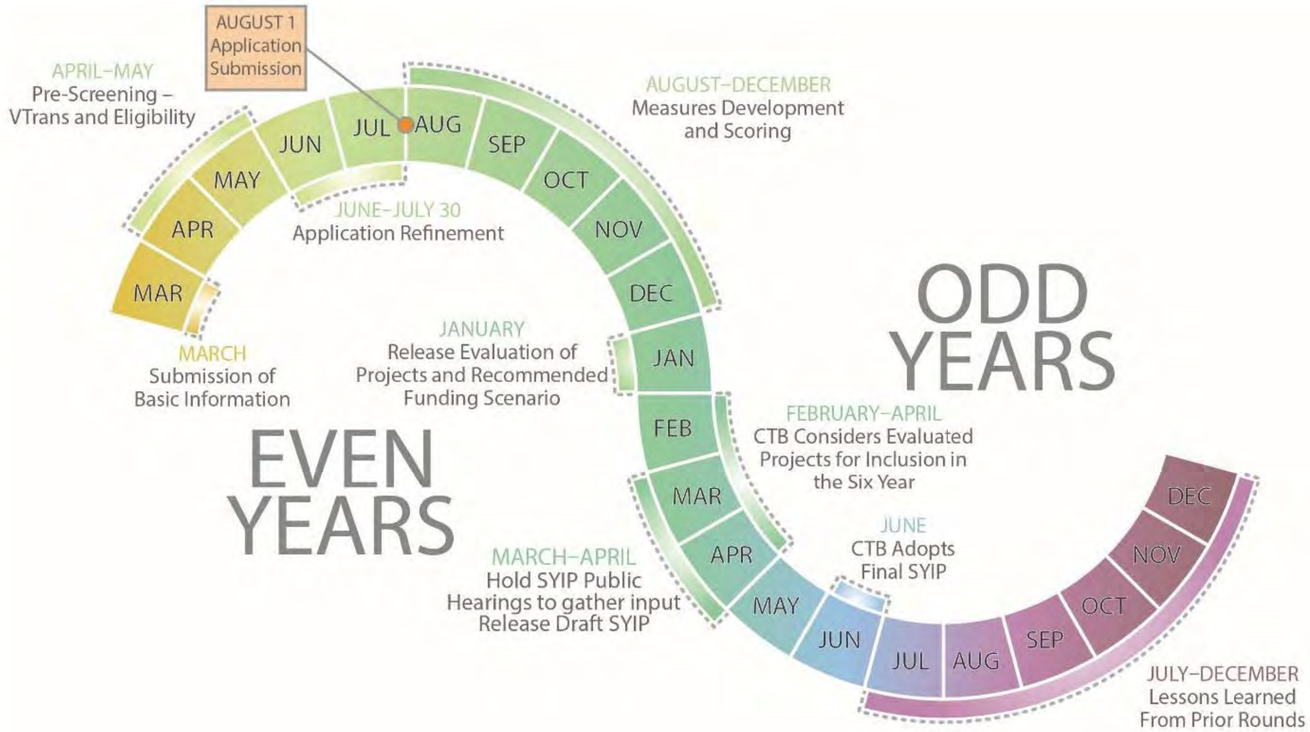
Next Steps


Stakeholder Group Meeting
Public Meeting
Community Stakeholder Meetings
1 – Online Public Outreach
2 – Existing and Future No-Build Conditions Analysis
3 – Vision, Goals, Objectives, and Evaluation Criteria
4 – Conceptual Multimodal Improvements and Alternatives Analysis
5 – Revise Alternatives
6 – Small Area Plan Report
2021
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
July
Aug
Sep
Oct
Nov
Dec
2022

After the Study

1. Secure funding for project(s)
   - Available VDOT funds
   - SMART SCALE program
   - RAISE Grants
   - Safe Streets for All Grants
2. Alternative refinement
   - Design
   - Environmental analysis
   - Community engagement
3. Construction (timeline varies)

SMART SCALE Biennial Cycle



Thank you!

For more information

Contact:

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Nicole.Mueller@VDOT.Virginia.gov
804-774-1624