November 17, 2023

PROJECT PIPELINE

IVY CORRIDOR PIPELINE STUDY – LAND USE AND ENVIRONMENTAL PLANNING COMMITTEE

Michael Barnes – POC/Study Lead, Culpeper District

Chris Lawrence & Jeff Kuttesch – RK&K

DRPT Office of INTERMODAL Planning and Investment VDOT

Project Area

Stakeholders Working Group

- City of Charlottesville
- Albemarle County
- UVA (Office of the Architect)
- MPO
- CAT / JAUNT / DRPT
- VDOT Staff - Planning, Traffic Engineering, L & D, and Residency

The Pipeline Process…

PROJECT PIPELINE

Phase 1

- **Broad analysis** to understand problems and the causes
- Stakeholders/Public engagement and feedback
- Develop range of possible alternatives to improve performance
- Runs from May through October

Phase 2

- Sketch level analysis to narrow options with detailed analysis
- Stakeholders/Public engagement and feedback
- Planning level estimates and identify preferred alternatives
- Runs from November through February

Phase 3

- Cost estimation and refinement of the preferred alternative
- Finalize multimodal investment strategy/deliverables/report
- Runs from February through July.

Define the Problem &
"Potentially viable solutions"

↓

"Potentially solutions"
To
"Preferred Solutions"

↓

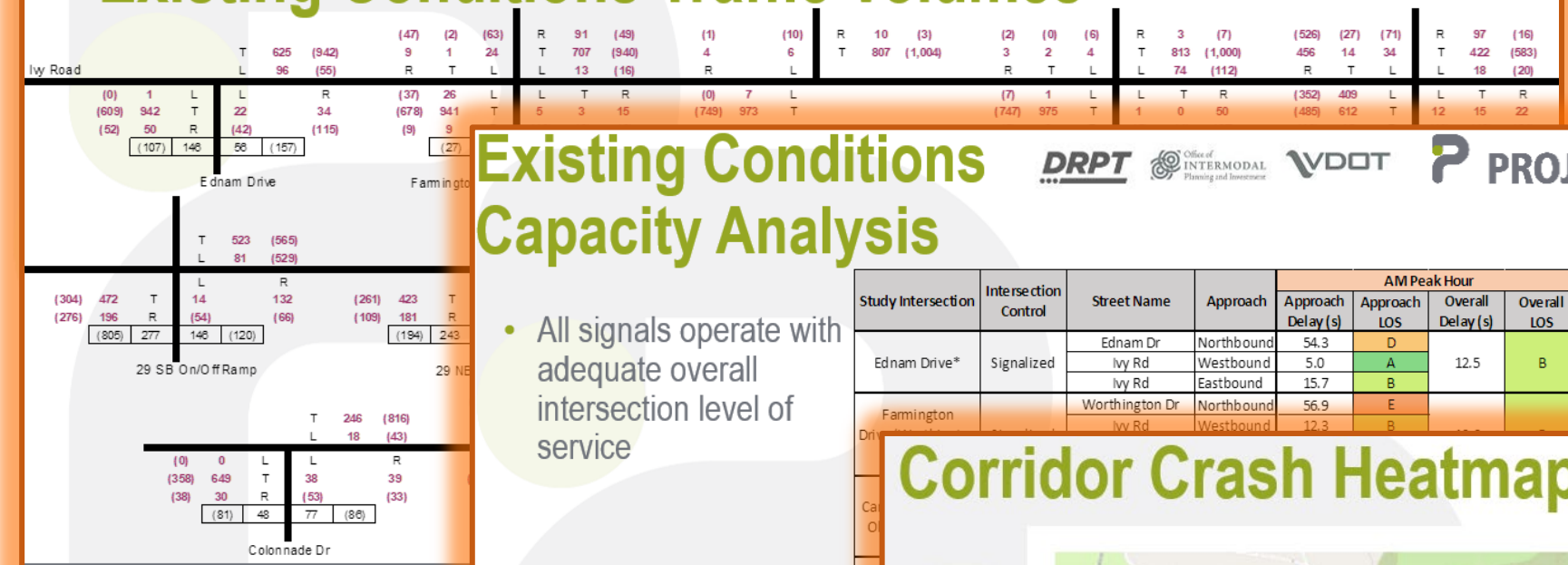
Concept Plan Refinement/
Detailed Estimation

↓

Local SMART Scale Application?

Phase 1 Results…

Existing Conditions Traffic Volumes



10/23/2023

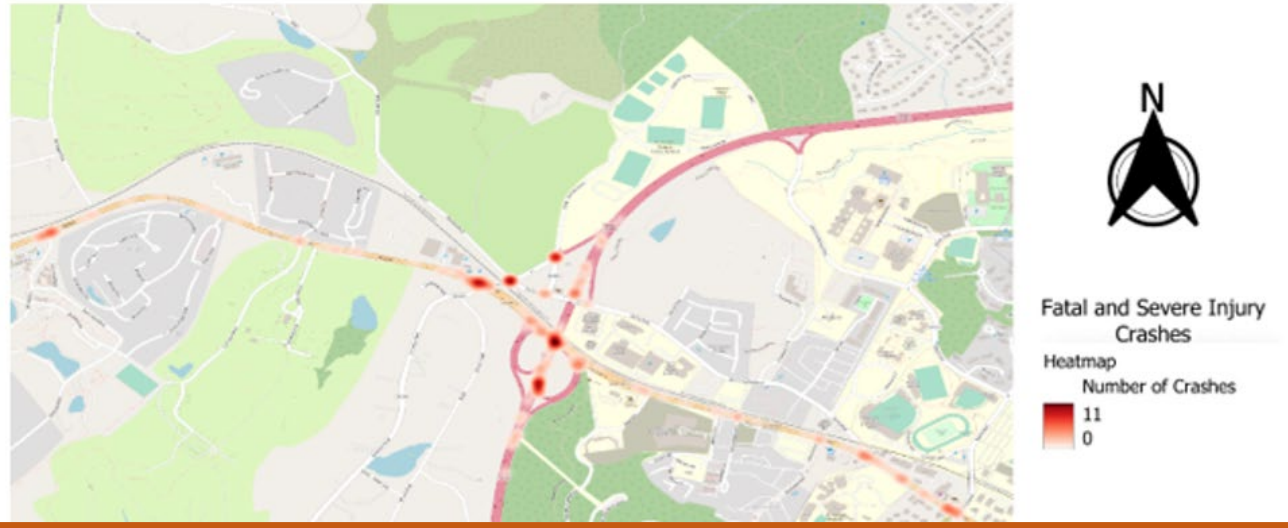
Existing Conditions Capacity Analysis

- All signals operate with adequate overall intersection level of service

Study Intersection	Intersection Control	Street Name	Approach	AM Peak Hour				PM Peak Hour			
				Approach Delay (s)	Approach LOS	Overall Delay (s)	Overall LOS	Approach Delay (s)	Approach LOS	Overall Delay (s)	Overall LOS
Ednam Drive*	Signalized	Ednam Dr	Northbound	54.3	D	12.5	B	47.5	D	11.2	B
		Ivy Rd	Westbound	5.0	A			6.2	A		
		Ivy Rd	Eastbound	15.7	B			10.1	B		
Farmington		Worthington Dr	Northbound	56.9	E			56.0	E		
		Ivy Rd	Westbound	12.3	B			22.4	C		

10/23/2023

Corridor Crash Heatmaps



Public Engagement Summary

Project Pipeline Ivy Road Study (CU-23-09)

Project Engagement

VIEWS	PARTICIPANTS	RESPONSES	COMMENTS
4,431	1,440	42,960	3,148

The following needs have been identified for this study. Do you agree with this initial assessment? (Check all that apply)

83%	Safety	1170 ✓
76%	Congestion mitigation	1067 ✓
75%	Bicycle and pedestrian accessibility/connectivity	1051 ✓
57%	Access	796 ✓
49%	Transit accessibility/connectivity	687 ✓

1,402 Respondents

Rank what is the most important issue to you along the study area.

75%	Corridor safety / intersection safety	Rank: 2.74	758 ✓
75%	Bicycle safety and accessibility	Rank: 2.88	758 ✓
71%	Pedestrian safety and accessibility	Rank: 2.90	720 ✓
81%	Reducing traffic congestion	Rank: 2.90	815 ✓
61%	Public transit access and service	Rank: 4.73	621 ✓
63%	Speeding / Aggressive driving	Rank: 4.76	640 ✓
63%	Proper pavement marking and signage	Rank: 4.82	641 ✓

1,011 Respondents

https://publicinput.com/Report/l2t44e0yrcd

Ph. 1 Existing Conditions

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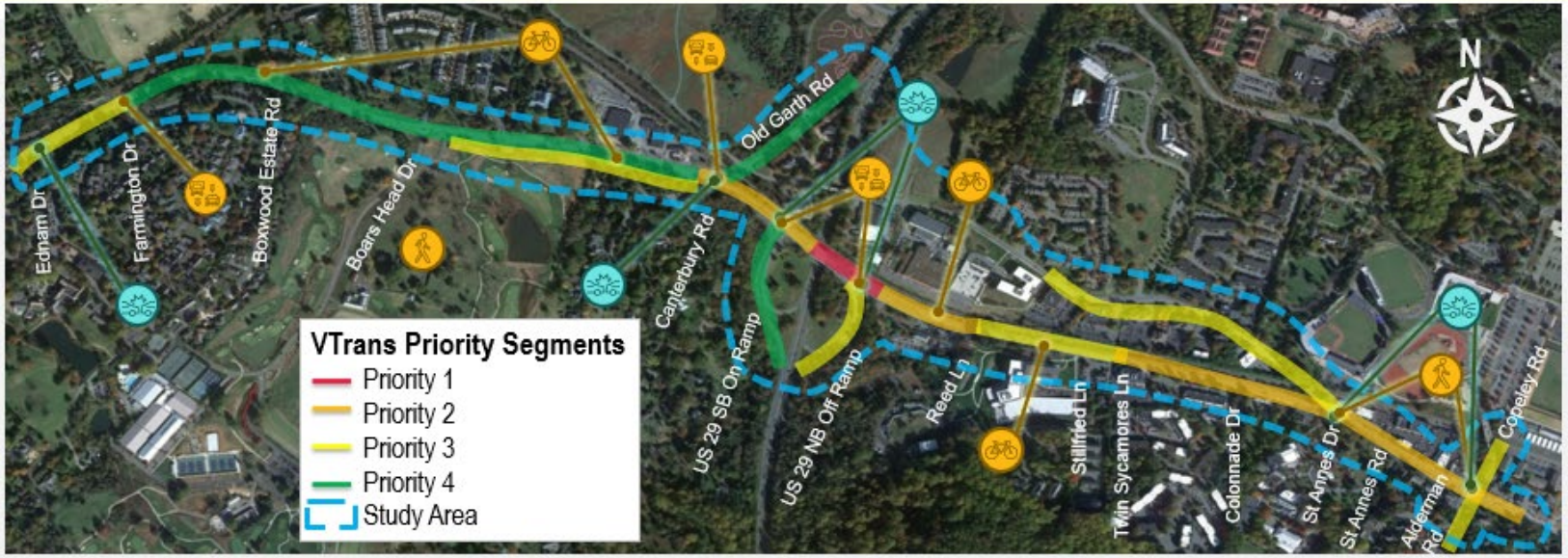
Project Overview | CU-23-09

DRAFT

Route 250 (Ivy Road) from Ednam Drive to US 29 Business



Project Fact Sheet	
VDOT District	Culpeper
Locality	City of Charlottesville/ Albemarle County
Corridor Length	1.86 miles
Nearby Bikeways	Sharrows and bike lanes
Crossover	9
Functional Classification	Other Principal Arterial
Speed Limit	35 mph

Project Purpose, Goals, & Objectives

Analyze the operational and safety issues identified along Ivy Road to provide enhanced safety and transportation demand management.

Identify cost-effective preferred improvement alternatives that address the deficient conditions and prioritize safety and accessibility.

Issues in the Study Area

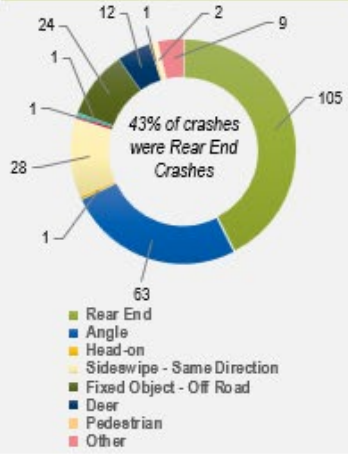
247 crashes (2018-2022) within 150 feet of an intersection. 11, 21,12,10,10, and 12 crashes associated with Ednam Dr, Canterbury Rd, US 29 SB Ramp, US 29 NB Ramp, Old Ivy Rd, and Alderman Rd intersections, respectively.

There are sharrows (shared arrows – bikes share lane with vehicles) marked from Ednam Dr through the interchange. A marked bike lane exists on eastbound Ivy from Stillfried Ln to Alderman Rd and on westbound Ivy from Copley Rd to Old Ivy. There are no existing shared use paths (SUPs) on the corridor.

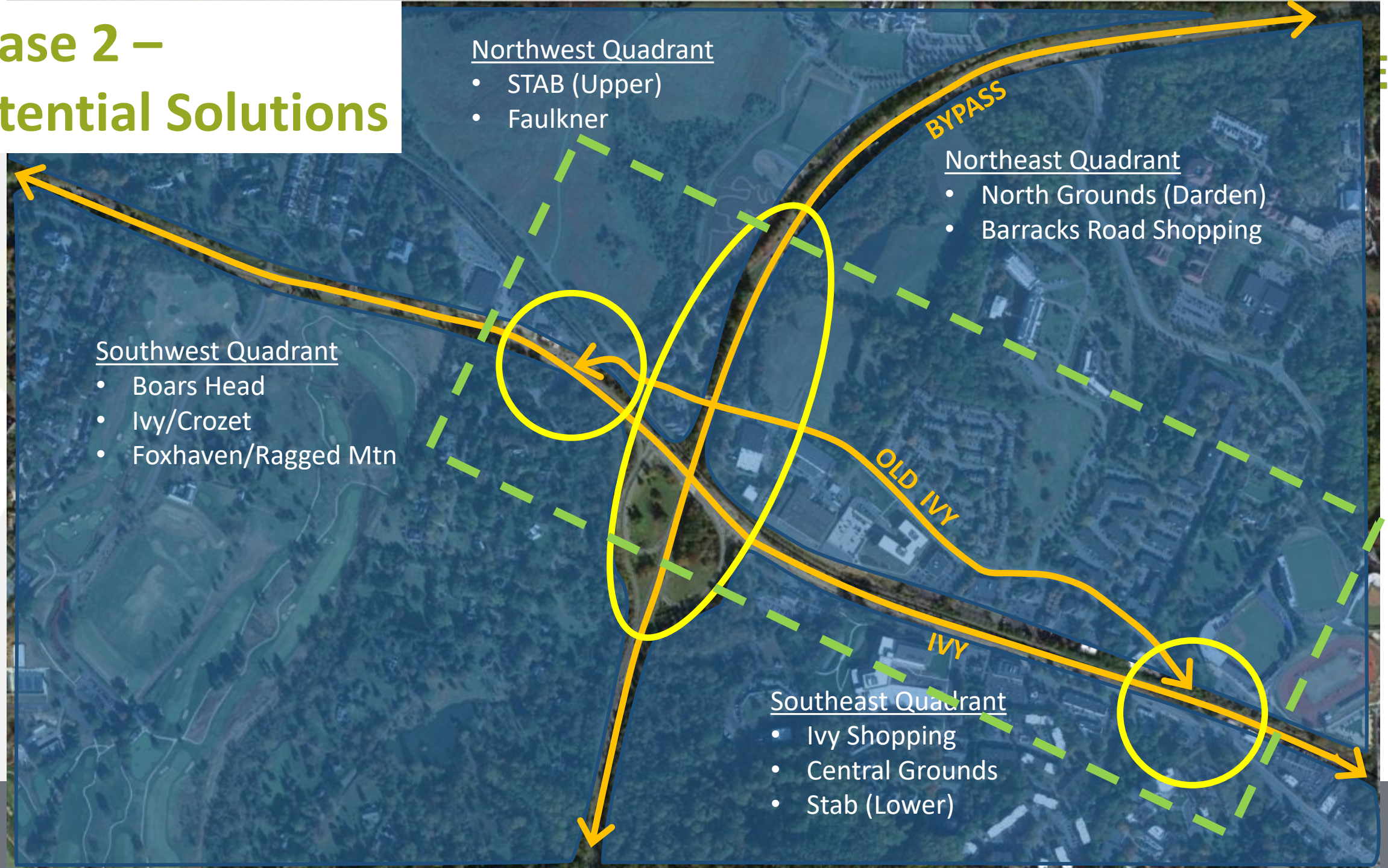
There aren't bus stops along Ivy Road, but the nearest one is on Emmet St N.

Congestion is one of the public concern in the study area. Queueing was observed at Farmington Dr, Canterbury Rd, and US 29 Ramps intersections.

Sidewalks are continuous on both sides from Old Ivy Rd to Alderman Rd intersection. The only curb ramps that are ADA compliant at Old Ivy Rd and Alderman Rd. Ped signals - with push buttons and countdown heads are only at Old Ivy Rd and Alderman Rd intersections.



Phase 2 – Potential Solutions



Ivy Road Access Management

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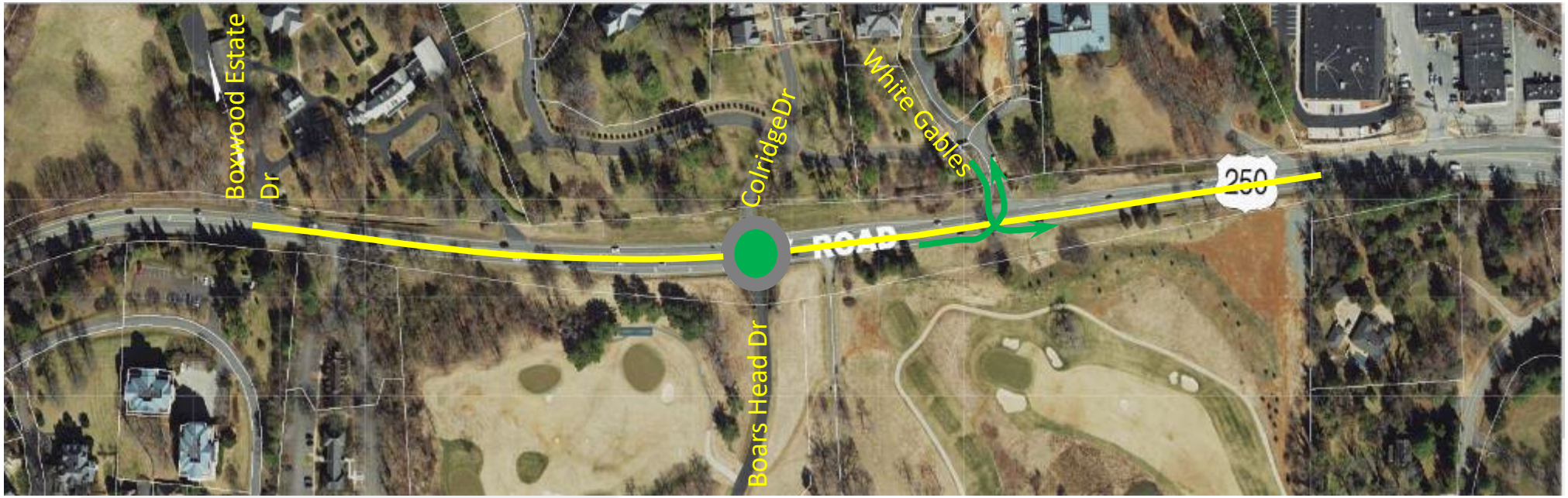


Scorecards

Eastern Railroad Underpass - Universe of Solutions

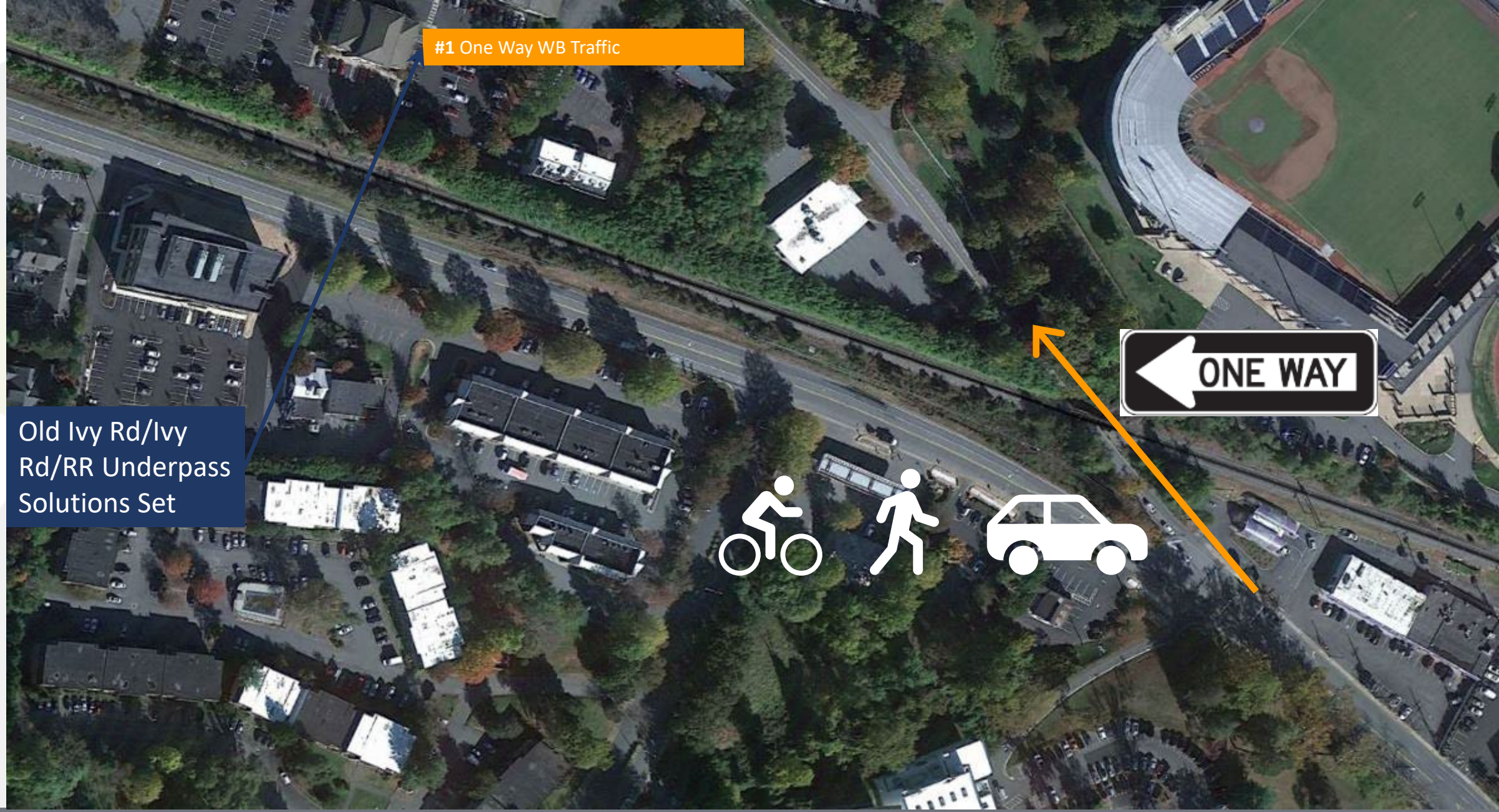
	Groupings of Alternatives	Relative Cost	Reasons why an alternative might or might not be "viable"
Grouping A - One Way Traffic Pattern			
#1	One lane (One Way, Westbound) with Ped Share Use Path.	$	May not work because displaces traffic and causes congestion elsewhere within corridor.
Grouping B - Improvements to Maintain Existing Traffic Pattern			
#2	Formalize existing yield condition (Alternating one-way traffic) under RR Bridge and add new bike/ped facilities	$	May not work well due to conflicting traffic movements that are further exacerbated by the increased length of the area with conflicting traffic movements.
#3	Signalize RR underpass by moving westbound Old Ivy Stop bar west of RR bridge (Two Way) with SUP.	$	May not work well due to increased signal delay and resulting congestion along Ivy Rd.
#4	Straighten Old Ivy to Tee into Ivy Road (Take advantage of existing underpass's width).	$$$$	Difficult and expensive. 5 to 6 foot grade differential btw underpass and Ivy Rd makes solution physically infeasible. Plus, existing drainage pattern and utilities add more challenges.
#5	Realign/ straighten existing road (w/S-curve) to take advantage of existing underpass's width.	$$$	Space constrains might allow for 2 full vehicular travel lanes, but approach is still angled and might still not accommodate a bike/ped facility. Plus, existing drainage pattern and utilities add more challenges.
#6	Replace existing RR bridge with new car and bike/ped facility under railroad.	$$$$$	DRPT and Buck. Branch do not plan to replace RR bridge in near future. Probably too expensive if the RR is not participating in a new underpass.
Grouping C - Road Closure			
#7	Close RR underpass to vehicles and convert to bike/ped facility. Build new alternative road connection to Leonard Sandridge/ Copeley.	$$$	UVA does not support a major new road through properties under their control. Cutting off all traffic between Ivy and Old Ivy creates major disruption of existing patterns and forces too much traffic to the Western RR Underpass. Albemarle Co. desires/supports redundancy.
Grouping D - Bike/Ped only Improvements			
#8	New SUP between railroad and the UVA sports complex.	$	Possible. ADA grades not an issue. Existing baseball parking lot poses biggest challenge. Gets user to Central Grounds (primary destination), but does not get users to shops along Ivy. (secondary destination)
#9	At grade pedestrian crossing	$$	Certainly the cheapest option, but doubtful. RR may not consider allowing an at-grade crossing even if it had flashing lights, swing arms, etc.
#10	New Bike/Ped Tunnel.	$$$$	Difficult and expensive. Few natural grade differentials. Drainage flows along southside of track.

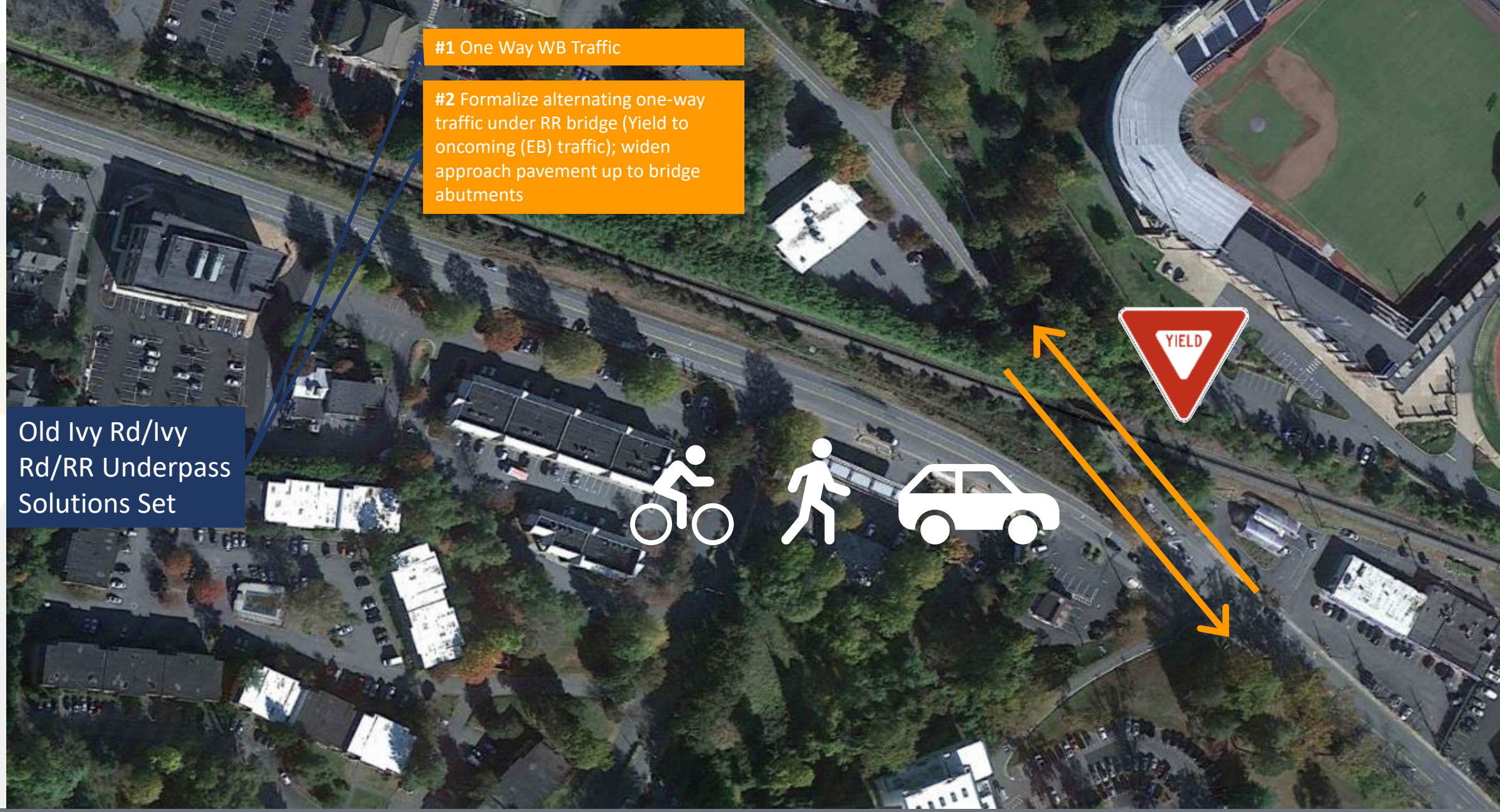
Key

Green = A viable option.

Red = Not a viable option.

Yellow = Either: needs more investigation to determine if viable or not OR it is a viable option, but may be too expensive.


#1 One Way WB Traffic
Old Ivy Rd/Ivy Rd/RR Underpass Solutions Set
ONE WAY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#2 Formalize alternating one-way traffic under RR bridge (Yield to oncoming (EB) traffic); widen approach pavement up to bridge abutments
Old Ivy Rd/Ivy Rd/RR Underpass Solutions Set
YIELD


#1 One Way WB Traffic
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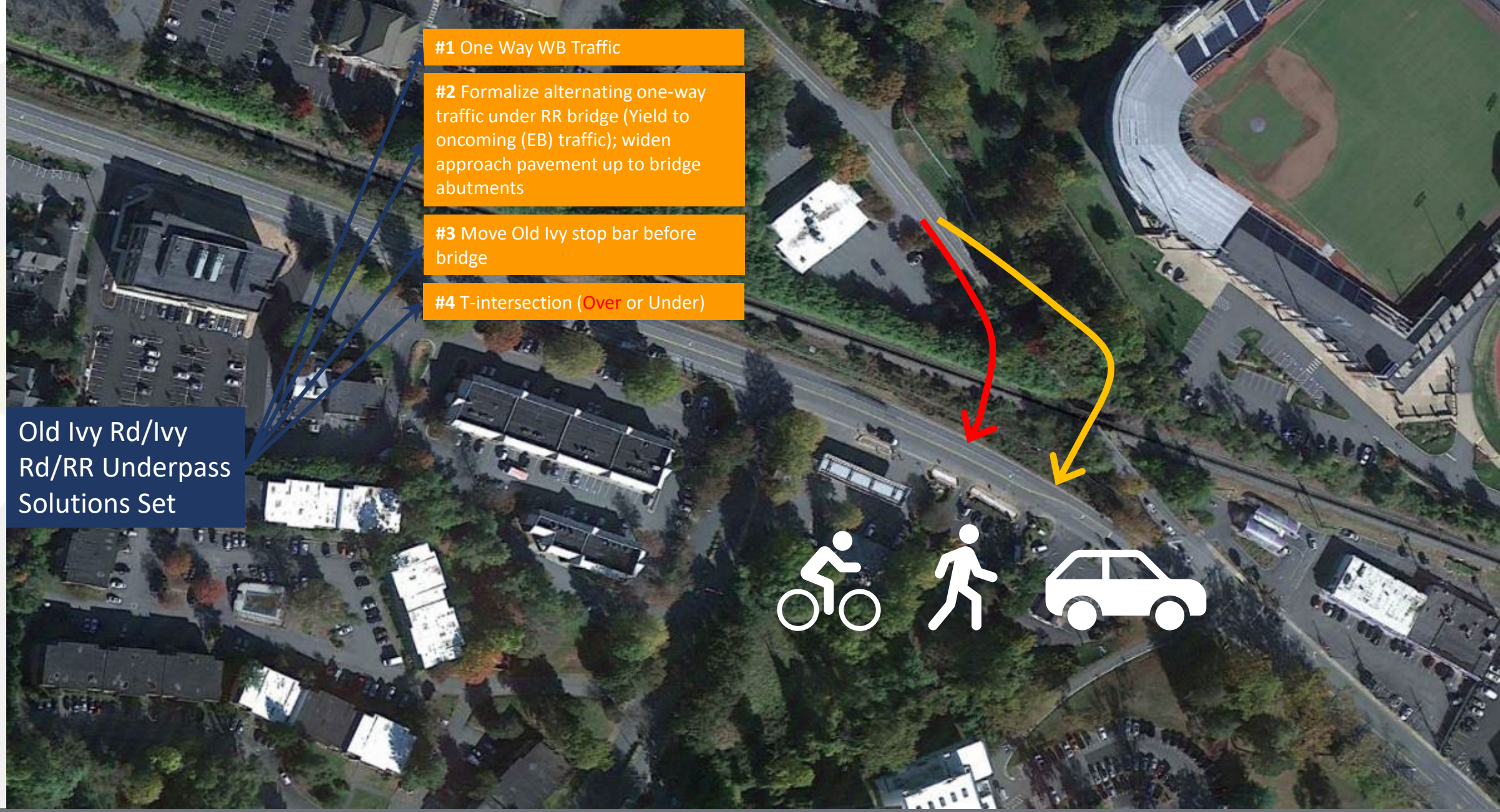
#3 Move Old Ivy stop bar before bridge
Old Ivy Rd/Ivy Rd/RR Underpass Solutions Set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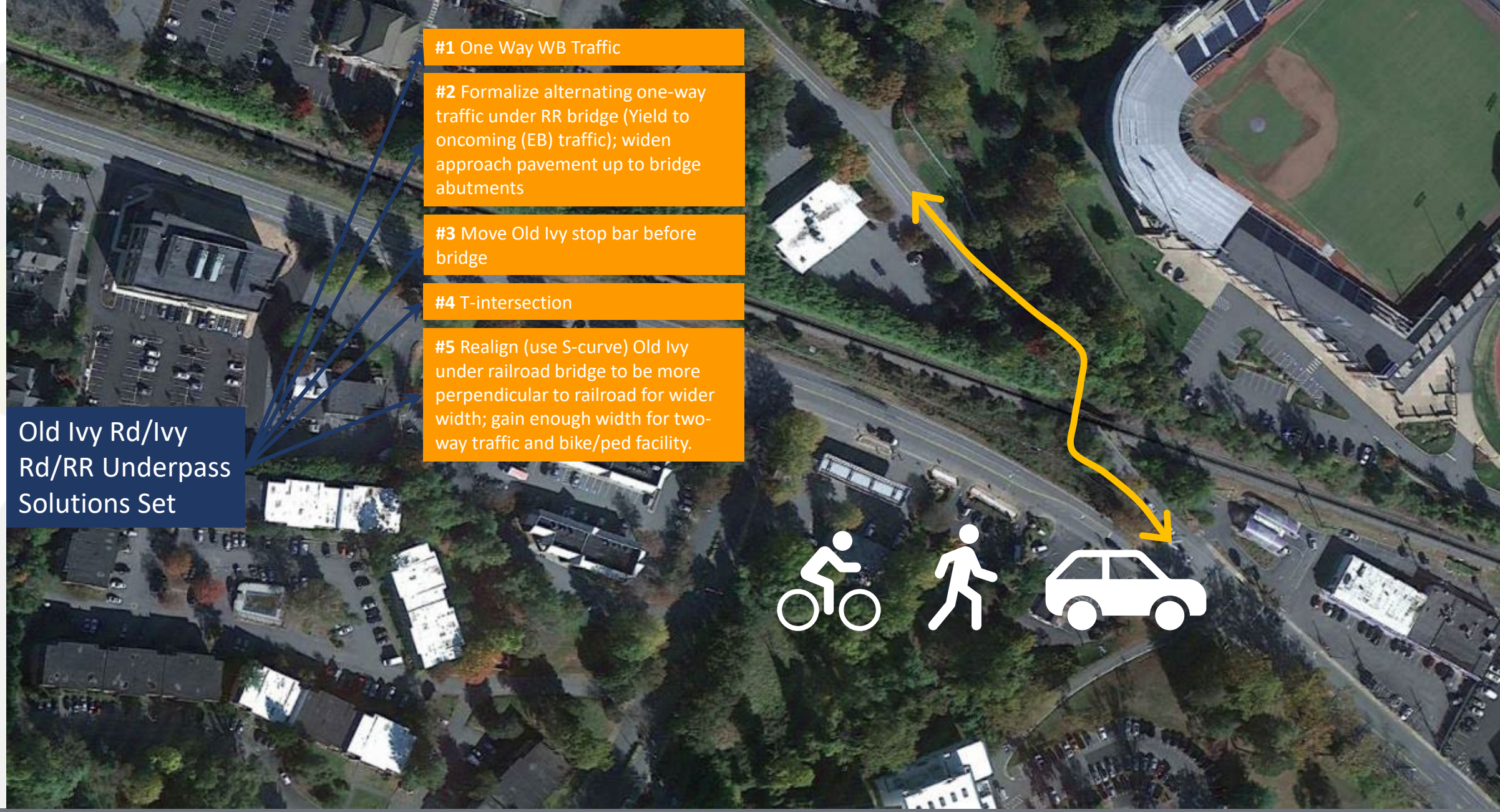
#3 Move Old Ivy stop bar before bridge
#4 T-intersection (Over or Under)
Old Ivy Rd/Ivy Rd/RR Underpass Solutions Set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#5 Realign (use S-curve) Old Ivy under railroad bridge to be more perpendicular to railroad for wider width; gain enough width for two-way traffic and bike/ped facility.

Old Ivy Rd/Ivy Rd/RR Underpass Solutions Set

#1 One Way WB Traffic

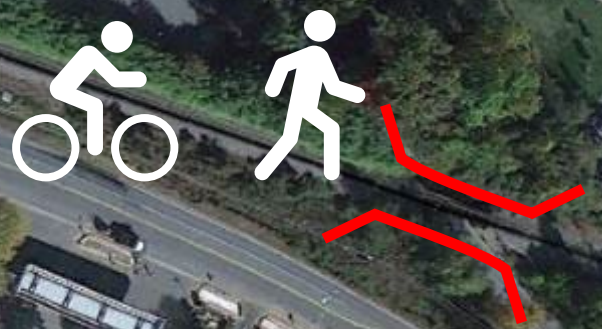
#2 Formalize alternating one-way traffic under RR bridge (Yield to oncoming (EB) traffic); widen approach pavement up to bridge abutments

#3 Move Old Ivy stop bar before bridge

#4 T-intersection

#5 Realign (use S-curve) Old Ivy under railroad bridge to be more perpendicular to railroad for wider width; gain enough width for two-way traffic and bike/ped facility.

#6 Replace RR bridge with wider bridge



Old Ivy Rd/Ivy Rd/RR Underpass Solutions Set

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#5 Realign (use S-curve) Old Ivy under railroad bridge to be more perpendicular to railroad for wider width; gain enough width for two-way traffic and bike/ped facility.

#6 Replace RR bridge with wider bridge

#7 Close Old Ivy at Ivy Road. Only Pedestrian/Bicycle Connection to Ivy Road. Connect to Leonard Sandridge Rd.


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#6 Replace RR bridge with wider bridge
#7 Close Old Ivy at Ivy Road. Only Pedestrian/Bicycle Connection to Ivy Road. Connect to Leonard Sandridge Rd.
#8 Ped/Bike connection along UVA property to Copeley Rd.


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#8 Ped/Bike connection along UVA property to Copeley Rd.
#9 Ped/Bike connections at-grade rail crossing (potentially to car wash parcel)

Old Garth/Ivy Rd/RR Underpass Solutions Set

A	**#1** Realign Old Garth to intersect Ivy at a perpendicular angle - $$$
	#2 Roundabout - $$$$
	#3 Free-flow SBR turn lane (with right turn lane into gas station; use available pavement and ROW) - $$
	#4 SB dual rights (merge downstream using available pavement and ROW) - $$
	#5 Replace RR bridge with wider bridge - $$$$$
B	**#6** Close ramp to Old Garth Road, reroute traffic to loop ramp and make improvements - $
	#7 Close underpass, reroute traffic to loop ramp and make improvements at the interchange - $
	#9 One Way NB traffic - $$$
C	**#8** Ped/Bike tunnel through railroad - $$$$

Ivy Rd/US 250-29 Interchange Solutions Set

A	**#1** NB On-Ramp (from Old Ivy Rd) - Restrict access to right turns (no lefts) - $
B	**#2** NB On-Ramp (from Ivy Rd) - Extend existing acc. lane as much as possible to bridge abutment - $$
	#3 NB On-Ramp (from Ivy Rd) - Replace bridge to provide room for standard acc. Lane - $$$$$
	#4 NB On-Ramp (from Ivy Rd) - Elongated ramps for longer acc. Lane - $$$$
	#5 NB On-Ramp (from Ivy Rd) –Directional flyovers to the north - $$$$$
	#6 SB Off-Ramp (to Ivy Rd) –Extend existing dec. lane as much as possible to bridge abutment - $$
	#7 SB Off-Ramp (to Ivy Rd) – Replace bridge to provide room for standard dec. lane - $$$$$
	#8 SB Off-Ramp (to Ivy Rd) – Elongated ramps for longer dec. lane - $$$$
	#9 SB Off-Ramp (to Old Garth) – Extend dec. lane - $$
	#10 NB On-Ramp (from Old Ivy Rd) – Extend acc. Lane - $$
	#11 NB Off-ramp (to Ivy Rd) – Extend dec. lane - $$
	#12 SB On-ramp (from Ivy Rd)– Extend acc. Lane - $$
C	**#13** NB On-Ramp (from Ivy Rd) – Close ramp and direct all traffic to Old Ivy - $
	#14 SB Off-Ramp (to Ivy Rd) – Close ramp and direct all traffic to Old Ivy - $
	#15 SB Off-Ramp (to Old Garth) – Close ramp access to Old Garth (permit access to STAB) - $
	#16 SB Off-Ramp (to Old Garth) – Close ramp access to Old Garth - $
	#17 NB On-Ramp (from Old Ivy Rd) – Close ramp - $

Old Ivy Rd/Ivy Rd/RR Underpass Solutions Set

A	**#1** One Way WB Traffic
B	**#2** Formalize alternating one-way traffic under RR bridge (Yield to oncoming (EB) traffic); widen approach pavement up to bridge abutments
	#3 Move Old Ivy stop bar before bridge
	#4 T-intersection (Over or Under)
	#5 Realign (use S-curve) Old Ivy under RR bridge to be more perp. to RR for wider width for two-way traffic and bike/ped facility.
	#6 Replace RR bridge with wider bridge
C	**#7** Close Old Ivy at Ivy Road. Only Pedestrian/Bicycle Connection to Ivy Road. Connect to Leonard Sandridge Rd.
D	**#8** Ped/Bike connection along UVA property to Copeley Rd.
	#9 Ped/Bike connections at-grade rail crossing (potentially to car wash parcel)
	#10 Ped/Bike connections tunnel through railroad

Pipeline Schedule

- Data Collection – Completed May 2023
- Kickoff Meeting – June 23, 2023
- Technical Team Meeting – September 8, 2023
- SWG Meeting – October 6, 2023
- Focus Group Meeting – October 23, 2023
- Phase 2 – “Preferred Alternatives” – Nov. to February
- Phase 3 – Application Plan and Estimates – March to August