



# PROJECT PIPELINE

ALBEMARLE COUNTY VDOT  
STAKEHOLDER MEETING 2 – PHASE 1

November 10, 2021



# Agenda

- Introductions
- Meeting Goals
- Study Scope Overview
- Review Existing Conditions
- Phase 1 – Preliminary Ideas
- Next Steps

# Meeting Goals

- Review existing conditions
- *Finalize preliminary ideas and prepare for Phase 2*

# Phase 1: Preliminary Alternatives

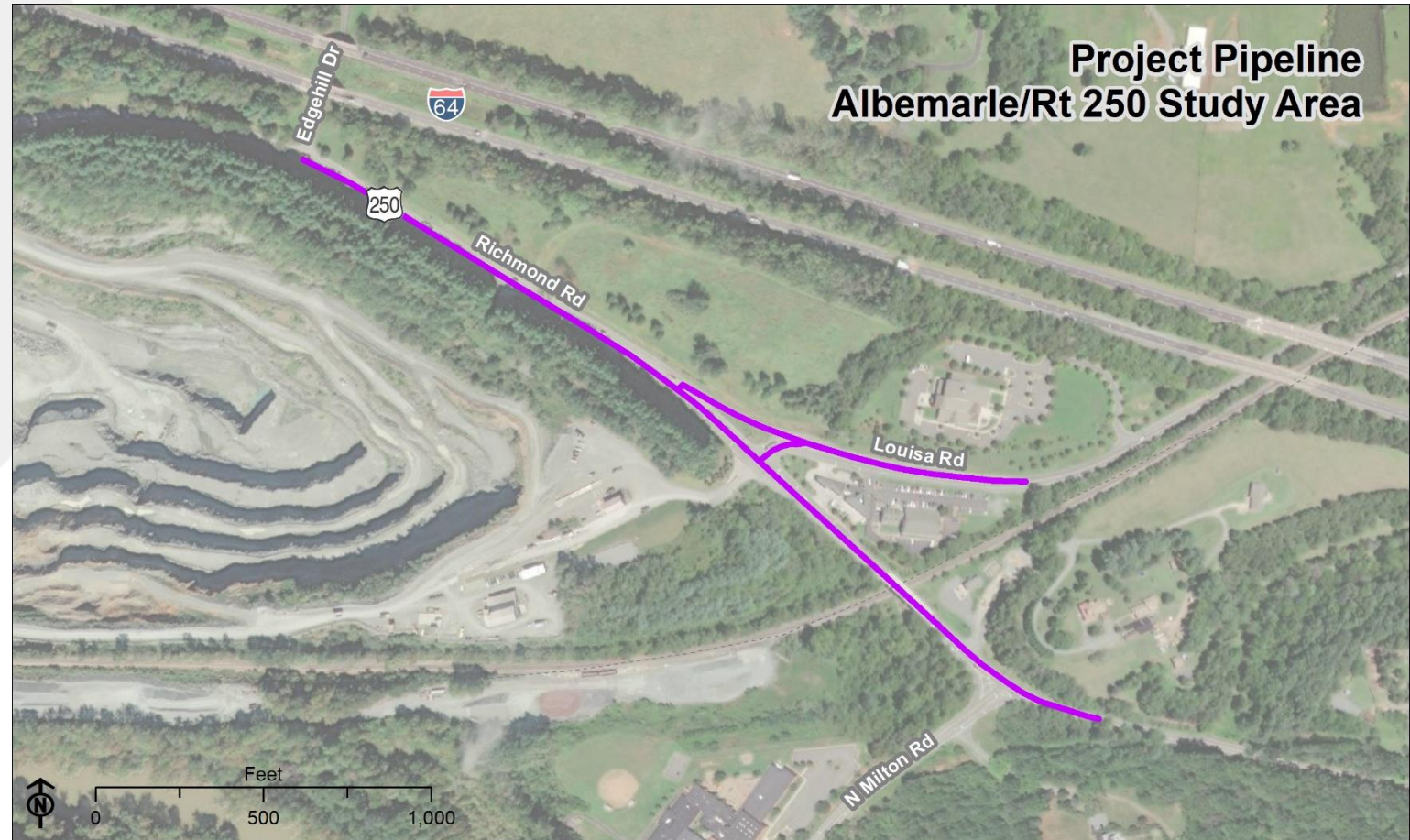
## Shadewell: US 250 and Route 22

### Scope Review

- Corridor congestion and safety performance analysis
- Assess VTrans Mid-Term Needs
- Develop preliminary alternatives based on existing conditions

### Study Intersections:

- US 250/Route 22 (Louisa Road)
  - Includes Slip Lane from Route 22 onto US 250 Westbound
- US 250/N Milton Road

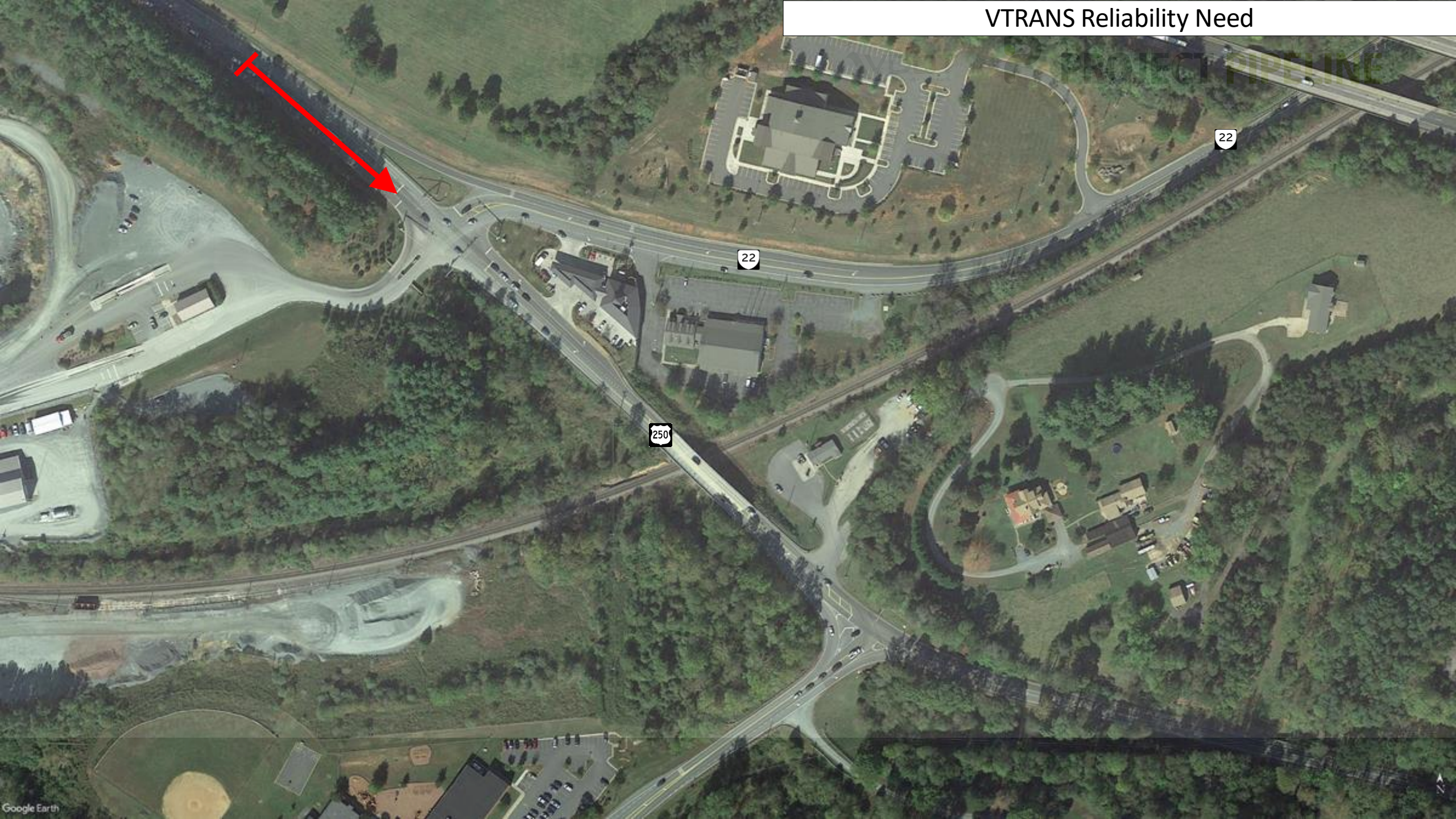


# VTrans Needs Review

Shadewell: US 250 and Route 22

VTRANS IDENTIFIED NEEDS	PRIORITIES	OPTIONS
Bicycle Access	Low	RN
Capacity Preservation	None	Select
Congestion Mitigation	High	CoSS/RN
IEDA (UDA) Access	None	Select
Pedestrian Access	None	RN
Safety Improvement	Very High	State/District
<del>Pedestrian Safety Improvement</del>	<del>None</del>	<del>Select</del>
Reliability	Very High	CoSS/RN
<del>Rail On-time Performance</del>	<del>None</del>	<del>Select</del>
Transit Access	Low	RN
Transit Access for Equity Emphasis Areas	None	Select
Transportation Demand Management	Very High	CoSS/RN
PURPOSE/GOALS & OBJECTIVES		







# Existing Conditions: Overall Intersection Delay

250

Observed queuing in the left-turn lane during PM peak hour

C  
(C)

22

Queuing on bridge during peak hours

C  
(B)

250

Intersection Level of Service (LOS)

AM

(PM)

Intersection LOS

A, B  
C  
D  
E, F

Vehicle Delay Increases



## Safety Review

### Shadewell: US 250 and Route 22

- Safety need at US 250 and Route 22 (PSI Rank 7)
  - 8 angle crashes involve eastbound left and westbound thru
    - 1 A and 2 B injury crashes
    - Flashing Yellow / may be difficult to see oncoming traffic during peak volumes.
  - 36 rear-ends of which most occur on eastbound US 250 (>65%)
    - 1 A 4 B and 9 C injury crashes
      - 5 (2 of 5 C injury) alcohol related incidents
- Segment summary: rear-end crashes due to stop-and-go traffic caused from both traffic signals
  - Most of which occur between 3:30 PM and 5:30 PM
- Route 22 acceleration lane onto US 250 westbound is short but no significant crash pattern identified but length does affect operations.





# Safety Review

## Shadewell: US 250 and Route 22

Crashes weighted based on crash severity SMART SCALE KABCO Scale

KABCO	Description	Weight
K	Fatal	85
A	Suspected Serious Injury	85
B	Suspected Minor Injury	10
C	Possible Injury	5
O	Property Damage Only	1

Crashes grouped based on functional area of intersection

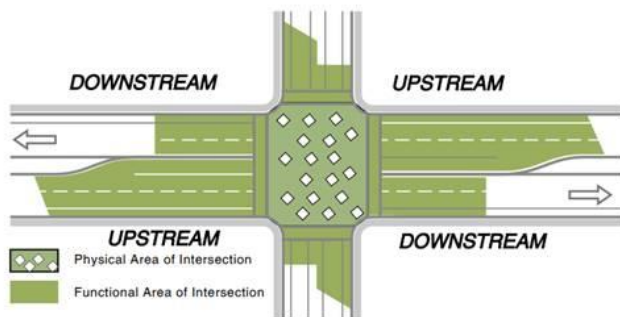
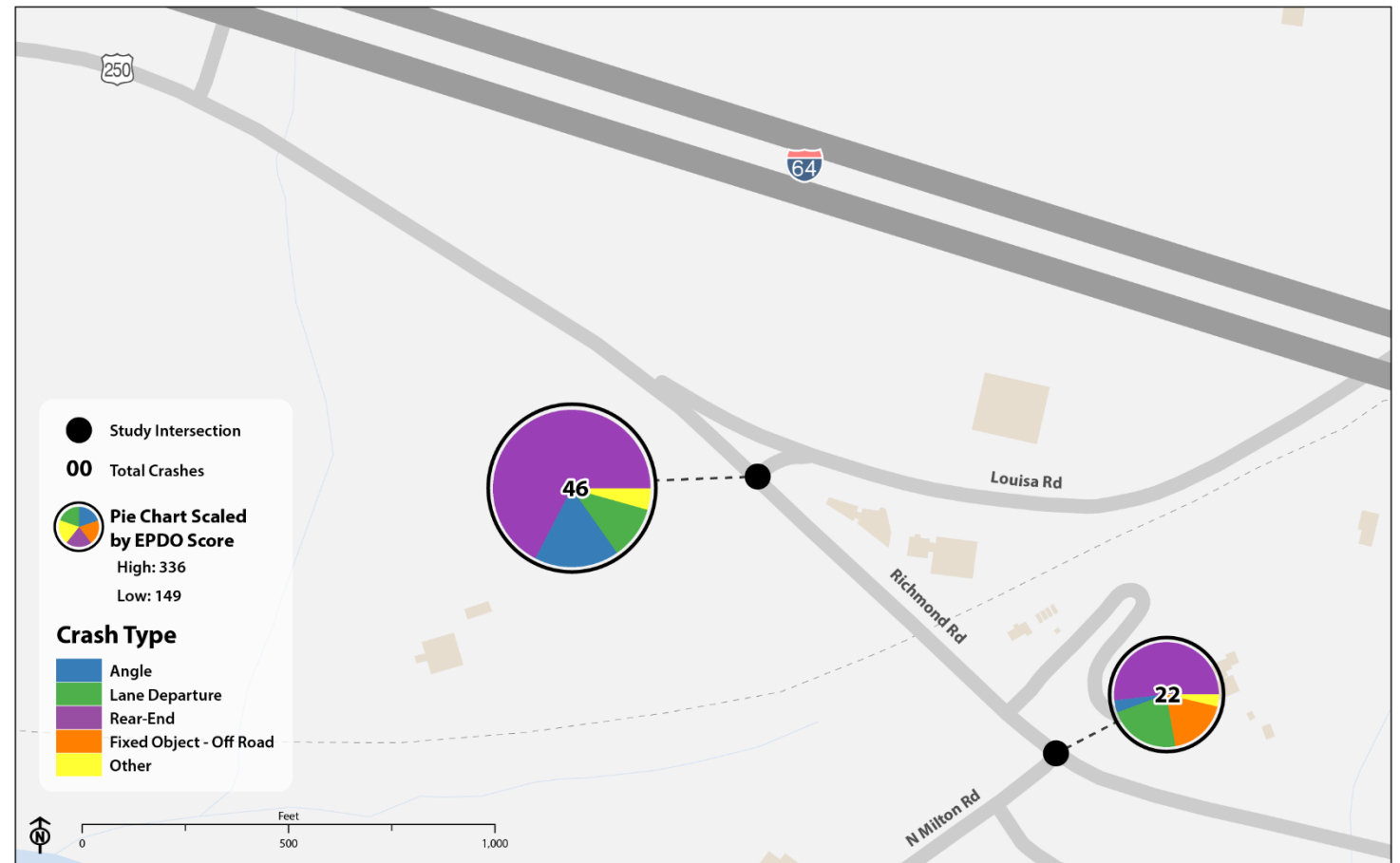


Figure 1: Functional and Physical Areas of an Intersection



# Project Pipeline Phases : Recommendation Process

## PHASE 1 : Diagnosing the Problem & Solution Screening

Initial Screening  
*Completed*



VDOT Screening  
*Completed*



Stakeholder Screening  
**TODAY**

## PHASE 2 : Evaluating the Ideas & Preliminary Alternatives

Future Operations  
*Nov-Dec 2021*



Conceptual Planning  
*Nov-Dec 2021*



Stakeholder/Public Screening  
*Dec-Jan 2022*

## PHASE 3 : Finalizing the Solutions & Submitting for Funding

Final Concepts  
*Jan-March 2022*



VDOT Validation  
*Jan-March 2022*



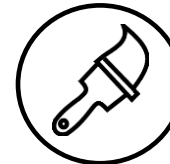
Application Submission  
*March 2022*



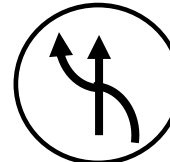
## Preliminary Alternatives

### Shadewell: US 250 and Route 22

- Alternative development focused on:
  - Reducing Congestion
  - Reducing risk of angle, rear-end collisions
  - Accommodating Luck Stone heavy vehicle traffic
  - Providing consistent and reliable travel times



**Re-Striping or Modify Lane Configurations**



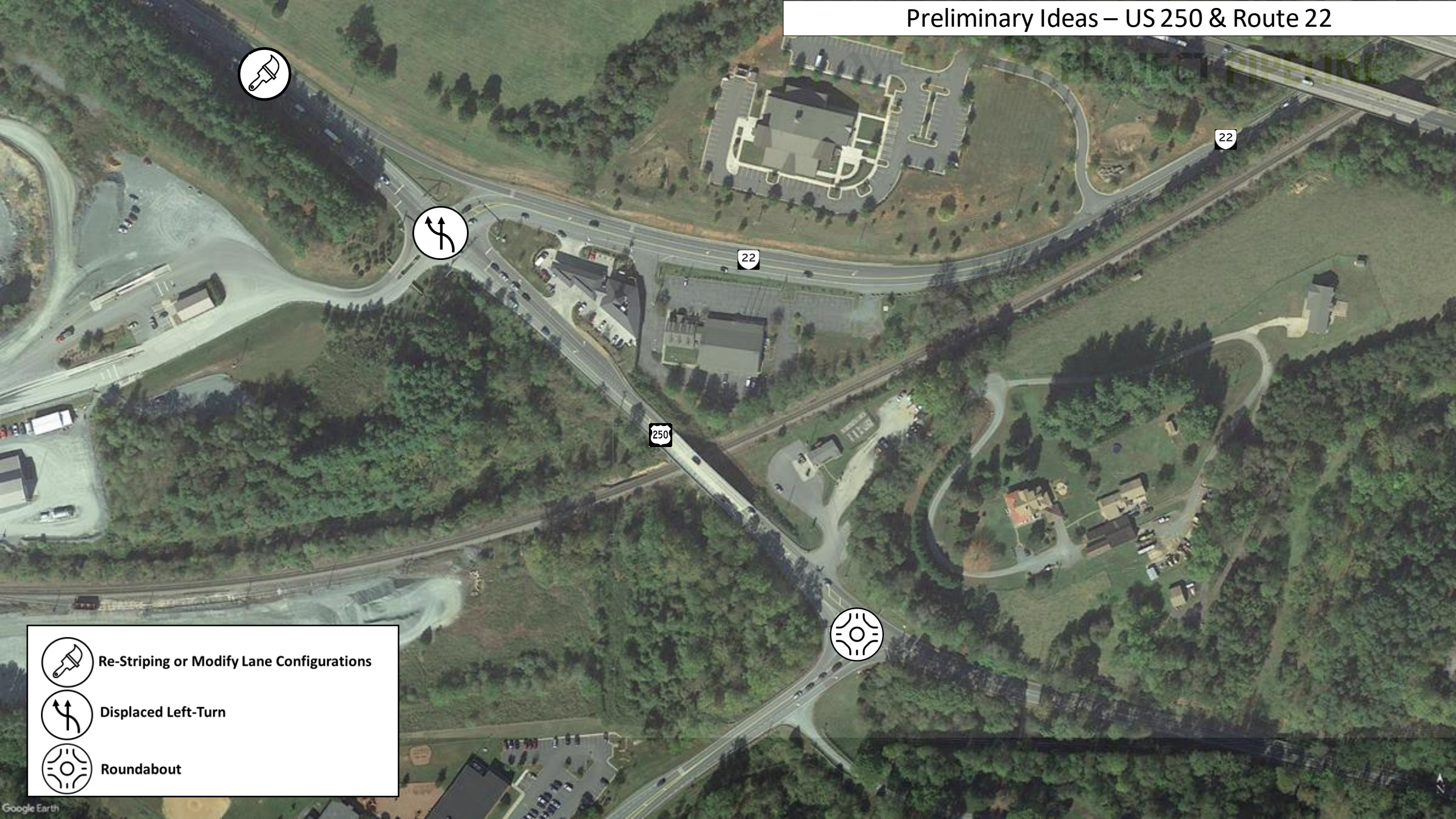
**Displaced Left-Turn**



**Roundabout**



# Preliminary Ideas – US 250 & Route 22



Re-Striping or Modify Lane Configurations



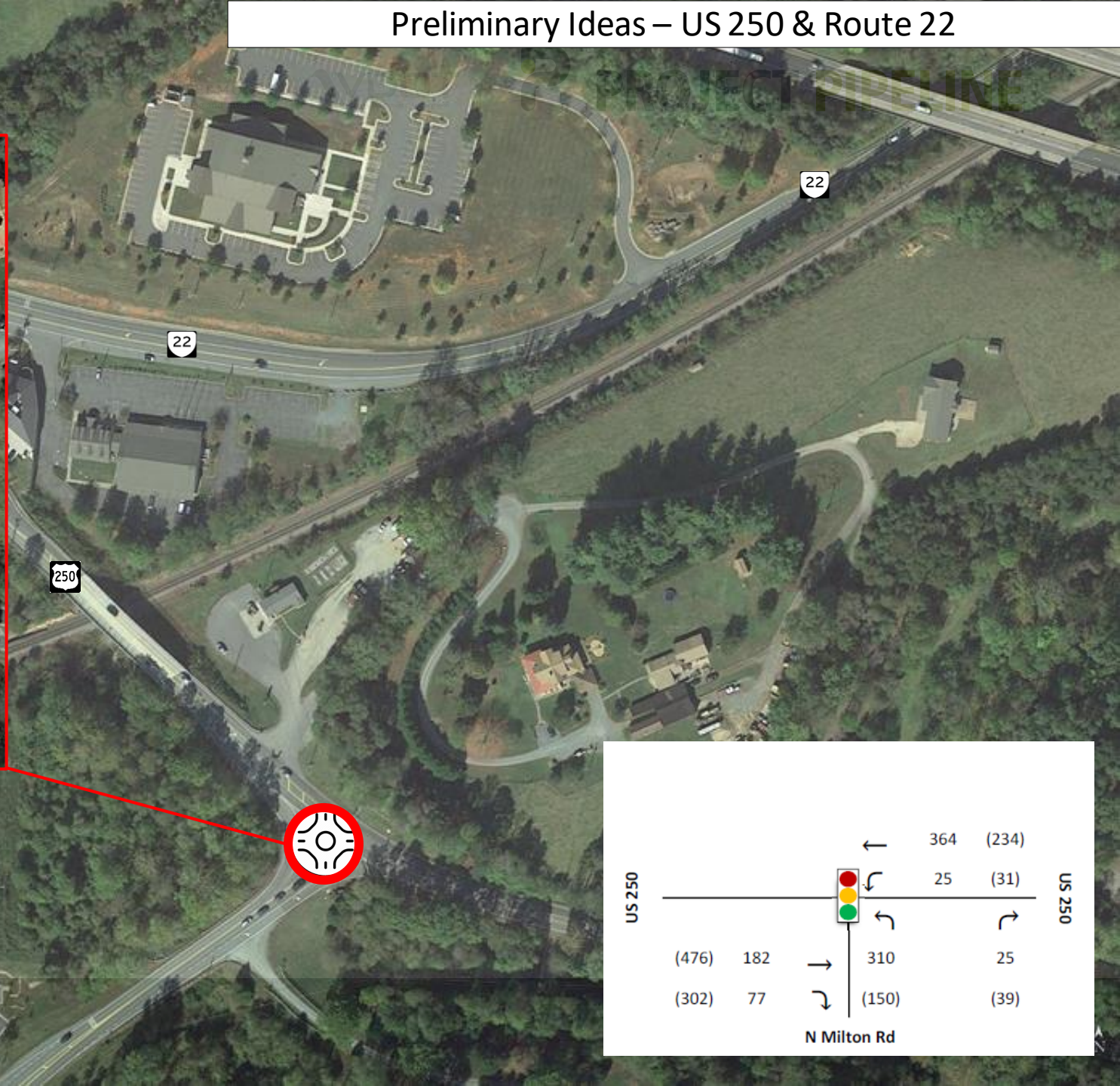
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Roundabout



# Preliminary Ideas – US 250 & Route 22



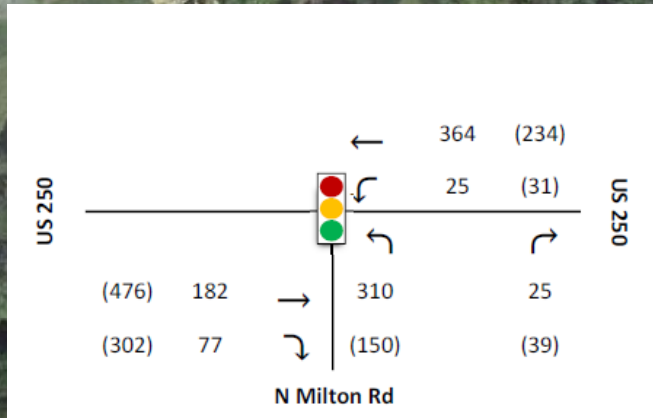
Re-Striping or Modify Lane Configurations



Displaced Left-Turn

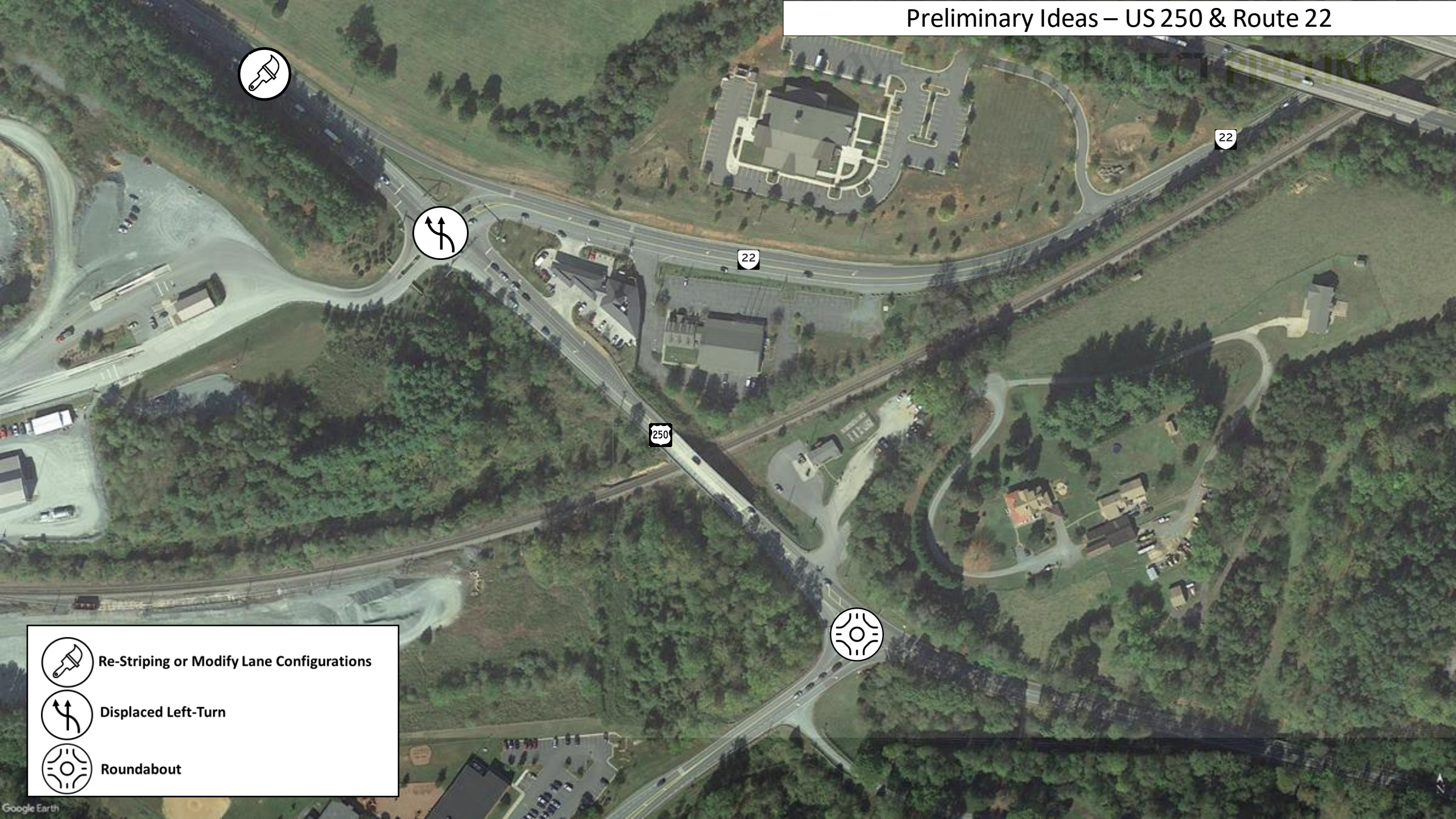


Roundabout





# Preliminary Ideas – US 250 & Route 22



Re-Striping or Modify Lane Configurations



Displaced Left-Turn



Roundabout



## Preliminary Ideas – US 250 & Route 22



- Extend existing merge lane from southbound Route 22 onto US 250
- Includes improved signage for merge lane



Re-Striping or Modify Lane Configurations



Displaced Left-Turn



Roundabout



# Preliminary Ideas – US 250 & Route 22



Route 22					
(266)	(0)	(34)	↶	19	(19)
400	0	24	←	646	(365)
↶	↓	↶	↶	9	(0)
(390)	238	↶	↶	↑	↶
(739)	231	→	18	1	4
(0)	20	↶	(1)	(0)	(5)
Luck Stone Driveway					



Re-Striping or Modify Lane Configurations



Displaced Left-Turn



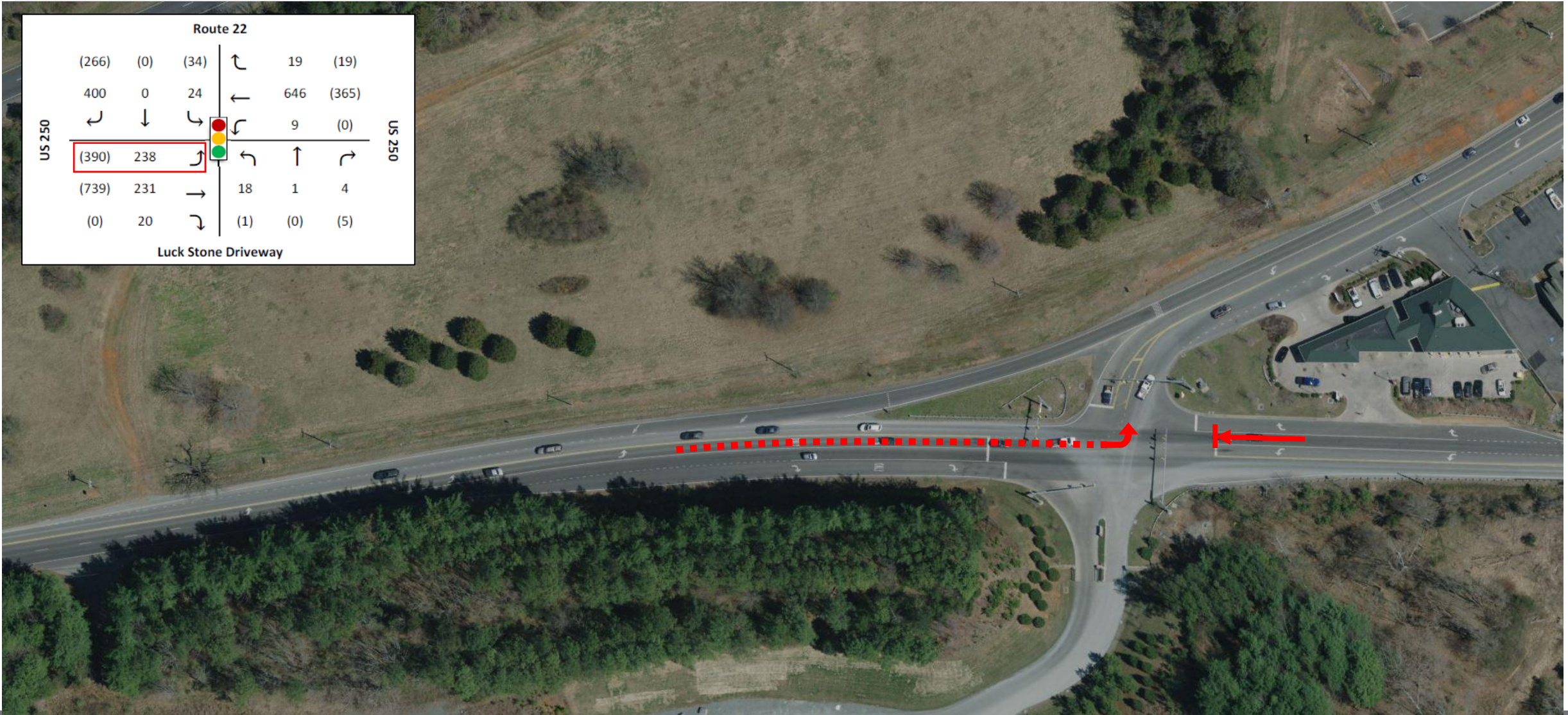
Roundabout



# Preliminary Alternatives

## Shadewell: US 250 and Route 22

		Route 22			
US 250	(266)	(0)	(34)	19	(19)
	400	0	24	646	(365)
	↶	↓	↷	9	(0)
	(390)	238	↷	↑	↶
	(739)	231	→	18	1
		(0)	20	(1)	(0)
				(5)	
				Luck Stone Driveway	





# Preliminary Alternatives

## Shadewell: US 250 and Route 22



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# Preliminary Alternatives

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		Luck Stone Driveway			



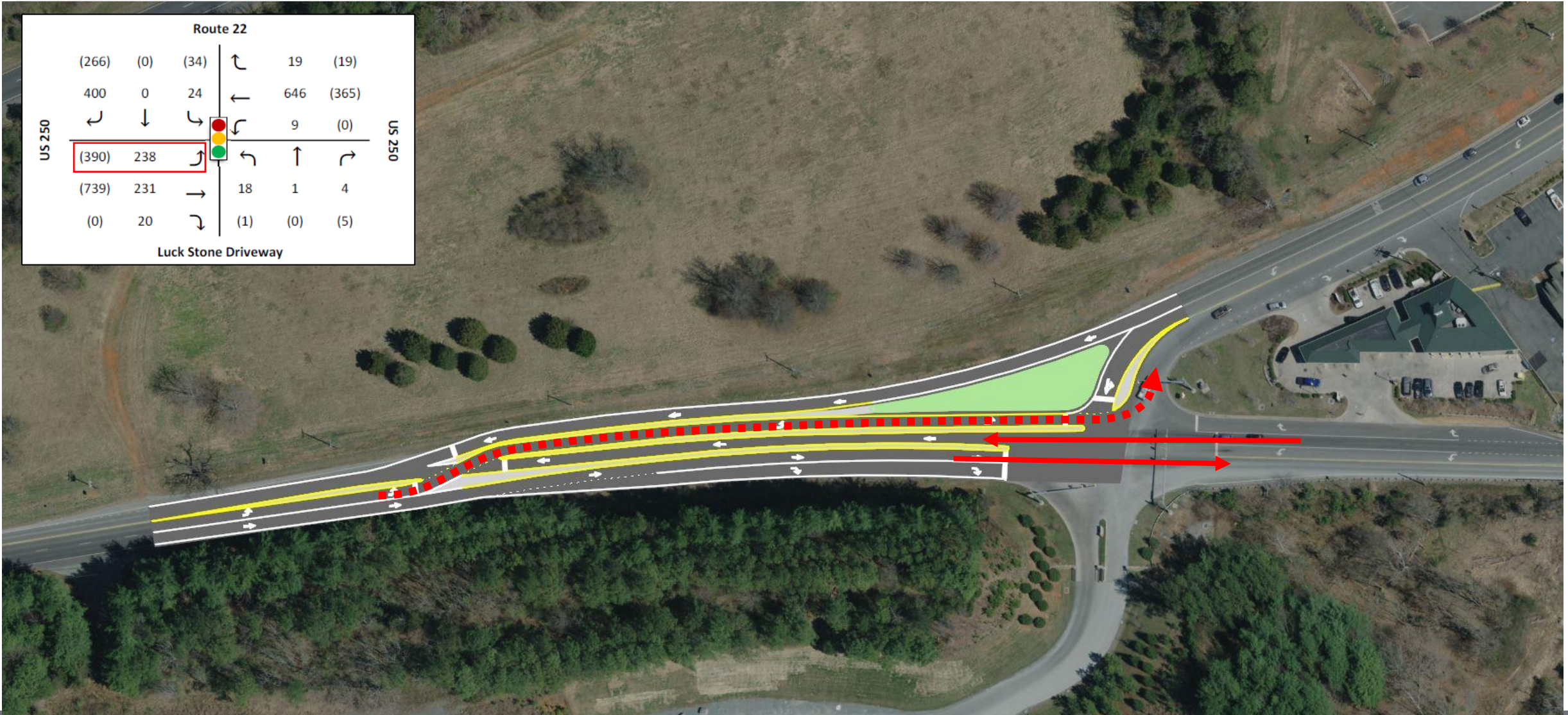


# Preliminary Alternatives

## Shadewell: US 250 and Route 22



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		Luck Stone Driveway		(5)	





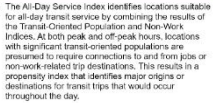


Existing Conditions

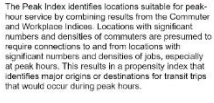
- There is a grade-separated rail crossing in corridor
- RideShare through the TJPDC is the primary commuter assistance program in the region
- No park and rides in area
- No bikeshare or scooter sharing in this area
- Jaunt provides demand response service throughout Albemarle County
- No transit infrastructure in this area



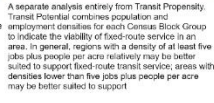
**Transportation Infrastructure All-Day Service Index**  
The All-Day Service Index identifies locations suitable for all-day transit service by combining the results of the Transit-Oriented Population and Non-Work Indices. At both peak and off-peak hours, locations with significant transit-oriented populations are presumed to require connections to and from jobs or non-work-related trip destinations. This results in a propensity index that identifies major origins or destinations for transit trips that would occur throughout the day.



**Transportation Infrastructure Peak Commuter Index**  
The Peak Index identifies locations suitable for peak-hour service by combining results from the Commuter and Workplace Indices. Locations with significant numbers and densities of commuters are presumed to require connections to and from locations with significant numbers and densities of jobs, especially at peak hours. This results in a propensity index that identifies major origins or destinations for transit trips that would occur during peak hours.



**Transportation Infrastructure Transit Potential**  
A separate analysis entirely from Transit Propensity, Transit Potential combines population and employment densities for each Census Block Group to indicate the viability of fixed-route service in an area. In general, regions with a density of at least five jobs plus people per acre relatively may be better suited to support fixed-route transit service; areas with densities lower than five jobs plus people per acre may be better suited to support





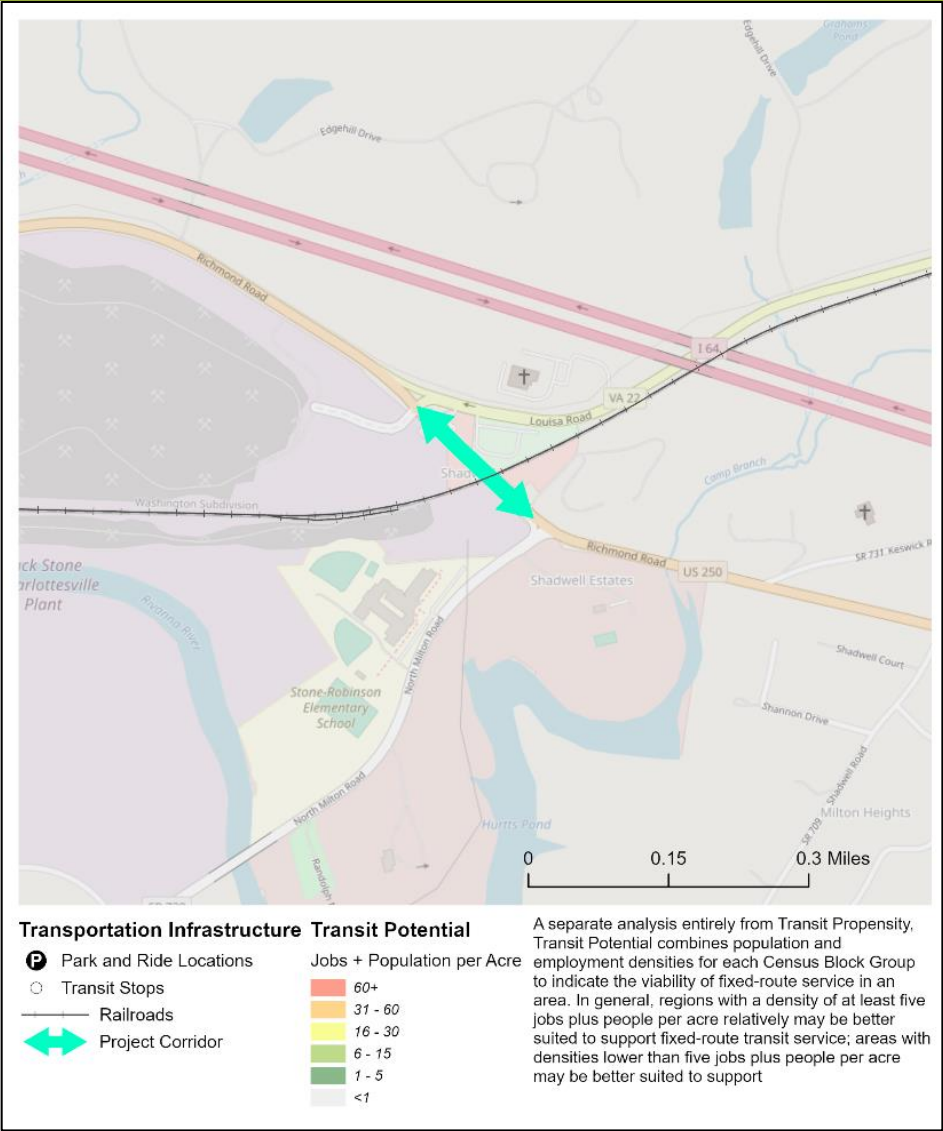


US 250 (Richmond Road) from VA 22 (Louisa Road) to VA 729 (North Milton Road)





US 250 (Richmond Road) from VA 22 (Louisa Road) to VA 729 (North Milton Road)







US 250 (Richmond Road) from VA 22 (Louisa Road) to VA 729 (North Milton Road)



Jaunt is currently exploring the potential of supplementing or replacing demand response service in some areas with app-based microtransit



Consider developing a park and ride facility in this area, preferably at or near Exit 124



Leverage the existing RideShare commuter assistance programs to promote the use of transit, carpool and vanpool, and to provide ridematching and commute options information to residents, employers, and employees.

# Next Steps

- Support to advance preliminary ideas in Phase 2
  - Local feedback needed in two-weeks or prior to Thanksgiving
- Public outreach
  - Pantops: <https://vapipeline.org/studies/culpeper/cu03-us-250.asp>
  - Shadewell: <https://vapipeline.org/studies/culpeper/cu02-us-250.asp>
- Phase 2
  - Future Conditions
  - Concepts
  - Preferred Alternative Selection



## VDOT District Contacts

Chuck Proctor

[Charles.proctor@vdot.virginia.gov](mailto:Charles.proctor@vdot.virginia.gov)

## Consultant Team Contacts

### Team 1 / Team 2

Zach Harris

[zharris@mbakerintl.com](mailto:zharris@mbakerintl.com)

### Team 3

Nick Britton

[jnick.britton@mbakerintl.com](mailto:jnick.britton@mbakerintl.com)