

Welcome!

- We'll start as close to 7 PM as possible.
- Everyone is joining as an “attendee” in Zoom’s webinar format.
- As we go, please type your questions into the Q&A tool.





Downingtown Area Transportation Study



Spring 2021- Public Meeting

May 20, 2021

Virtual Meeting

Agenda

- **Introduction** (Alison Hastings, DVRPC)
- **Welcome from Chester County** (County Commissioner Josh Maxwell and Brian Styche, CCPC)
- **Project Overview** (Sarah Moran, DVRPC)
- **Traffic Model Results and Recommendations** (Camden Palvino, DVRPC)
- **Bicycle Network Recommendations** (Aaron Frint, DVRPC)
- **Wrap-Up and Q&A** (Project Team)



Introduction & Ground Rules

- Purposes of this meeting:
 - Review October meeting material and present study results
- Please enter questions in the Q&A tool as we move through the presentations; we'll pause at various parts to answer questions
- Use the chat box for comments or to respond to different questions we may ask
- Organizers will not address off-topic questions and comments and may combine similar questions
- Organizers reserve the right to ignore and strike from the materials offensive or inappropriate questions and comments
- Organizers may remove an attendee if being disruptive, antagonistic, or threatening

Poll #1



Project Welcome- Chester County

Study Purpose

- Quantify traffic impact of transportation projects and developments in the Downtown area.
- Develop strategies to manage congestion and increase mobility at study intersections and throughout the project study area.
- Provide a platform for the public to have a role in shaping these strategies and the future transportation outlook in the study area.



Project Overview

US 322, West Bradford Township

The DVRPC

- Metropolitan Planning Organization (MPO)
- 9 counties
- 2 states
- 5.7 million people
- 7th largest metro area population in the nation
- 350+ municipalities
- TIP, LRP, and Work Program activities



Project Team

Chester County Planning Commission (CCPC)

- Brian Styche, Environment and Infrastructure Director
- Brian Donovan, Transportation Planner

Delaware Valley Regional Planning Commission (DVRPC)

- Sarah Moran, Manager, Office of Mobility Analysis and Design
- Aaron Frait, Associate Manager, Office of Mobility Analysis and Design
- Sean Lawrence, Senior GIS Analyst
- Reuben MacMartin, Transportation Planner
- Kelsey McElduff, Transportation Engineer
- Camden Palvino, Transportation Engineer

Stakeholders

- Downingtown Borough
- East Brandywine Township
- Caln Township
- West Bradford Township
- East Bradford Township
- West Whiteland Township
- Uwchlan Township
- East Caln Township
- PennDOT 6-0 and US 30 ITS Project Consultants
- PennDOT Central Office
- SEPTA, Strategic Planning and Service Planning
- TMAcc
- Krapf Bus

Study Goal and Objectives

Goal

This study is intended to provide analysis to support further study, capital project development, and funding.

Objectives

- Identify and quantify areas of existing and future transportation bottlenecks within the Downtown area of southwest Chester County;
- Quantify the impact of new development on traffic circulation and mobility;
- Develop the analytical basis for improvements needed to establish a modern transportation system.

October Public Meetings

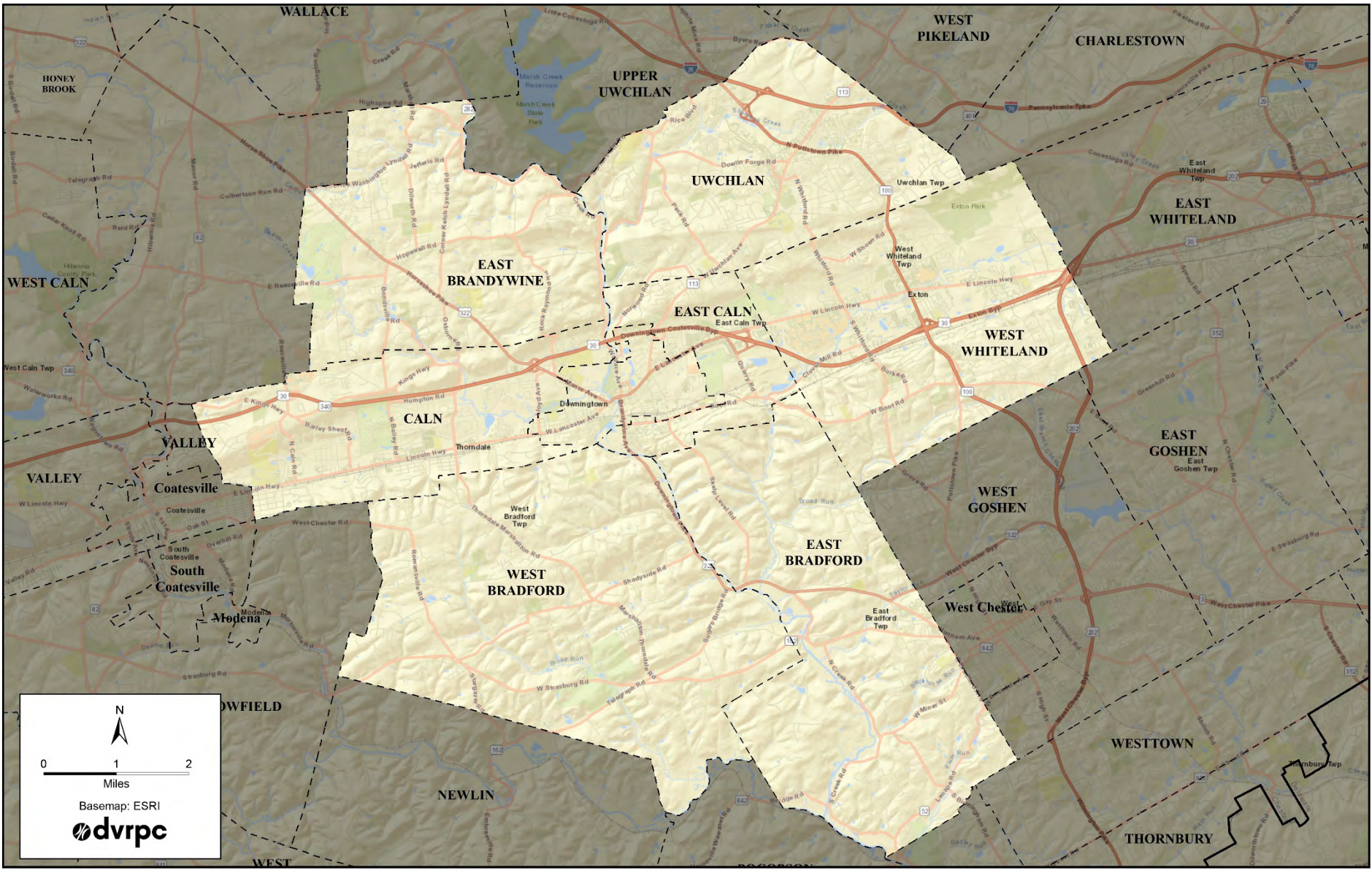
- At the meetings:
 - Presented study scope
 - Outlined completed and upcoming tasks
 - Polled attendees on key elements
 - Present concerns of **traffic congestion** (28 of 31, 91% of responses) and **development** (20 of 31, 65% of responses)
 - A desire to make the future Downtown area **more bike-friendly** (26 of 33, 79% of responses)
 - A desire to maintain a sense of **community** (22 of 33, 67% of responses) and **livability** (15 of 33, 45% of responses) in the future



Purpose of Spring Meetings

- Review goals and area of study
- Review public feedback on priorities for mobility in and around the study area
- Present study results and recommendations
 - Traffic model results and modeled improvements
 - Bike network recommendations

Traffic Modeling

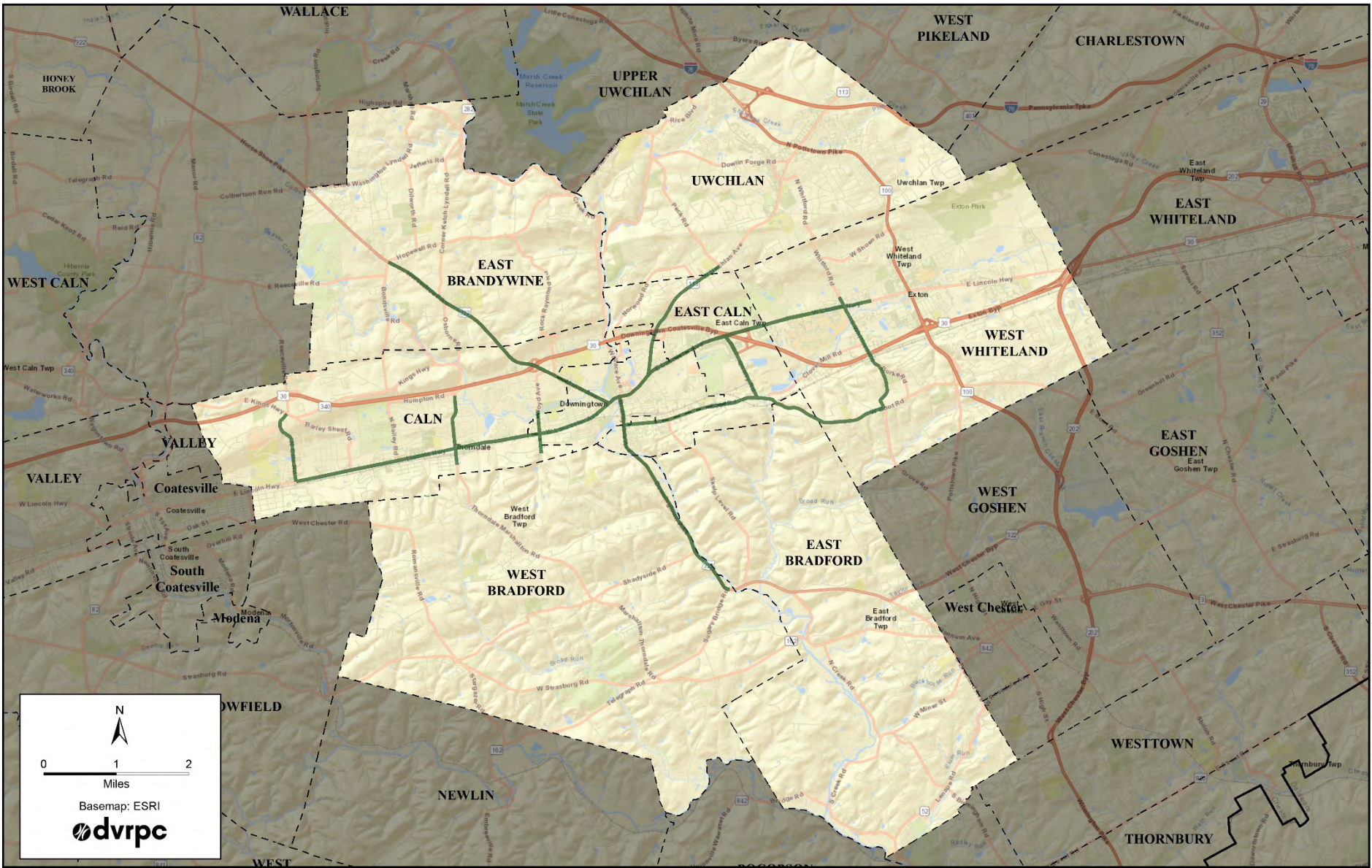
Manor Ave., Downingtown Borough



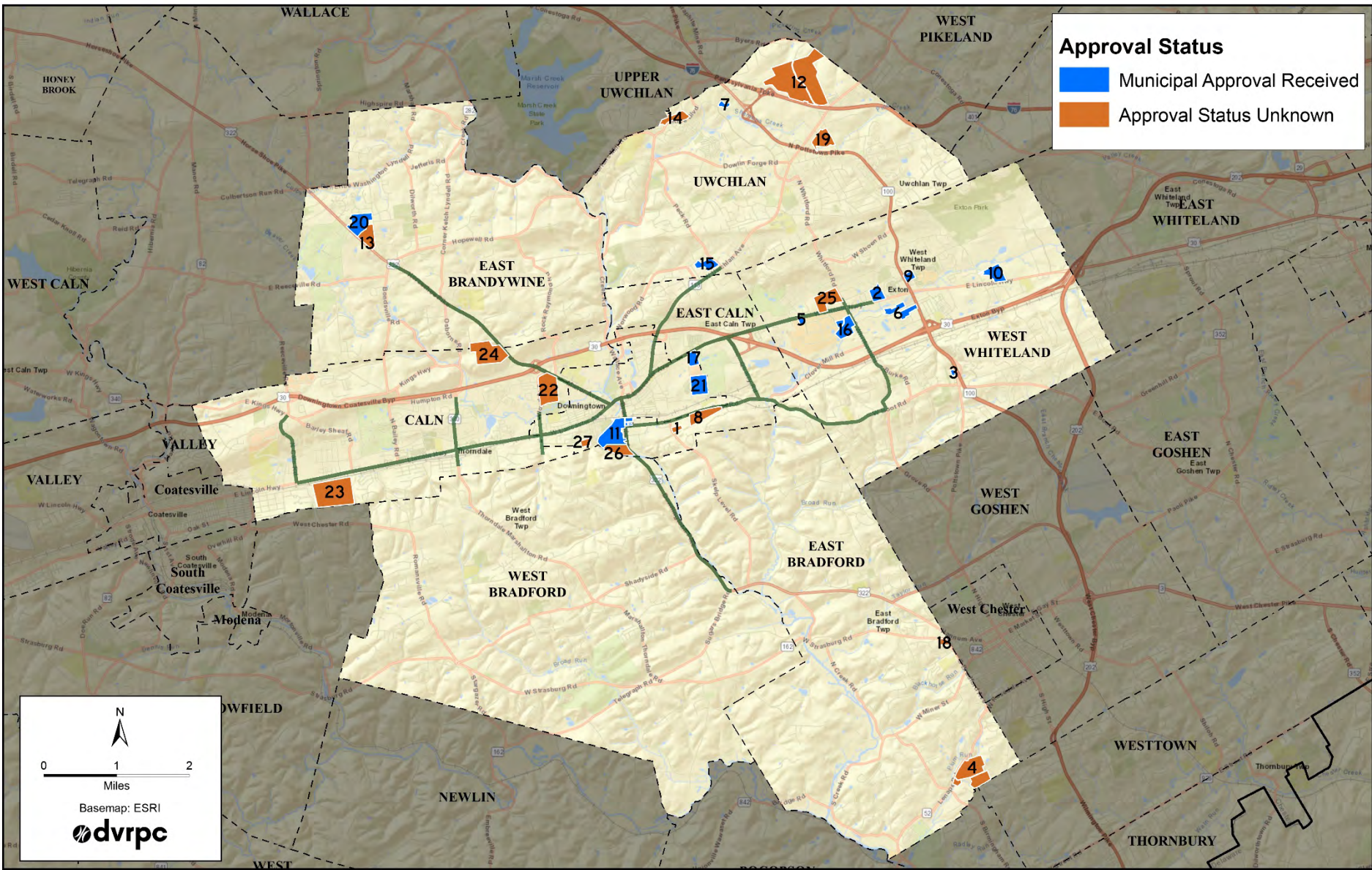

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 Miles
 Basemap: ESRI




Study Area

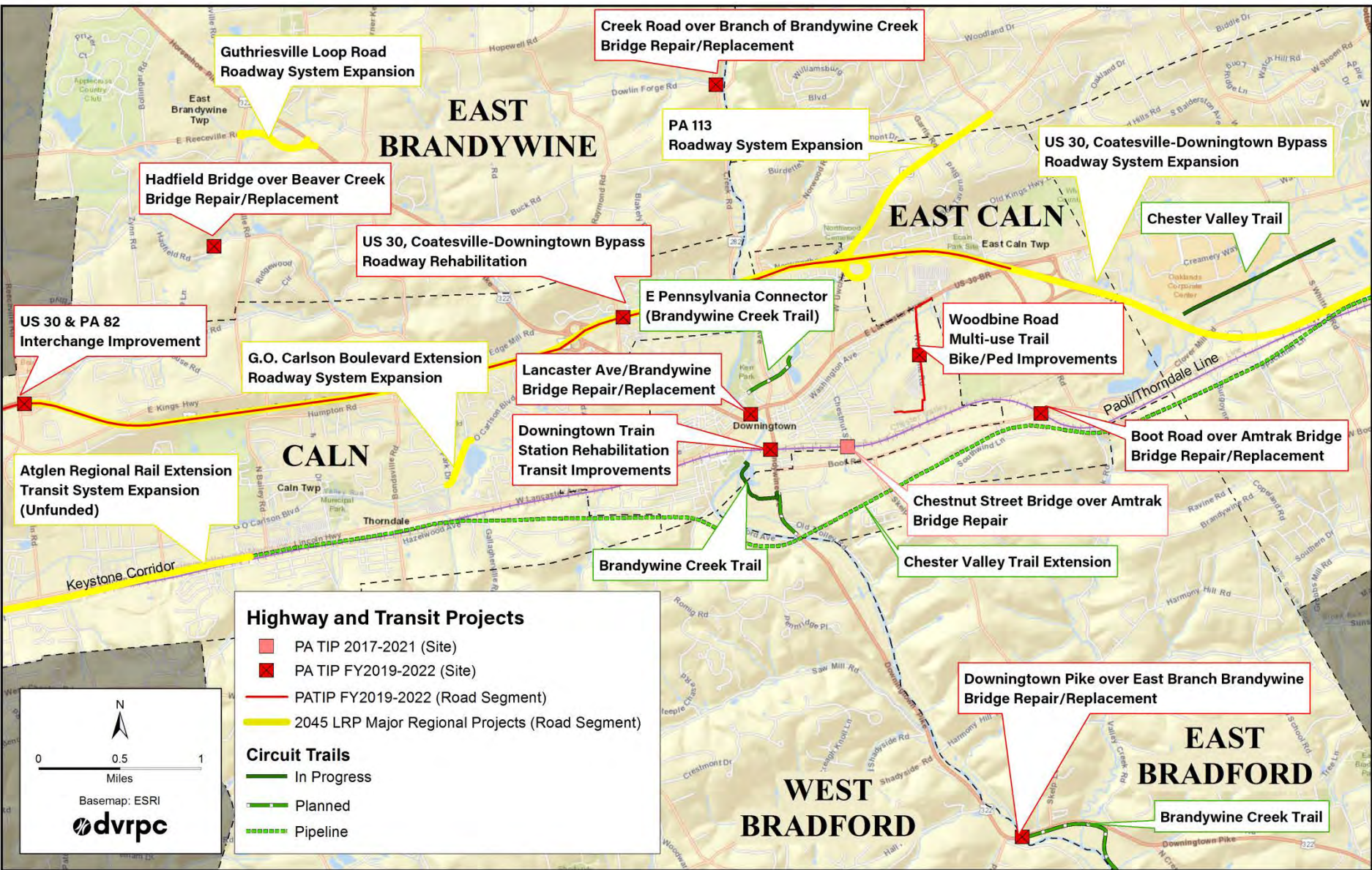


Study Area and Network



*Land Developments January 2016–May 2019
(at least 50 units and/or 50,000 SQ FT)*

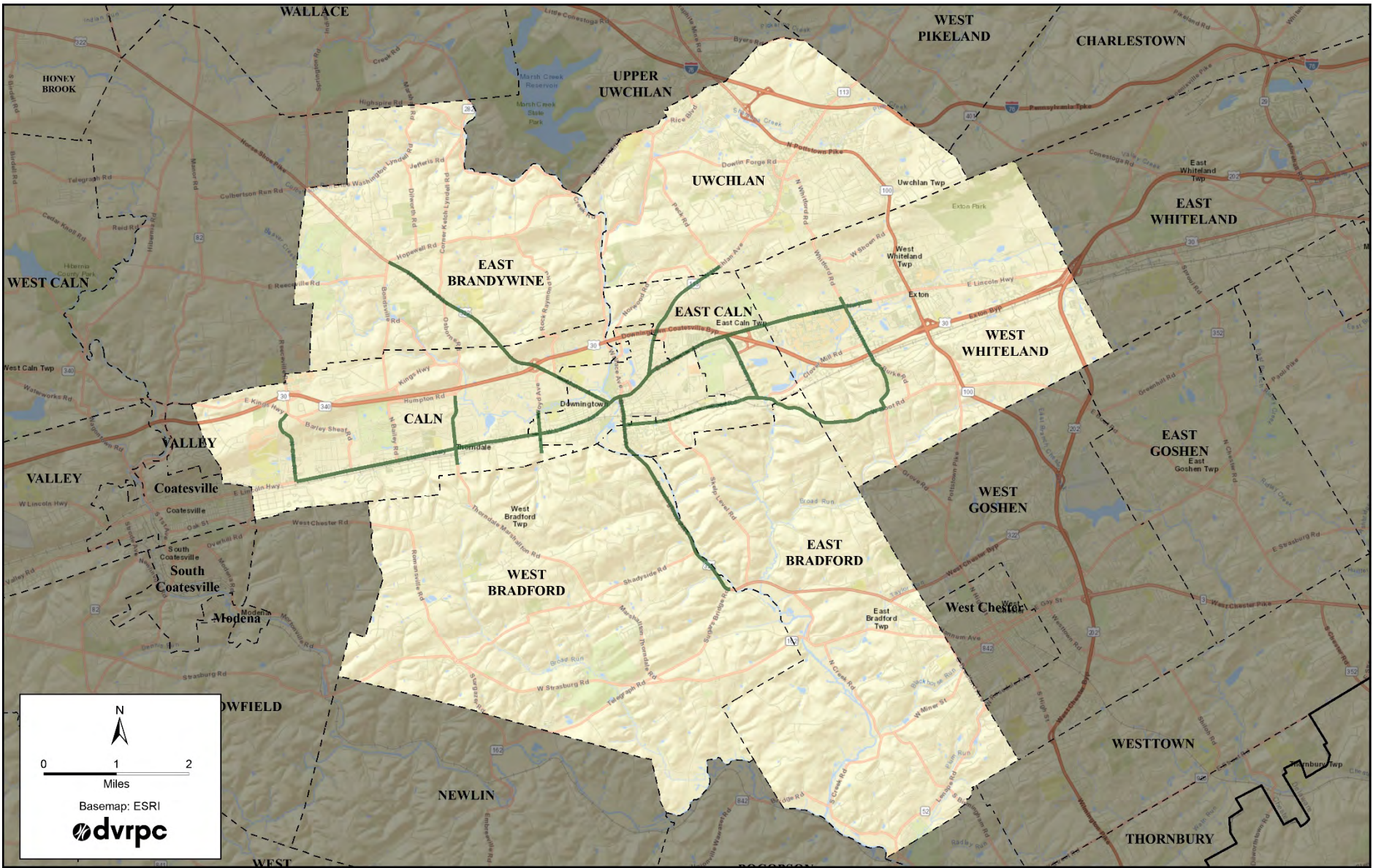




Planned Transportation Projects

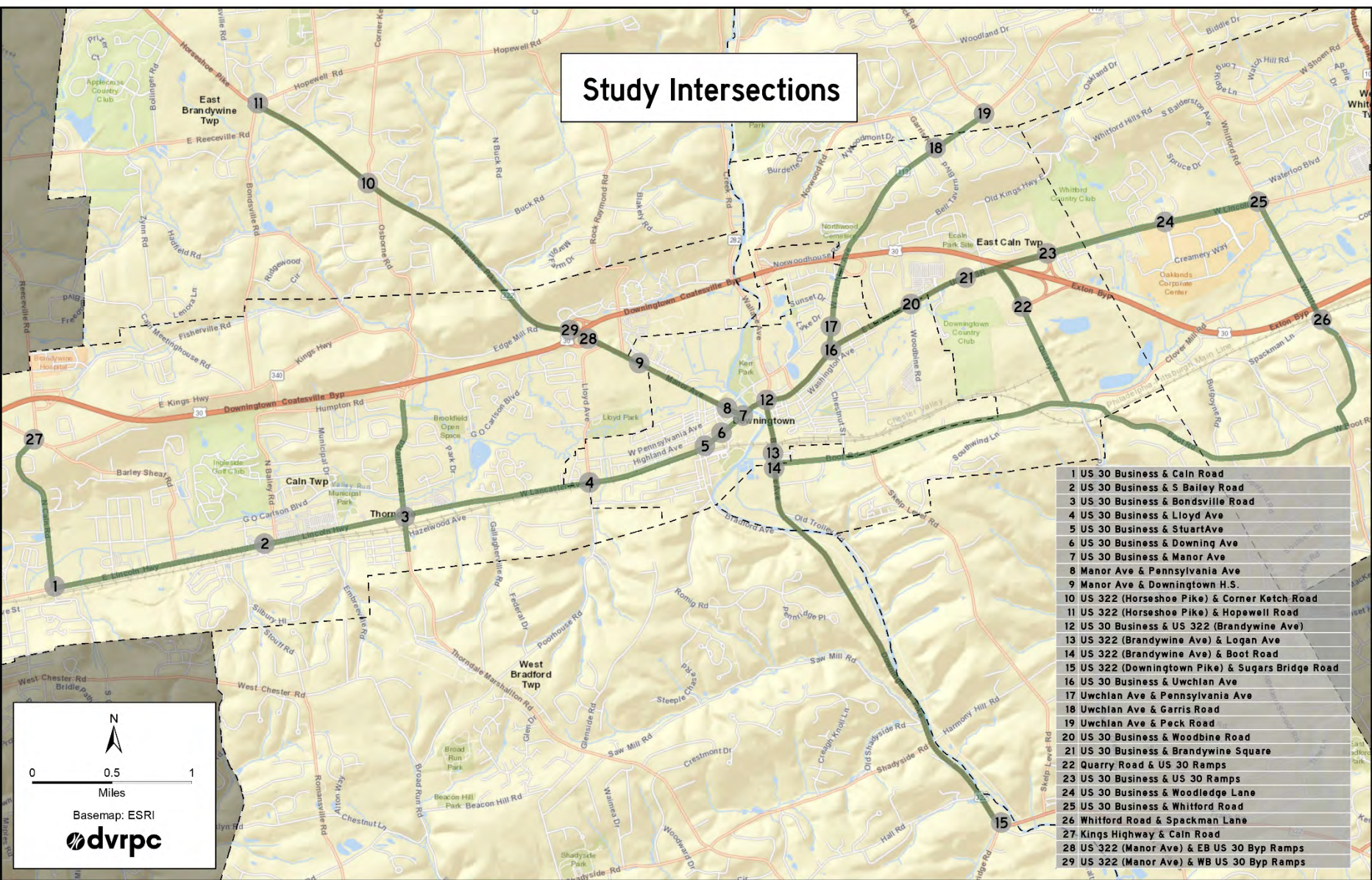
Highlight of Area Projects

- **27** known large land development projects
- **6** bridges identified for repair
- **2** planned transit projects
 - Downingtown Train Station relocation
 - Extension of SEPTA Paoli-Thorndale line to Coatesville
- **1** roadway rehabilitation project
 - US 30 Bypass ITS Project



Study Area

Study Intersections



- 1 US 30 Business & Cain Road
- 2 US 30 Business & S Bailey Road
- 3 US 30 Business & Bondsville Road
- 4 US 30 Business & Lloyd Ave
- 5 US 30 Business & Stuart Ave
- 6 US 30 Business & Downing Ave
- 7 US 30 Business & Manor Ave
- 8 Manor Ave & Pennsylvania Ave
- 9 Manor Ave & Downingtown H.S.
- 10 US 322 (Horseshoe Pike) & Corner Ketch Road
- 11 US 322 (Horseshoe Pike) & Hopewell Road
- 12 US 30 Business & US 322 (Brandywine Ave)
- 13 US 322 (Brandywine Ave) & Logan Ave
- 14 US 322 (Brandywine Ave) & Boot Road
- 15 US 322 (Downingtown Pike) & Sugars Bridge Road
- 16 US 30 Business & Uwchlan Ave
- 17 Uwchlan Ave & Pennsylvania Ave
- 18 Uwchlan Ave & Garris Road
- 19 Uwchlan Ave & Peck Road
- 20 US 30 Business & Woodbine Road
- 21 US 30 Business & Brandywine Square
- 22 Quarry Road & US 30 Ramps
- 23 US 30 Business & US 30 Ramps
- 24 US 30 Business & Woodledge Lane
- 25 US 30 Business & Whitford Road
- 26 Whitford Road & Spackman Lane
- 27 Kings Highway & Cain Road
- 28 US 322 (Manor Ave) & EB US 30 Byp Ramps
- 29 US 322 (Manor Ave) & WB US 30 Byp Ramps

N

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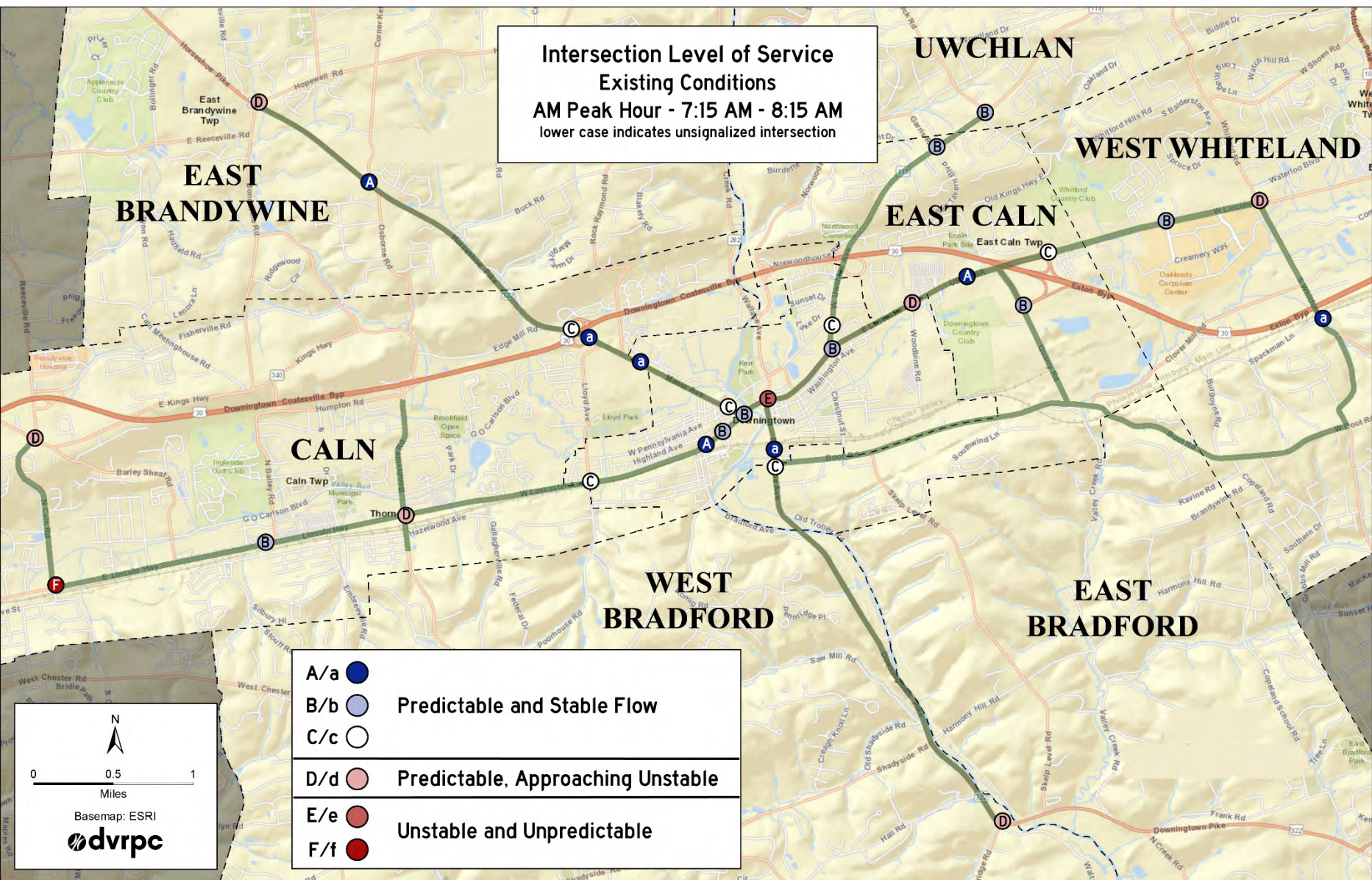
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Traffic Modeling Scenarios

Scenario (Model Year)	Model Component	Fall 2019 traffic counts	Development traffic growth/decline	Programmed transportation projects	Downingtown transportation and Coatesville extension	Recommended improvements at study intersections
Existing (2019)	●					
No Build (2035)		●	●			
Build (2035)		●	●	●		
Build + Improvements (2035)		●	●	●	●	

LOS	Control Delay (sec/vehicle)- Signalized	Control Delay (sec/vehicle)- Unsignalized	Qualitative Description of Traffic Operations
A/a B/b C/c	≤ 10 > 10-20 > 20-35	≤ 10 > 10-15 > 15-25	Stable and Predictable
D/d	> 35-55	> 25-35	Predictable, but Approaching Unstable
E/e F/f	> 55-80 > 80	> 35-50 > 50	Unstable and Unpredictable

Intersection Level of Service
Existing Conditions
AM Peak Hour - 7:15 AM - 8:15 AM
 lower case indicates unsignalized intersection



A/a	●	Predictable and Stable Flow
B/b	○	Predictable and Stable Flow
C/c	○	Predictable, Approaching Unstable
E/e	●	Unstable and Unpredictable
F/f	●	Unstable and Unpredictable

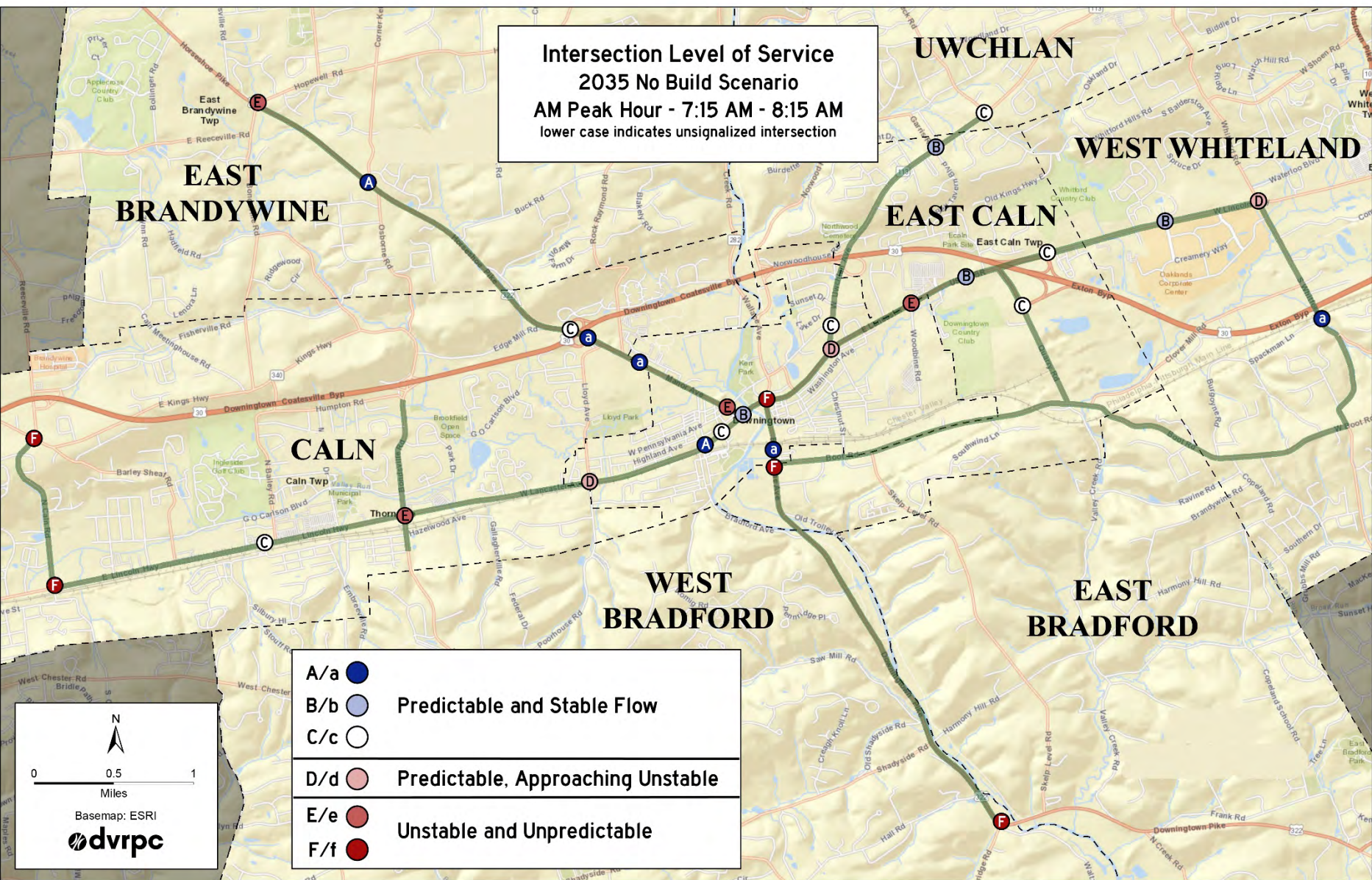
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Basemap: ESRI

dvrpc

Intersection Level of Service
2035 No Build Scenario
AM Peak Hour - 7:15 AM - 8:15 AM
 lower case indicates unsignalized intersection



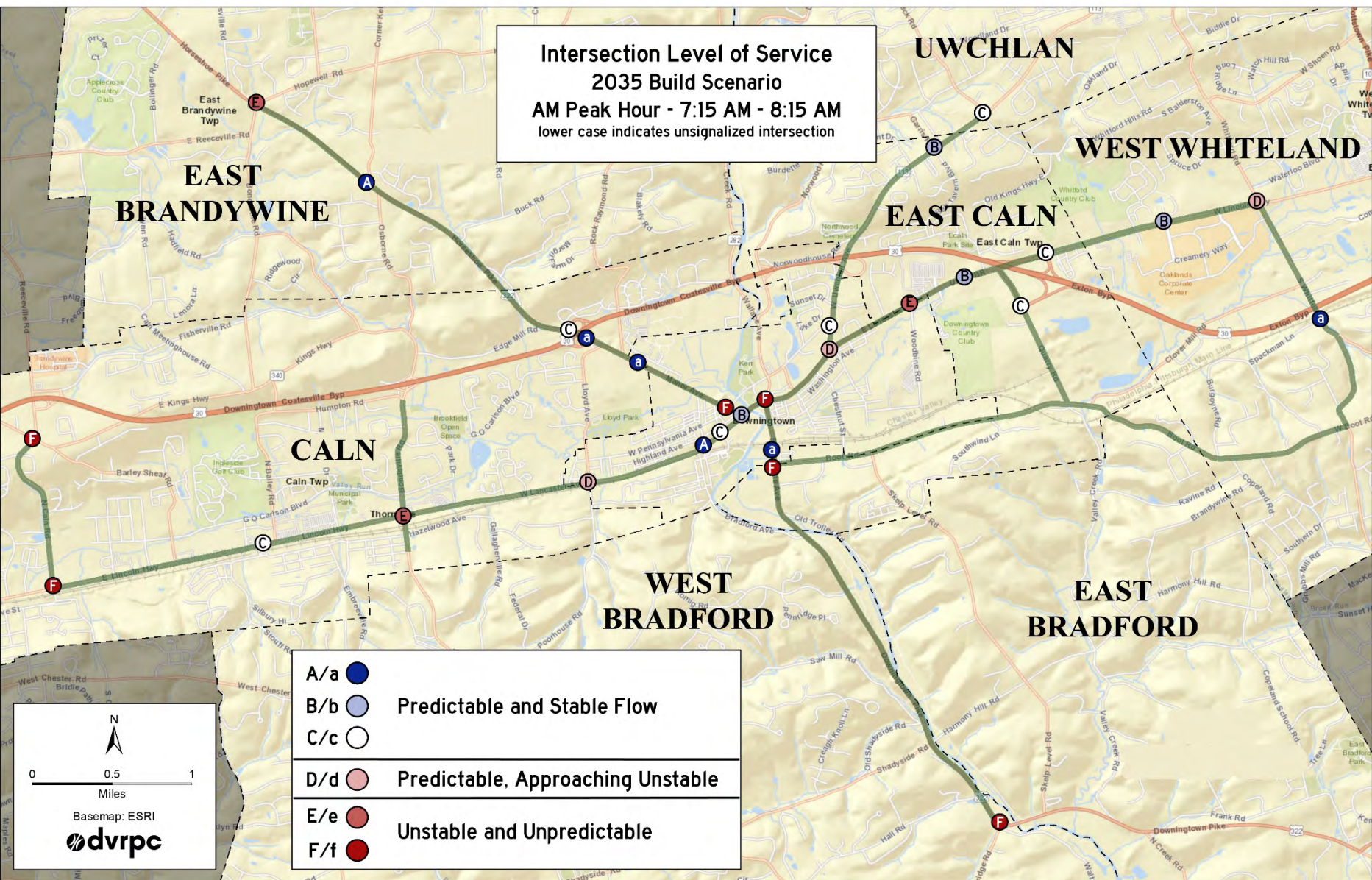
A/a ●	B/b ●	Predictable and Stable Flow
C/c ○	D/d ○	Predictable, Approaching Unstable
E/e ●	F/f ●	Unstable and Unpredictable

0 0.5 1

 Miles

 Basemap: ESRI

Intersection Level of Service
2035 Build Scenario
AM Peak Hour - 7:15 AM - 8:15 AM
 lower case indicates unsignalized intersection



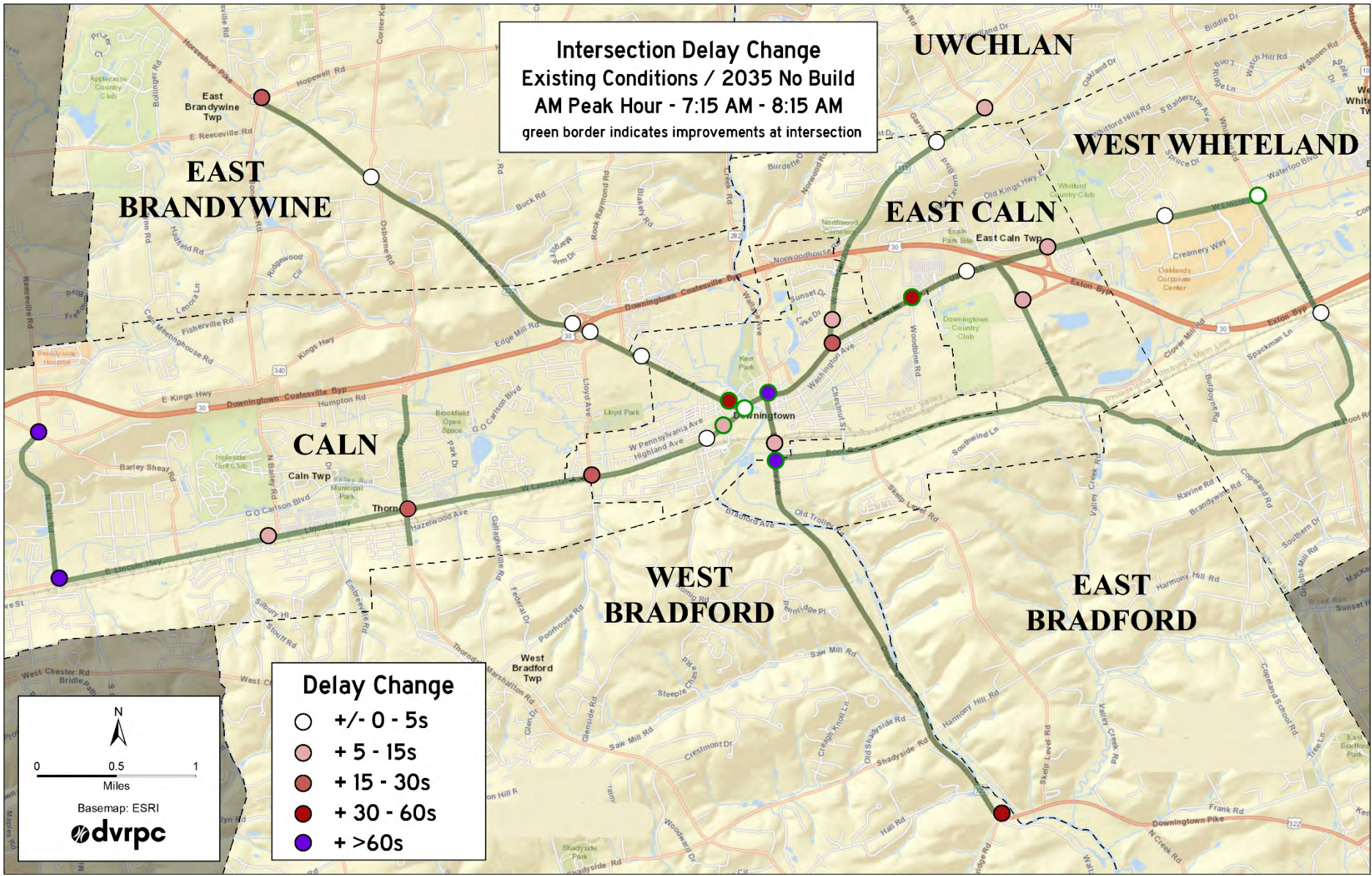
A/a ●	B/b ○	Predictable and Stable Flow
C/c ○	D/d ○	Predictable, Approaching Unstable
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N

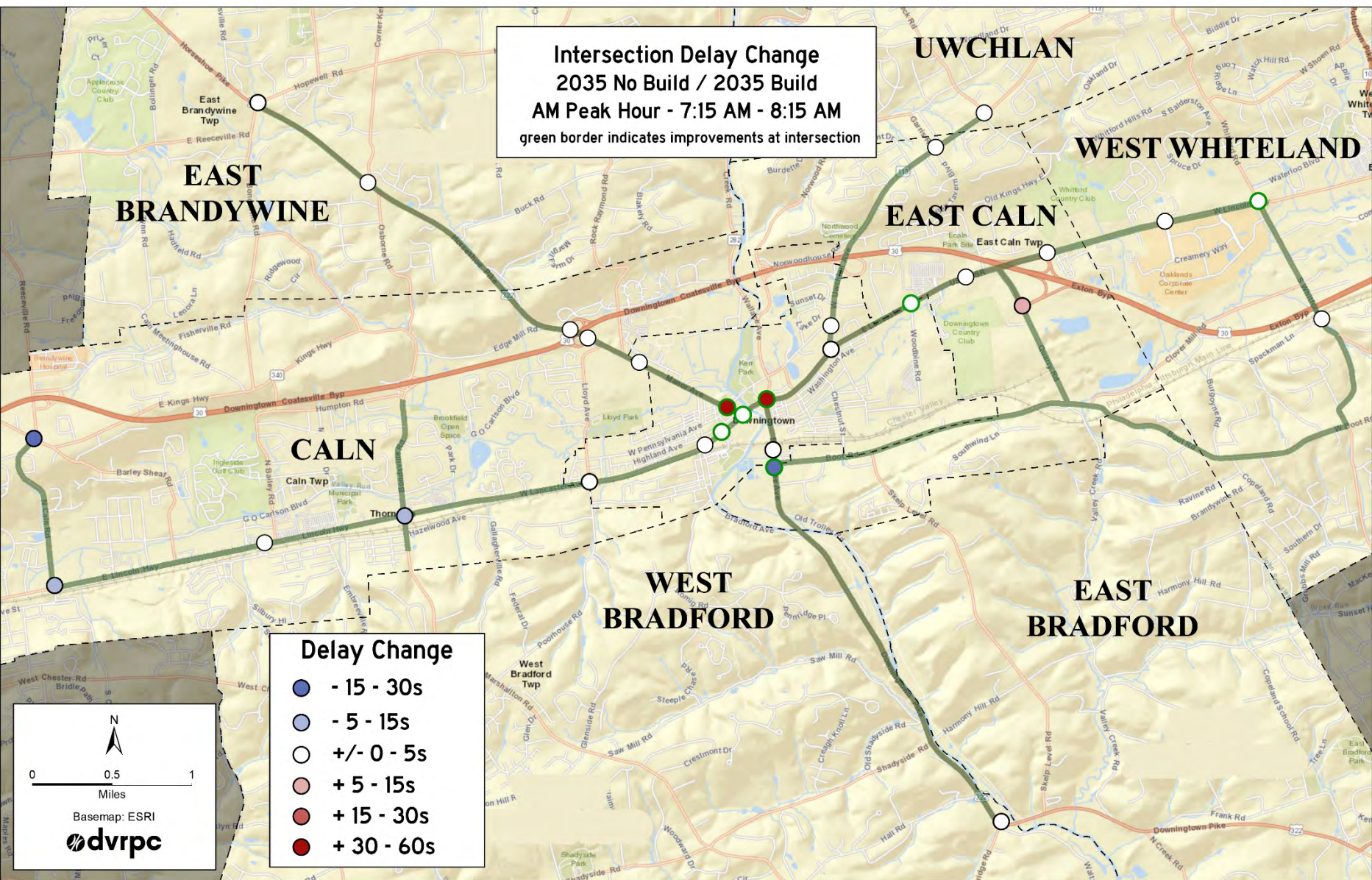
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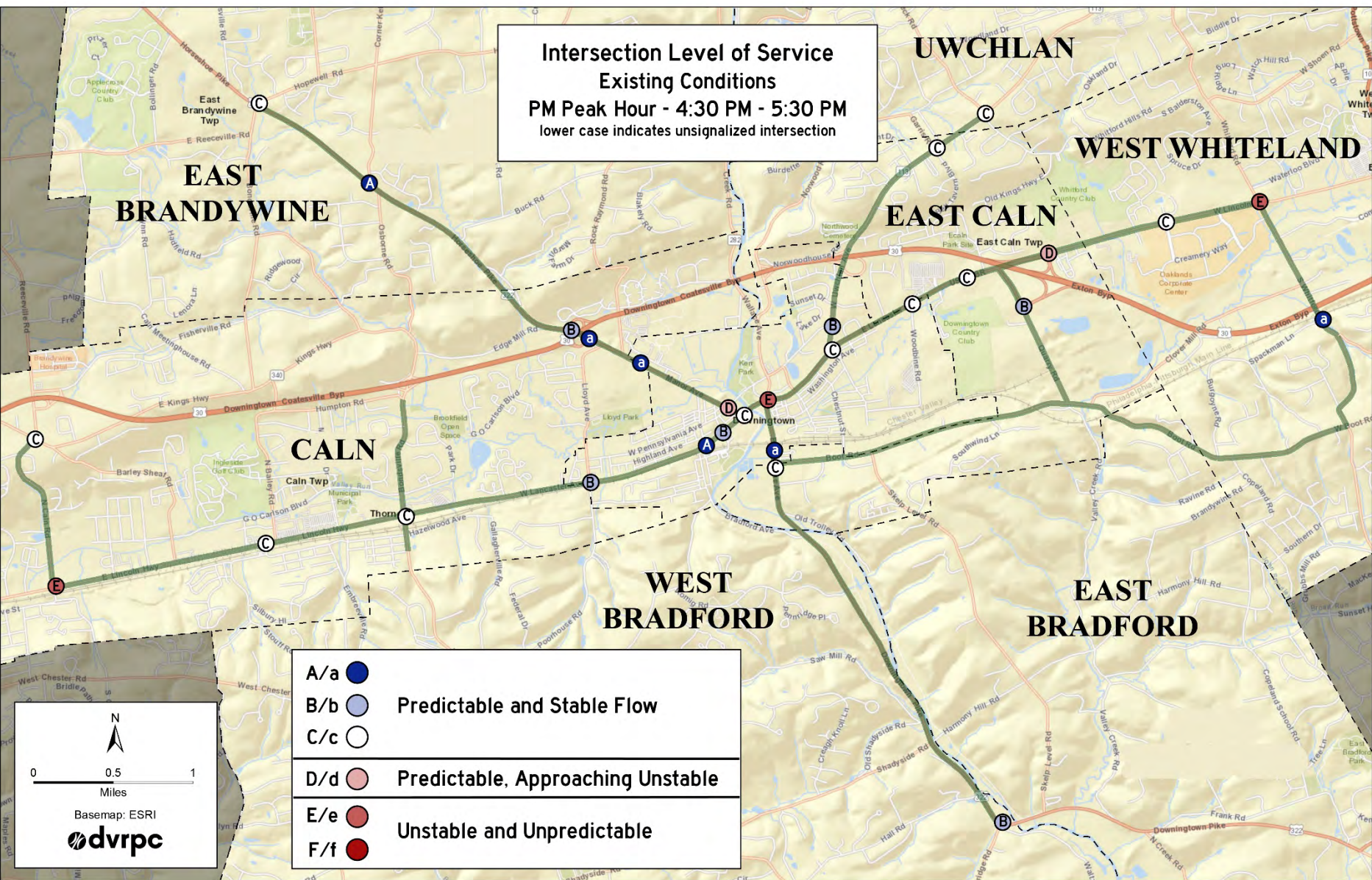
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Intersection Delay Change
2035 No Build / 2035 Build
AM Peak Hour - 7:15 AM - 8:15 AM
 green border indicates improvements at intersection



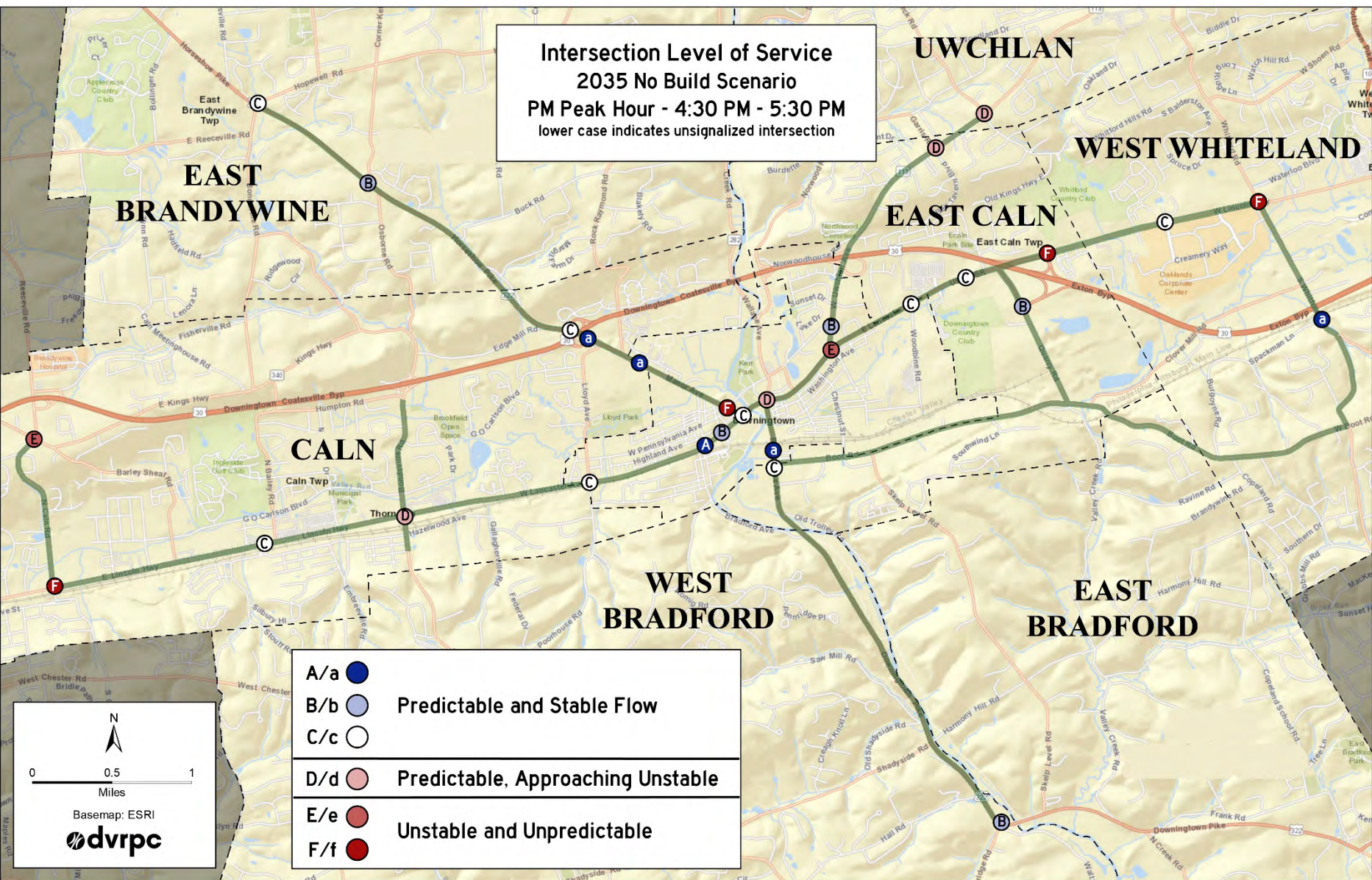
Intersection Level of Service
Existing Conditions
PM Peak Hour - 4:30 PM - 5:30 PM
 lower case indicates unsignalized intersection





A/a ●	Predictable and Stable Flow
B/b ●	
C/c ○	Predictable, Approaching Unstable
D/d ●	
E/e ●	Unstable and Unpredictable
F/f ●	


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 Miles
 Basemap: ESRI


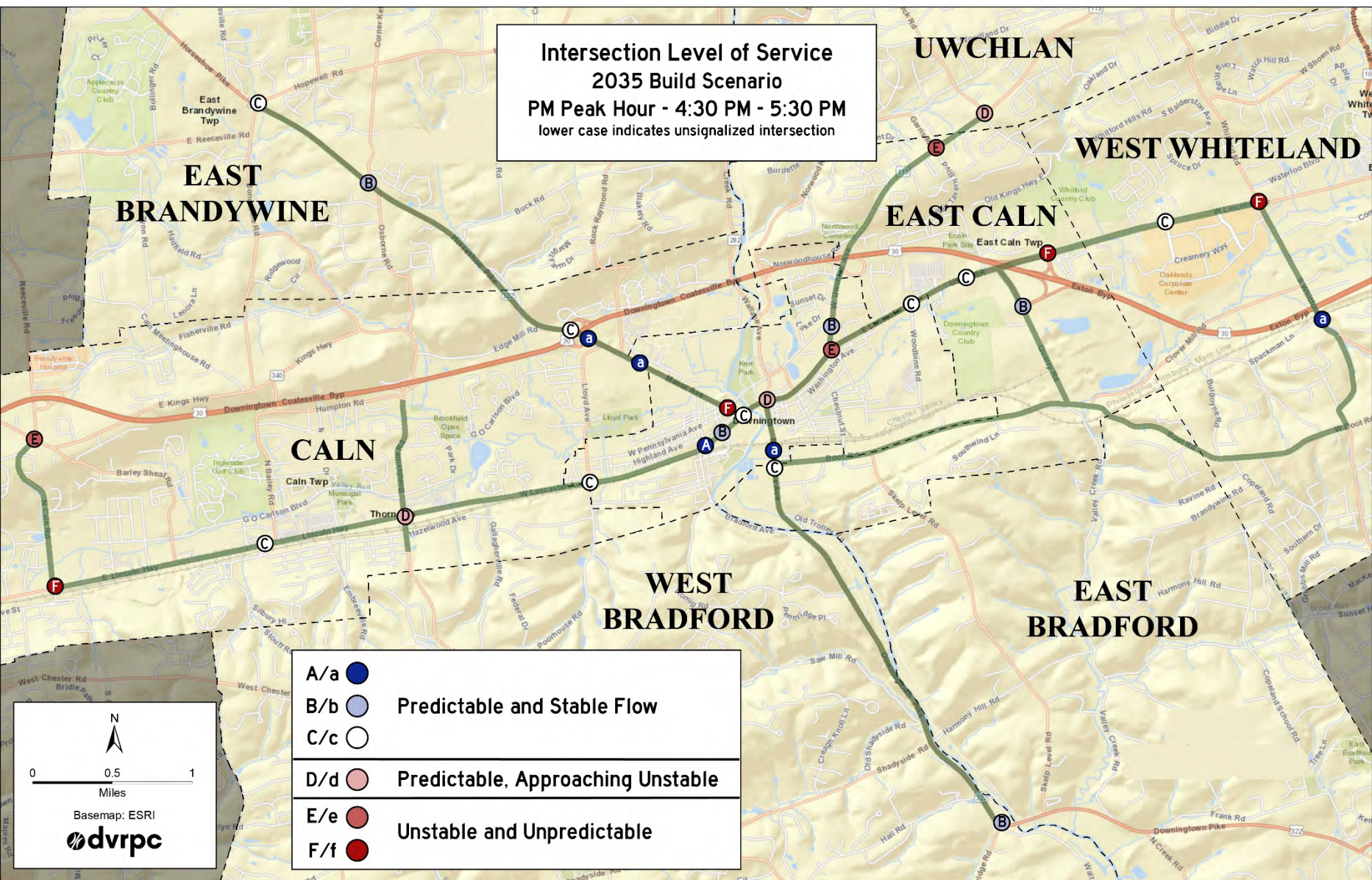
Intersection Level of Service
2035 No Build Scenario
PM Peak Hour - 4:30 PM - 5:30 PM
 lower case indicates unsignalized intersection





A/a	●	Predictable and Stable Flow
B/b	●	
C/c	○	Predictable, Approaching Unstable
D/d	○	
E/e	●	Unstable and Unpredictable
F/f	●	


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 Miles
 Basemap: ESRI


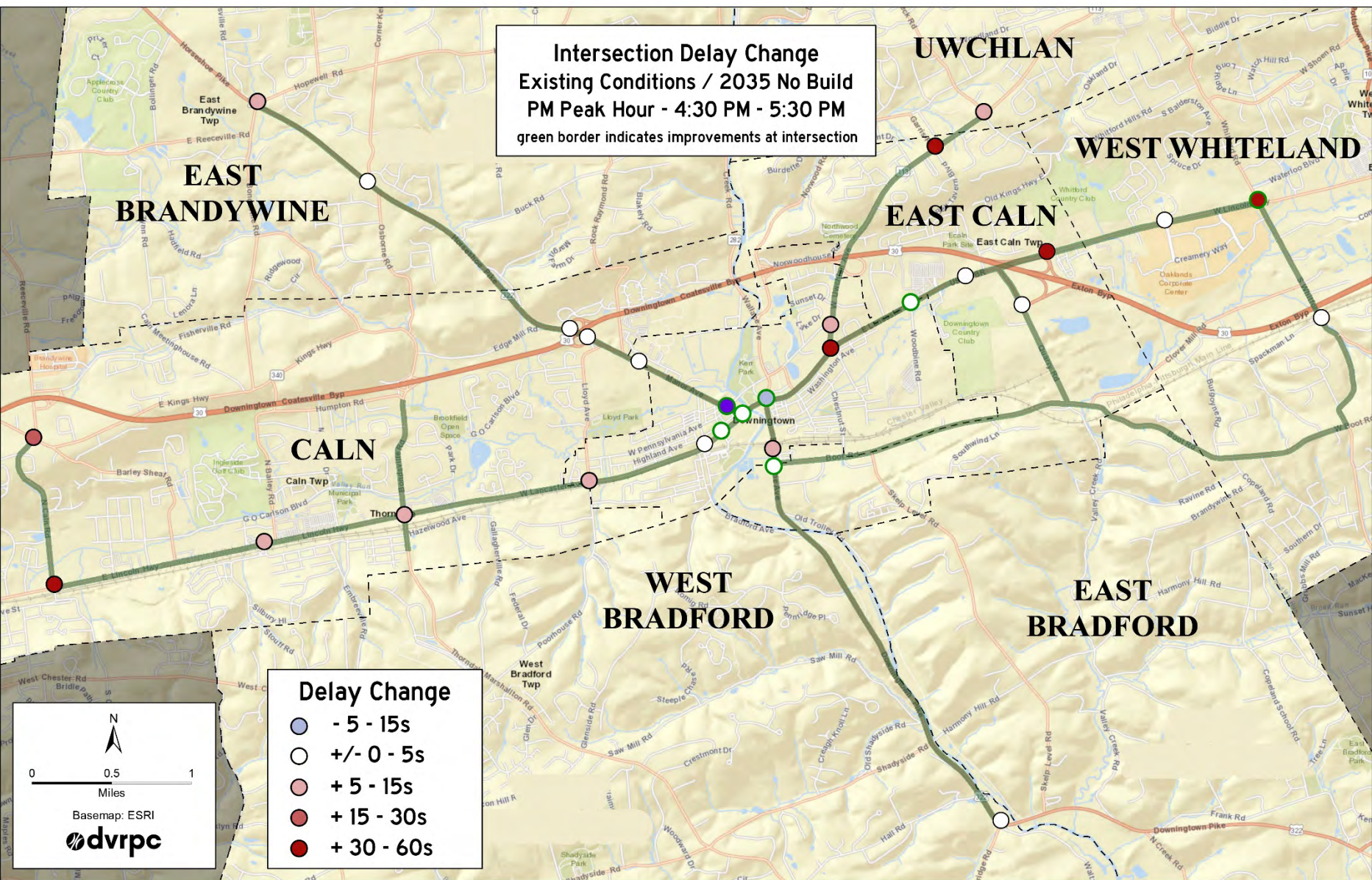
Intersection Level of Service
2035 Build Scenario
PM Peak Hour - 4:30 PM - 5:30 PM
 lower case indicates unsignalized intersection



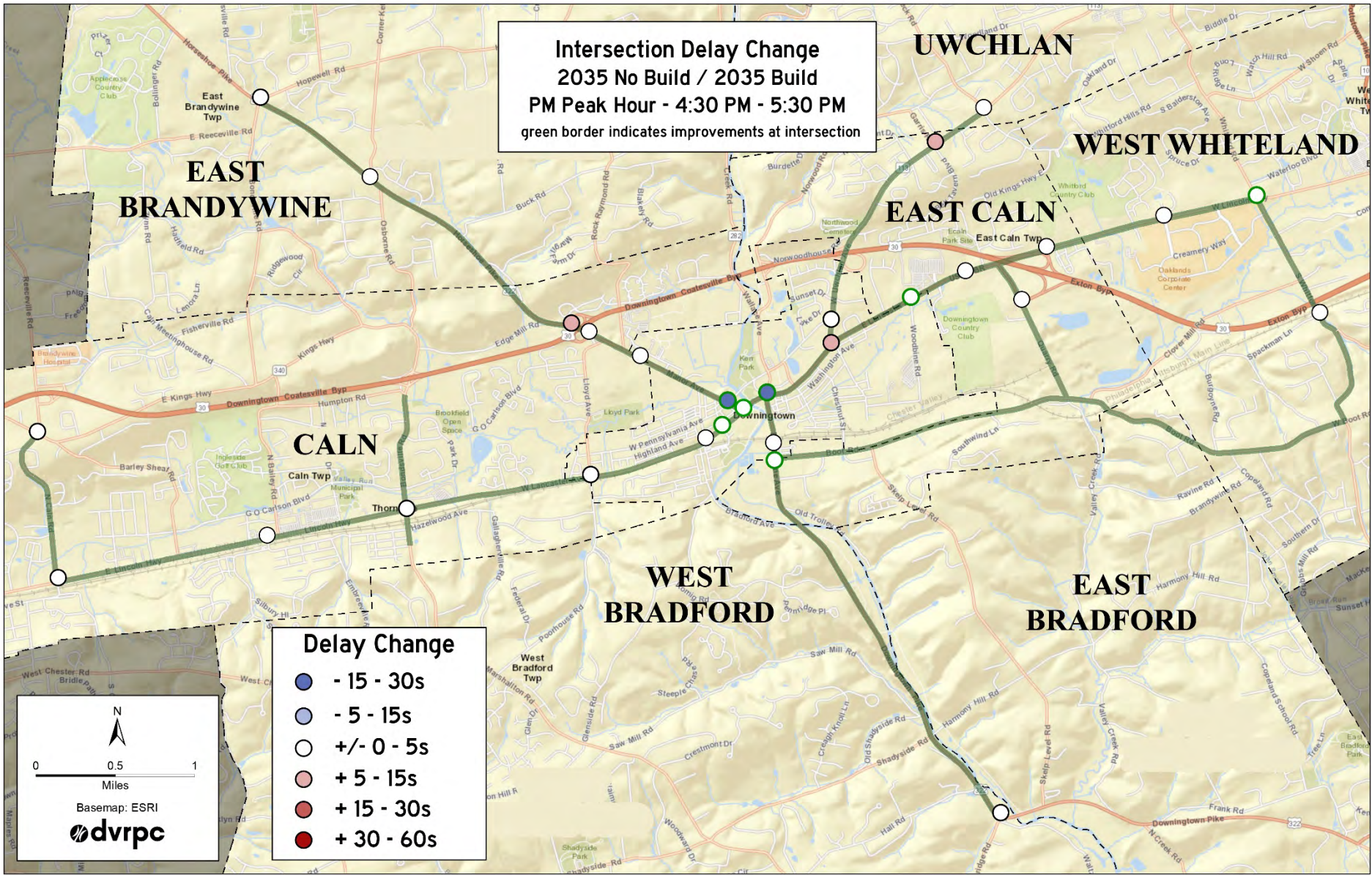
A/a ●	B/b ● Predictable and Stable Flow
C/c ○	D/d ● Predictable, Approaching Unstable
E/e ●	F/f ● Unstable and Unpredictable


 0 0.5 1
 Miles
 Basemap: ESRI


Intersection Delay Change
Existing Conditions / 2035 No Build
PM Peak Hour - 4:30 PM - 5:30 PM
 green border indicates improvements at intersection



PM Existing to No Build Delay Change



Consideration for Improvements

- Improvements were developed at a study intersection if one or more of the following criteria were satisfied:
 - Intersection experiences **LOS E or F** in AM/PM no build or build scenario
 - Intersection experiences **delay increase of over 15s** between AM/PM existing to no build scenario
 - Intersection experiences **delay increase of over 15s** between AM/PM no build to build scenario
 - **Twenty or more crash events** reported at intersection within 5-year study period, in 5-year period of 2014 through 2018

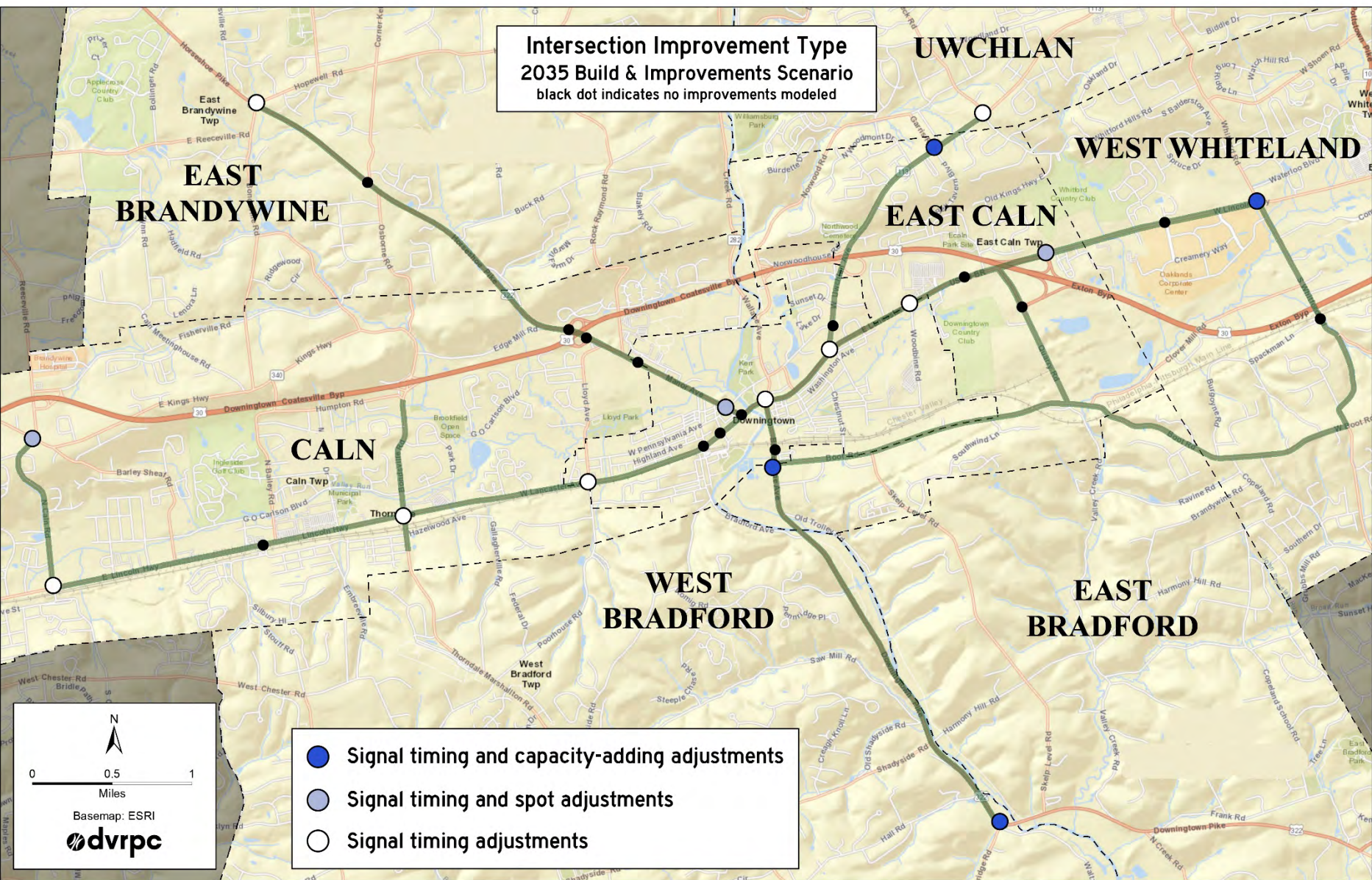
Improvement Development

- Hierarchy of improvements:
 1. No improvements developed: intersection does not meet conditions for consideration
 2. Signal timing optimization
 3. Spot adjustments (e.g. Add turn lane, extend storage lane)
 4. Capacity-adding adjustments
 5. No improvements developed: cost-prohibitive

Build & Improvements Overview

- 15 intersections with project team-recommended improvements
 - Downtown (6)
 - Caln (3)
 - East Caln (2)
 - West Bradford, East Brandywine, West Whiteland, Uwchlan (1 each)
- 7 intersections with recommended geometric roadway improvements (3 spot, 4 capacity-adding)

**Intersection Improvement Type
2035 Build & Improvements Scenario**
black dot indicates no improvements modeled



N

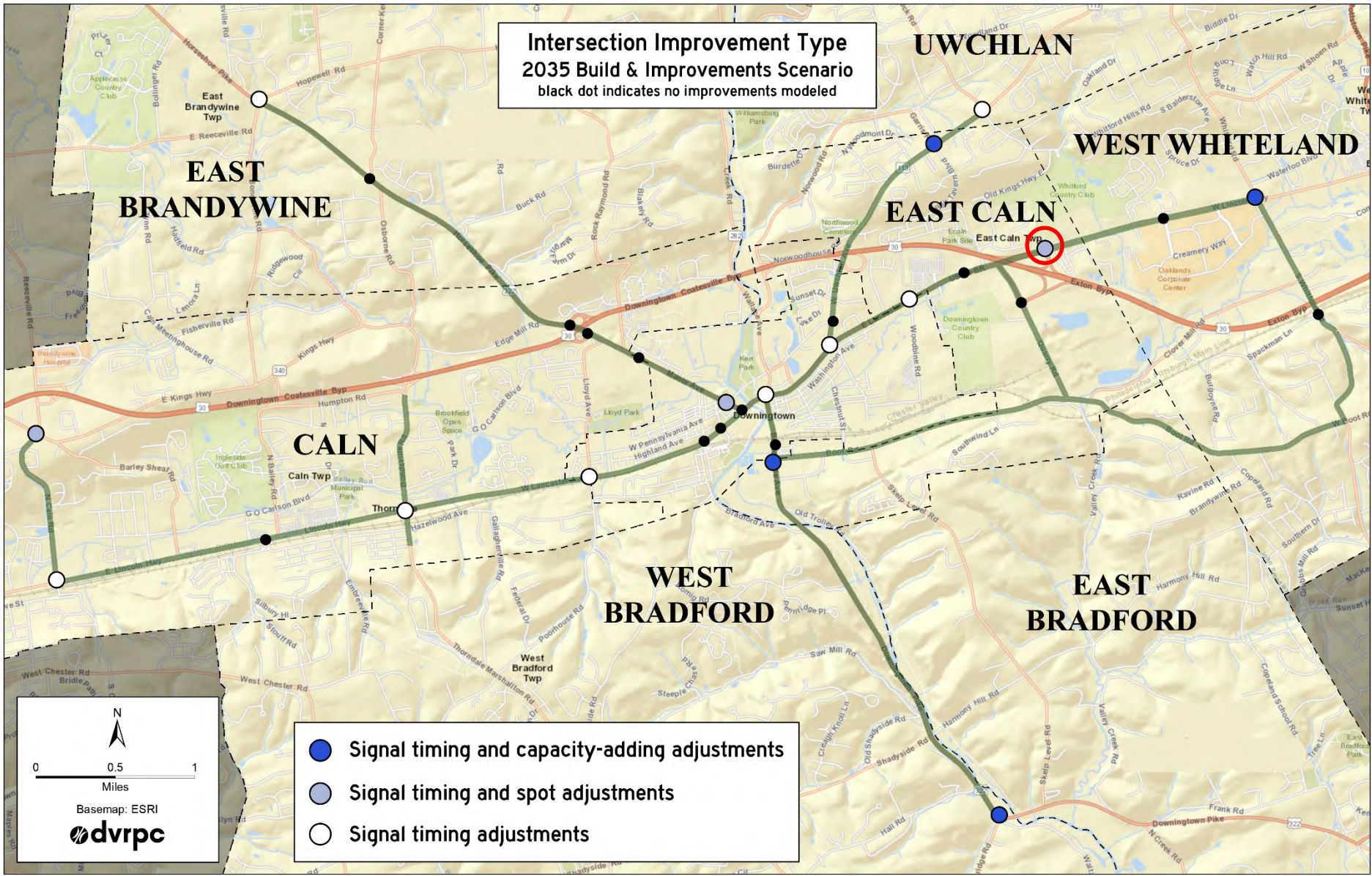
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Miles



Basemap: ESRI




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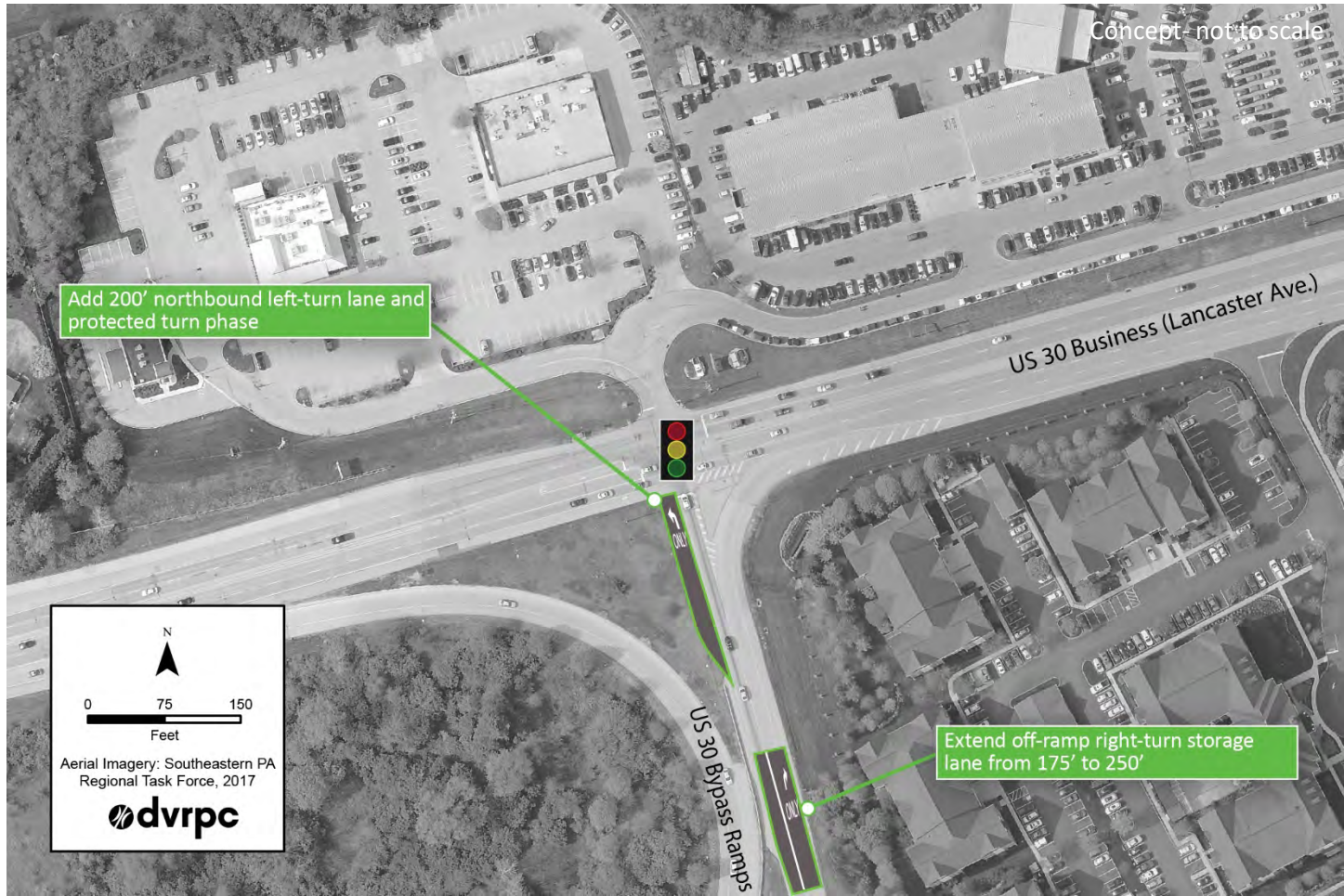
- Signal timing and capacity-adding adjustments
- Signal timing and spot adjustments
- Signal timing adjustments

Intersection Improvement Type
2035 Build & Improvements Scenario
 black dot indicates no improvements modeled




 0 0.5 1
 Miles
 Basemap: ESRI


-  Signal timing and capacity-adding adjustments
-  Signal timing and spot adjustments
-  Signal timing adjustments



AM 2035 Build Delay: **31.0s**

PM 2035 Build Delay: **96.1s**

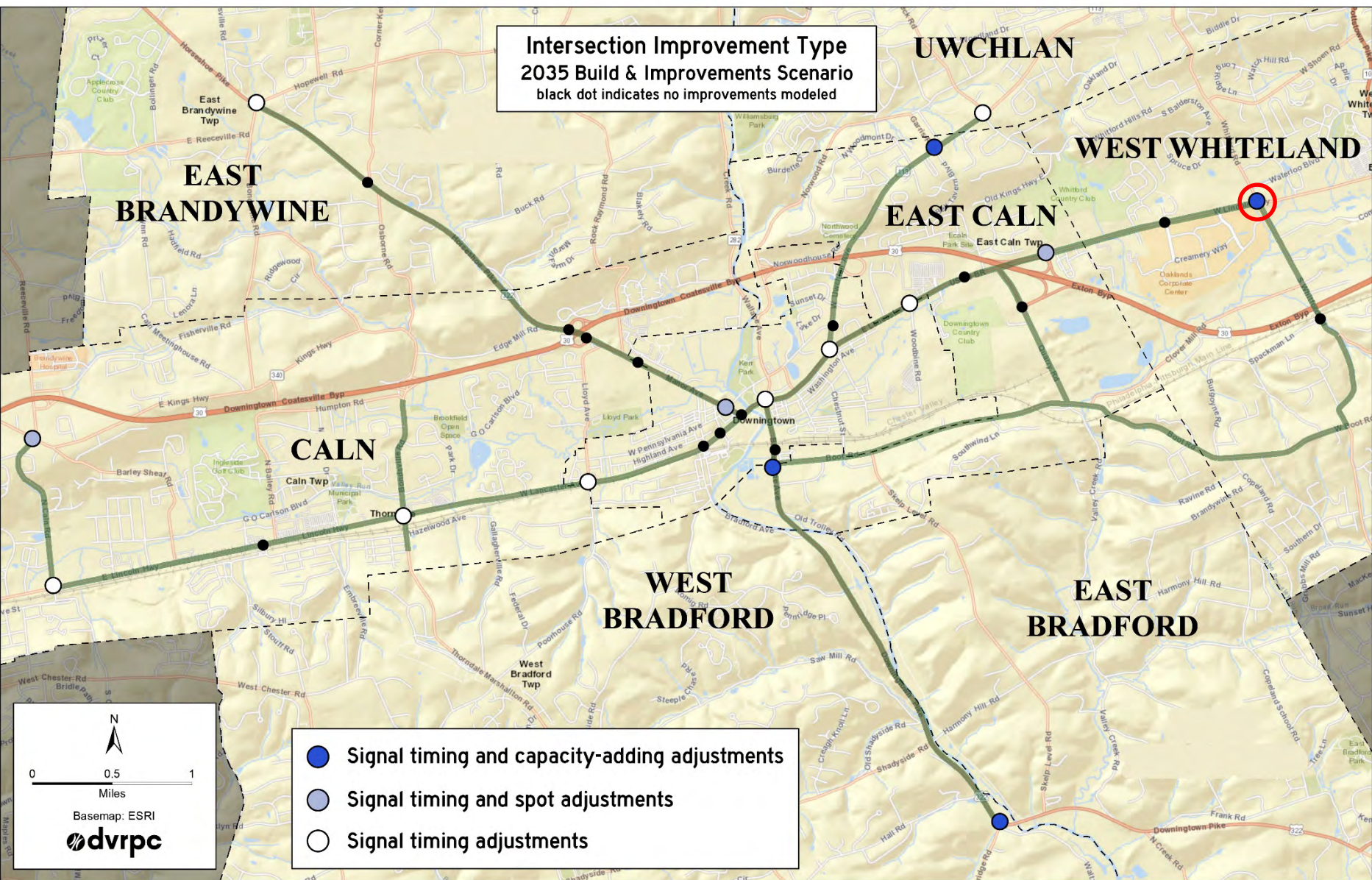
AM 2035 B&I Delay: **28.6s**

PM 2035 B&I Delay: **71.2s**



US 30 Bypass Ramps & US 30 Business

Intersection Improvement Type
2035 Build & Improvements Scenario
black dot indicates no improvements modeled



- Signal timing and capacity-adding adjustments
- Signal timing and spot adjustments
- Signal timing adjustments



AM 2035 Build Delay: **45.5s**

PM 2035 Build Delay: **87.6s**

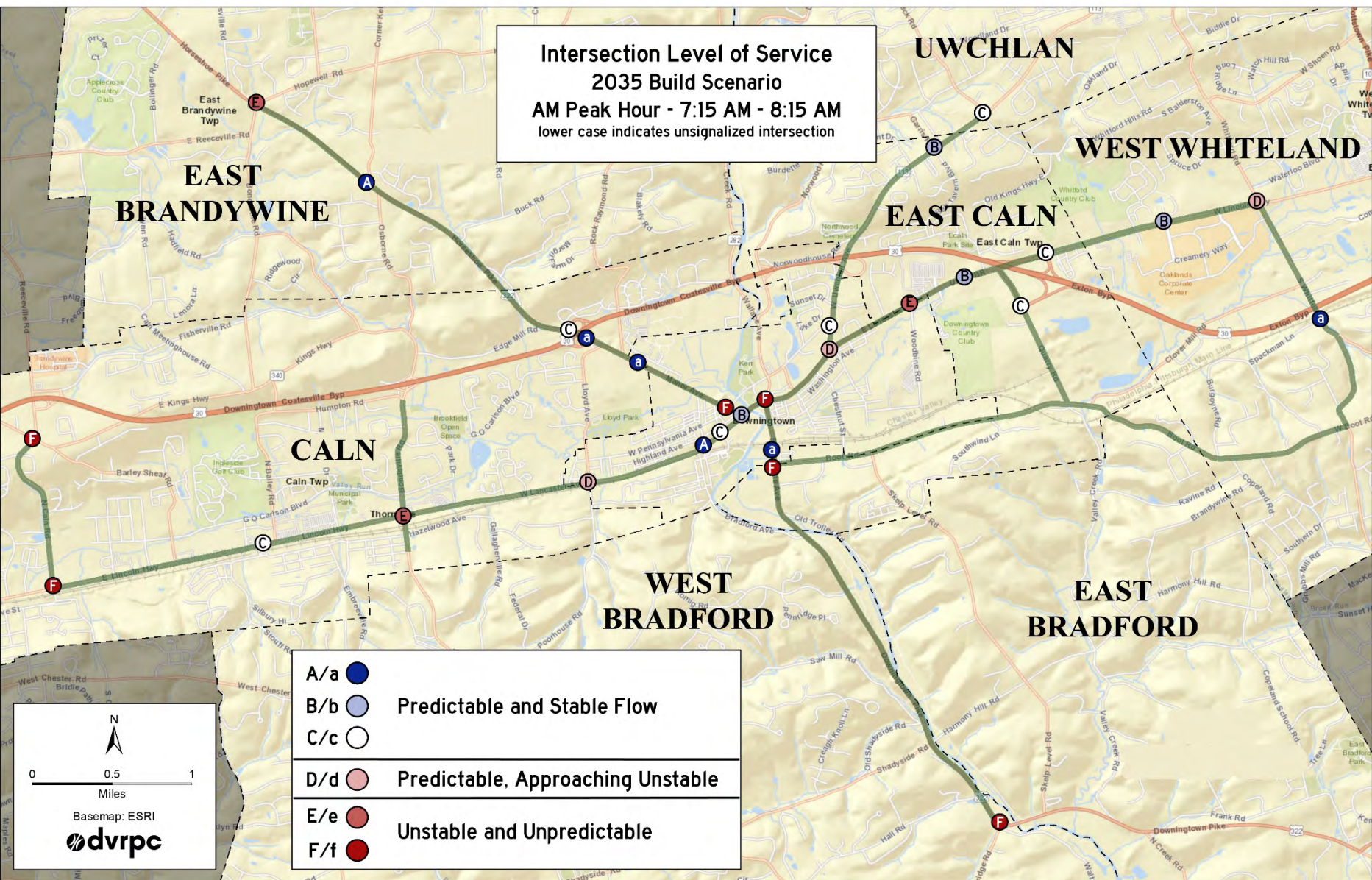
AM 2035 B&I Delay: **35.6s**

PM 2035 B&I Delay: **46.4s**



US 30 Business & Whitford Rd.

Intersection Level of Service
2035 Build Scenario
AM Peak Hour - 7:15 AM - 8:15 AM
 lower case indicates unsignalized intersection



A/a	●	Predictable and Stable Flow
B/b	○	
C/c	○	Predictable, Approaching Unstable
D/d	○	
E/e	●	Unstable and Unpredictable
F/f	●	

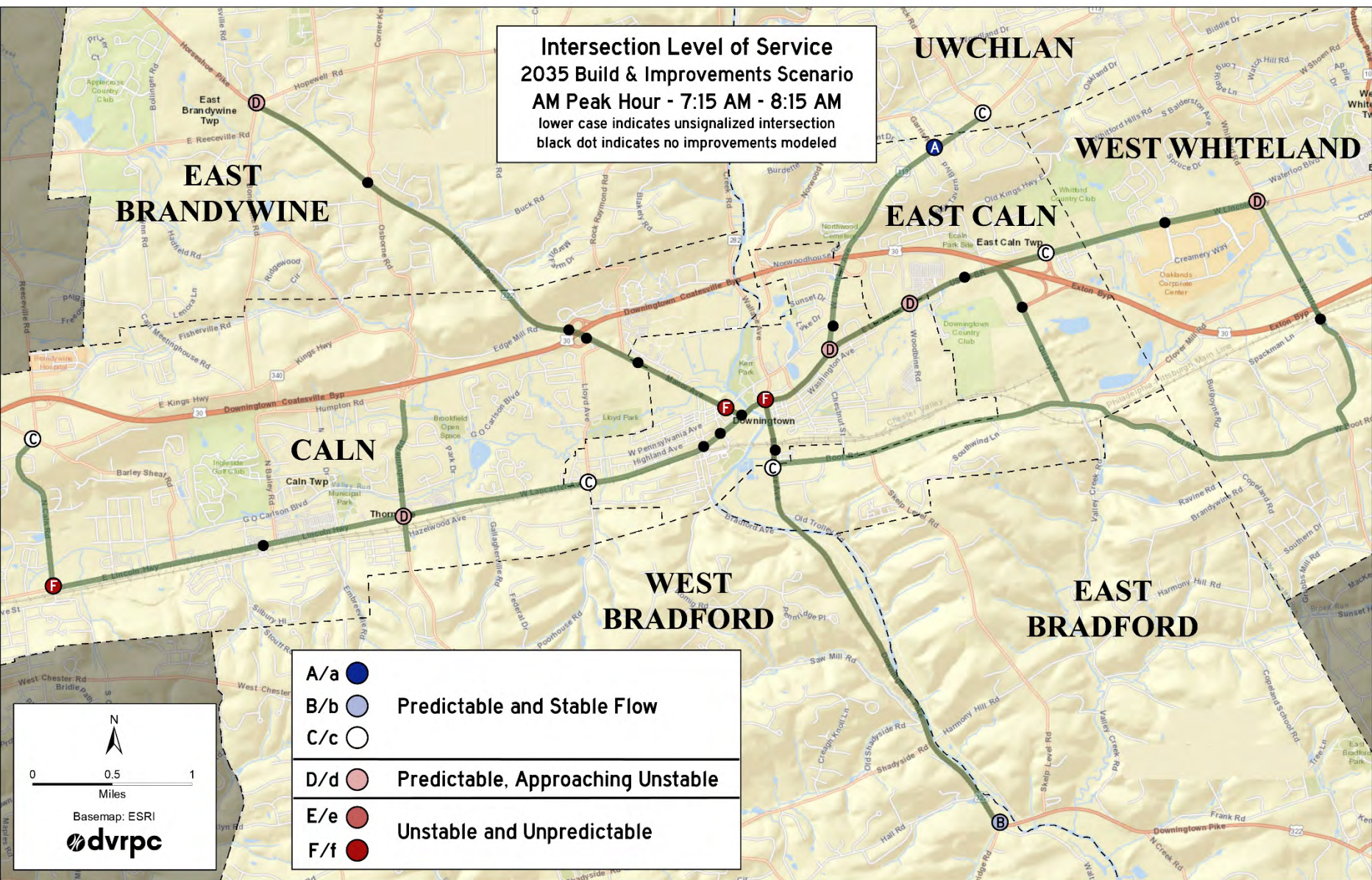
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Miles



Basemap: ESRI

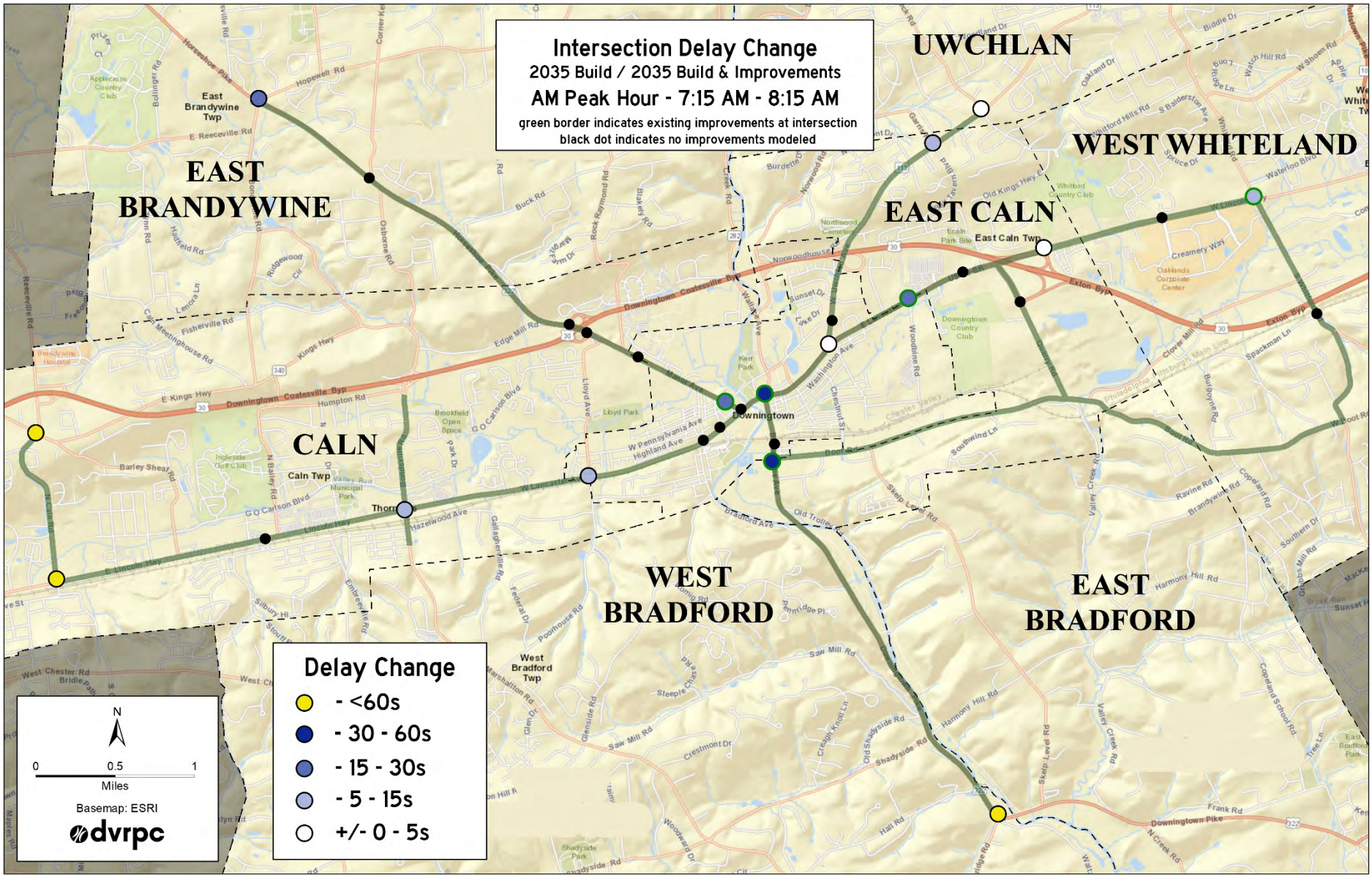
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Intersection Level of Service
2035 Build & Improvements Scenario
AM Peak Hour - 7:15 AM - 8:15 AM
 lower case indicates unsignalized intersection
 black dot indicates no improvements modeled

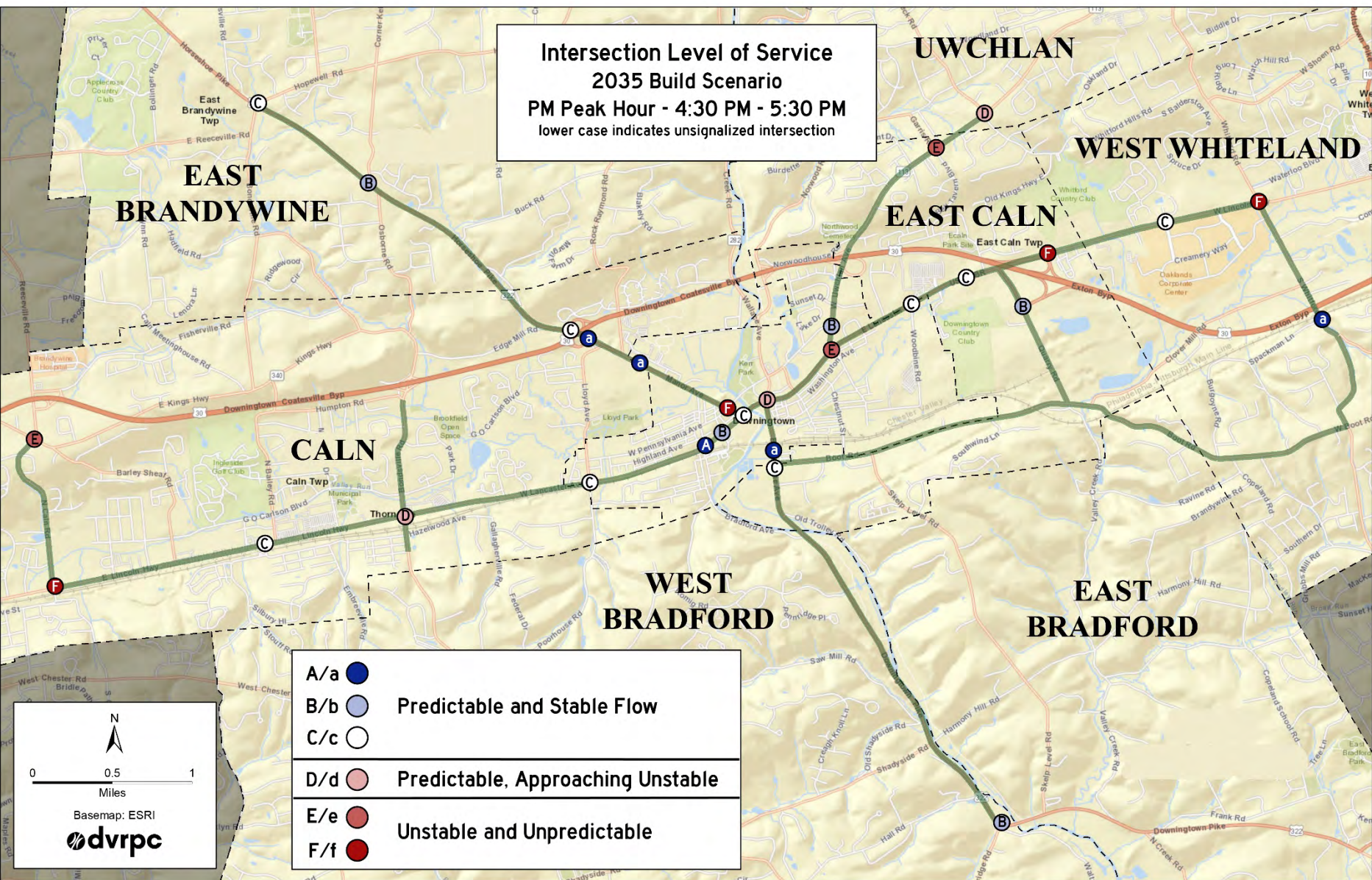


A/a ●	Predictable and Stable Flow
B/b ○	
C/c ○	Predictable, Approaching Unstable
D/d ○	
E/e ●	Unstable and Unpredictable
F/f ●	




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 Miles
 Basemap: ESRI




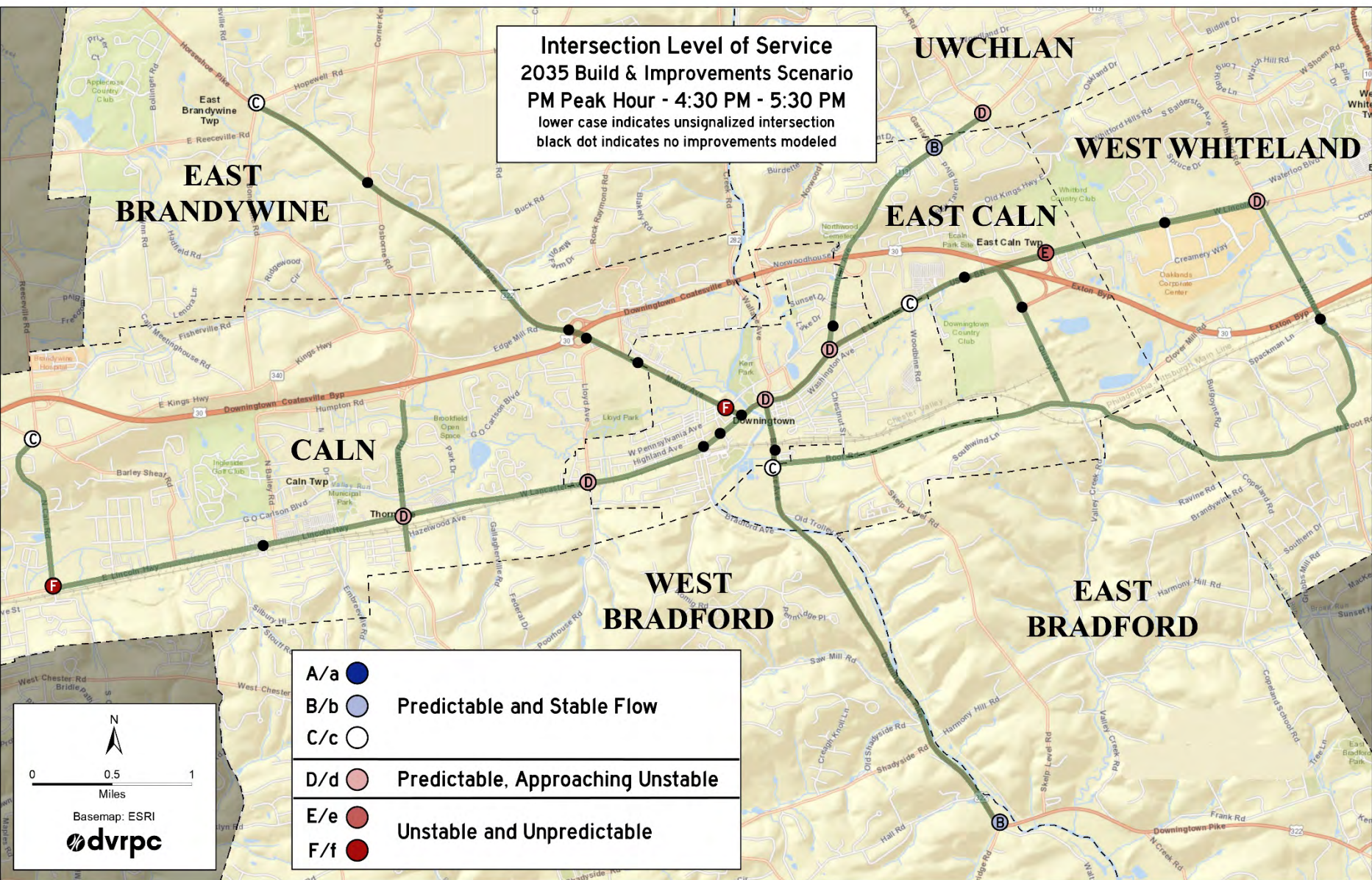
Intersection Level of Service
2035 Build Scenario
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A/a	●	Predictable and Stable Flow
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C/c	○	Predictable, Approaching Unstable
D/d	○	
E/e	●	Unstable and Unpredictable
F/f	●	

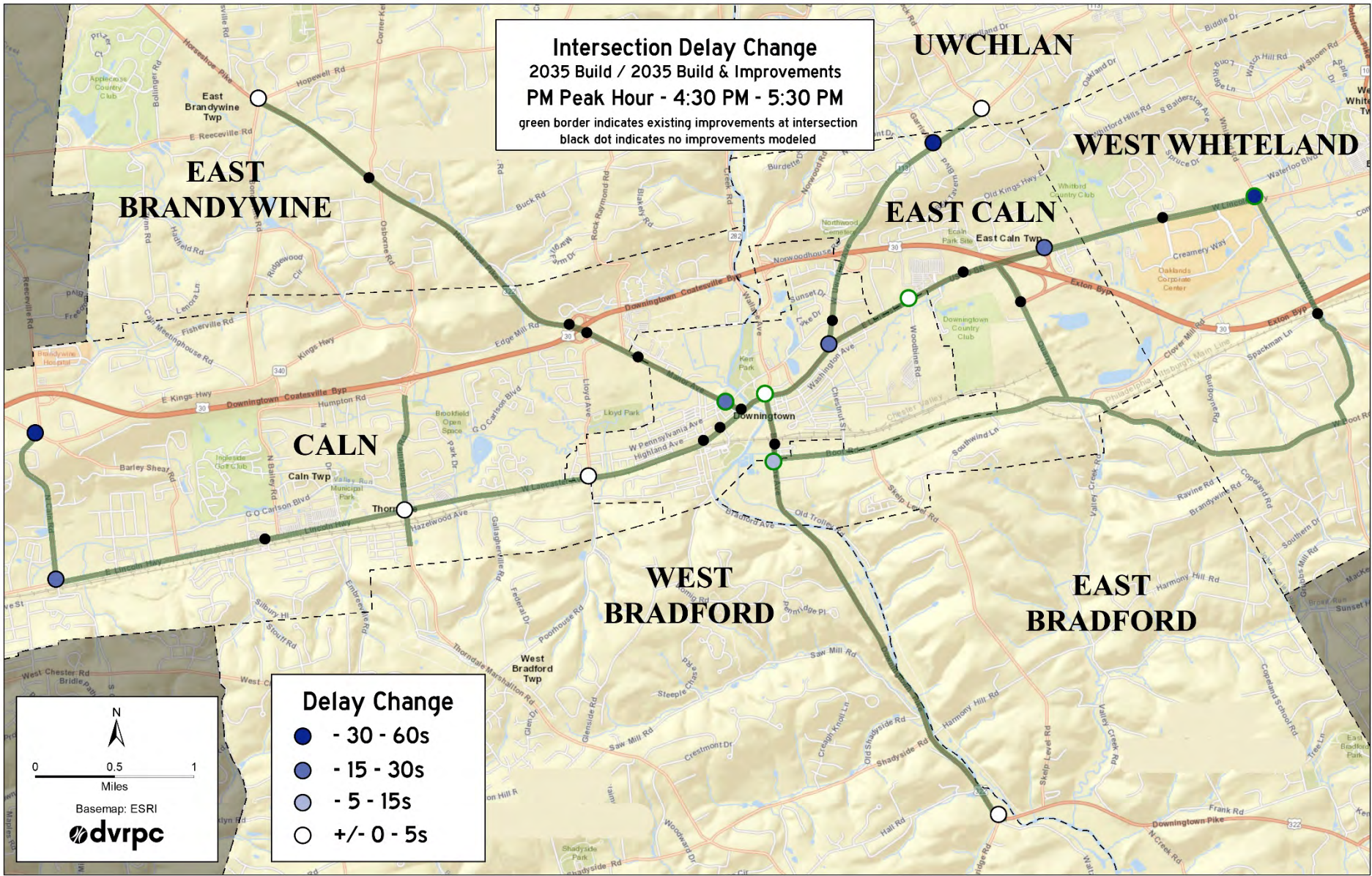

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 Miles
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Intersection Level of Service
2035 Build & Improvements Scenario
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B/b	●	
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D/d	○	
E/e	●	Unstable and Unpredictable
F/f	●	


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 Miles
 Basemap: ESRI




Bicycle Network

Lancaster Ave., Downingtown Borough

Bicycle Network: Goals

1. Connect the new SEPTA station on Brandywine Ave to the downtown core
2. Provide access to local parks and trails
3. Improve the accessibility of Lancaster Avenue for non-motorized road users
4. Facilitate East/West and North/South travel across Downingtown with a gridded network

Bicycle Network: Design Approach

- Excess street space is rare in Downtown
- **Bicycle lanes**, where feasible, are recommended
- **Bicycle boulevards** are recommended where there is insufficient space for bicycle lanes

What is a Bicycle Boulevard?

- Streets with low traffic volumes that are redesigned for bicycle priority
- Design elements include signs, markings, and speed/volume management measures



Photo credit: NACTO Urban Bikeway Design Guide

What is a Bicycle Boulevard?

Destination-based guide signs with approximate travel times



Speed management

Volume management



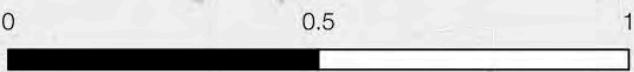
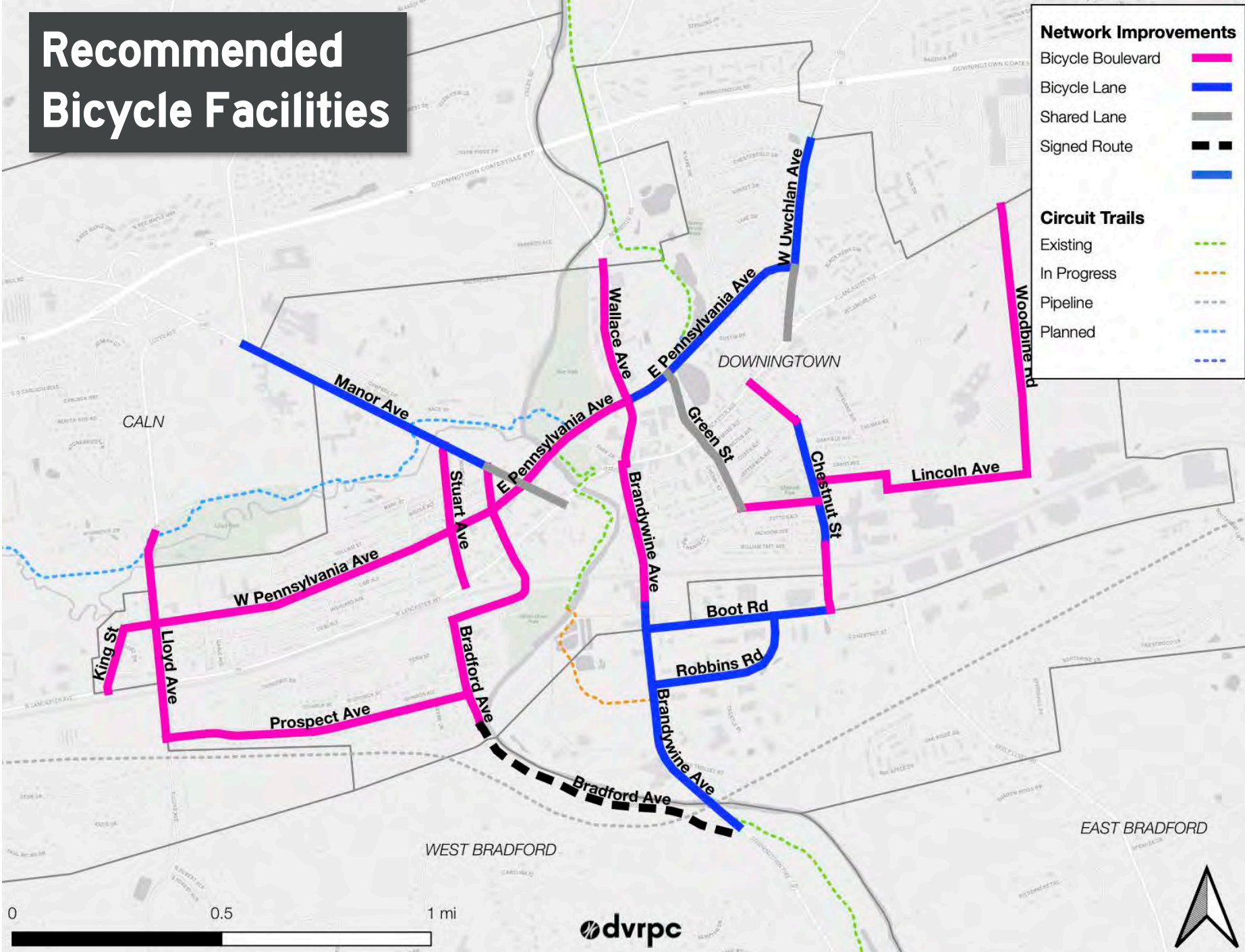
Recommended Bicycle Facilities

Network Improvements

- Bicycle Boulevard
- Bicycle Lane
- Shared Lane
- Signed Route
-

Circuit Trails

- Existing
- In Progress
- Pipeline
- Planned



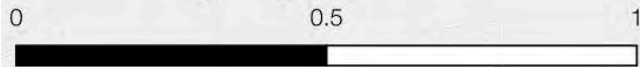
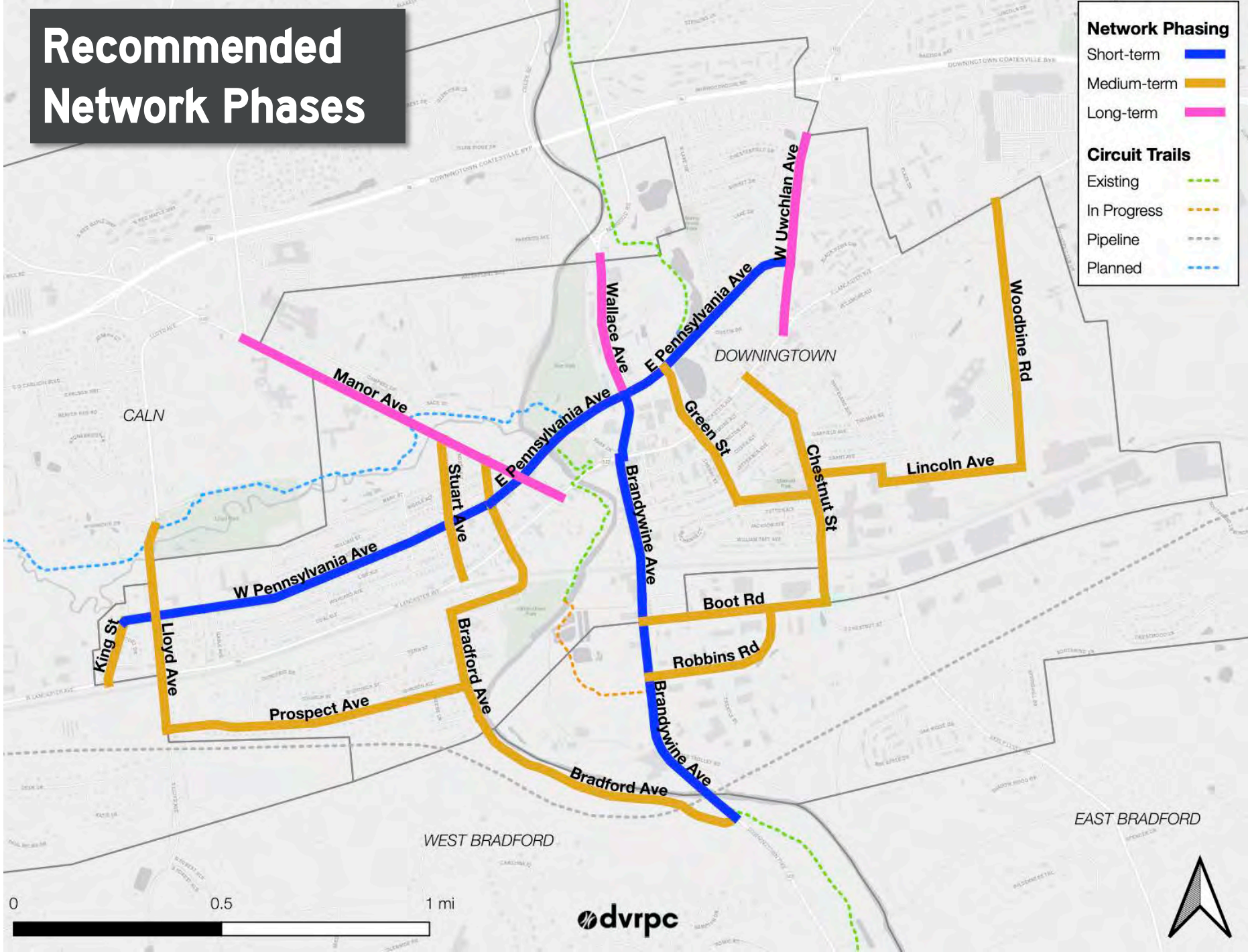
Recommended Network Phases

Network Phasing

- Short-term 
- Medium-term 
- Long-term 

Circuit Trails

- Existing 
- In Progress 
- Pipeline 
- Planned 



Wrap Up and Q&A

↓ 12 FT 2 IN ↓

Boot Road, East Caln Township

Thank you.

Camden Palvino
Transportation Engineer
cpalvino@dvrpc.org