



Montgomery Planning Shady Grove Minor Master Plan Amendment

Existing Transportation Conditions Review

May 20, 2019

Mill Creek Towne Elementary School



Evening Agenda

- 2006 Vision
- Bus Rapid Transit
- Existing Conditions
 - Vehicle Mobility & Safety
 - Walking and Bicycling Mobility & Safety
 - Transit and Multimodal Goals
- Next Steps
- Stations Overview
 - Roadways
 - Walking and Bicycling
 - Transit



Project Purpose

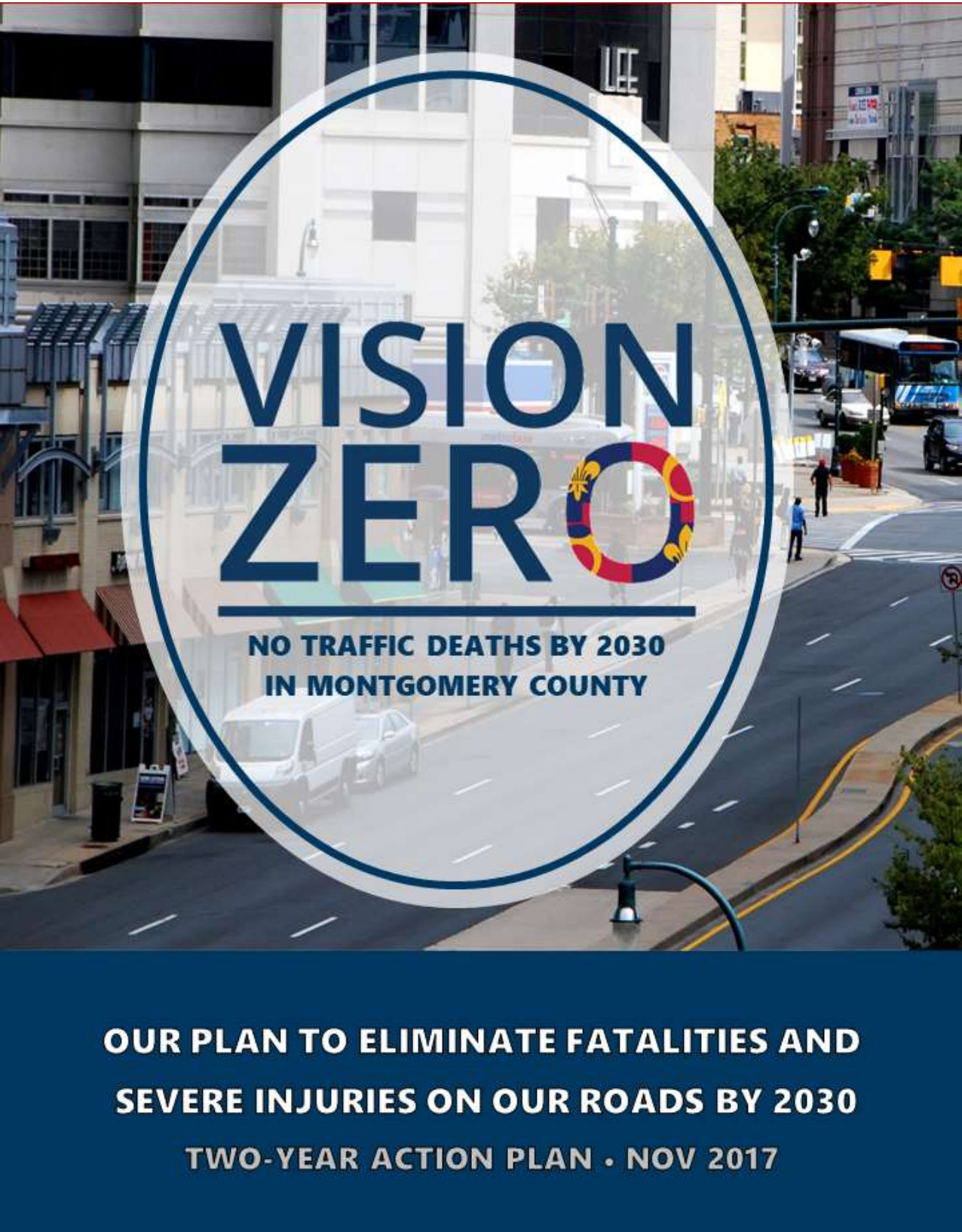
Questions Minor Master Plan Amendment Process Should Answer:

1. Are the proposed staging interchanges necessary, feasible, and realistic?
2. Have the 2006 Plan's transportation recommendations kept pace with best practices and new policy, such as:
 1. Bus Rapid Transit Planning
 2. Vision Zero
 3. Bicycle Master Plan



MD 355 & Gude Drive – Interchange Location per 2006 Plan

Current Transportation Considerations



VISION ZERO

NO TRAFFIC DEATHS BY 2030
IN MONTGOMERY COUNTY

OUR PLAN TO ELIMINATE FATALITIES AND SEVERE INJURIES ON OUR ROADS BY 2030

TWO-YEAR ACTION PLAN • NOV 2017



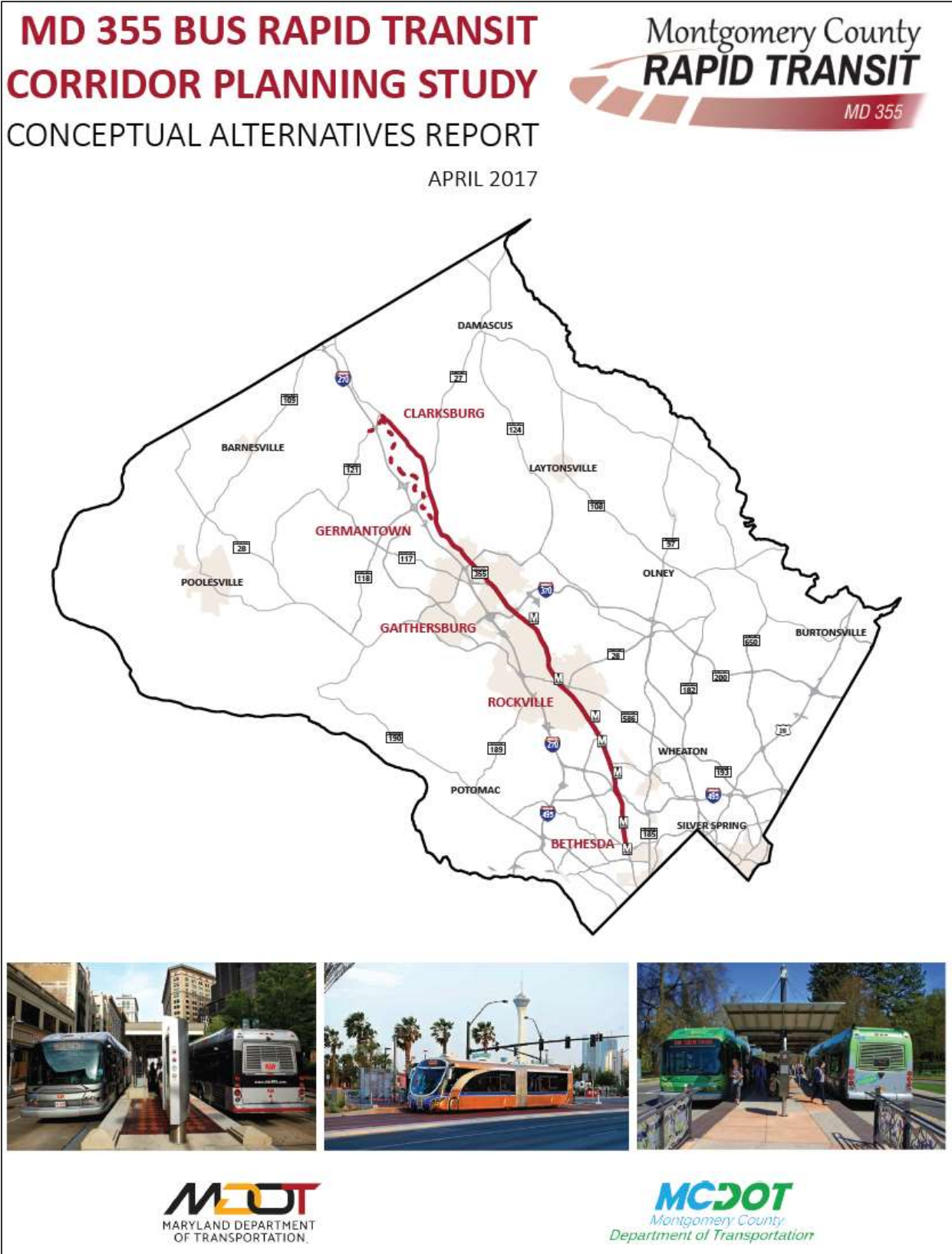
495 270 MANAGED LANES STUDY



Corridor Cities Transitway



THE BICYCLE MASTER PLAN

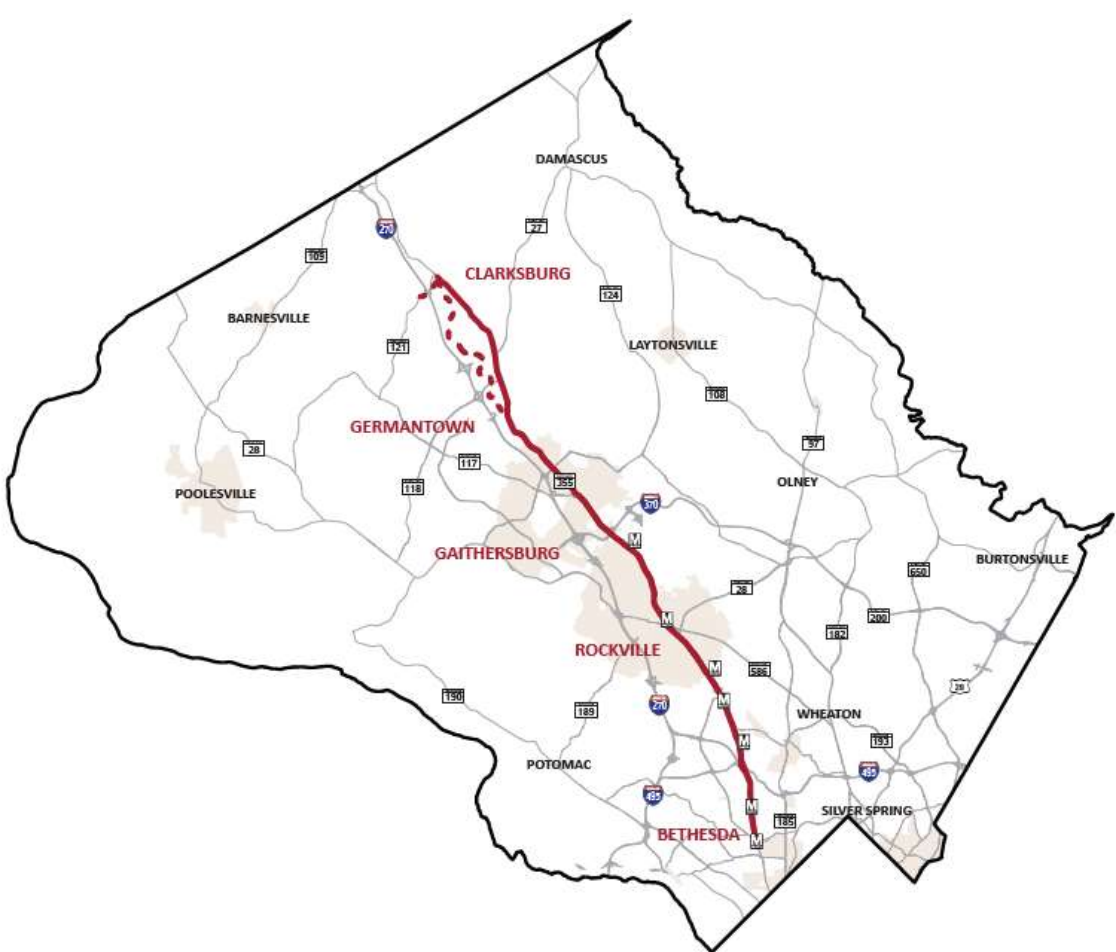


MD 355 BUS RAPID TRANSIT CORRIDOR PLANNING STUDY


CONCEPTUAL ALTERNATIVES REPORT

APRIL 2017

Montgomery County **RAPID TRANSIT** MD 355



DAMASCUS
CLARKSBURG
BARNESVILLE
LAYTONSVILLE
GERMANTOWN
POOLESVILLE
GAITHERSBURG
ROCKVILLE
OLNEY
BURTONSVILLE
POTOMAC
WHEATON
SILVER SPRING
BETHESDA



MDOT
MARYLAND DEPARTMENT OF TRANSPORTATION

MC DOT
Montgomery County
Department of Transportation

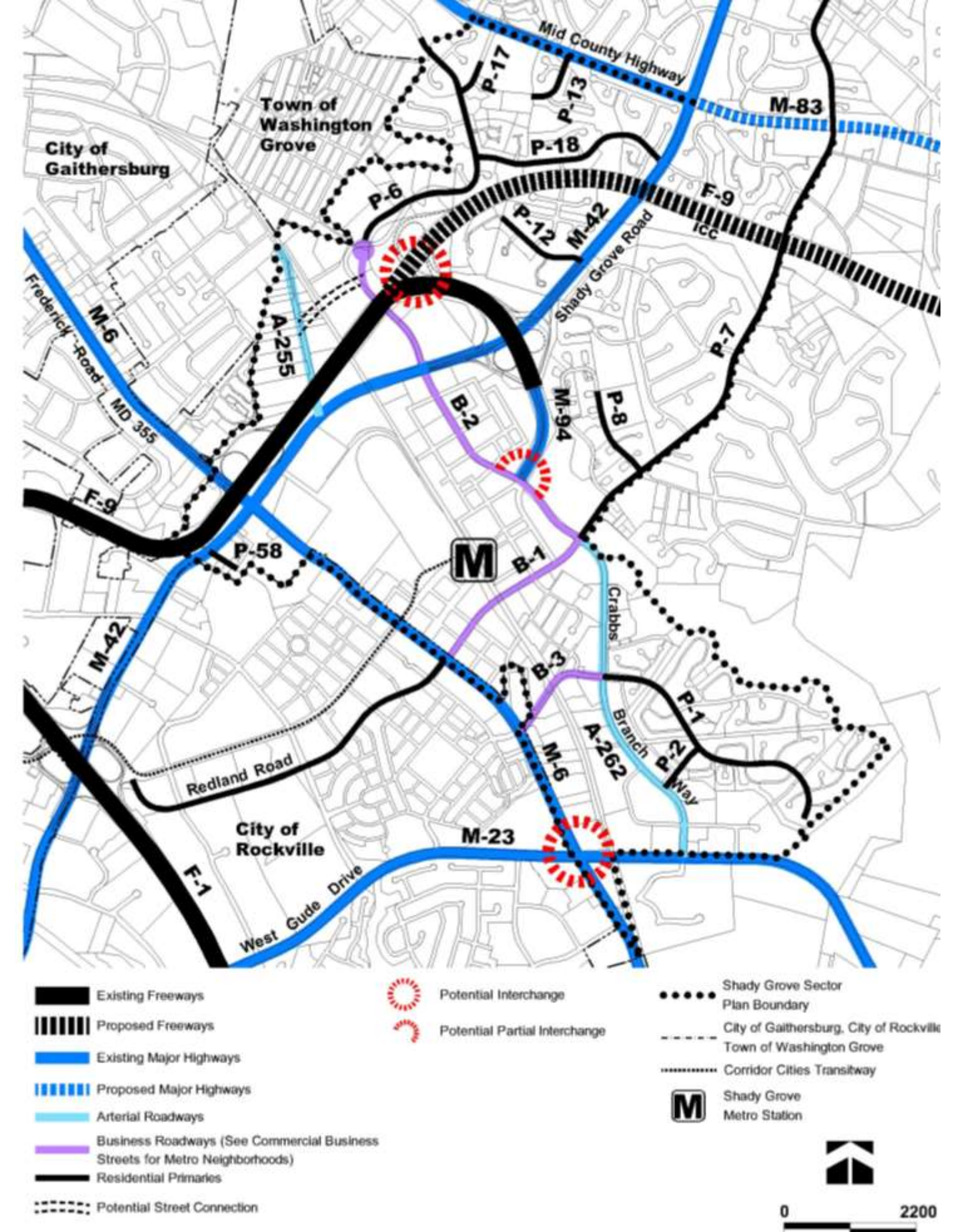
2006 Plan Vision

2006 Sector Plan Road Network

- Intercounty Connector
- 3 Proposed Interchanges
- Crabbs Branch Way
- Streets Network in Metro Station Neighborhood

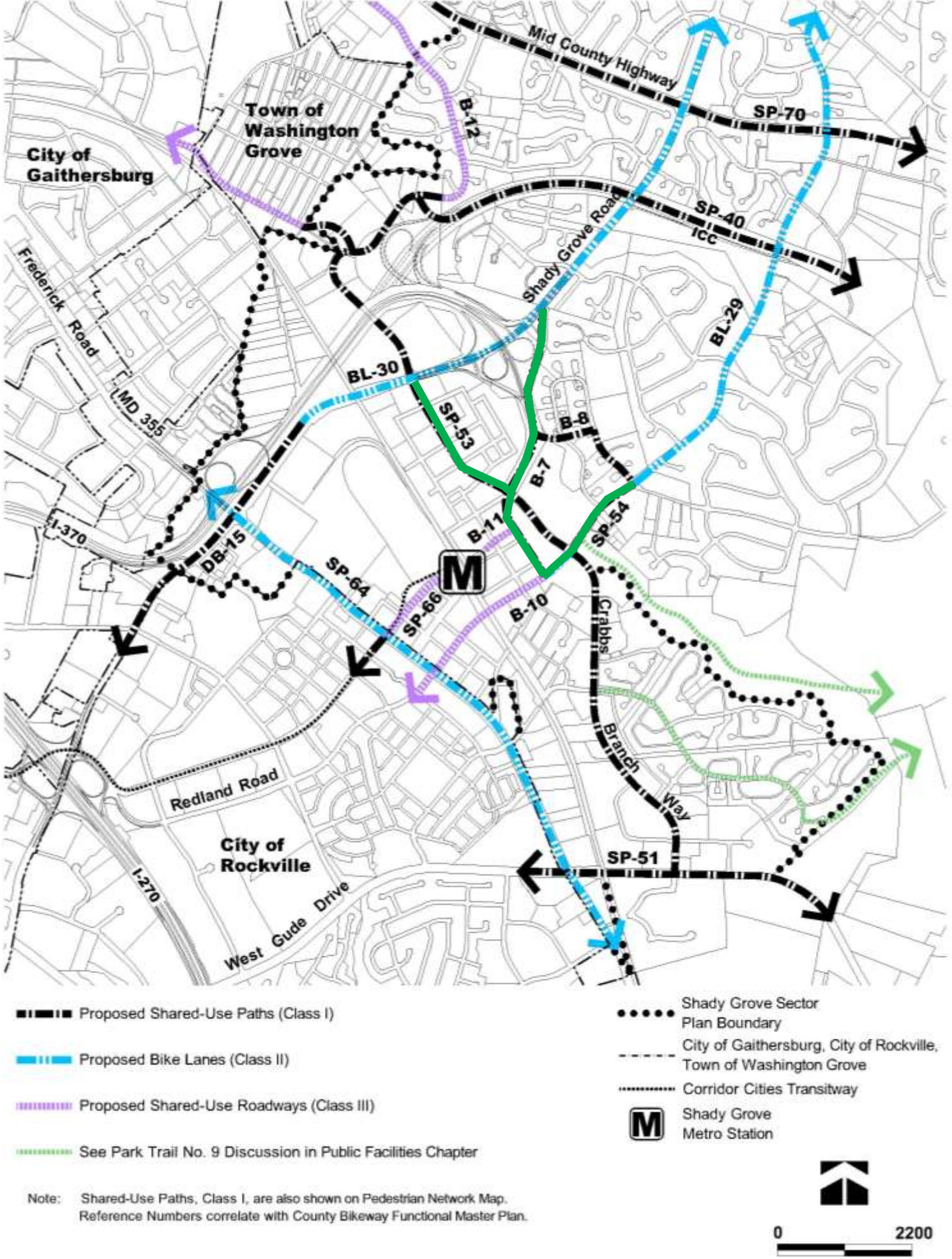


Rebuilt Crabbs Branch Way

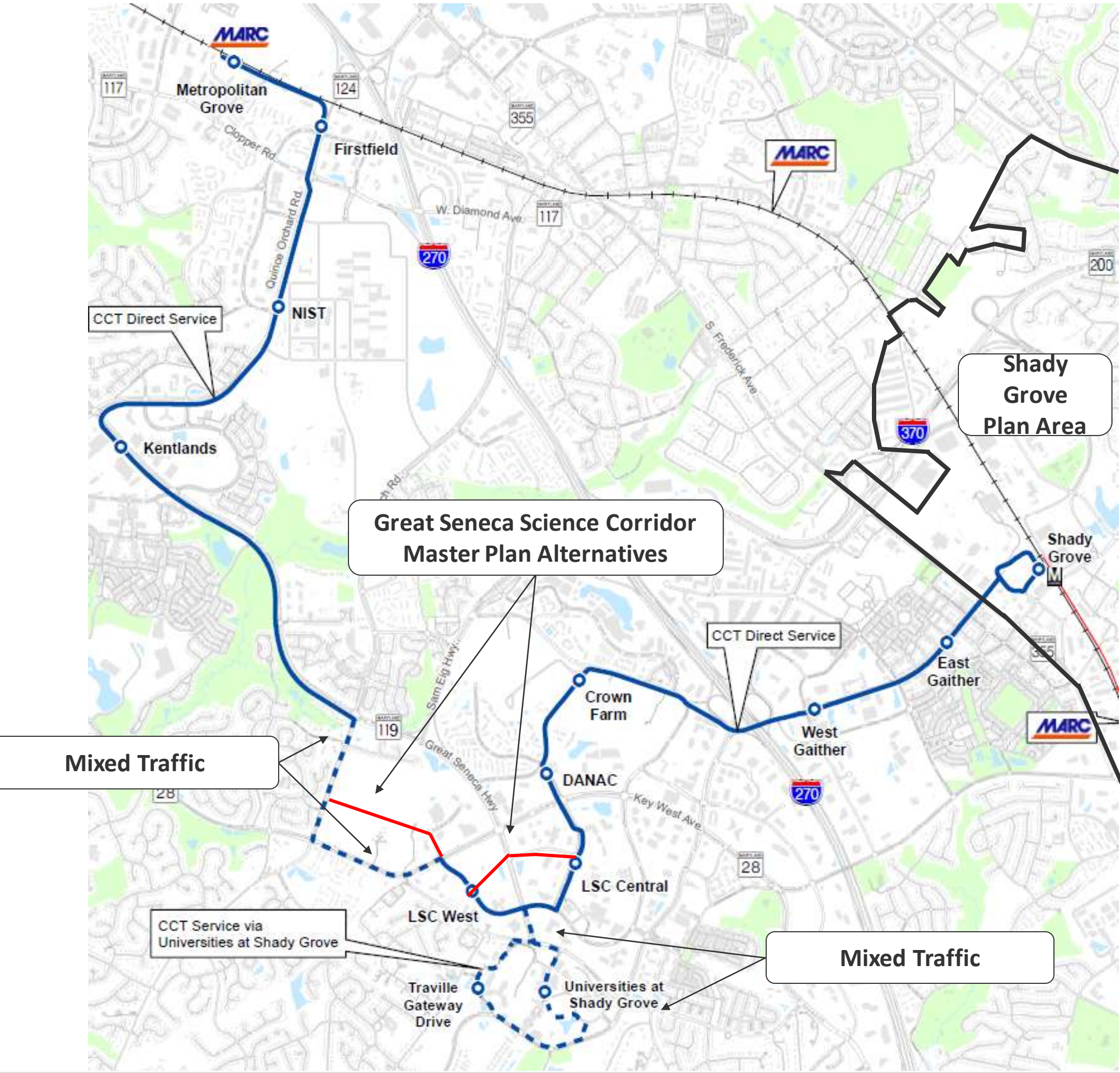
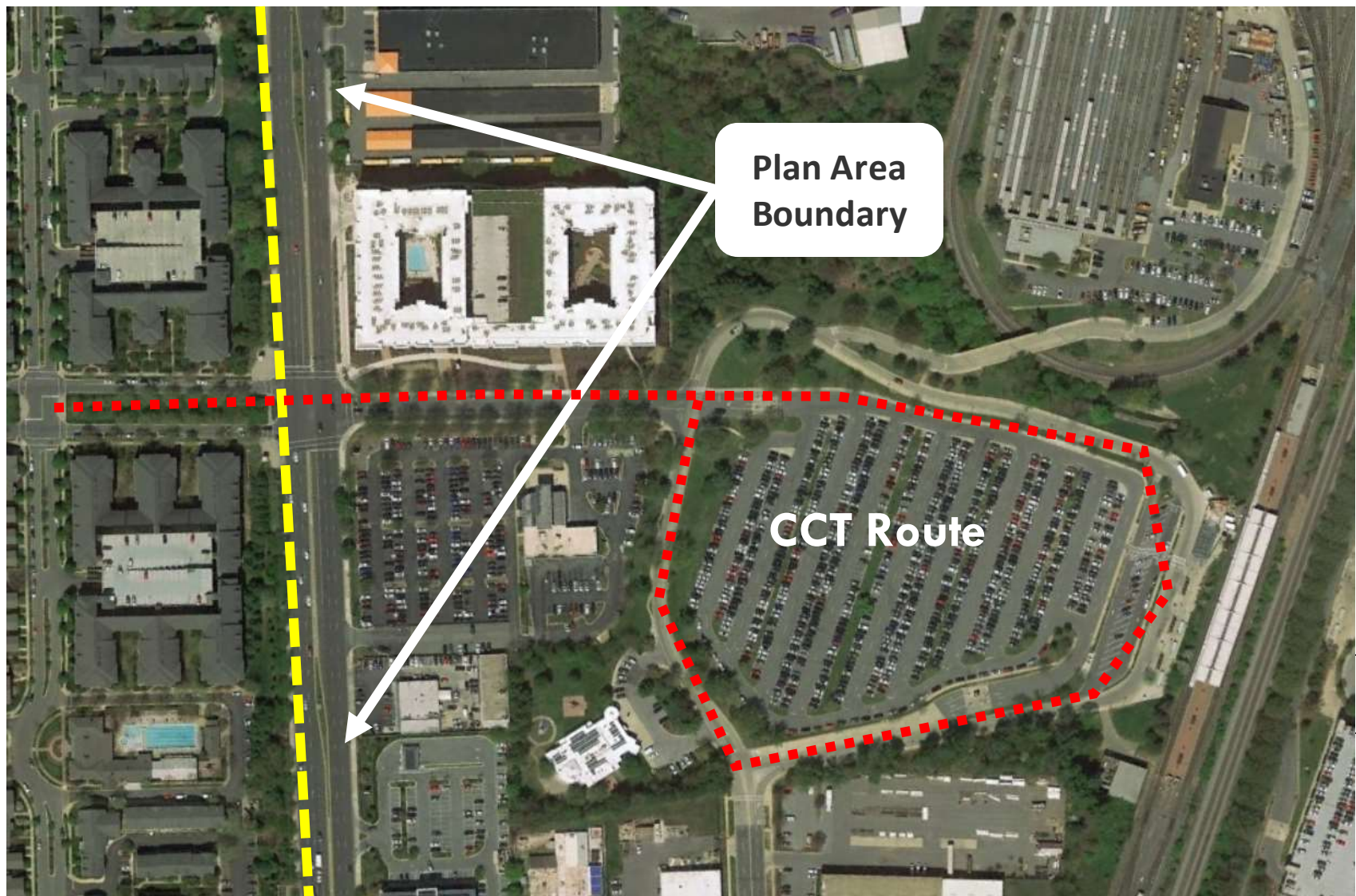


2006 Sector Plan Bicycle Network

Implemented Bikeway Recommendations

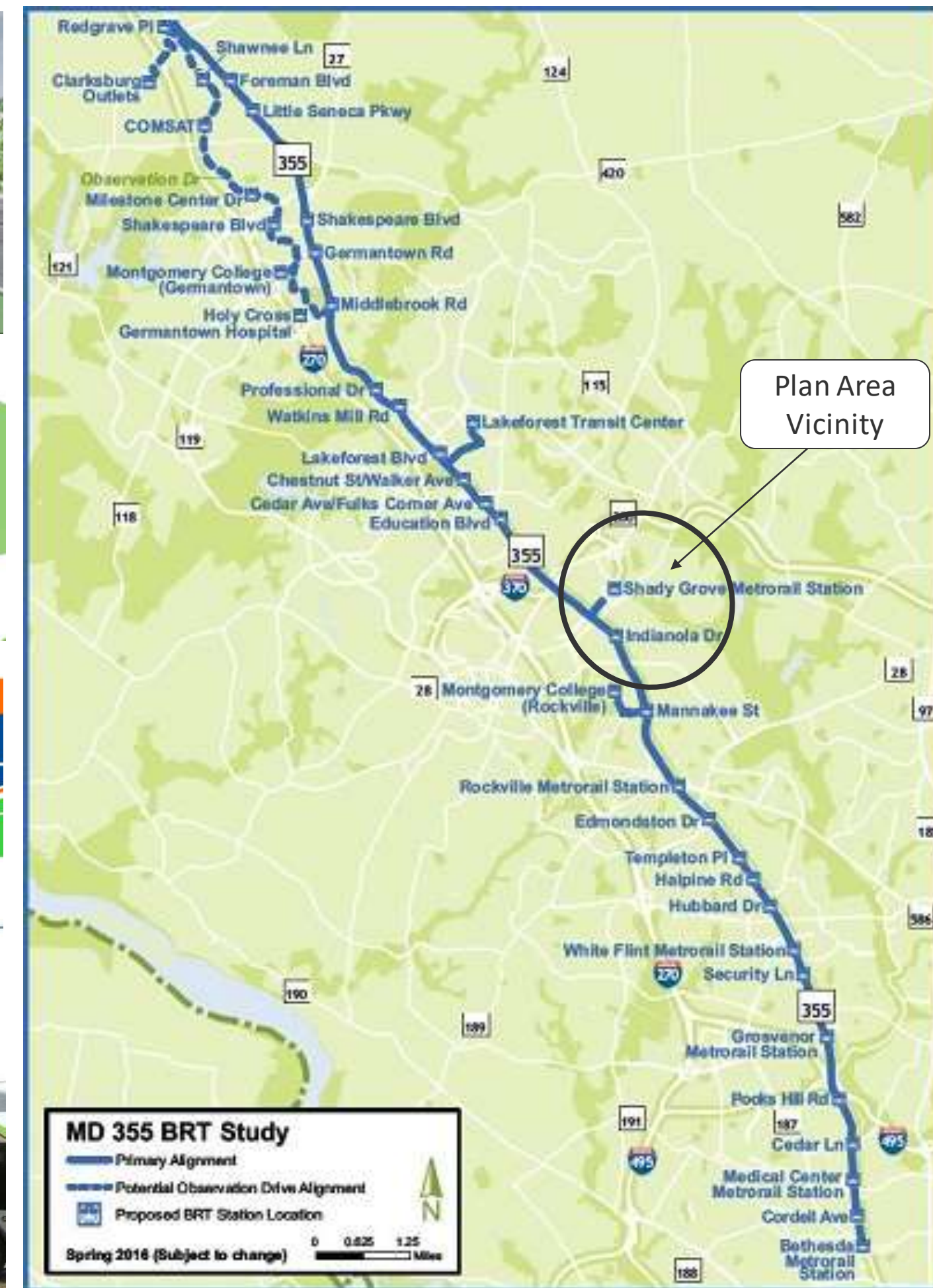
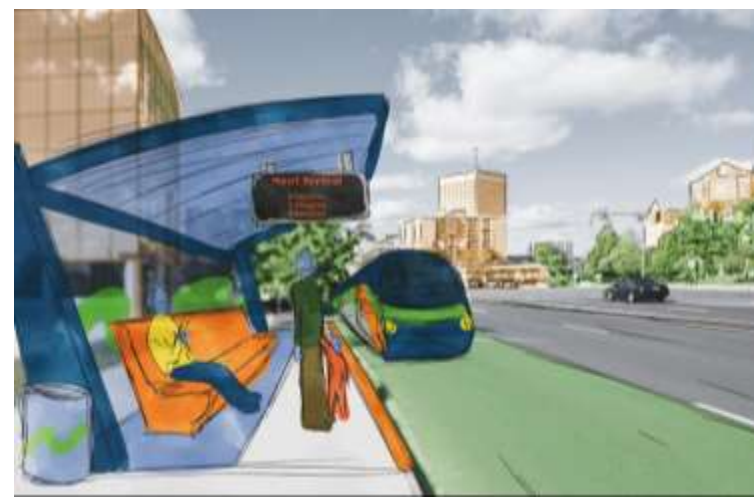


Corridor Cities Transitway (CCT)



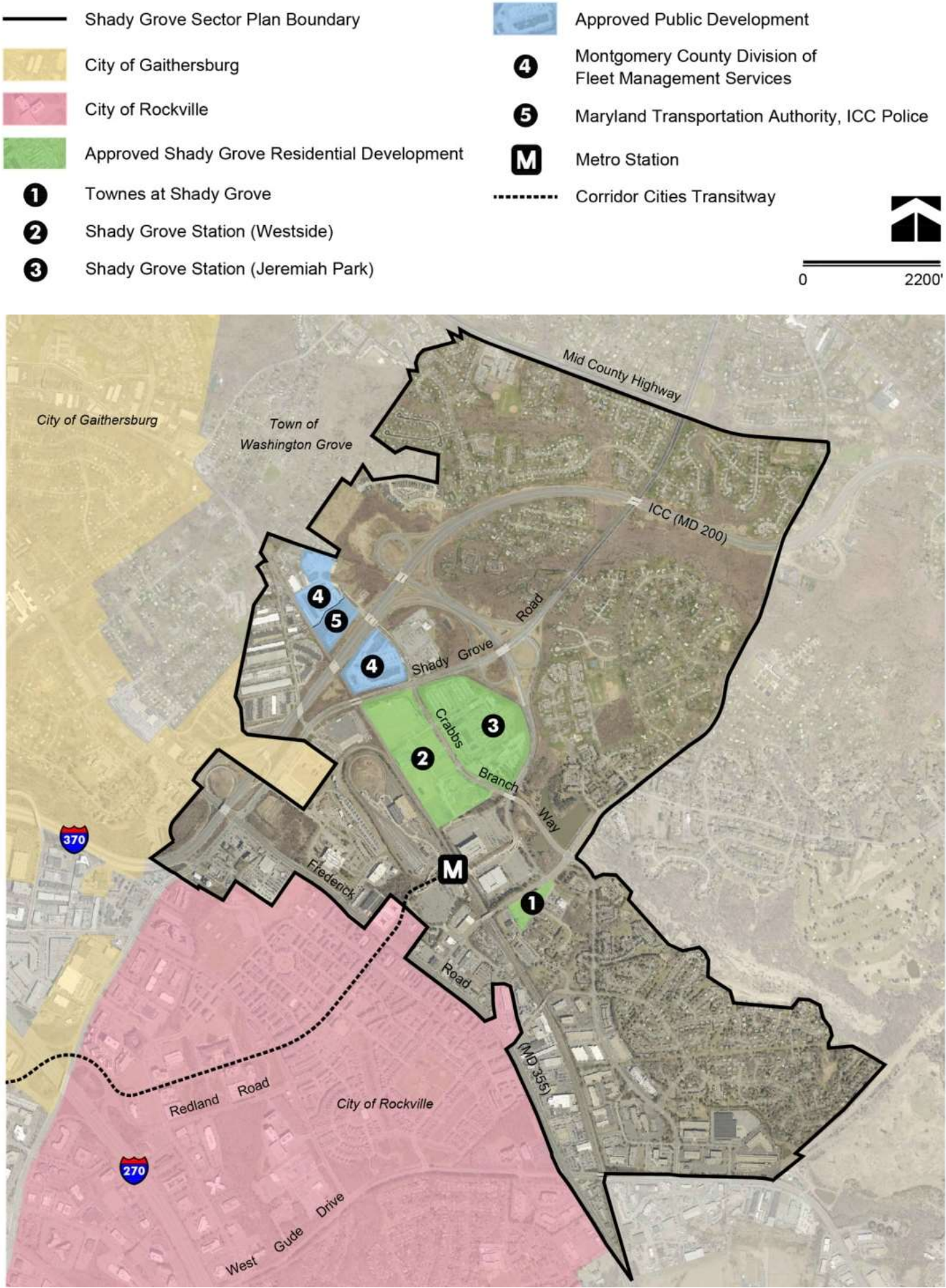
MD 355 Bus Rapid Transit (BRT)

- 4 alternatives under study concurrently with Amendment:
 1. Curb running
 2. Center running
 3. Transportation Systems Management
 4. No-Build
- BRT Stations: Shady Grove Metrorail Station and potentially Indianola Drive vicinity



2006 Staging Plan

	Residential Dwelling Units (DUS)	Non-Residential (Jobs)
Sector Plan Stage 1 Limit	2,540	1,570
1. Townes at Shady Grove	156	NA
2. Shady Grove Station-Westside	1,521	204
3. Shady Grove Station-Jeremiah Park	689	NA
4. Equipment Maintenance and Transit Operations Center	NA	720
5. ICC Maintenance and Police	NA	19
Total	2,366	943
Remaining Stage 1	174	627



2006 Staging Plan

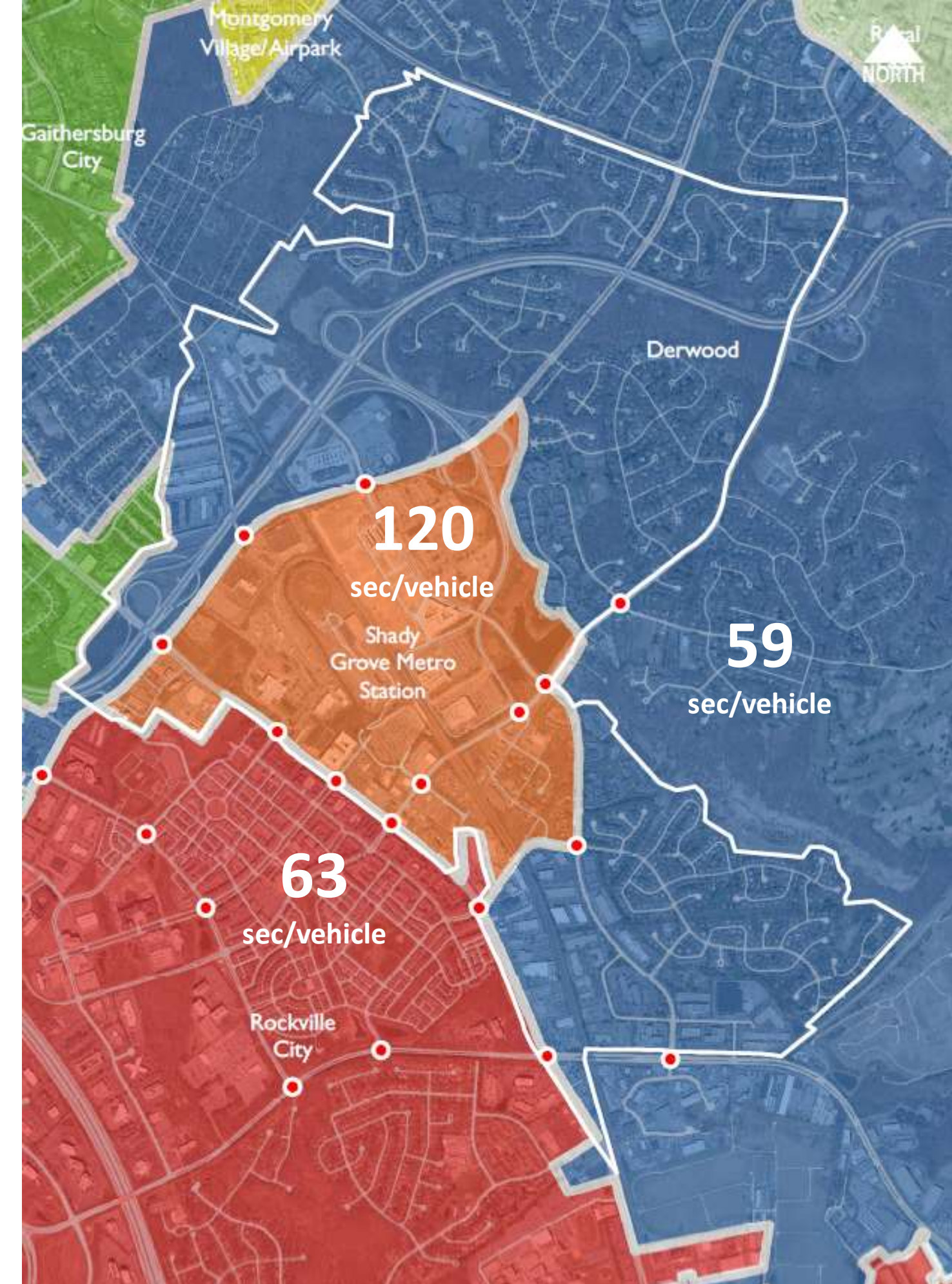
Staging Sequence: Relocation of the County Service Park

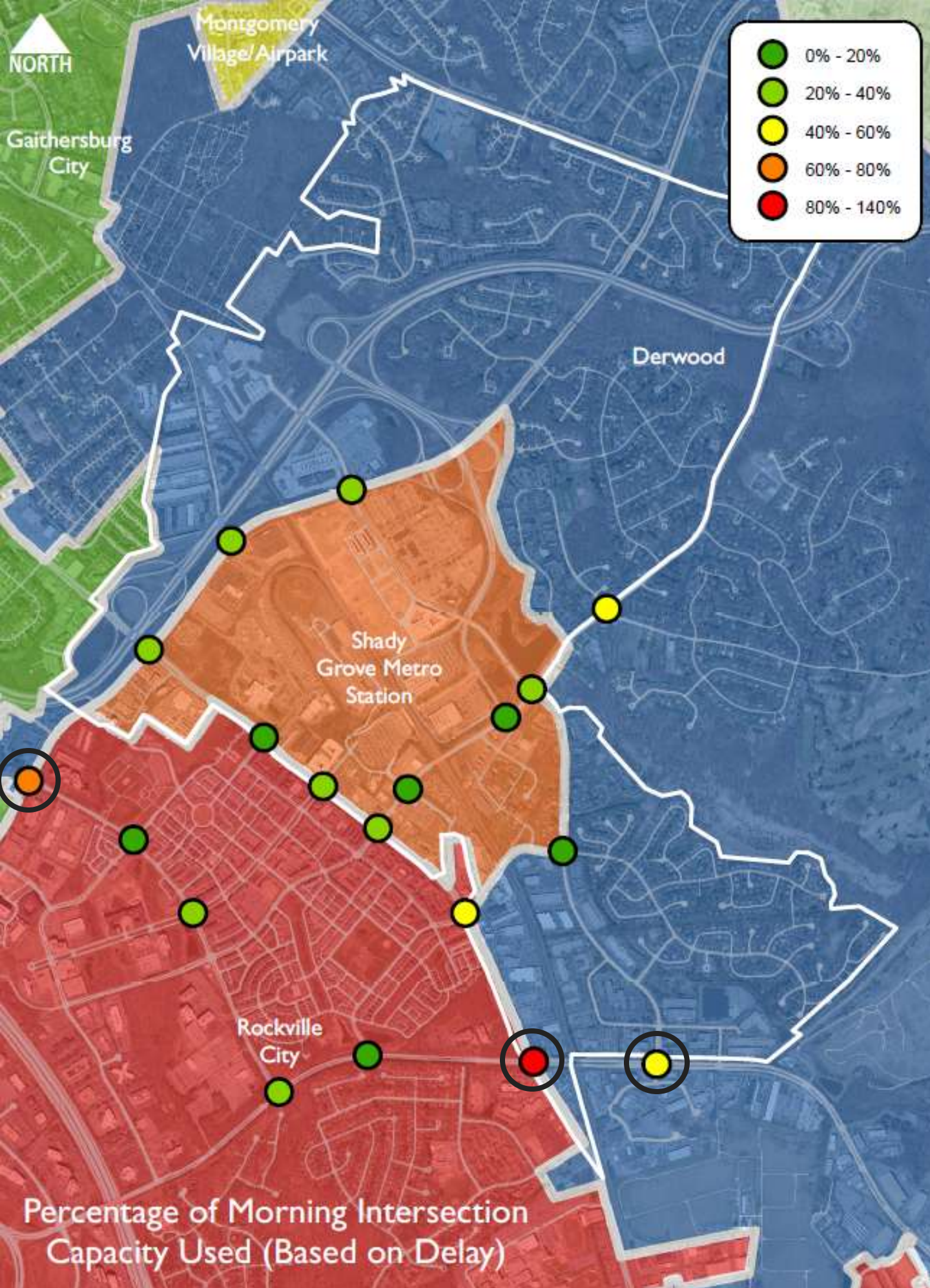
Stage 1 2,540 dus 40% 1,570 jobs 22%		Stage 2 3,540 dus 55% 2,650 jobs 40%		Stage 3 – Remaining Density 6,340 dus 7,000 jobs	
Before Stage 1		Before Stage 2		Before Stage 3	
<ul style="list-style-type: none">• Adopt zoning and sectional map amendments• Establish TMD		<ul style="list-style-type: none">• Evaluate need for new school and ask MCPS to program accordingly• Fund/dedicate one park• Evaluate TMAGs and intersections for conformance to standards• Fund Metro Access Partial Interchange• Fund MD 355/Gude Drive interchange or other improvements to achieve acceptable service level• Planning Board finding to proceed to Stage 2		<ul style="list-style-type: none">• Fund library• Construct elementary school unless MCPS has alternative means to serve children• Fund construction of second local park• Review all public facilities and determine whether any changes to the Plan are required• Fund Redland Road and Crabbs Branch Way roadway improvements• Fund pedestrian underpass• Fund area-wide pedestrian and bikeways• Planning Board finding to proceed to Stage 3	
				Build-out	

Existing Conditions

Existing Conditions Vehicular Mobility

- **Delay:** The average number of seconds it takes a vehicle to pass through an intersection, weighted by each approach's respective volume (2019 Minor Master Plan).
- **Critical Lane Volume:** The volume of the most constrained movement through the intersection (2006 Sector Plan).
- **Volume to Capacity:** A ratio of the number of vehicles moving through an intersection against the amount of capacity of a given intersection (2006 Sector Plan).





Existing Delay Vehicular Mobility

Gaither Road & Shady Grove Road (Rockville)

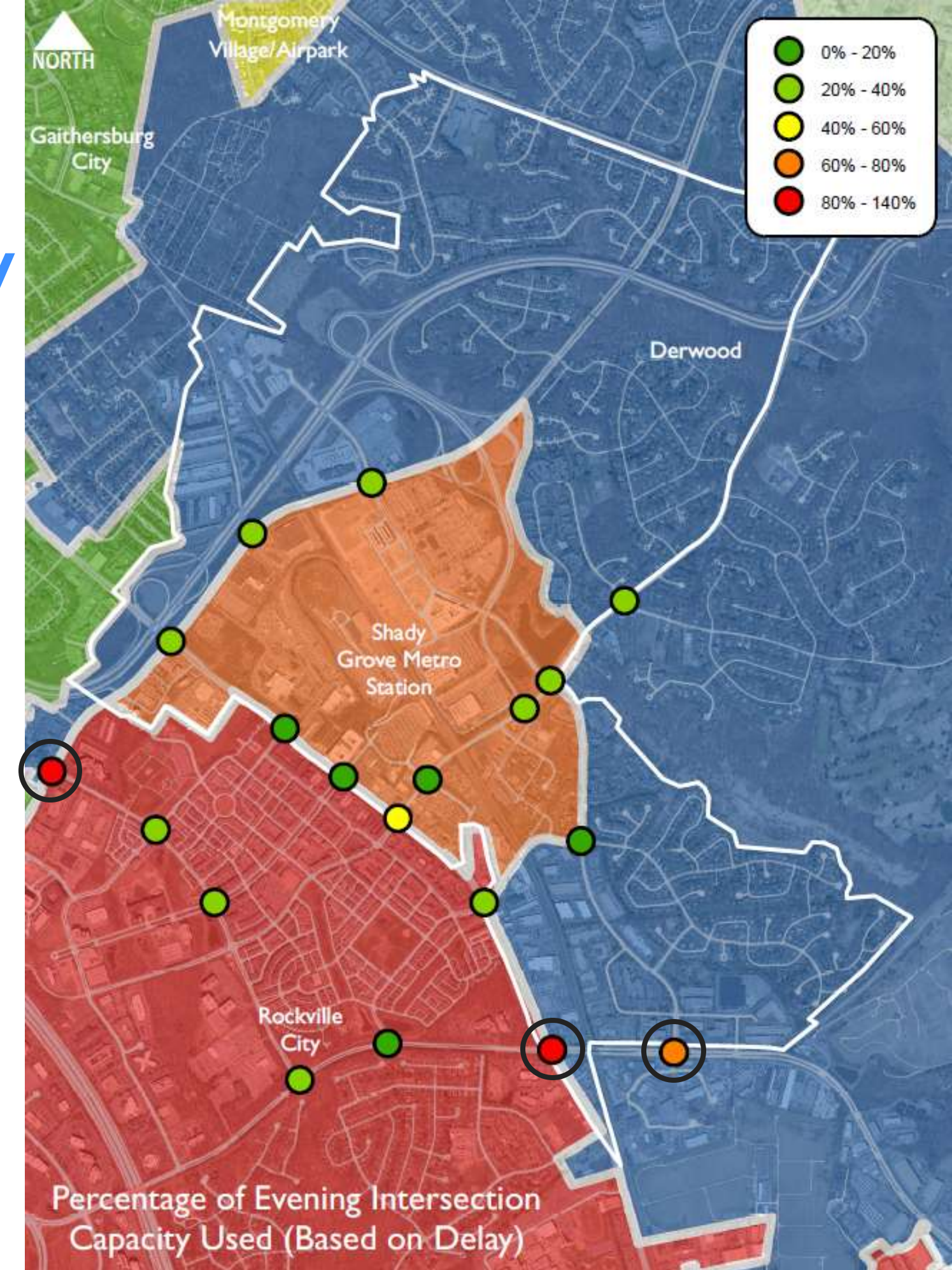
Standard: 63 seconds/vehicle
AM Delay: 42.7 seconds/vehicle
PM Delay: 54.2 seconds/vehicle

MD 355 & Crabbs Branch Way

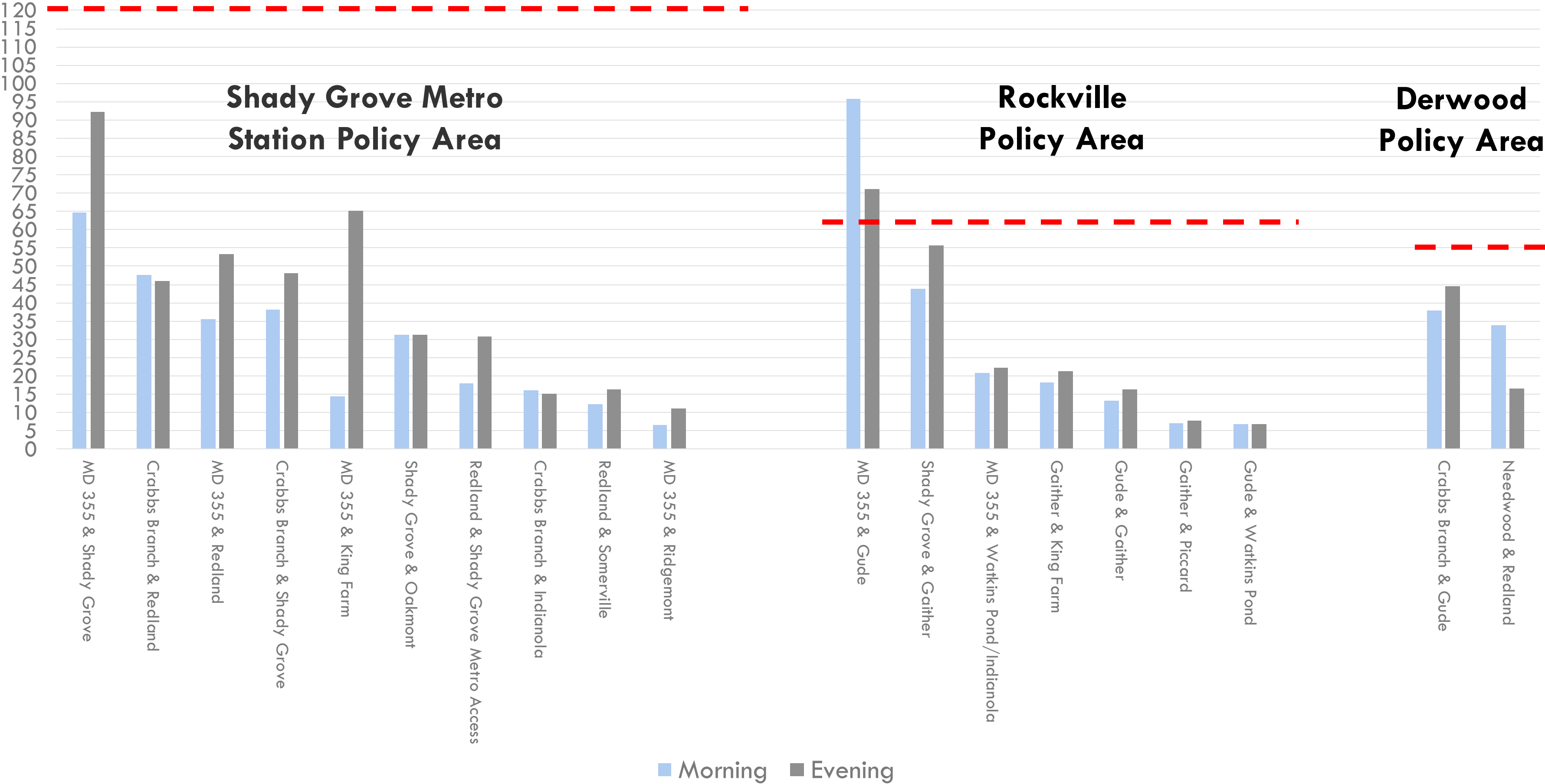
Standard: 59 seconds/vehicle
AM Delay: 34.4 seconds/vehicle
PM Delay: 38.1 seconds/vehicle

MD 355 & Gude Drive

Standard: 63 seconds/vehicle
AM Delay: 86.3 seconds/vehicle
PM Delay: 71.0 seconds/vehicle

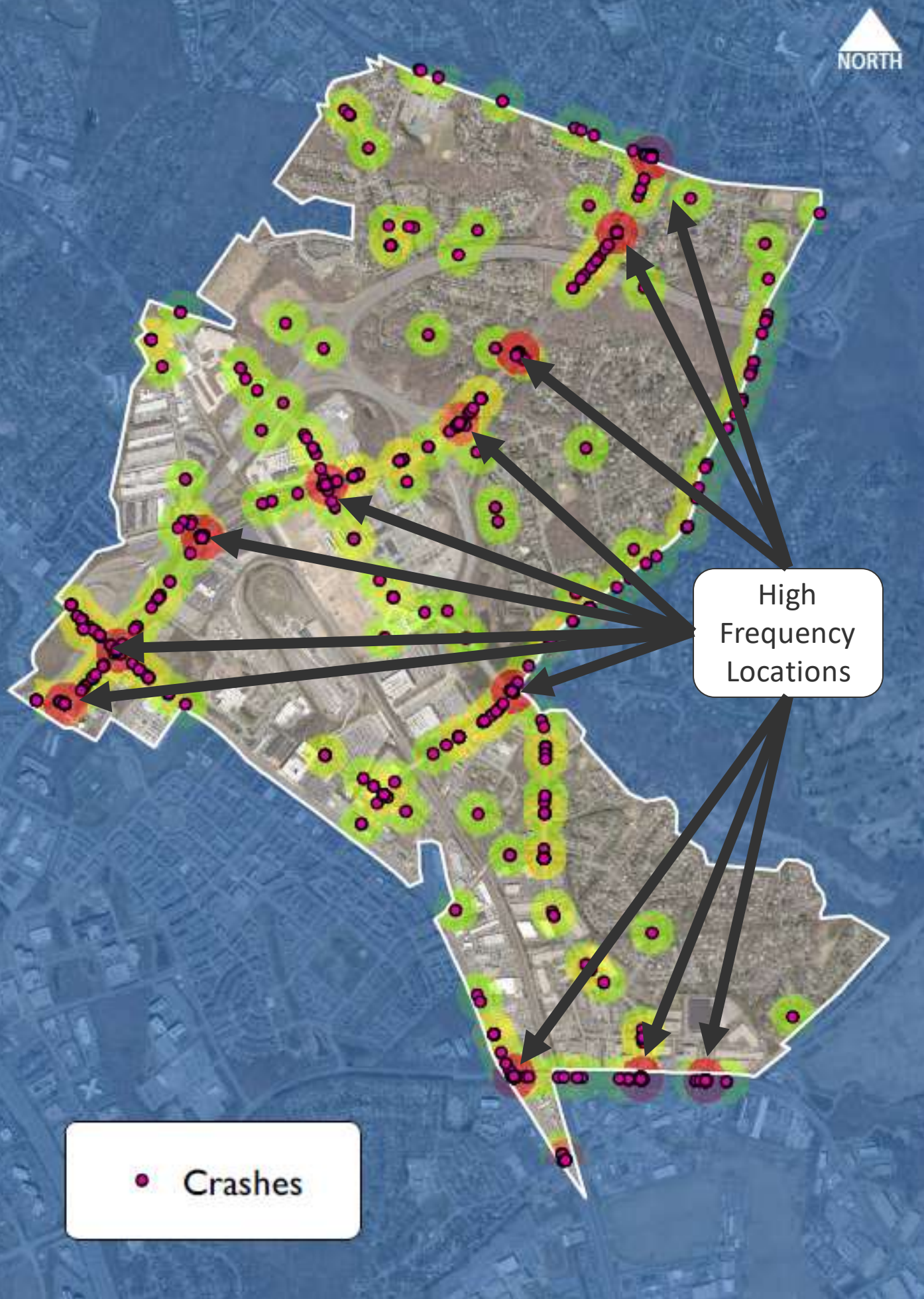


Existing Average Delay (Seconds/Vehicle)



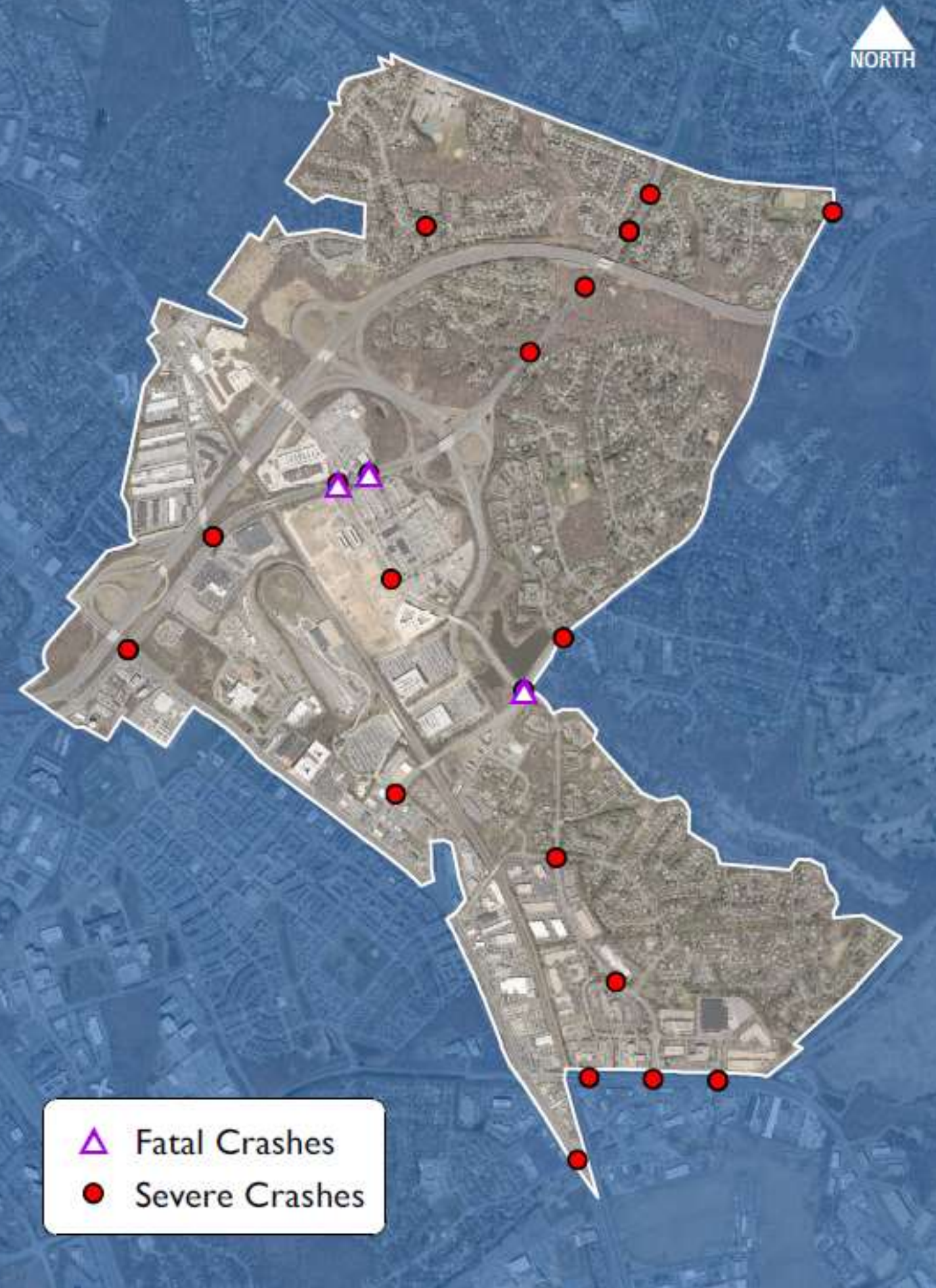
Vehicular Mobility Measures

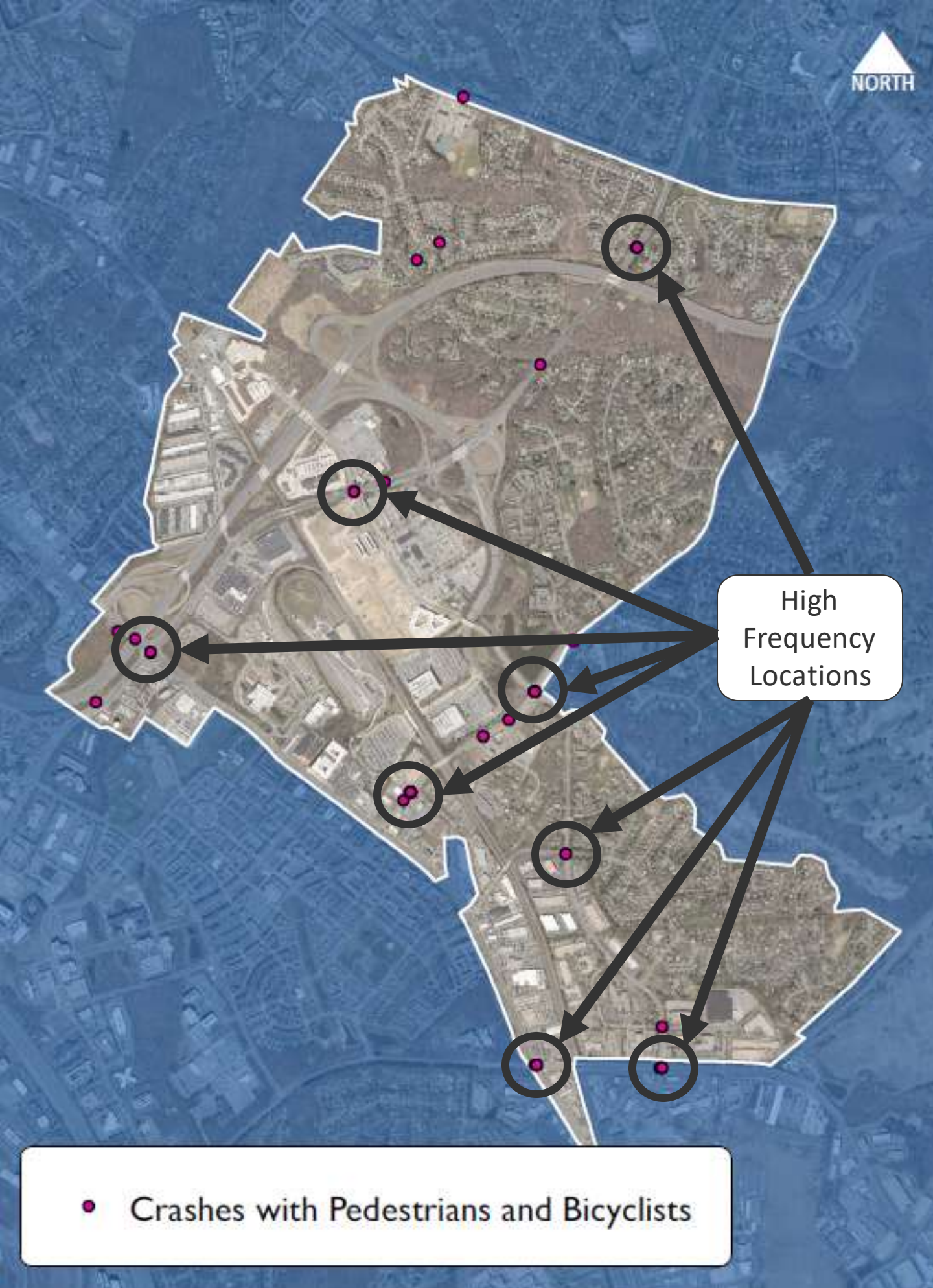
What Does Delay Measure?		2019 Priority?
Vehicle Throughput	✓	Less important than safety, per Vision Zero Plan
Person Throughput	X	Yes, per 2006 Plan's Vision
Non-Motorist Delay	X	Yes, per 2006 Plan's Vision
Transit Delay	X	Yes, per 2006 Plan's Vision
Driver and Passenger Safety	+/-	Yes, per 2030 Vision Zero Policy
Pedestrian Safety	X	Yes, per 2030 Vision Zero Policy
Transit Performance & Competitiveness	X	Yes, per 2006 Plan's Vision



Plan Area Crashes

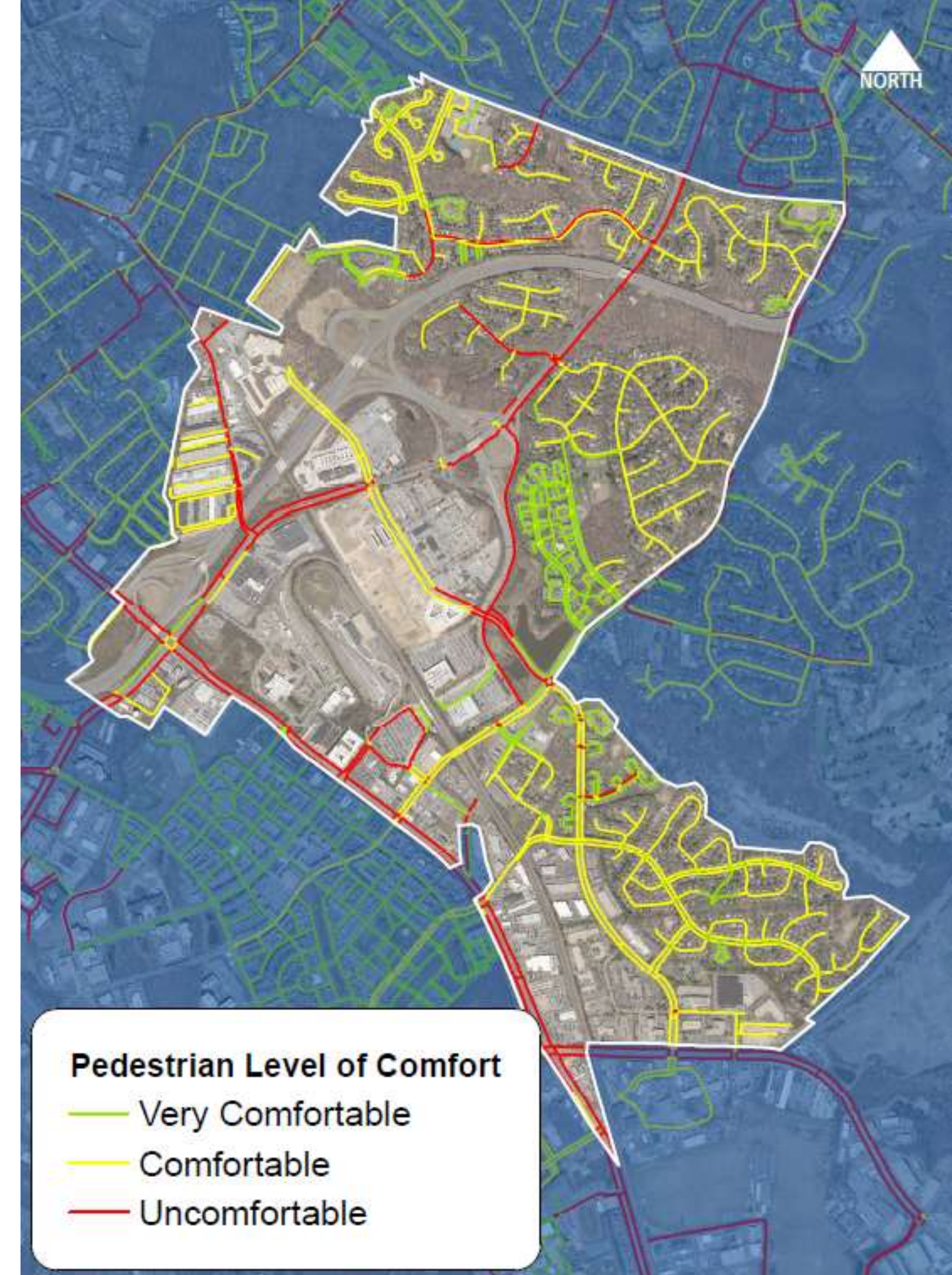
January 2015
March 2019





Nonmotorist Crashes & Comfort

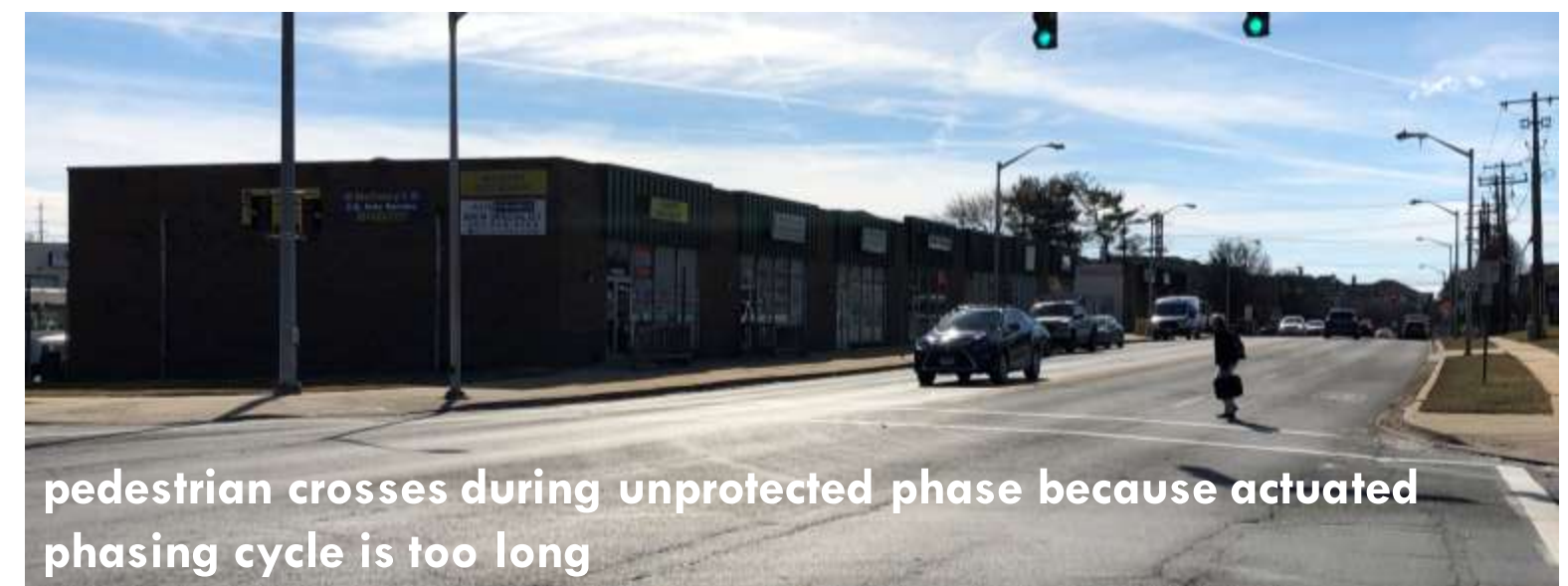
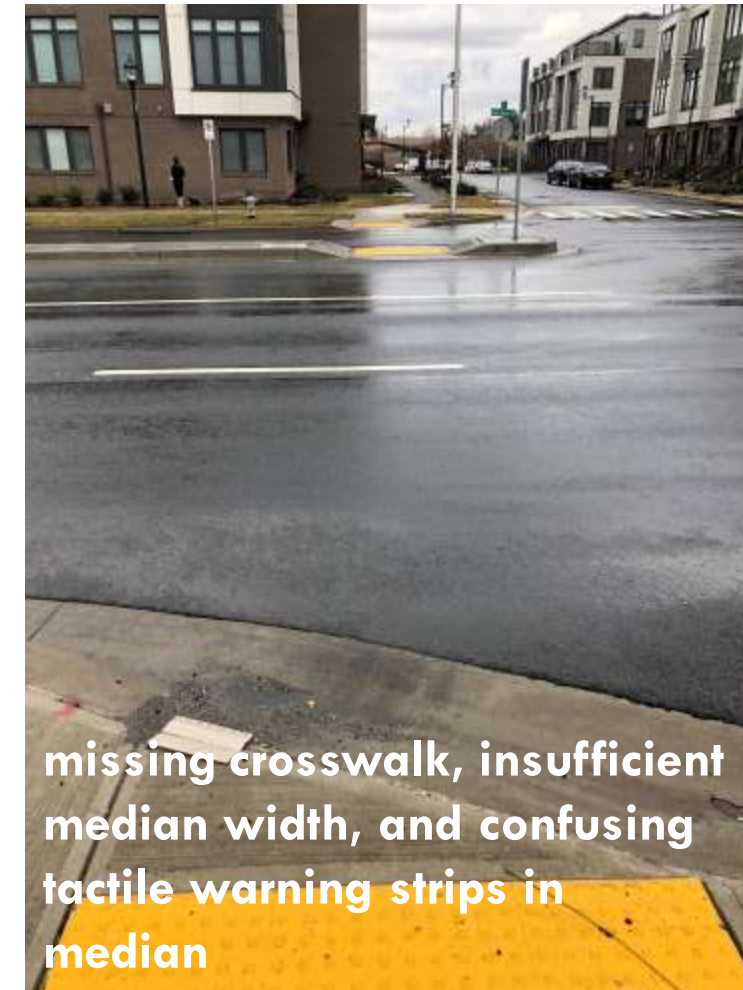
January 2015
March 2019



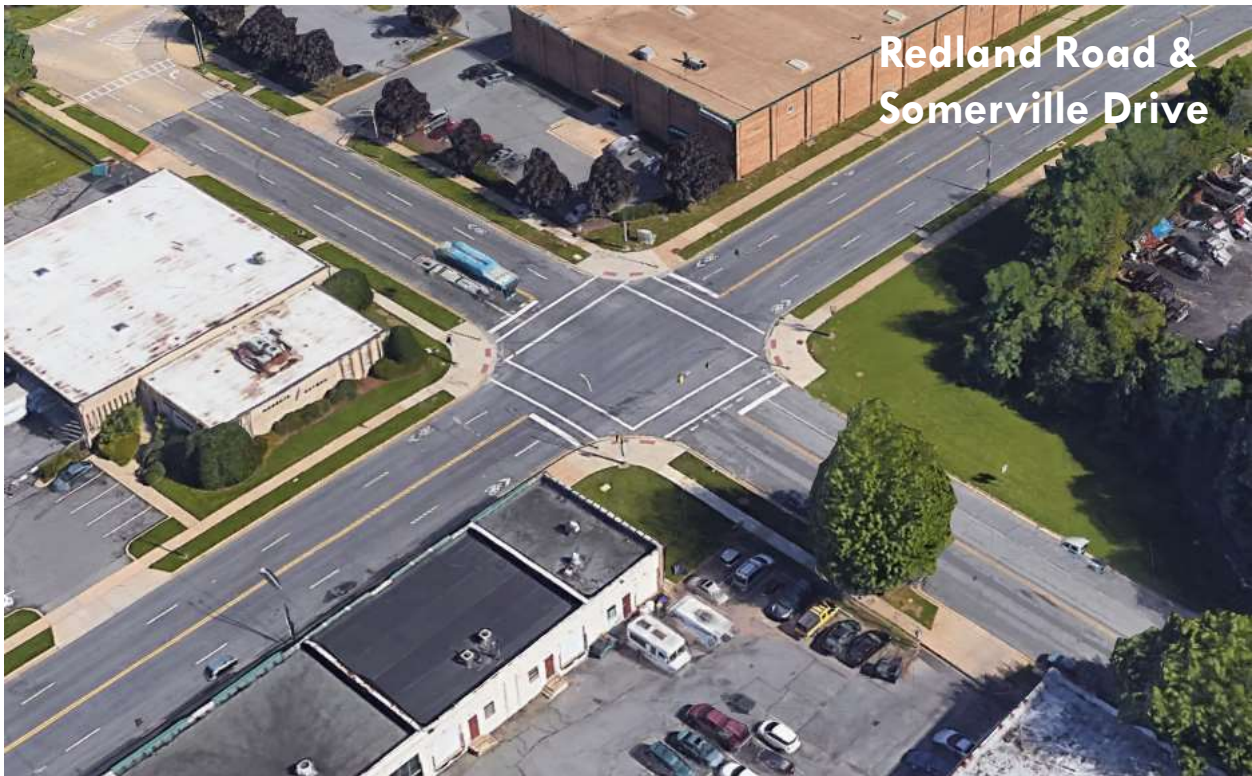
Vision Zero

Moving safely within one's community is a right, regardless of mode choice:

- Traffic-related deaths are **preventable**.
- Designers assume that all users—drivers, bicyclists, and pedestrians—make **imperfect** choices.
- Designers emphasize the **prevention of severe and fatal crashes**, which includes assessment of user **vulnerability**.
- Takes a **systems** approach to transportation



High Pedestrian and Bicycle Crash Locations



Vision Zero

How do we improve safety?

- Reduce **crash frequency**
- Reduce **crash severity**
- Acknowledge reduction in **severity** is more important than reduction in **frequency**
 - **Example:** ten low-speed rear end collisions resulting in minor property damage > one collision resulting in a pedestrian fatality



Vision Zero

HIT BY A VEHICLE
TRAVELING AT:
**20
MPH**
10%
DEATH RISK



HIT BY A VEHICLE
TRAVELING AT:
**30
MPH**
40%
DEATH RISK



HIT BY A VEHICLE
TRAVELING AT:
**40
MPH**
80%
DEATH RISK



Graphic Credit – Seattle DOT

Speed is especially lethal for vulnerable users like people walking or riding a bicycle. The risk of severe injury or death increases as a driver’s field of vision narrows.

Transit Mobility

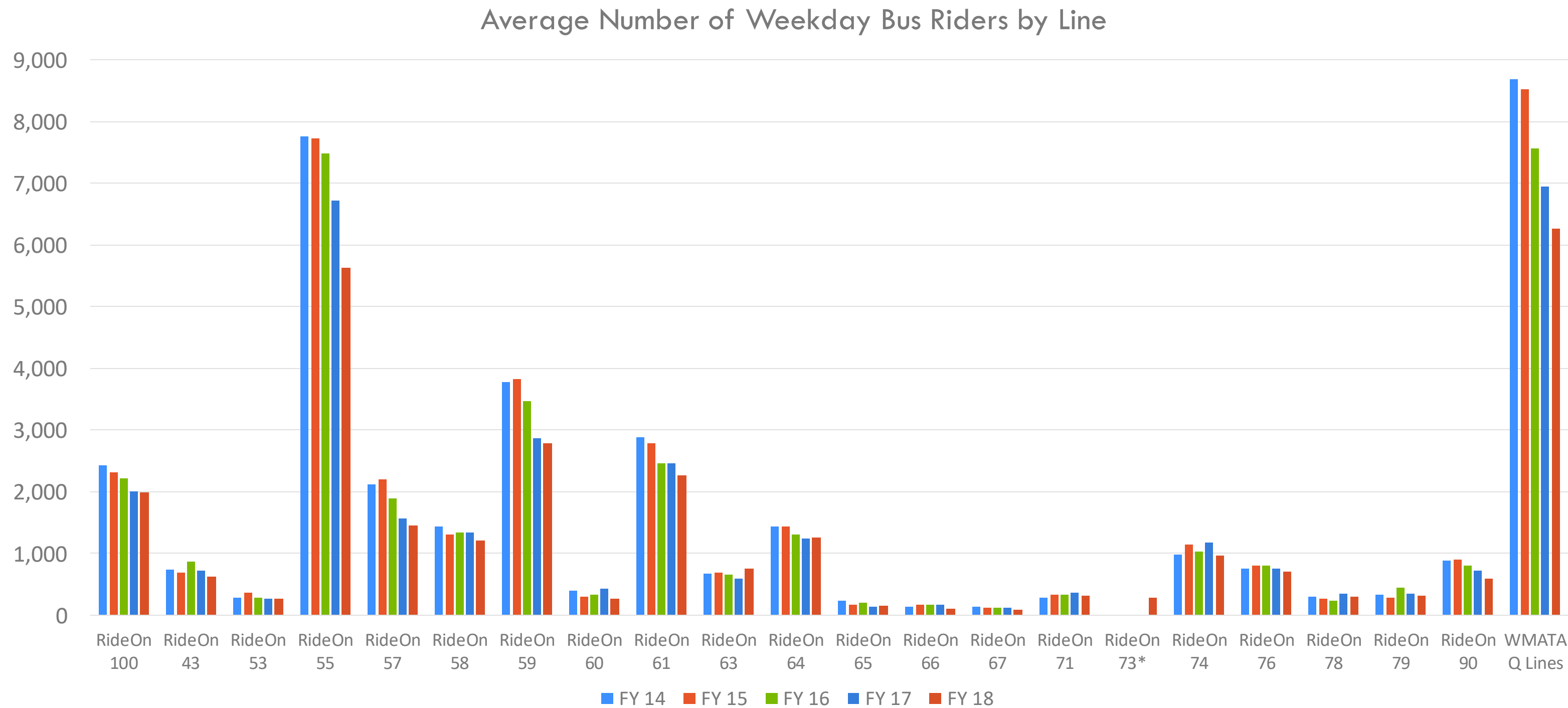
Mid-County Highway across from Shady Grove Middle School



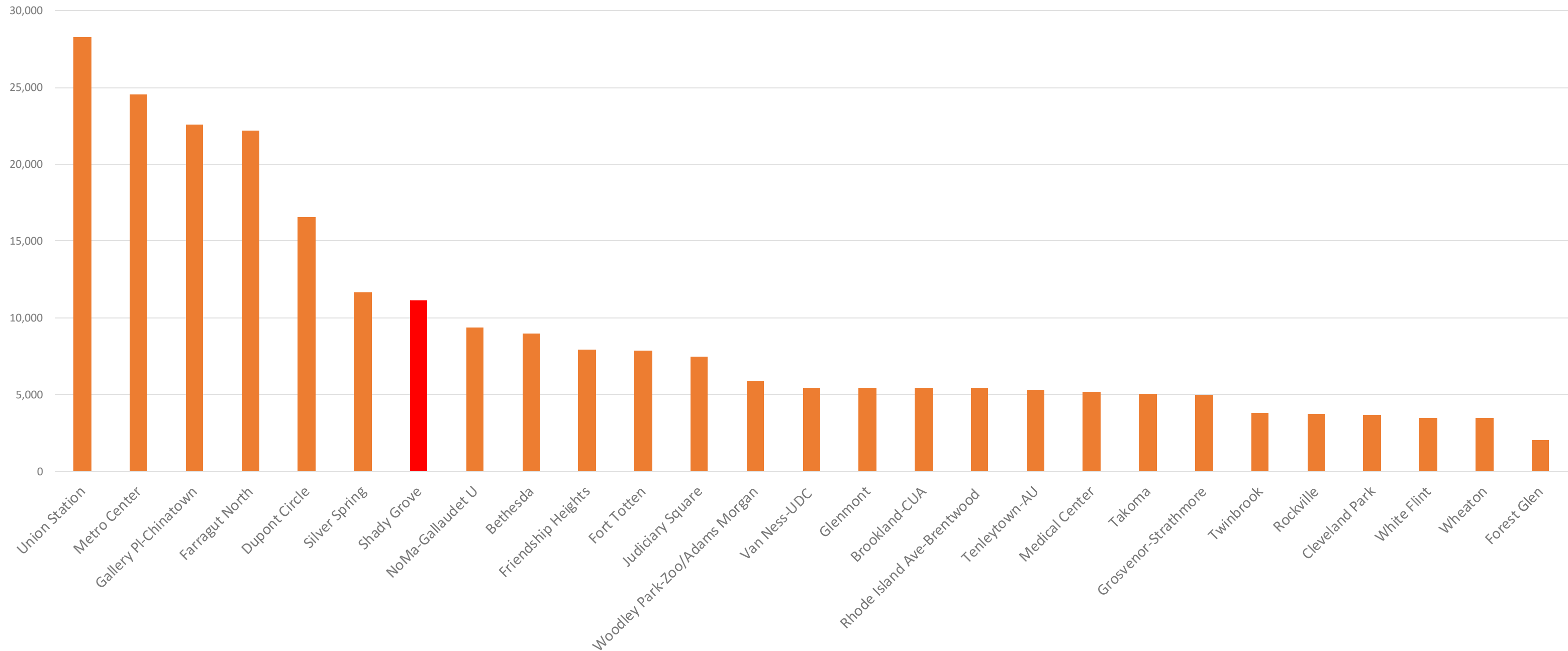
Redland Road near Briardale Road



Transit Mobility

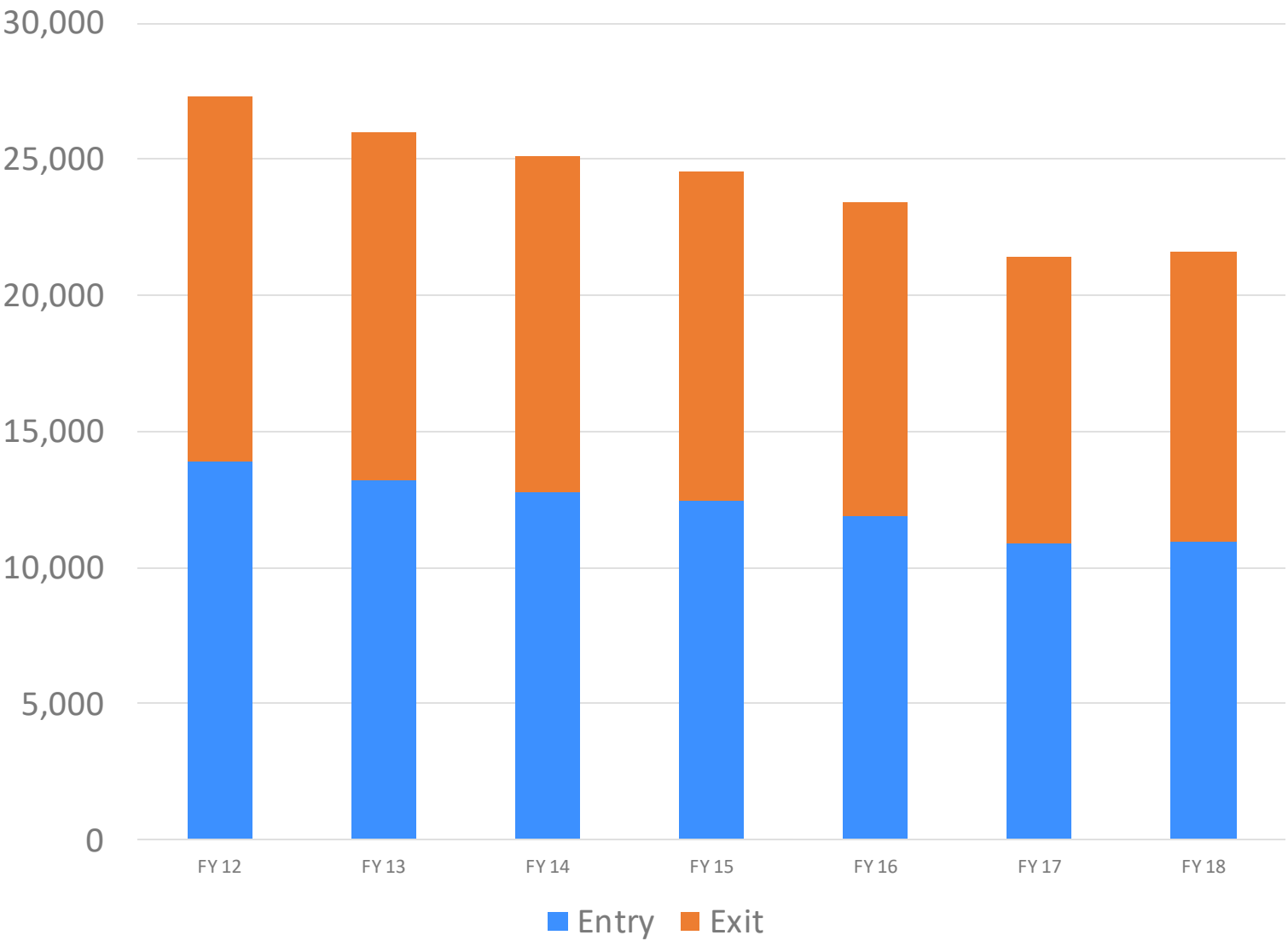


Daily Average Red Line Boardings – 2017

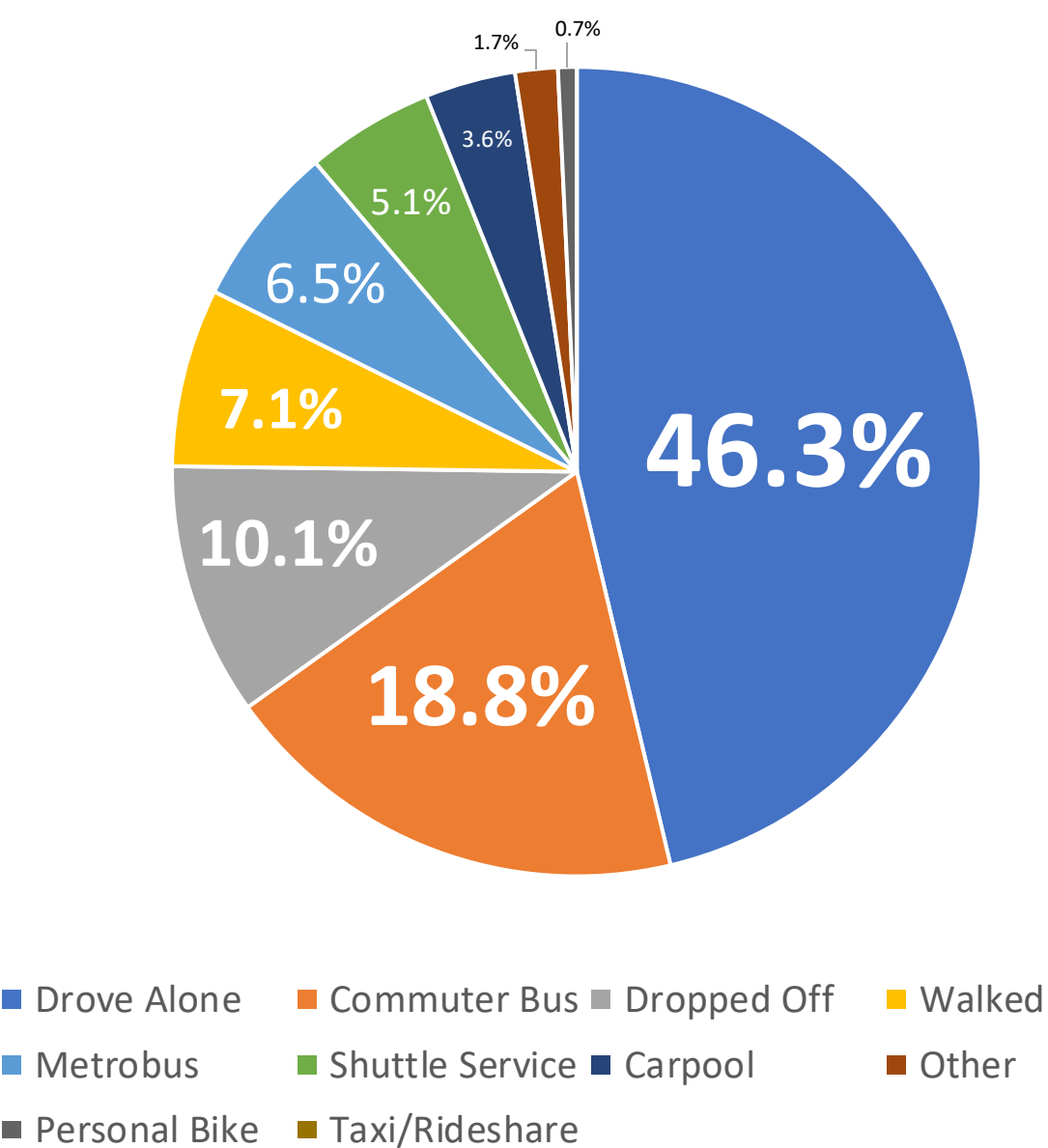


Transit Mobility

Shady Grove Metrorail:
Average Weekday
Boardings & Alightings



How Do People Reach Metrorail?
(WMATA 2016 Passenger Survey)



Transit Mobility

MTA Commuter Bus Route	Service Route	Vicinity Stop	Average Weekday Ridership FY2018
201	Gaithersburg to BWI Business District via ICC	Gaithersburg Park & Ride Stop	373
202	Gaithersburg to Fort Meade via ICC (discontinued)	Shady Grove Metro Station	54
204	Frederick to College Park via ICC	Gaithersburg Park & Ride (beyond Plan Area)	249
505	Hagerstown to Rock Spring via I-70 and I-270	Shady Grove Metro Station	376
515	Monacacy to Rock Spring via MD 355 and I-270	Shady Grove Metro Station	643

202 EFFECTIVE August 1, 2013

COMMUTER BUS

MARYLAND TRANSIT ADMINISTRATION
OPERATED UNDER A SERVICE CONTRACT WITH:
EYRE BUS SERVICE (800) 321-3973

**GAITHERSBURG TO
DOD / FORT MEADE**

**WEEKDAY PEAK SERVICE
5:10 A.M. TO 6:33 P.M.**

EXPRESS SERVICE VIA MD 200 TO:
METROPOLITAN GROVE
MARC STATION
GAITHERSBURG P&R
SHADY GROVE METRO
GEORGIA AVE. P&R
SAVAGE MARC STA.
DOD - VC 1
FORT MEADE



tel: 410-539-5000
1-866-RIDE-MTA (743-3682)
mta.maryland.gov

YOUR RIDE IS HERE.

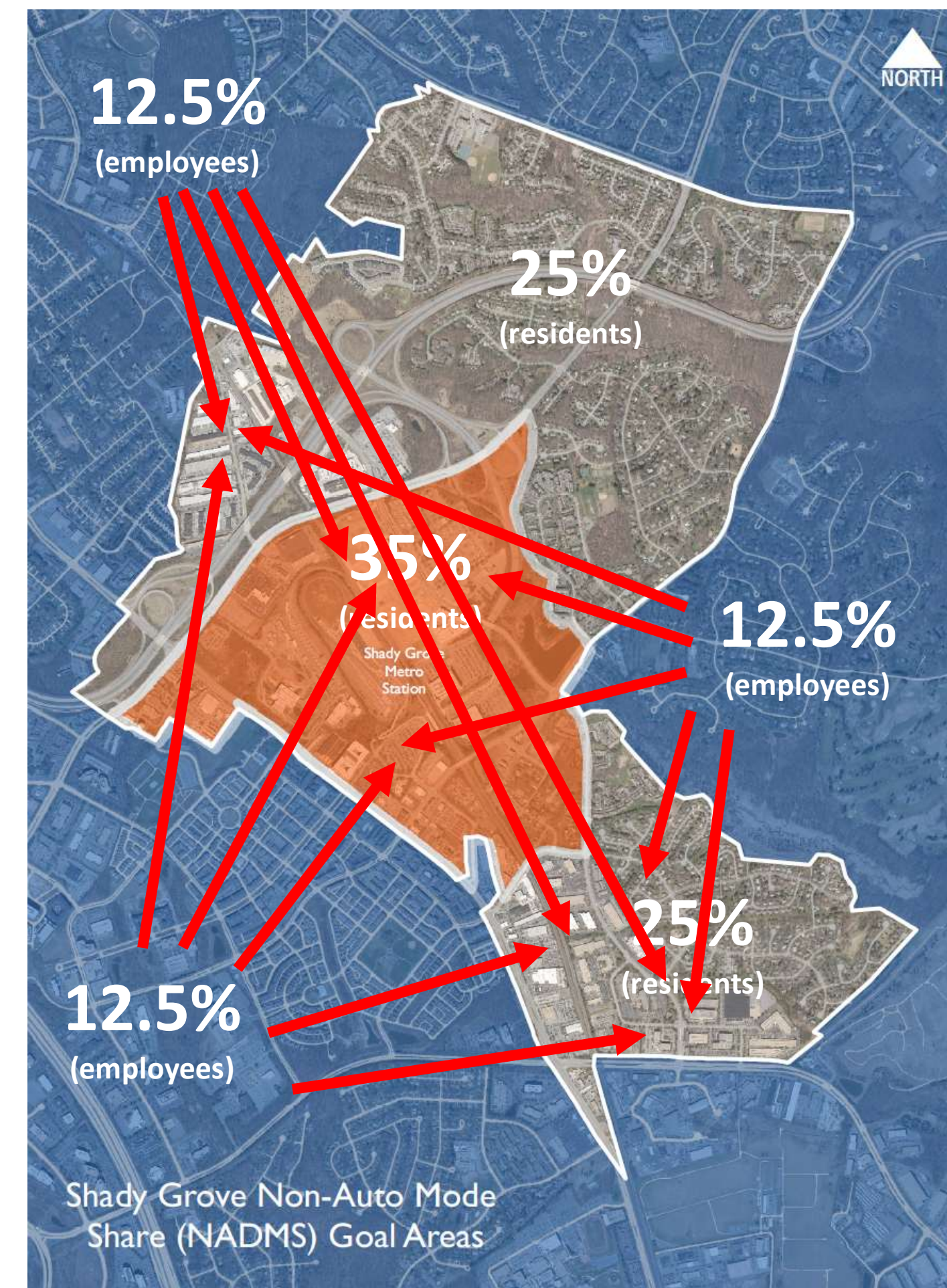
MTA Maryland
Maryland Department of Transportation

Transit Mobility

2006 Non-Auto Driver Mode Share Goals

Goals for transit users, walkers, and bicyclists:

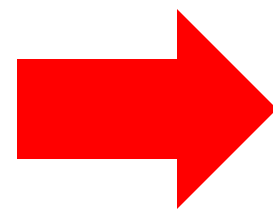
- **35%:** Residents within Shady Grove Policy Area
- **25%:** Residents within Shady Grove Plan Area, but beyond Metro Station Policy Area
- **12.5%:** Residents traveling to places of work within the plan area



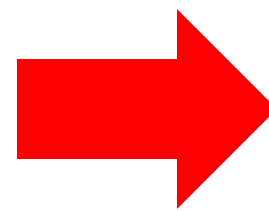
Transit, Walking, and Biking Goals & Induced Demand

- **INDUCED DEMAND:** If demand for vehicular capacity already exceeds supply OR vehicular mobility provides more utility than alternatives, then additional capacity will quickly be “filled” until equilibrium is attained.

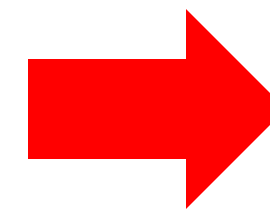
Existing capacity is full.



New capacity is provided to meet demand.



Convenience/desirability cause new capacity to be filled up...



...to the point where demand again meets or slightly exceeds supply.



Next Steps

June 2019

- Complete Transportation Modeling/Forecasting
- Identify Recommendations

July

- Briefing to the Planning Board (July 18, 2019)

August/September 2019

- Community Feedback on Recommendations



Questions?

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<https://montgomeryplanning.org/planning/communities/area-2/shady-grove/shady-grove-minor-master-plan-amendment>