Dulles Corridor Special Study
Transportation Analysis

Presented to:
Reston Master Plan Special Study Task Force

Presented by:
Fairfax County Department of Transportation

September 11, 2012

Background

- June Presentation
  - Tested Scenario E Land Use Scenario for 2030
  - Tested With Partial Build and Full Build Road Network
- Findings
  - Full Build Road Network Needed to Support Scenario E
  - Significant Delay Still Forecast at Several Intersections

Transportation Networks (June 2012 Analysis)

- Partial Build Network:
  - Transportation Plan Map Roadway Improvements
  - Soapstone Overpass
  - Enhanced Street Network
  - Intersection Mitigations

- Full Build Network:
  - 3 Additional Crossings of the Toll Road
    - South Lakes Drive
    - Town Center Parkway
    - Rock Hill Road
  - Grade Separation at Sunrise Valley Drive and Fairfax County Parkway

Summary (June 2012)

- Scenario E has increased land density significantly above the Round 8.0 Cooperative Forecast. There are 12% more trips produced in the study area and 36% more trips attracted to the study area.

- The enhanced street network and intersection mitigation improvements increase mobility in the Partial Build and Full Build. These improvements alone are not enough to mitigate the transportation impacts.

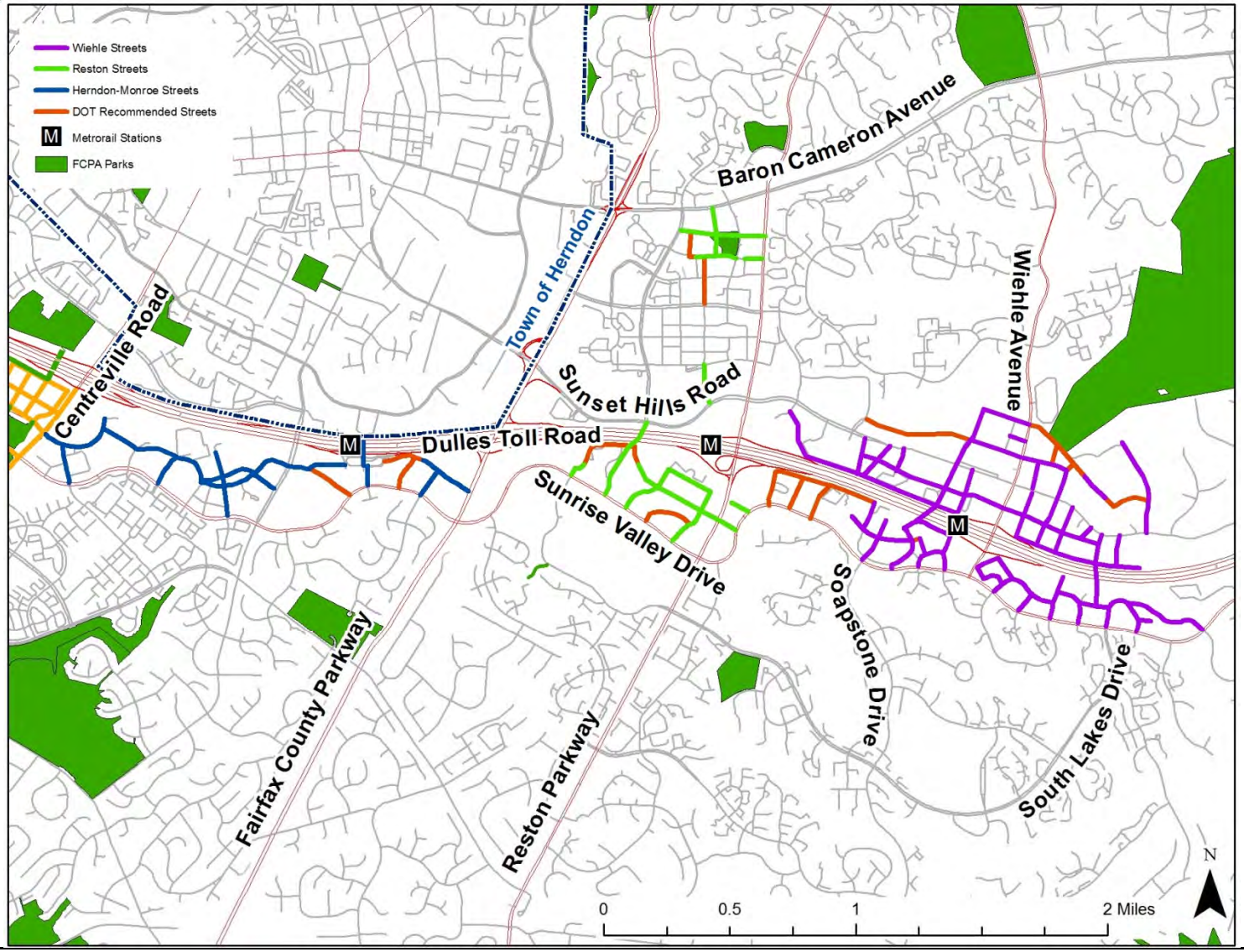
- The major Full Build roadway improvements (overpasses, underpass, and grade separation) significantly improve the highway network performance over the Partial Build.

Follow Up Steps

- Investigate potential refinements of Scenario E land use and transportation network to improve results
  - Review intersection information to evaluate better land use zone density locations and use mix
  - Assess through vs. local traffic at select intersections
  - Determine whether geographic reallocation of land use might have beneficial effects
  - Assess whether increased transit or more aggressive TDM measures might have beneficial effects

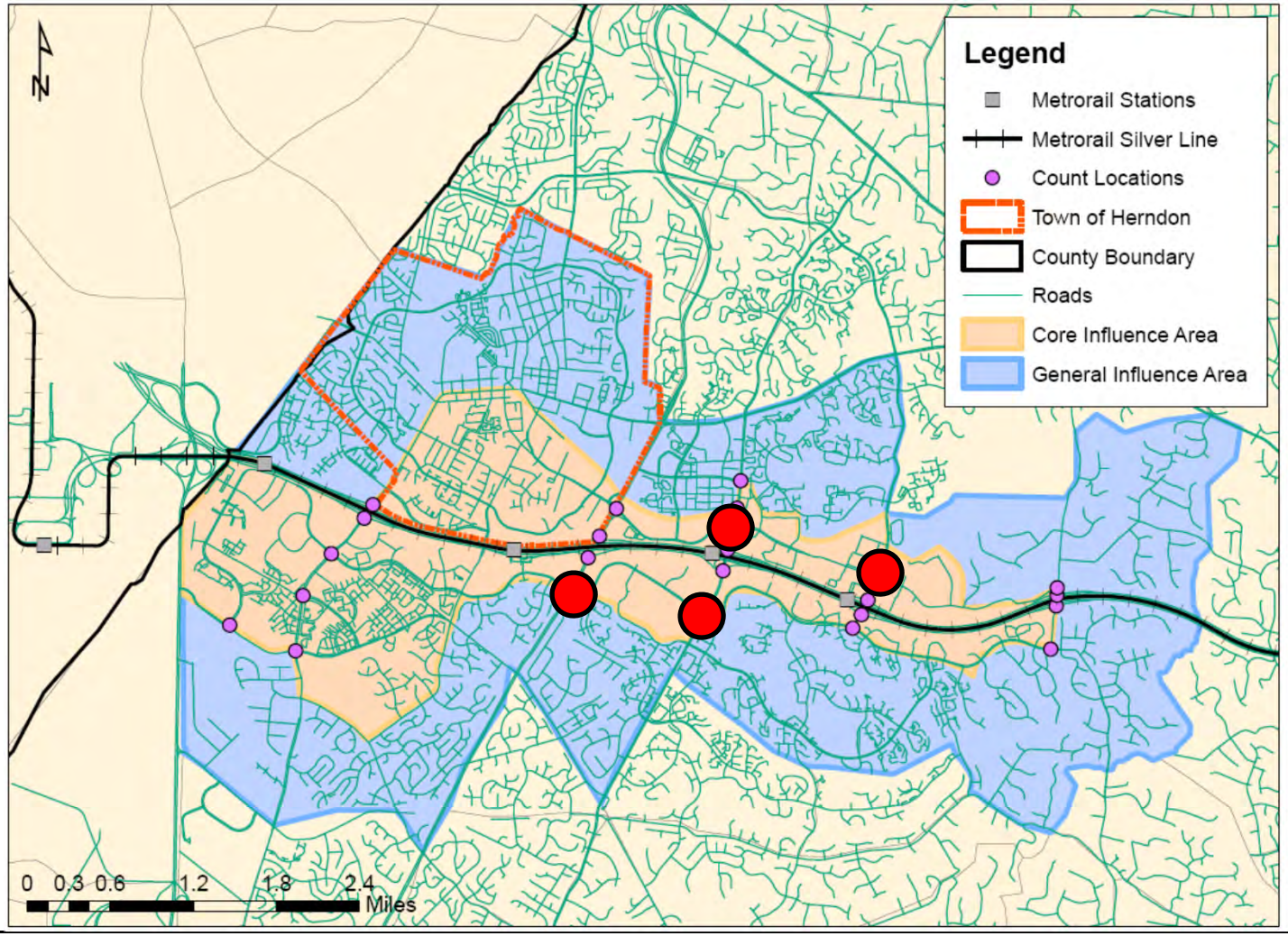
Local Trips vs. Through Trips

Dulles Corridor Network

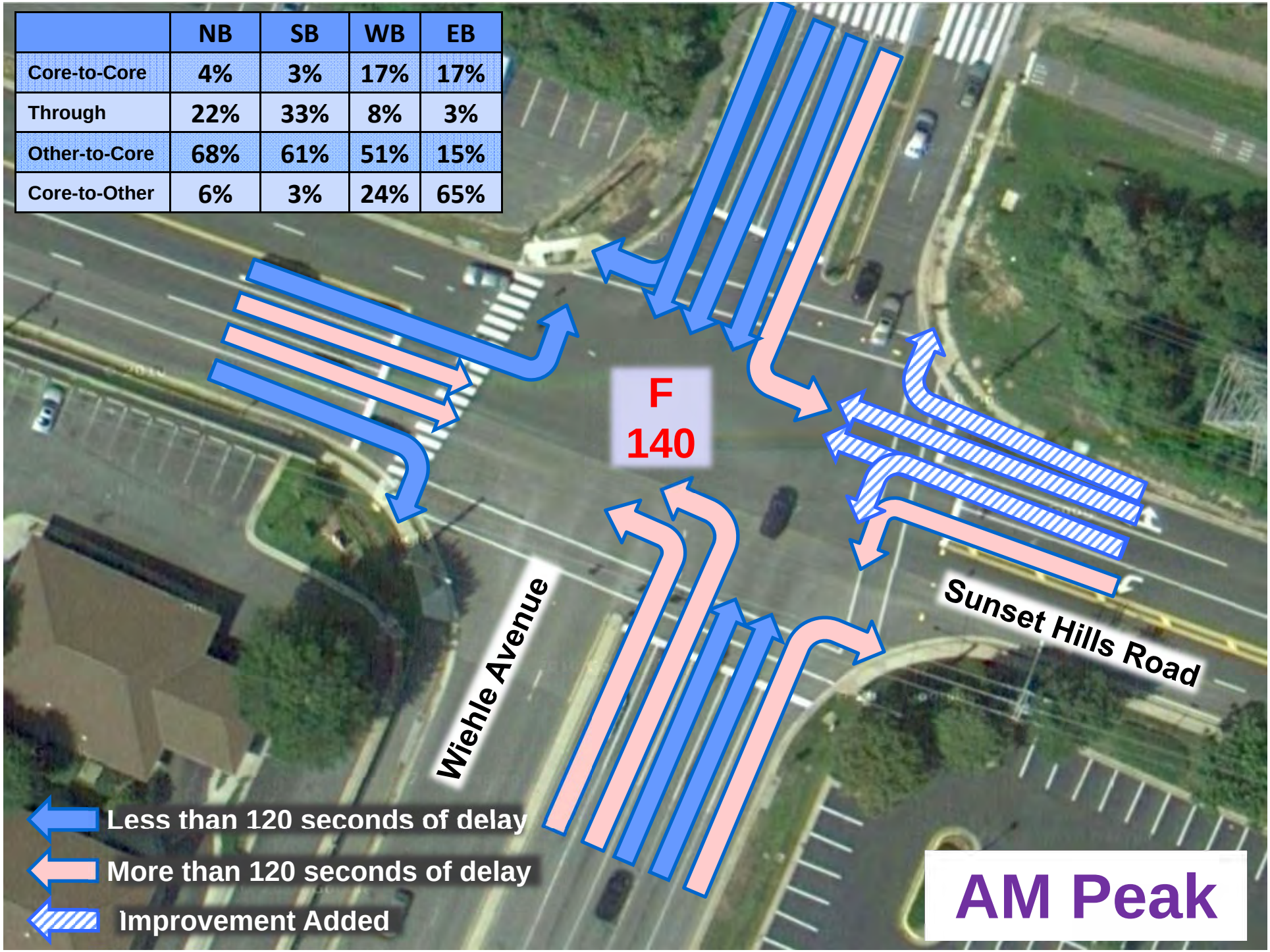


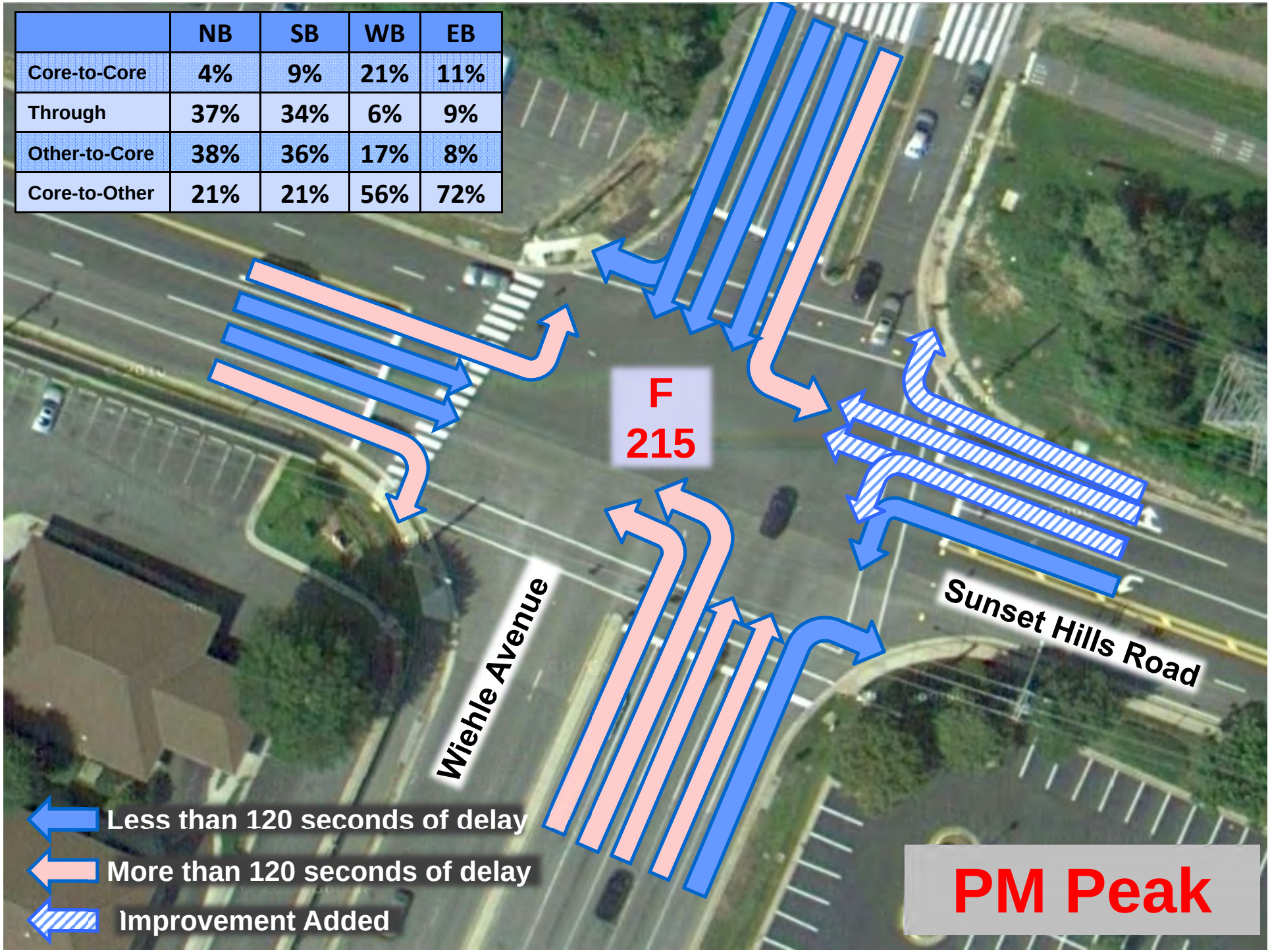
FCDOT Serving Fairfax County for 30 Years and More

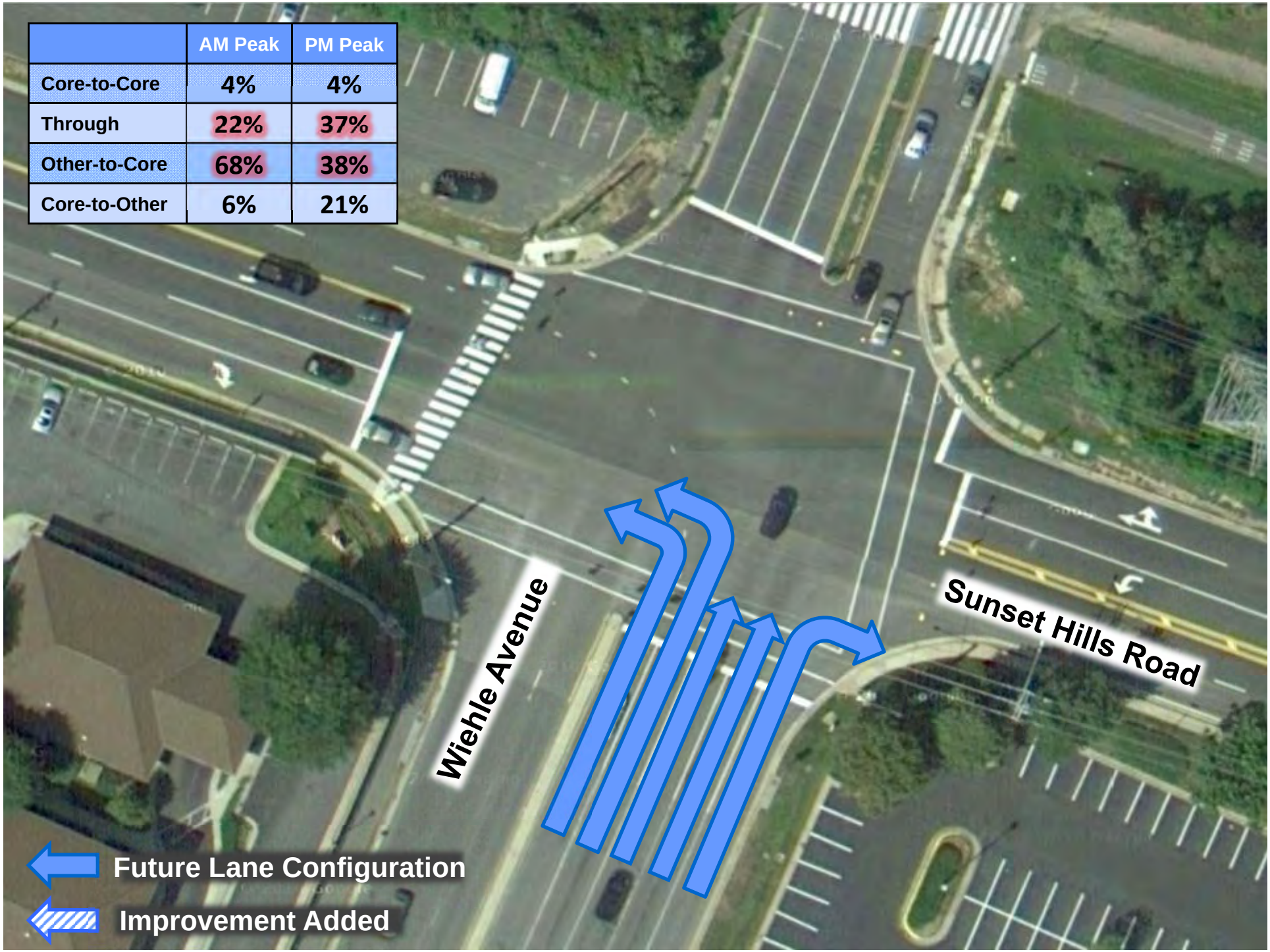
Study Area


N
Legend
Metrorail Stations
Metrorail Silver Line
Count Locations
Town of Herndon
County Boundary
Roads
Core Influence Area
General Influence Area
0 0.3 0.6 1.2 1.8 2.4
Miles

Wiehle Avenue & Sunset Hills Road


NB SB WB EB
Core-to-Core 4% 3% 17% 17%
Through 22% 33% 8% 3%
Other-to-Core 68% 61% 51% 15%
Core-to-Other 6% 3% 24% 65%
F
140
Wiehle Avenue
Sunset Hills Road
Less than 120 seconds of delay
More than 120 seconds of delay
Improvement Added
AM Peak


NB SB WB EB
Core-to-Core 4% 9% 21% 11%
Through 37% 34% 6% 9%
Other-to-Core 38% 36% 17% 8%
Core-to-Other 21% 21% 56% 72%
F
215
Wiehle Avenue
Sunset Hills Road
Less than 120 seconds of delay
More than 120 seconds of delay
Improvement Added
PM Peak



	AM Peak	PM Peak
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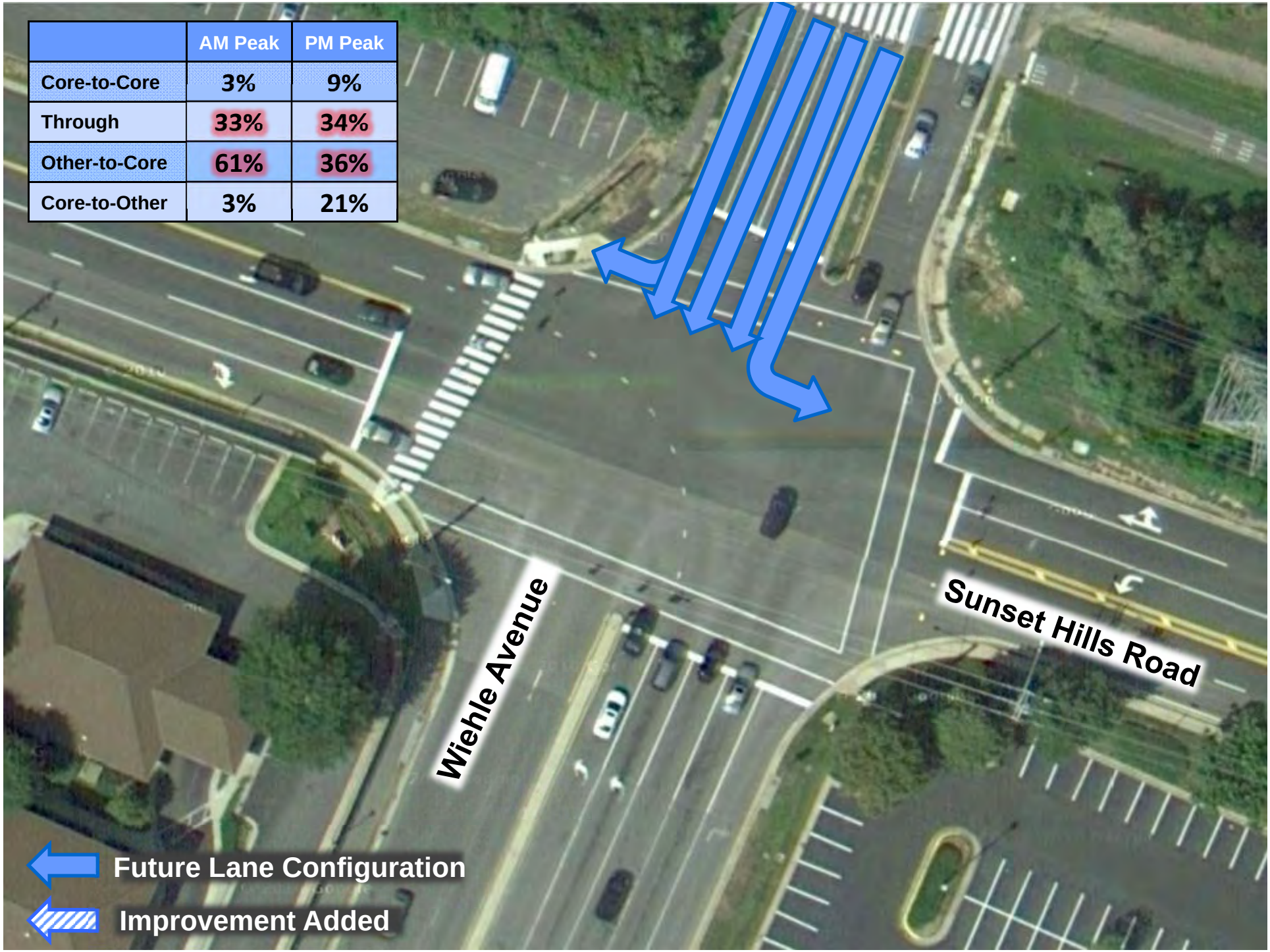
Core-to-Other	6%	21%


AM Peak
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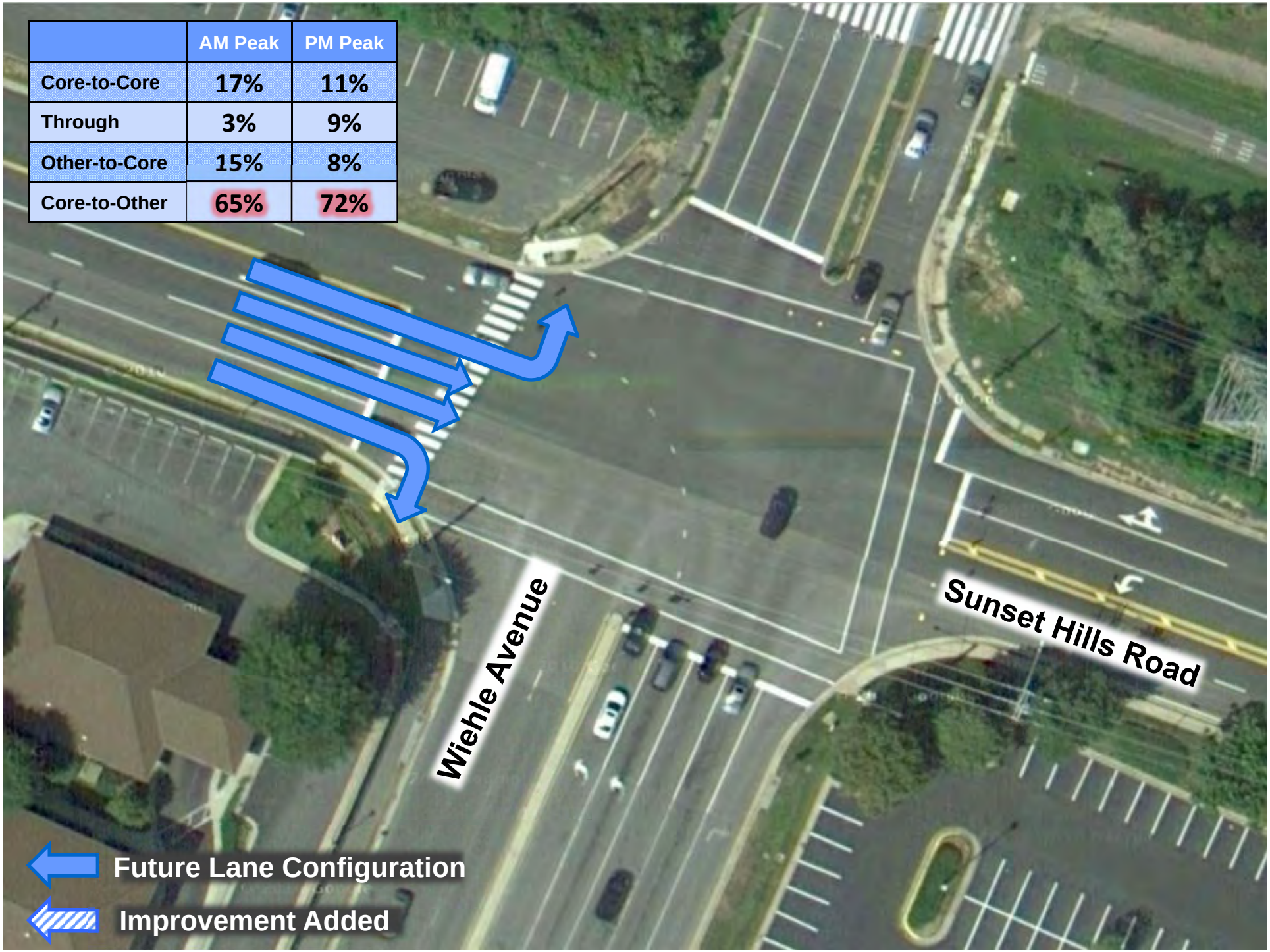
Wiehle Avenue
Sunset Hills Road
Future Lane Configuration
Improvement Added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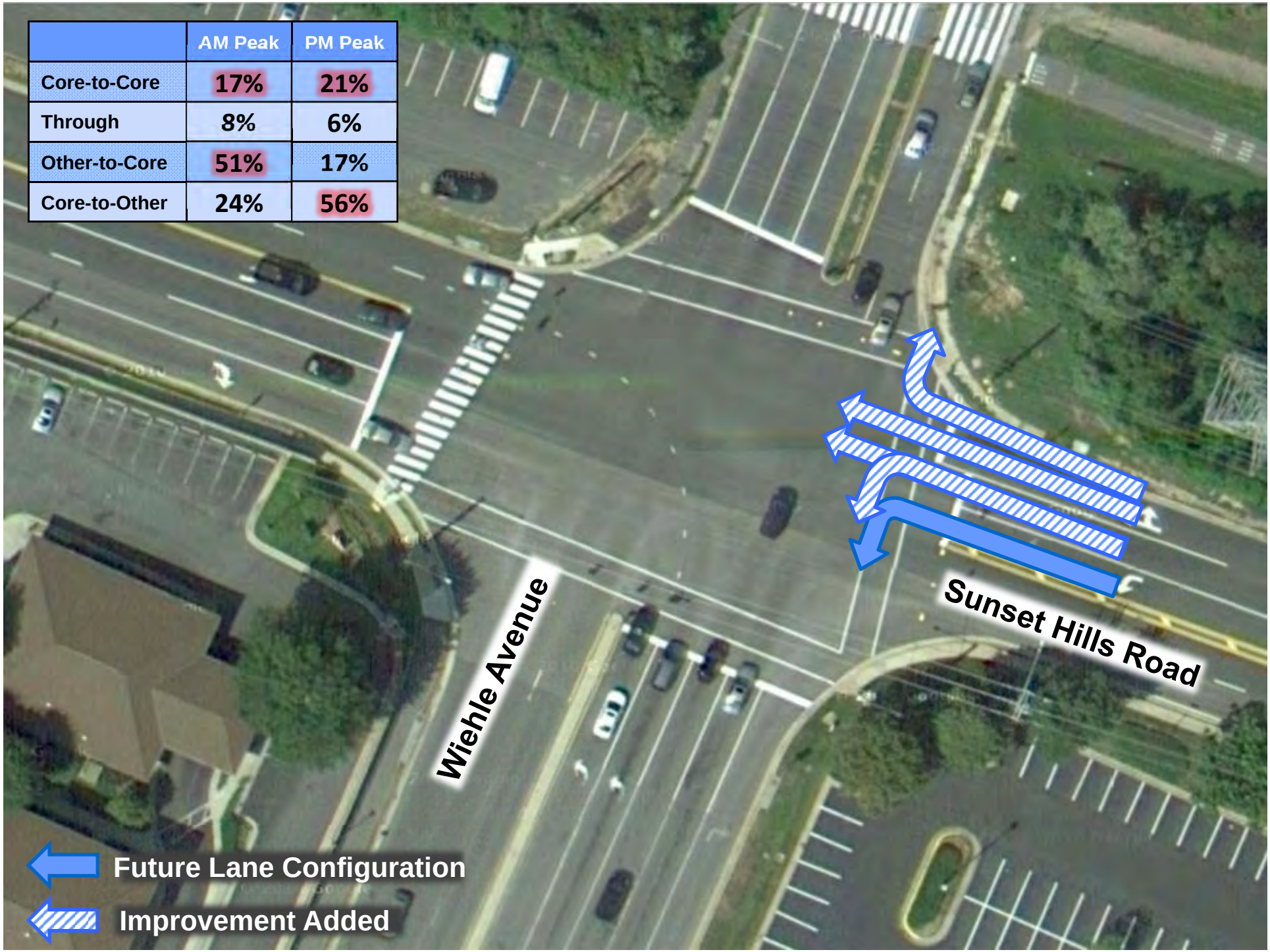
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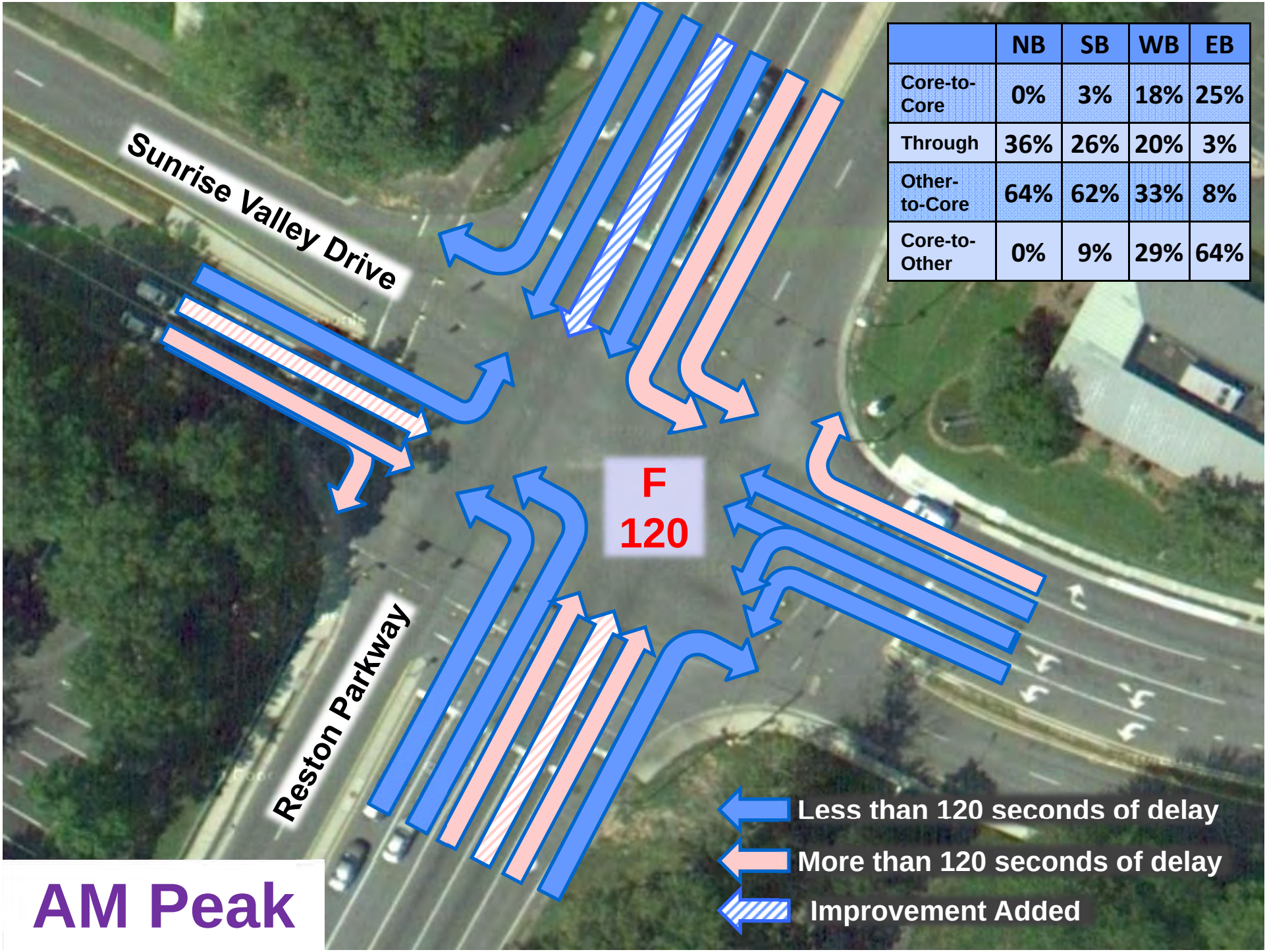
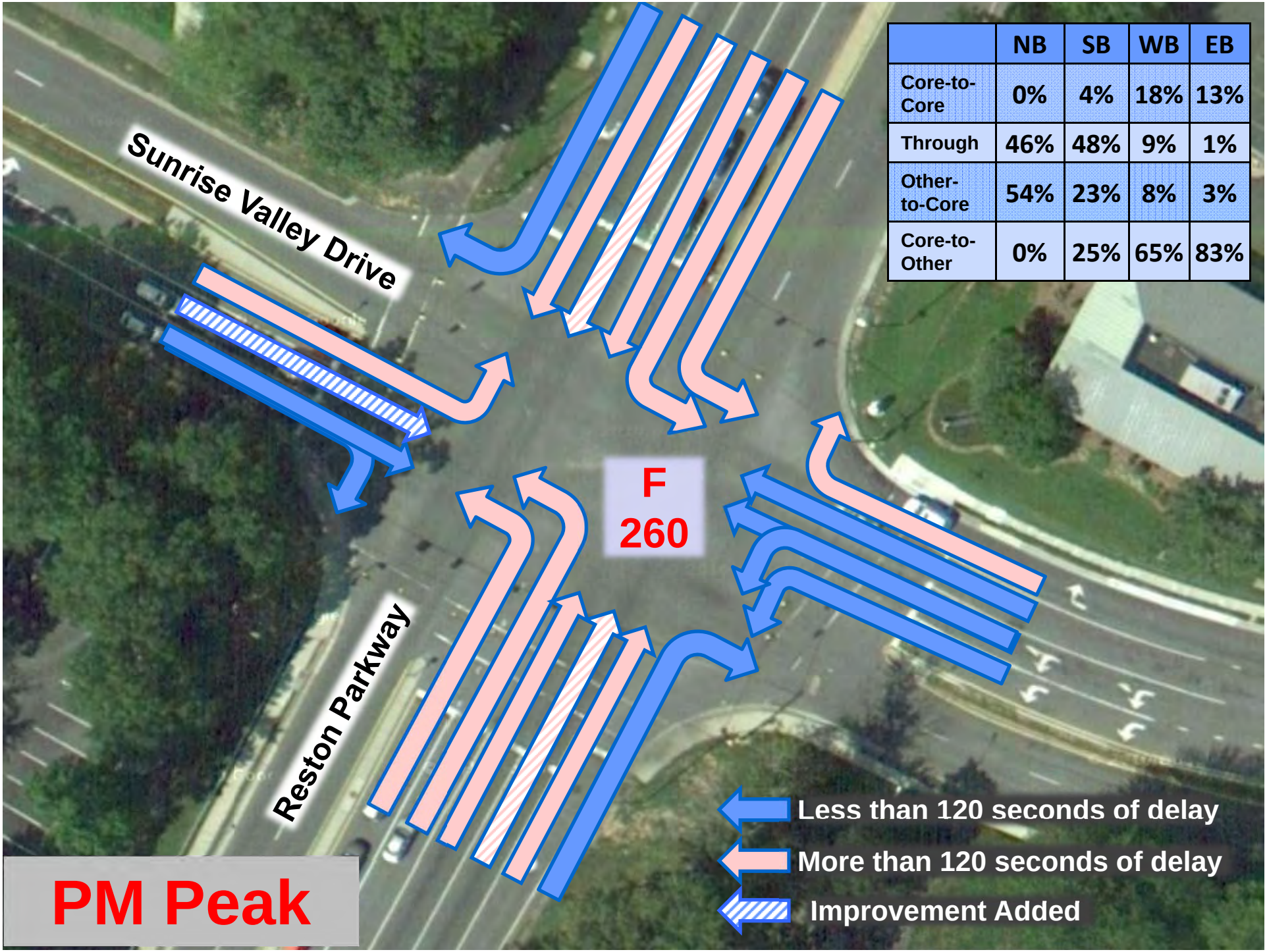
Improvement Added

Reston Parkway & Sunrise Valley Drive

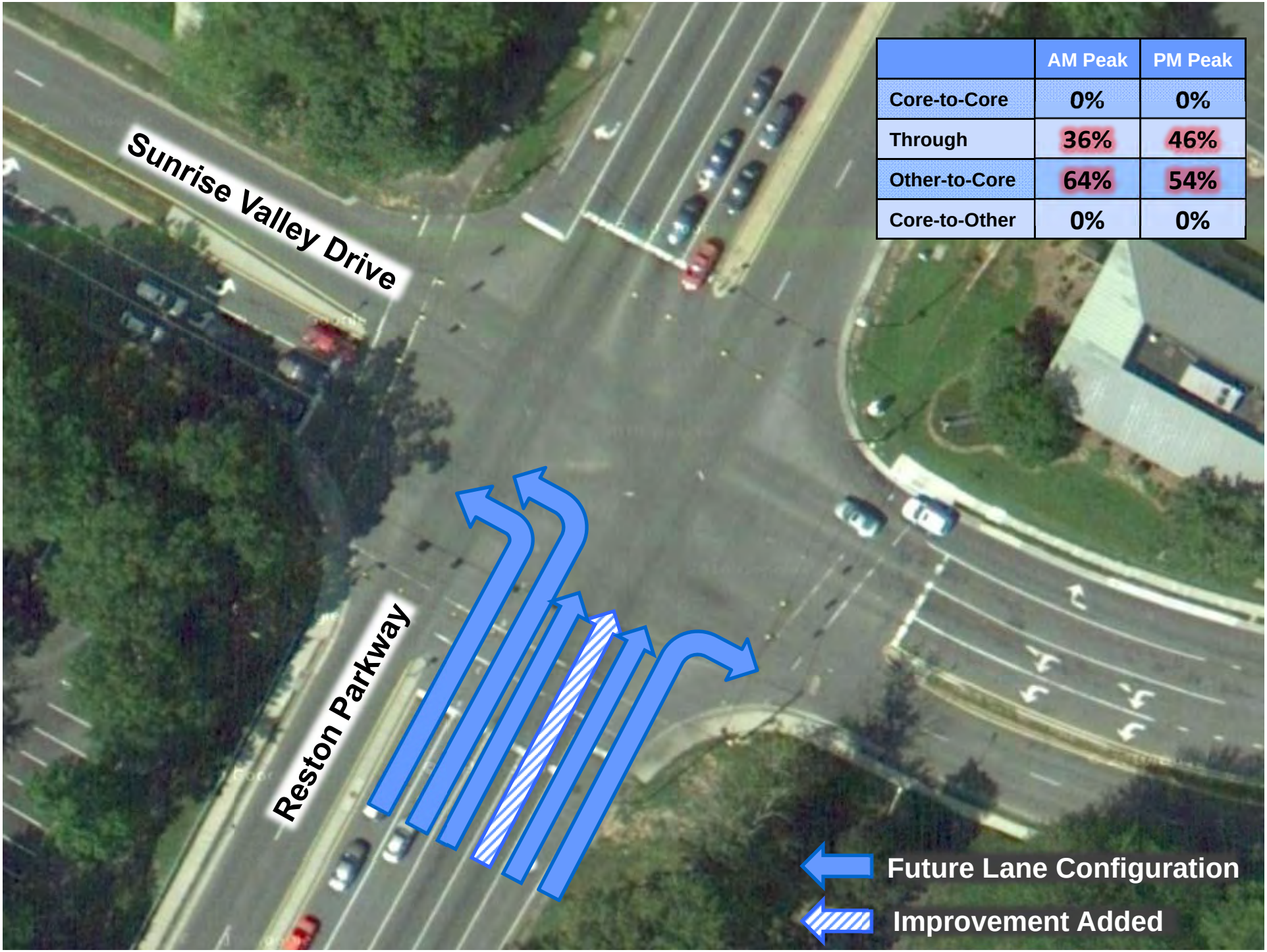


	NB	SB	WB	EB
Core-to-Core	0%	3%	18%	25%
Through	36%	26%	20%	3%
Other-to-Core	64%	62%	33%	8%
Core-to-Other	0%	9%	29%	64%

AM Peak



	NB	SB	WB	EB
Core-to-Core	0%	4%	18%	13%
Through	46%	48%	9%	1%
Other-to-Core	54%	23%	8%	3%
Core-to-Other	0%	25%	65%	83%



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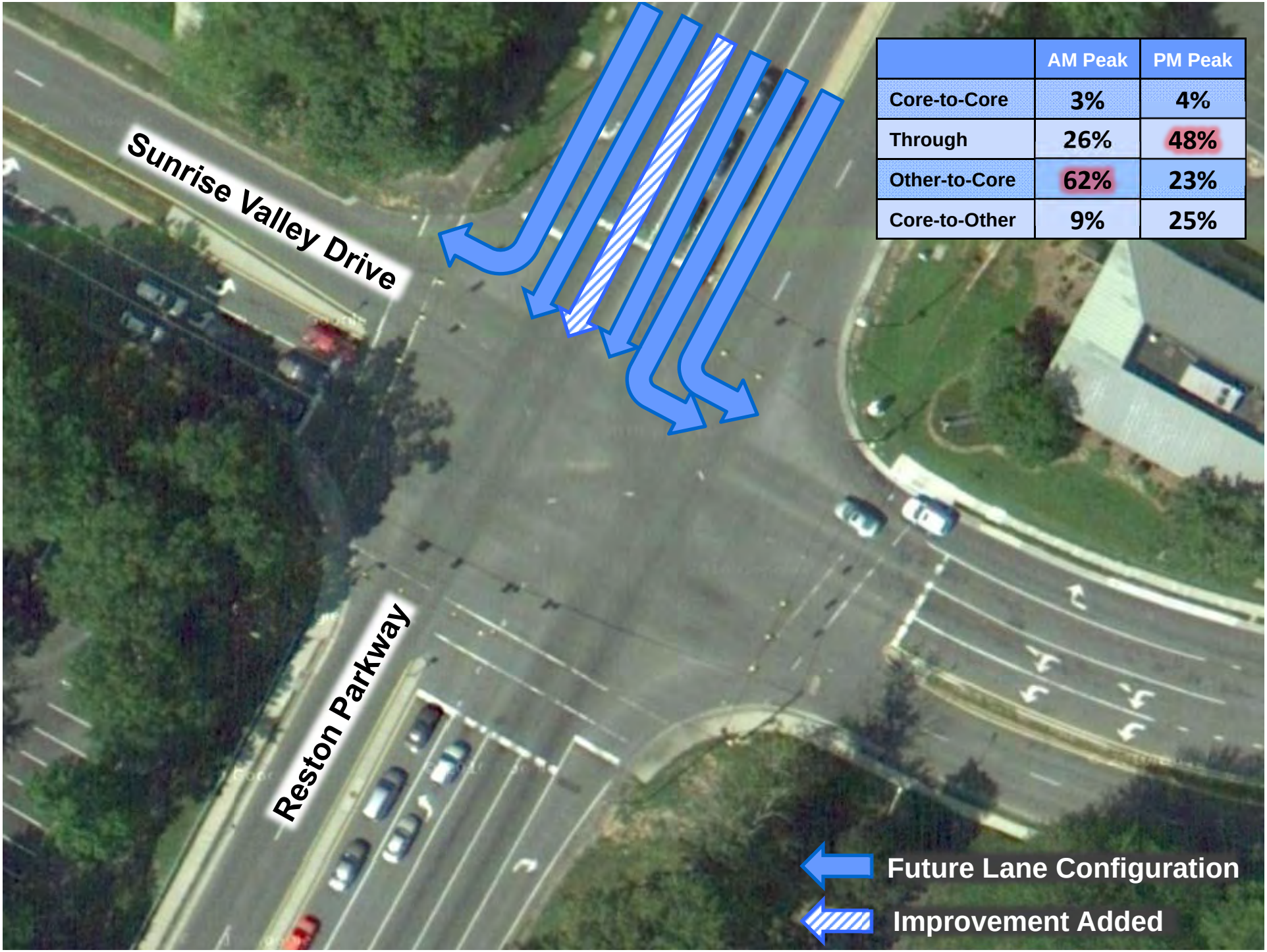

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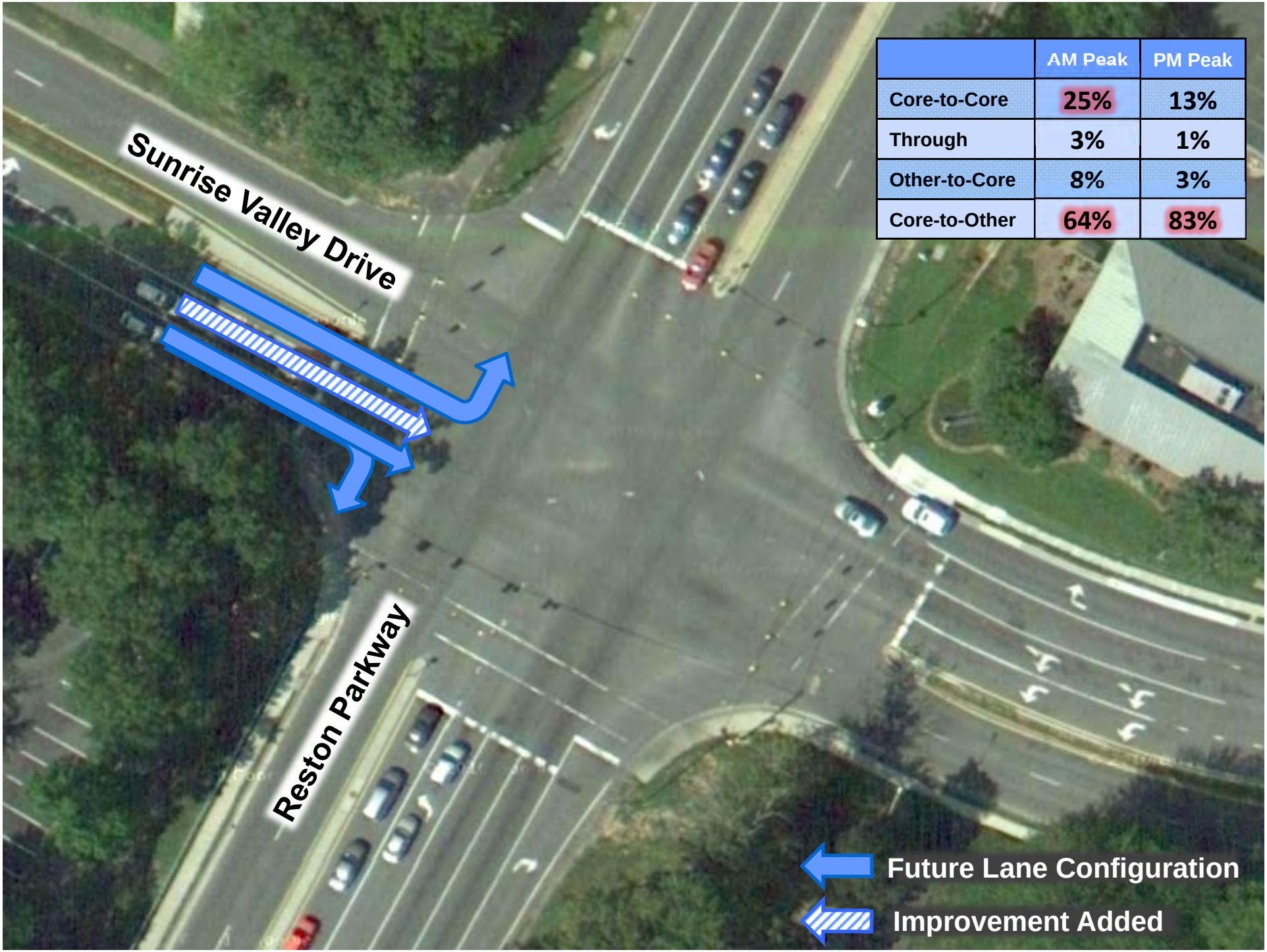

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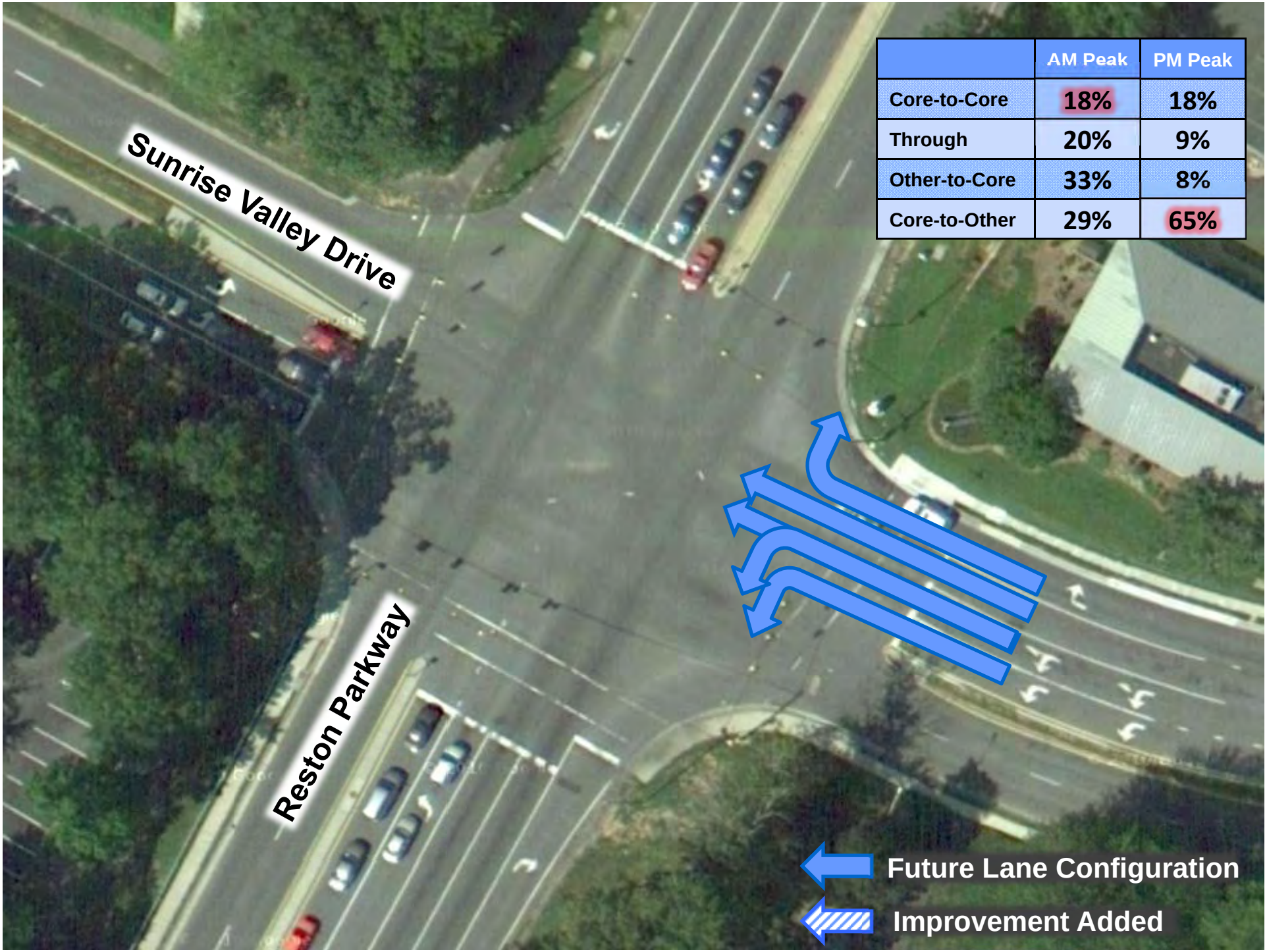

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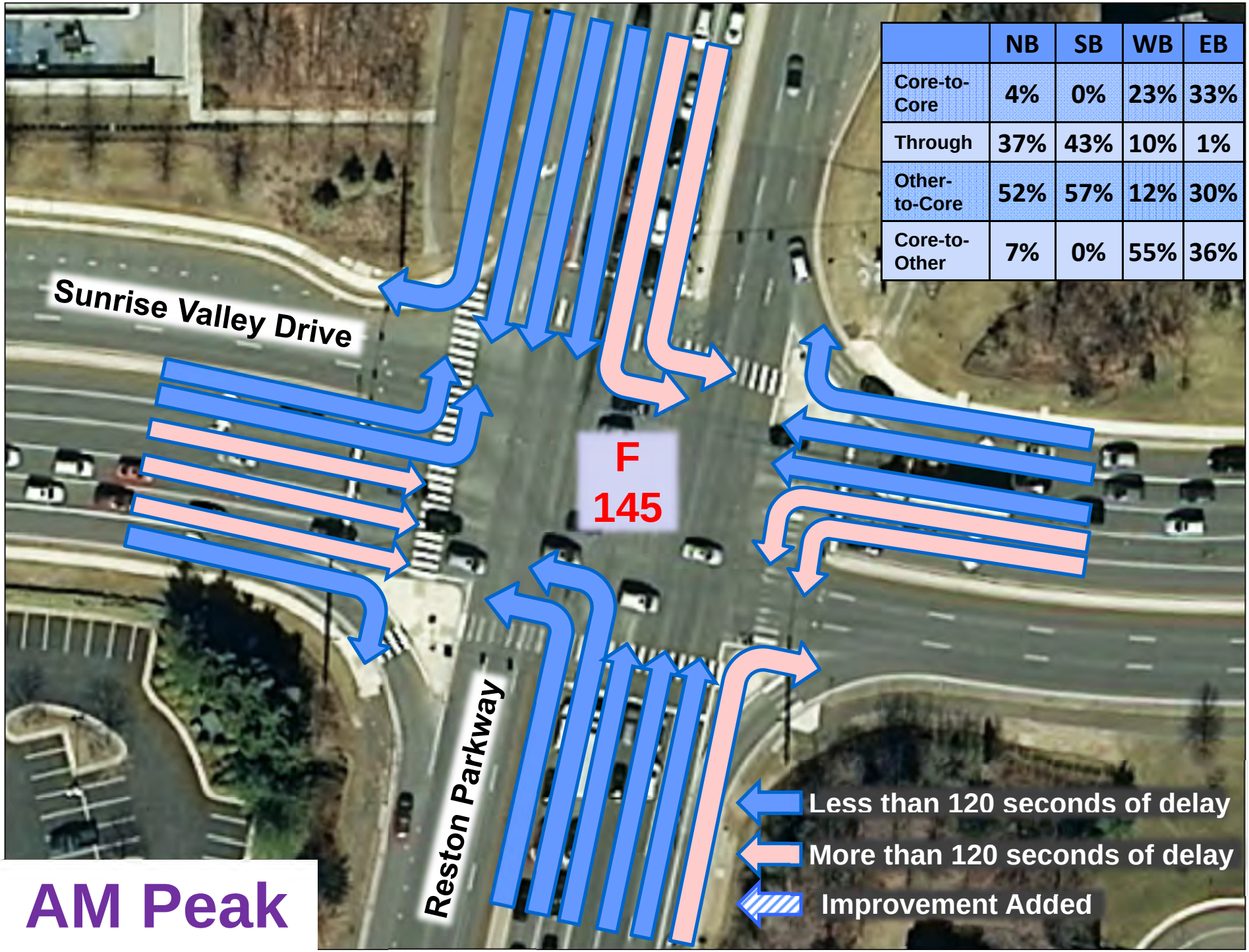
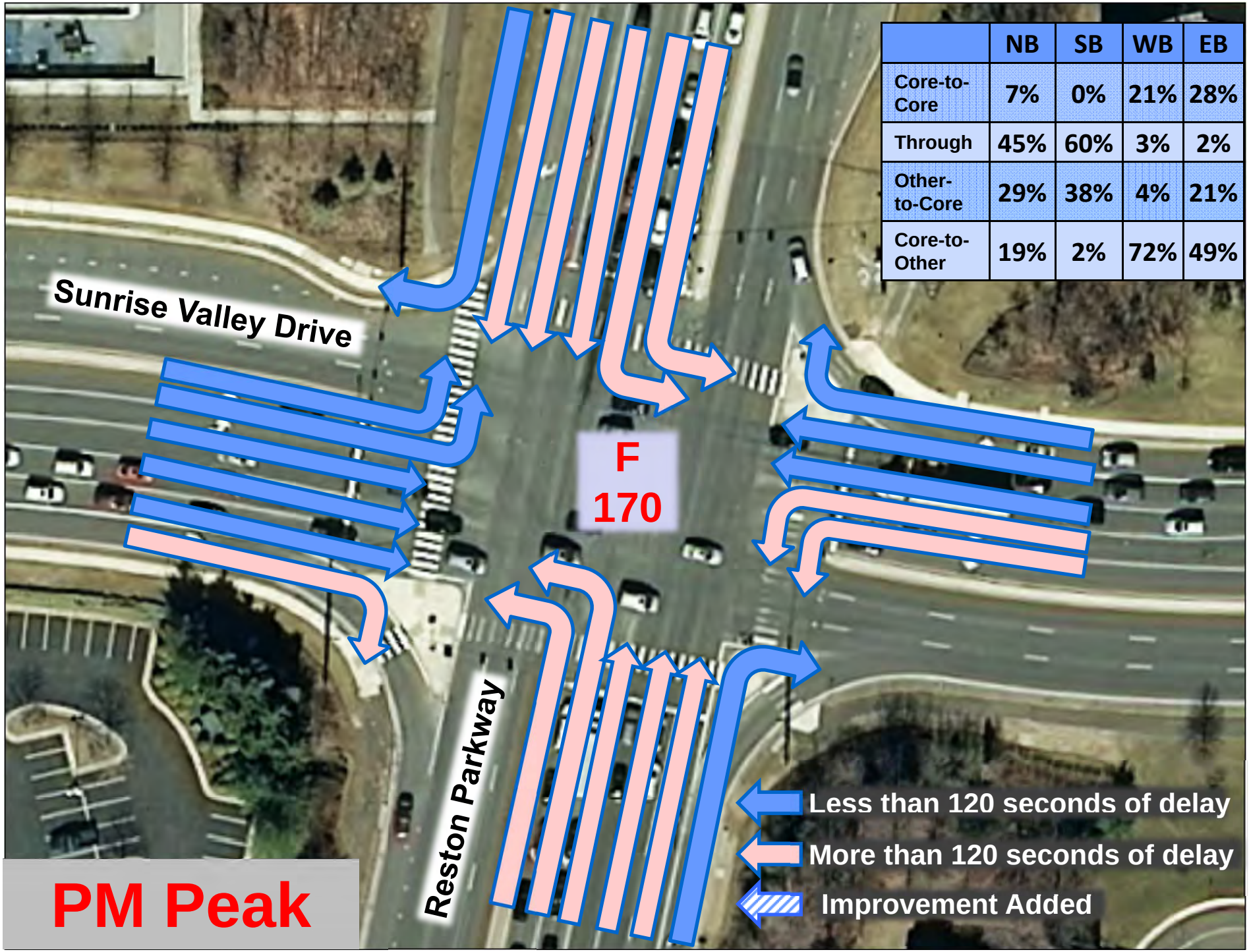
Reston Parkway & Sunset Hills Road

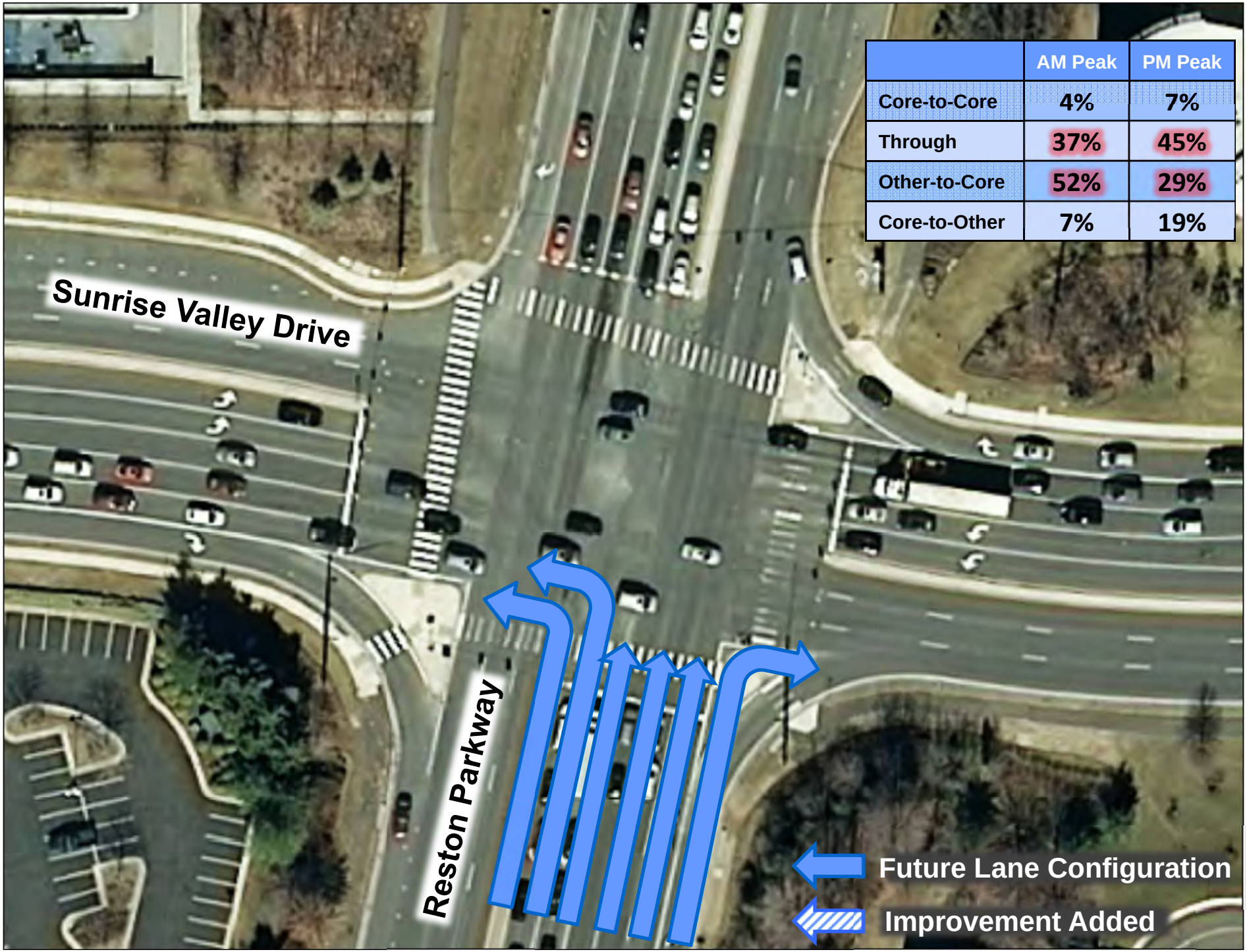


	NB	SB	WB	EB
Core-to-Core	4%	0%	23%	33%
Through	37%	43%	10%	1%
Other-to-Core	52%	57%	12%	30%
Core-to-Other	7%	0%	55%	36%

AM Peak



	NB	SB	WB	EB
Core-to-Core	7%	0%	21%	28%
Through	45%	60%	3%	2%
Other-to-Core	29%	38%	4%	21%
Core-to-Other	19%	2%	72%	49%



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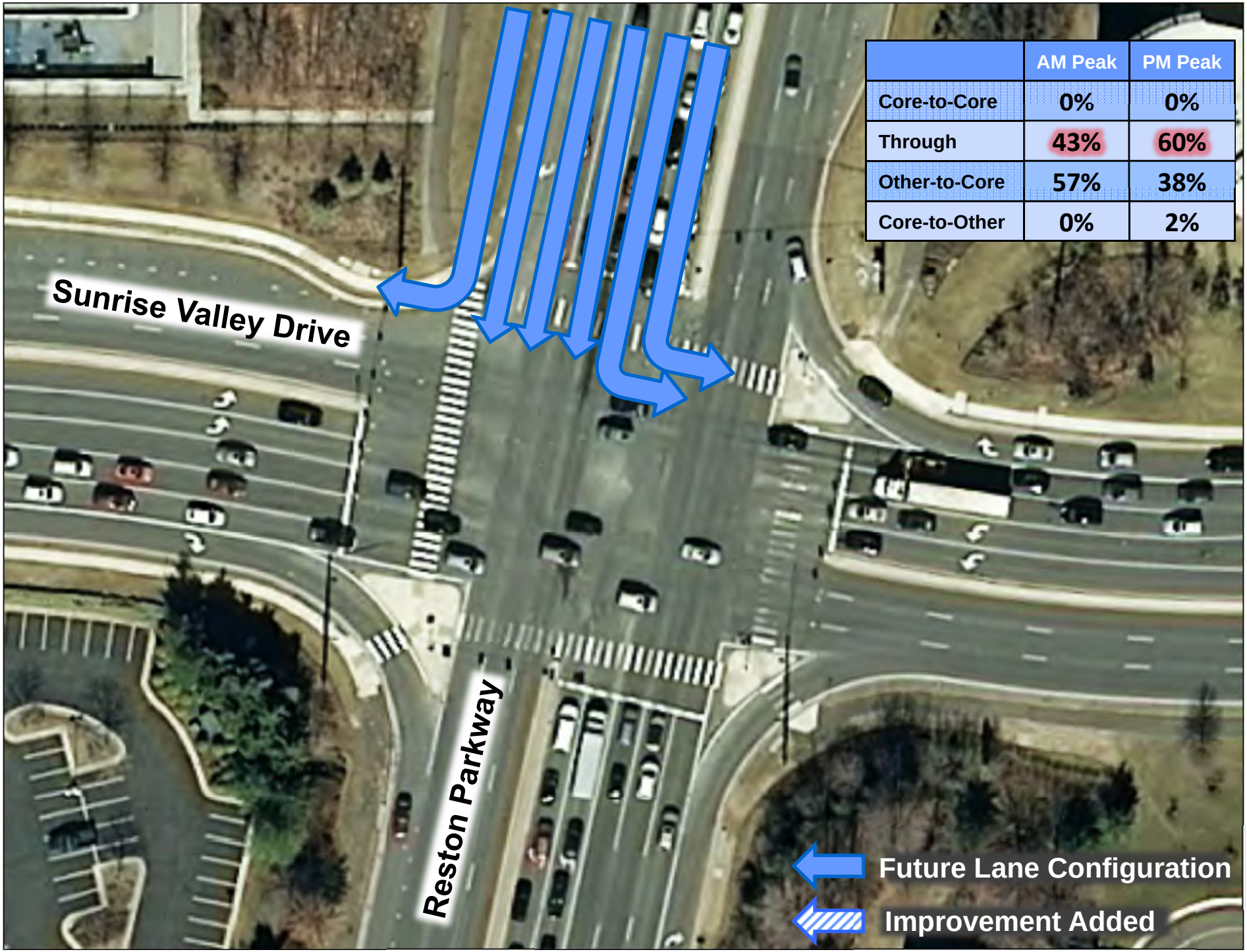
Other-to-Core	52%	29%
Core-to-Other	7%	19%



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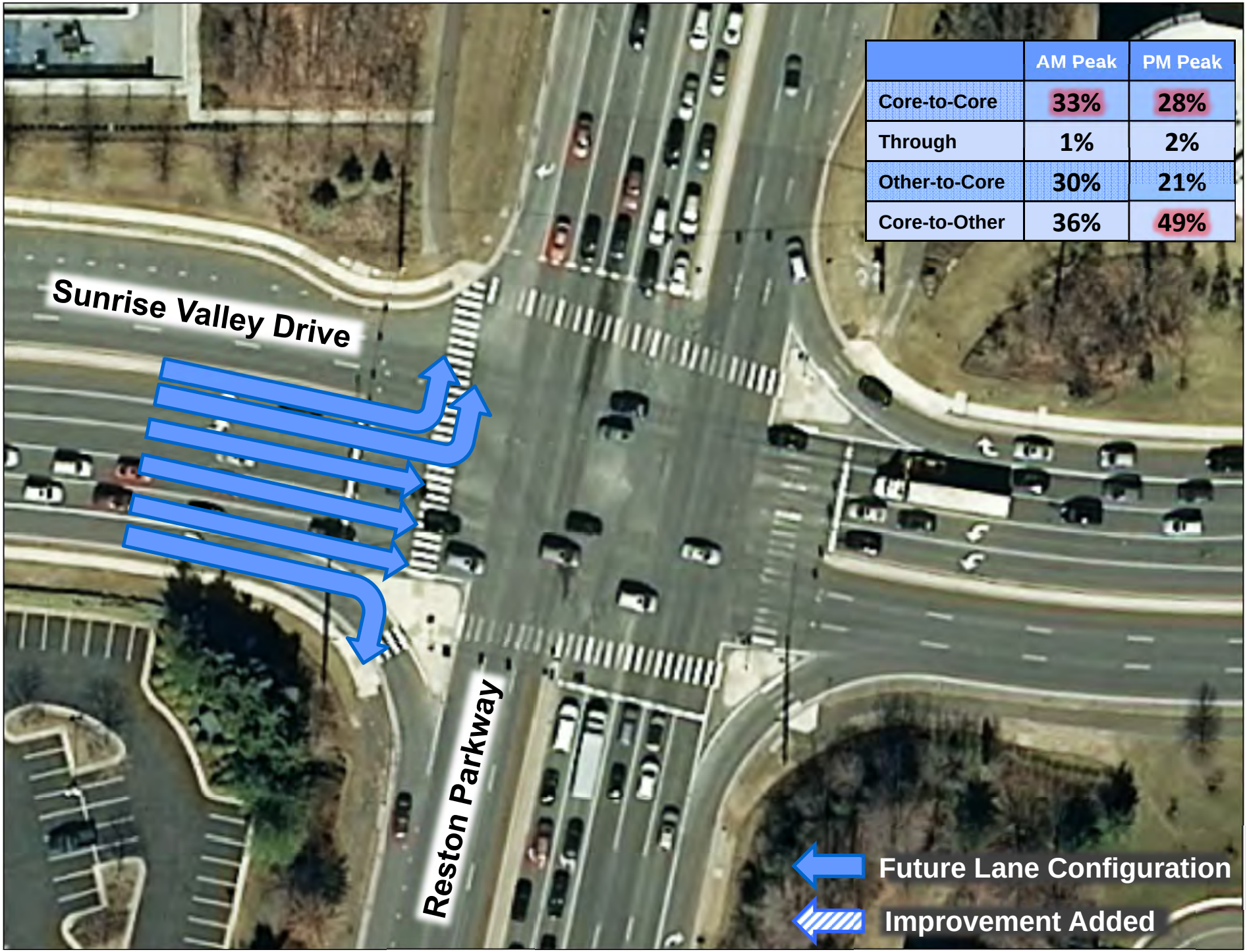

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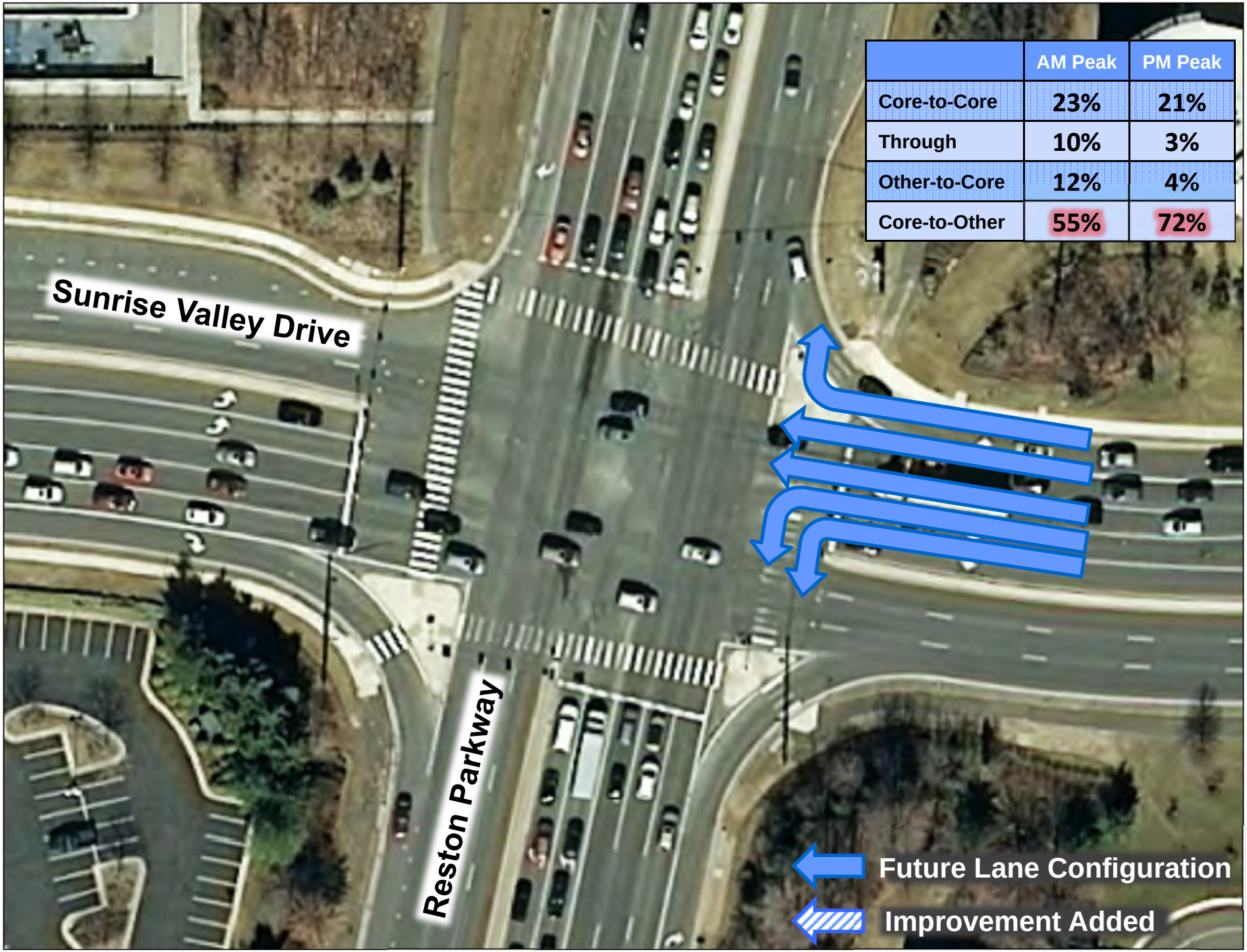

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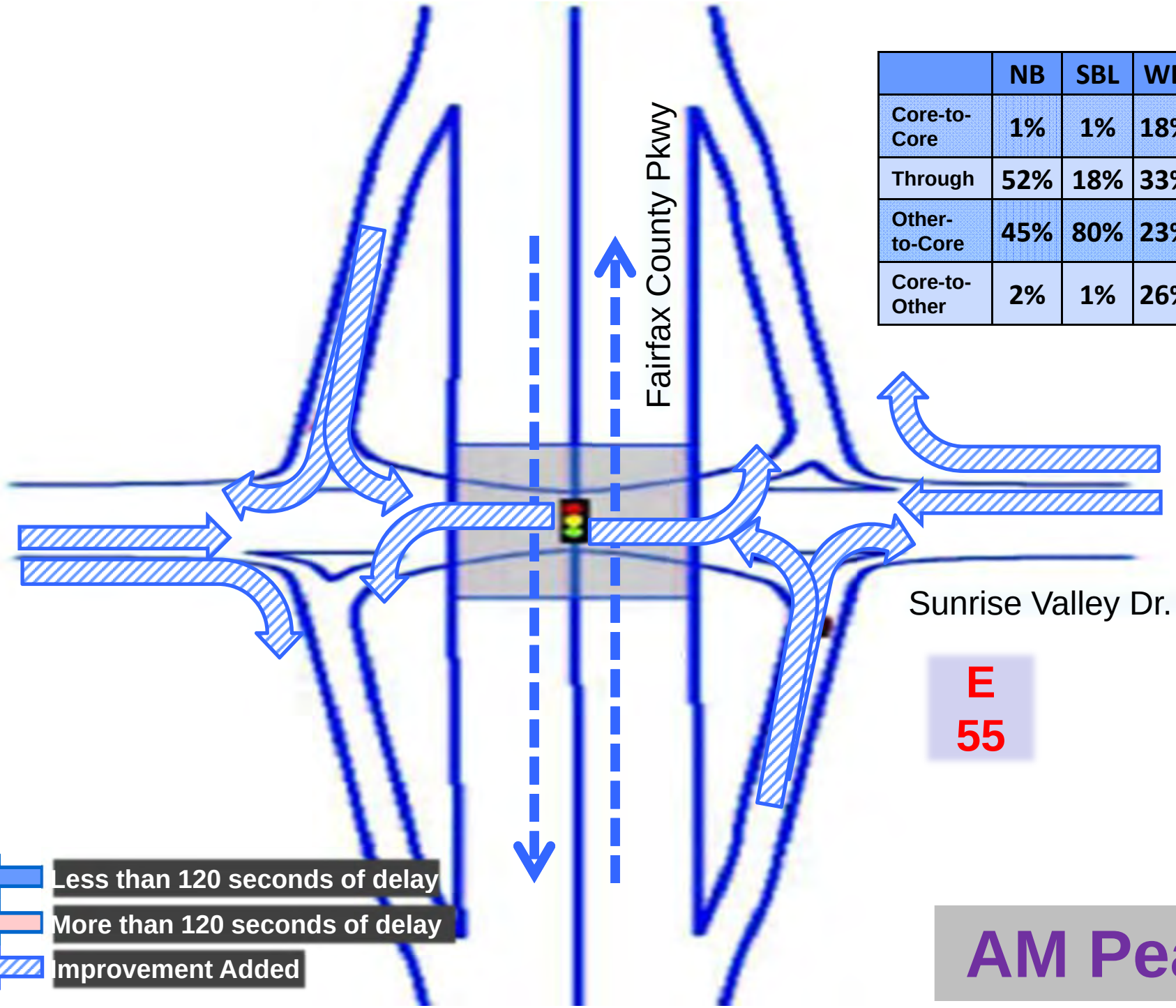
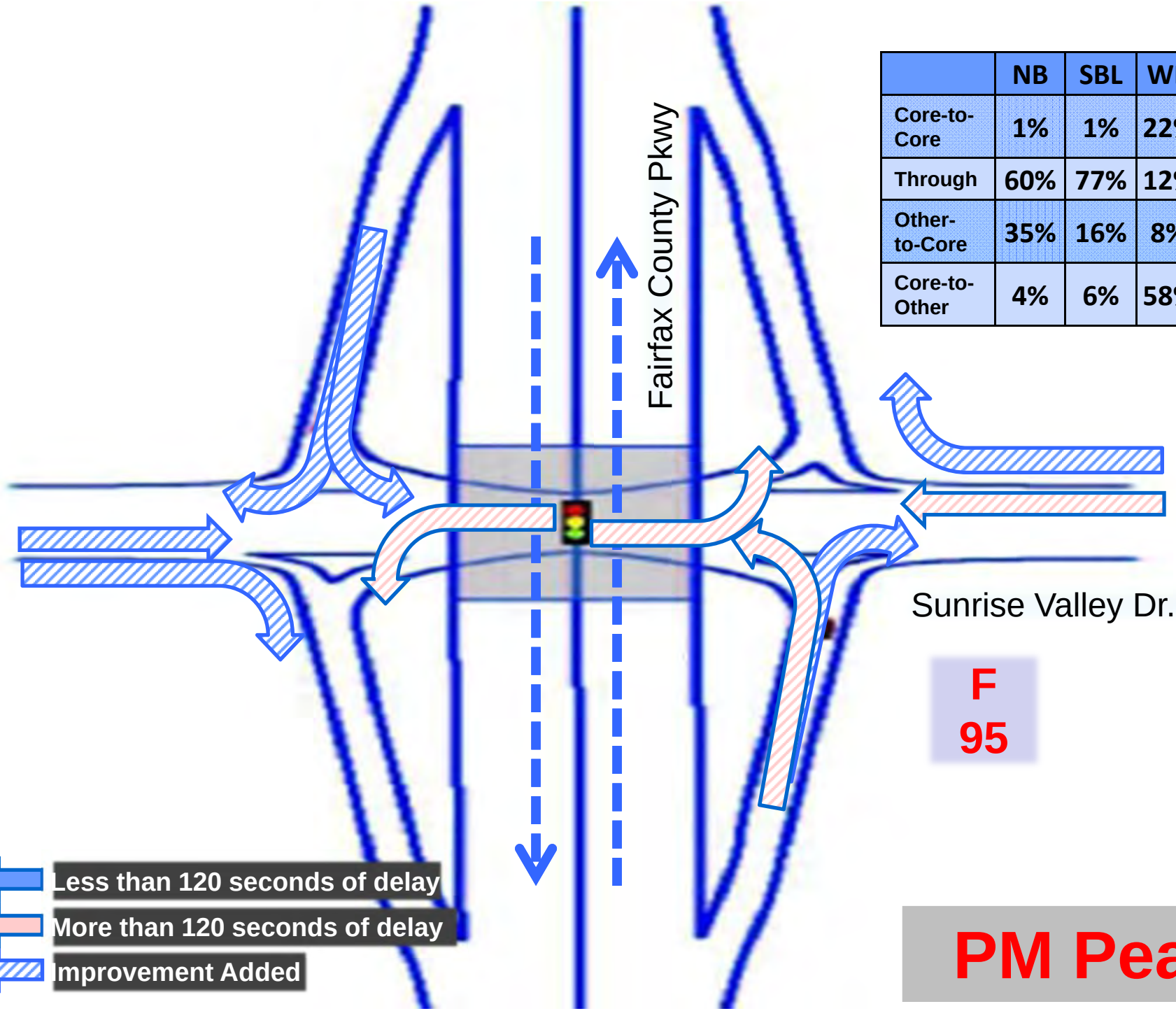
Fairfax County Parkway & Sunrise Valley Drive



	NB	SBL	WB	EB
Core-to-Core	1%	1%	18%	33%
Through	52%	18%	33%	6%
Other-to-Core	45%	80%	23%	11%
Core-to-Other	2%	1%	26%	50%

AM Peak



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Through	60%	77%	12%	5%
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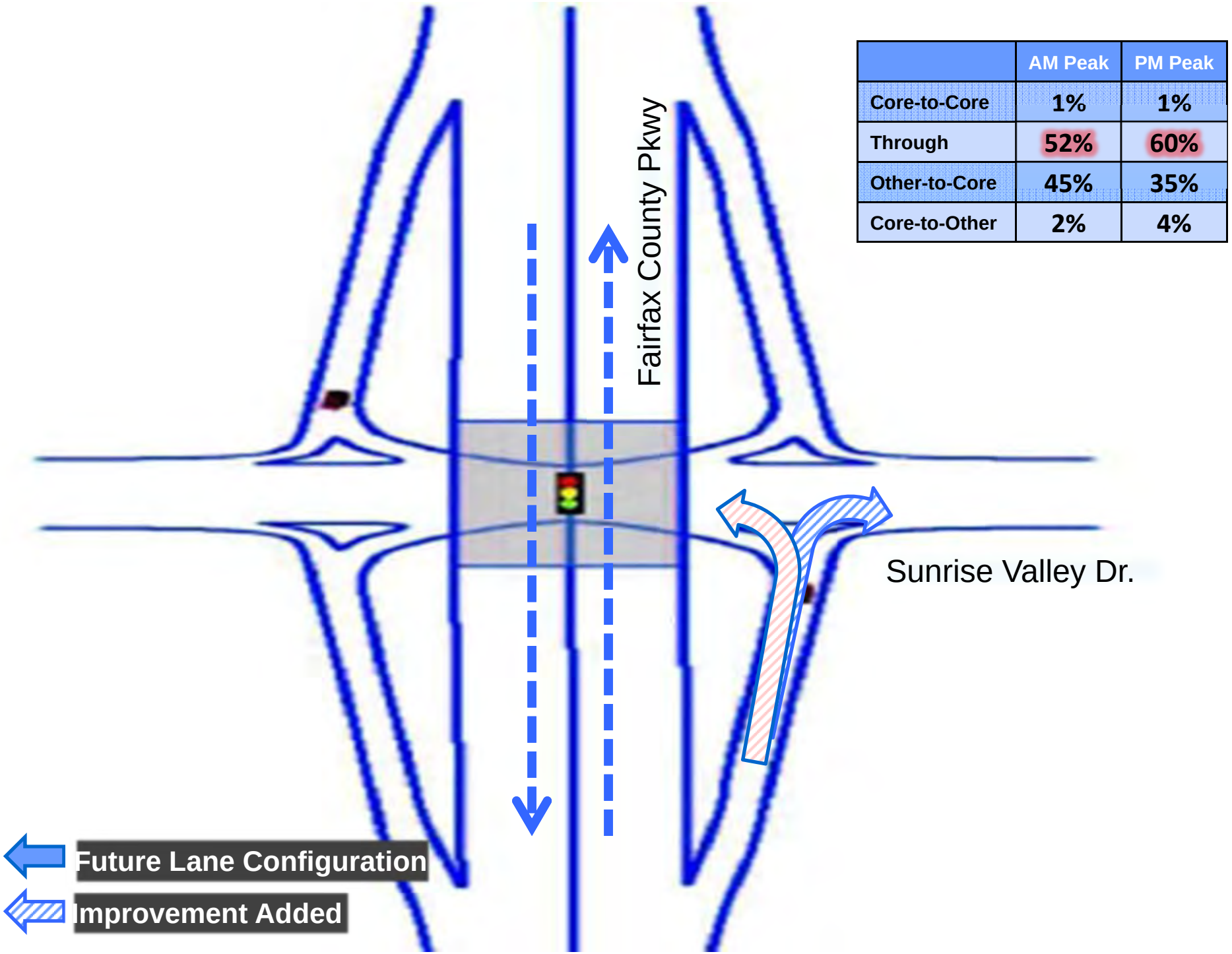
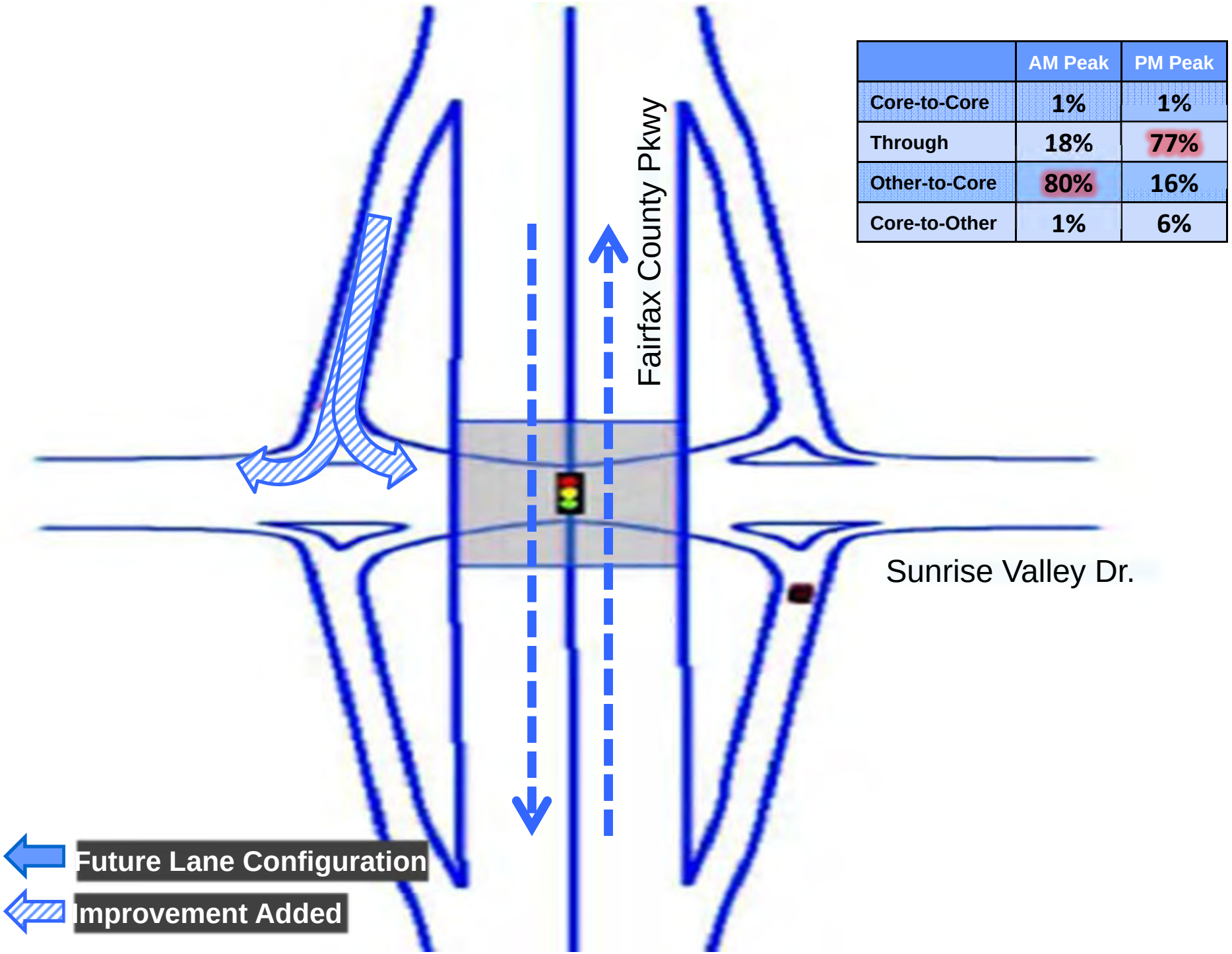
Core-to-Other	4%	6%	58%	62%

PM Peak



	AM Peak	PM Peak
Core-to-Core	1%	1%
Through	52%	60%
Other-to-Core	45%	35%
Core-to-Other	2%	4%



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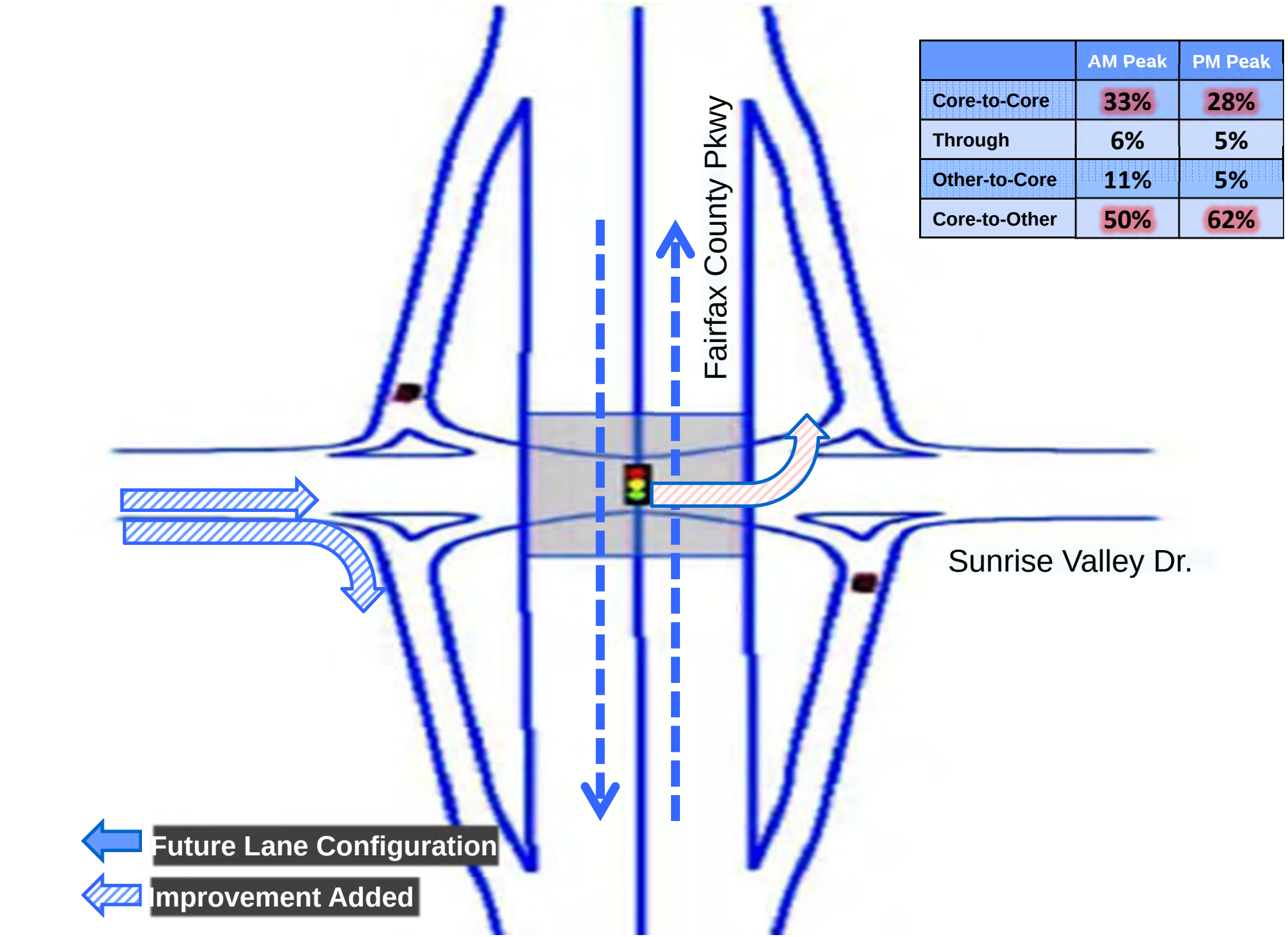

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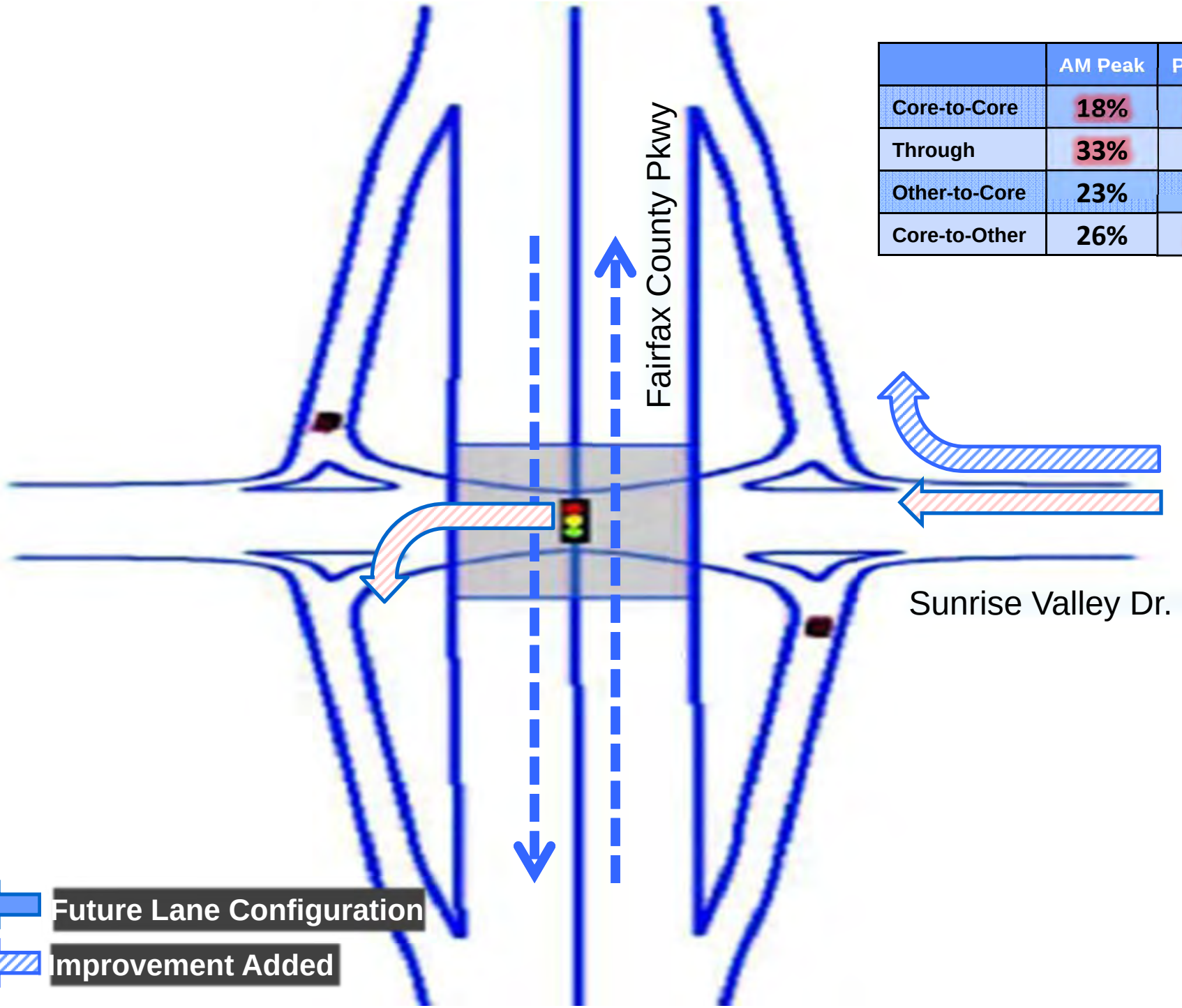

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Other-to-Core	23%	8%
Core-to-Other	26%	58%

Increased Transit and TDM

- Increased Transit for Model Forecasts
  - More frequent feeder bus service
- Increased Transportation Demand Management (TDM)
  Regional model already accounts for TDM programs that are used in the region. These are substantial.
  - Tysons study found that more aggressive TDM could further reduce trips by approximately 4% from model forecasts.
  - Our estimate is that more aggressive TDM in the Dulles Corridor could reduce vehicle trips by 2-3% from model forecasts.
    - More promotion of carpooling, transit, vanpools, telework and alternate work schedules. Limit quantity of parking in TOD areas.

Questions/Discussion