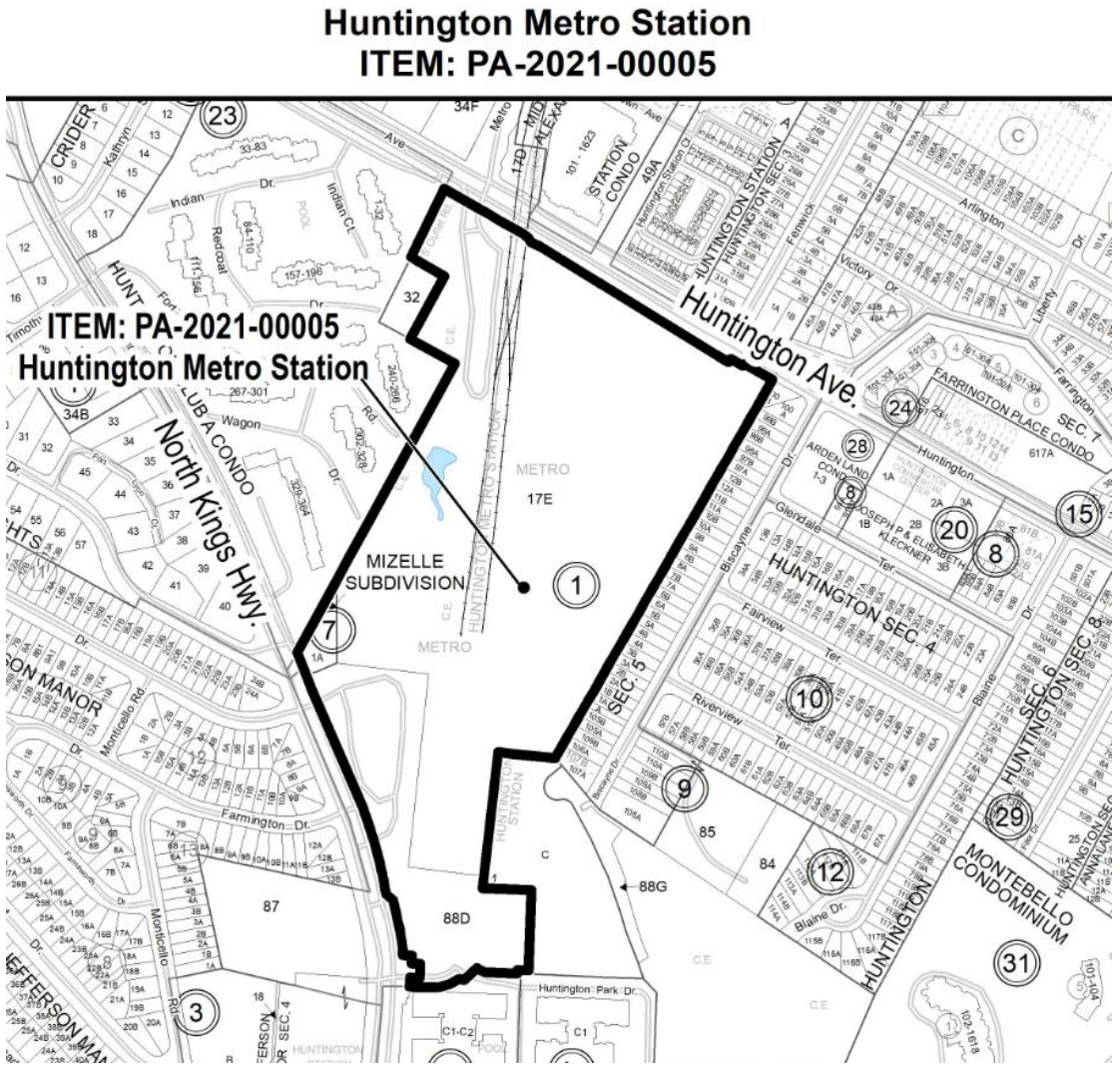
Huntington Metro Station Plan Amendment

Active Transportation Study
&
Transportation Analysis, Transit Parking Demand Study

Mount Vernon Task Force Meeting
May 10, 2022, 6:30pm

Agenda

1. Active Transportation Study
2. Transportation Analysis Review & Proposed Mitigations
3. Transit Station Park-and-Ride Demand Analysis
4. Comments and Q & A



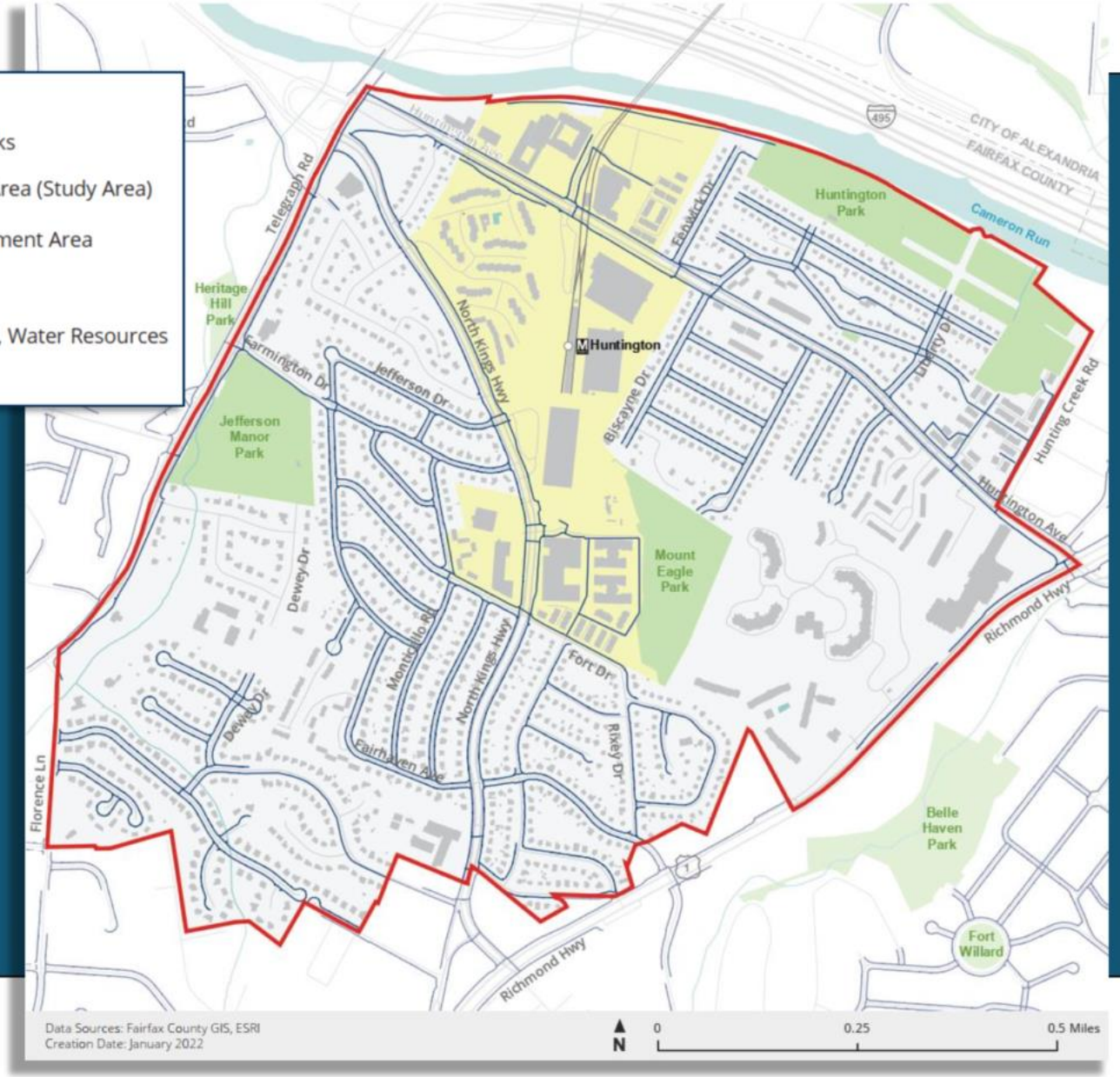
Huntington Metrorail Active Transportation Study

Tuesday, May 10, 2022
Mount Vernon District SSPA Task Force Meeting

Agenda

- Background and purpose
- Methodology
- Analysis scenarios
- Recommendations
- Next steps
- Questions and answers

Background and Purpose



- Secure MWCOG funded Transportation Land-Use Connections (TLC) grant
- Assess existing conditions for pedestrians and bicyclists within the TSA
- Analyze conditions in the future given recommended improvements in current Fairfax County planning documents
- Propose recommendations to further enhance active transportation in the future

Metrics Assessed

	Posted Speed*	No. of Lanes*	Average Daily Trips (ADT)	Facility Type	Buffer Presence	Sidewalk Width*	Sidewalk Quality	Lighting
Bicycle Level of Traffic Stress	●	●	●	●	●			
Pedestrian Level of Comfort	●	●		●	●	●	●	●

*Metric not included in residential streets

Each metric is scored one through four, with one being the lowest stress/highest comfort condition, and four being the highest stress/lowest comfort condition.

Analysis Scenarios

1. Existing Conditions
2. Future Baseline
3. Future Recommendations

Pedestrian Level of Comfort

LOC 1: Highly comfortable, pedestrian-friendly, and easily navigable for pedestrians of all ages and abilities.

LOC 2: Generally comfortable for most pedestrians. These streets may be part of a "pedestrian-friendly" environment where it intersects with a more auto-oriented roadway.

LOC 3: Walking is uncomfortable. Minimum sidewalk and crossing facilities may be present, but barriers may make the walking experience uninviting and uncomfortable.

LOC 4: Walking is very uncomfortable. Streets have limited or no accommodation for pedestrians.

Bicycle Level of Traffic Stress

LTS 1: The lowest level of traffic stress and the design goal for a network that truly accommodates people of all ages and abilities

LTS 2: The highest level of acceptable traffic stress for the "interested but concerned" segment of the population.

LTS 3: Accommodates "enthused and confident" bicyclists—who are excited and more familiar with biking and will therefore accept a higher level of traffic stress.

LTS 4: Very high level of traffic stress. Only the "strong and fearless" bicyclist will feel comfortable riding on these facilities, and most bicyclists will choose not to bike.

Weakest Link Analysis

Posted Speed	30 MPH
ADT	> 15,000
Lane Count	4
Bicycle Facility Type	None, cyclists mix with traffic
Bike Volumes	Low
Pedestrian Facility Type	Detached, buffer present
Buffer Type	Landscape
Buffer Width	< 14 feet
Sidewalk Width	< 6 feet
Sidewalk Quality	Some cracks, but usable width maintained
Crossing Frequency	Spaced > 400 feet
Lighting	Roadway lighting

Huntington Ave, West of Metroview Pkwy, looking West

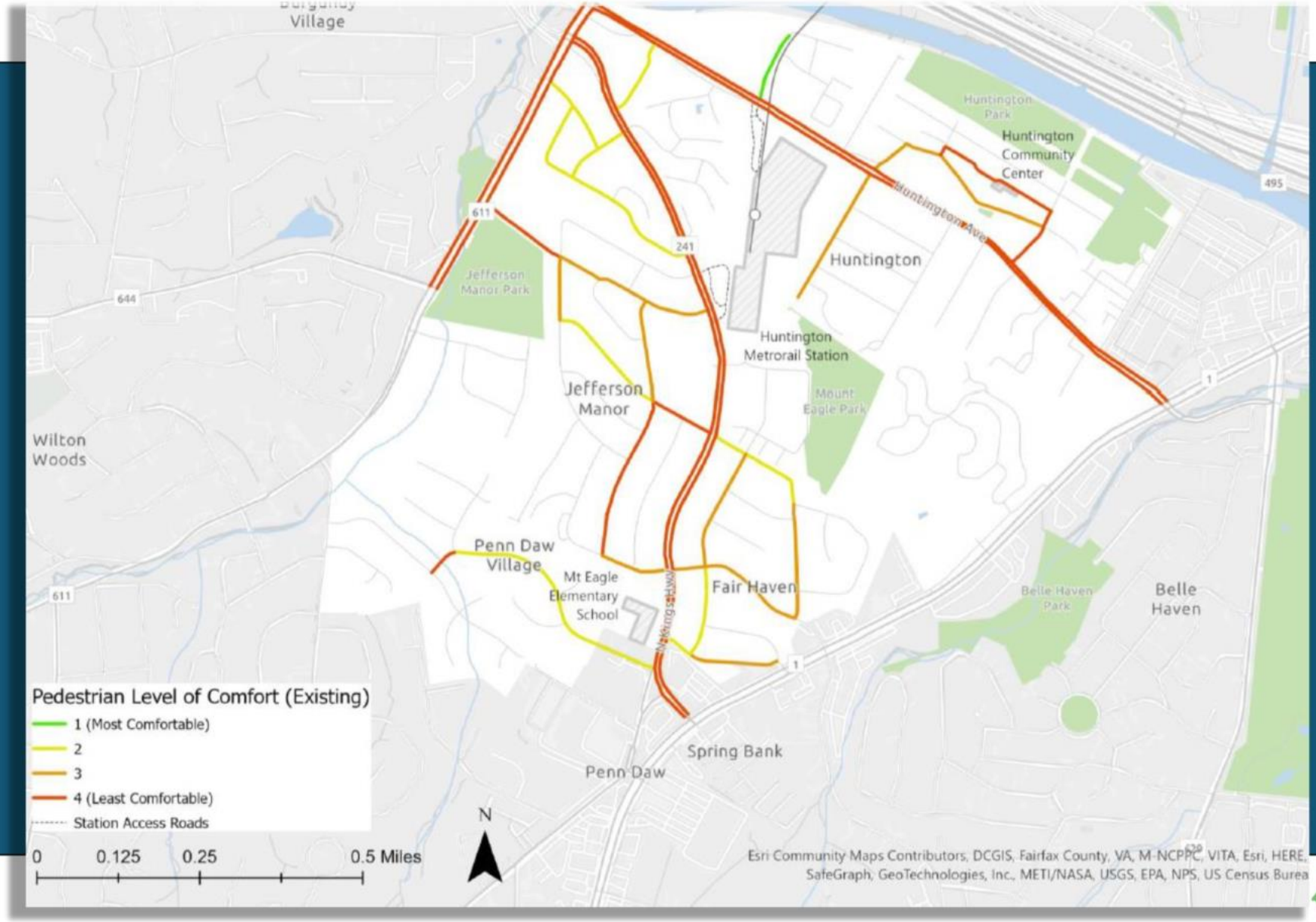
	Posted Speed	ADT	Lane Count	Buffer Type	Buffer Width	Sidewalk Width	Sidewalk Quality	Lighting	Overall Score
Bicycle	3	4	3						4
Pedestrian	2		3	2	3	4	3	2	4

The “weakest link” analysis does not apply to bicycle level of traffic stress for facilities that are off-street. Off-street bicycle facilities are automatically scored as LTS1.

Existing Conditions: Pedestrian Crossings

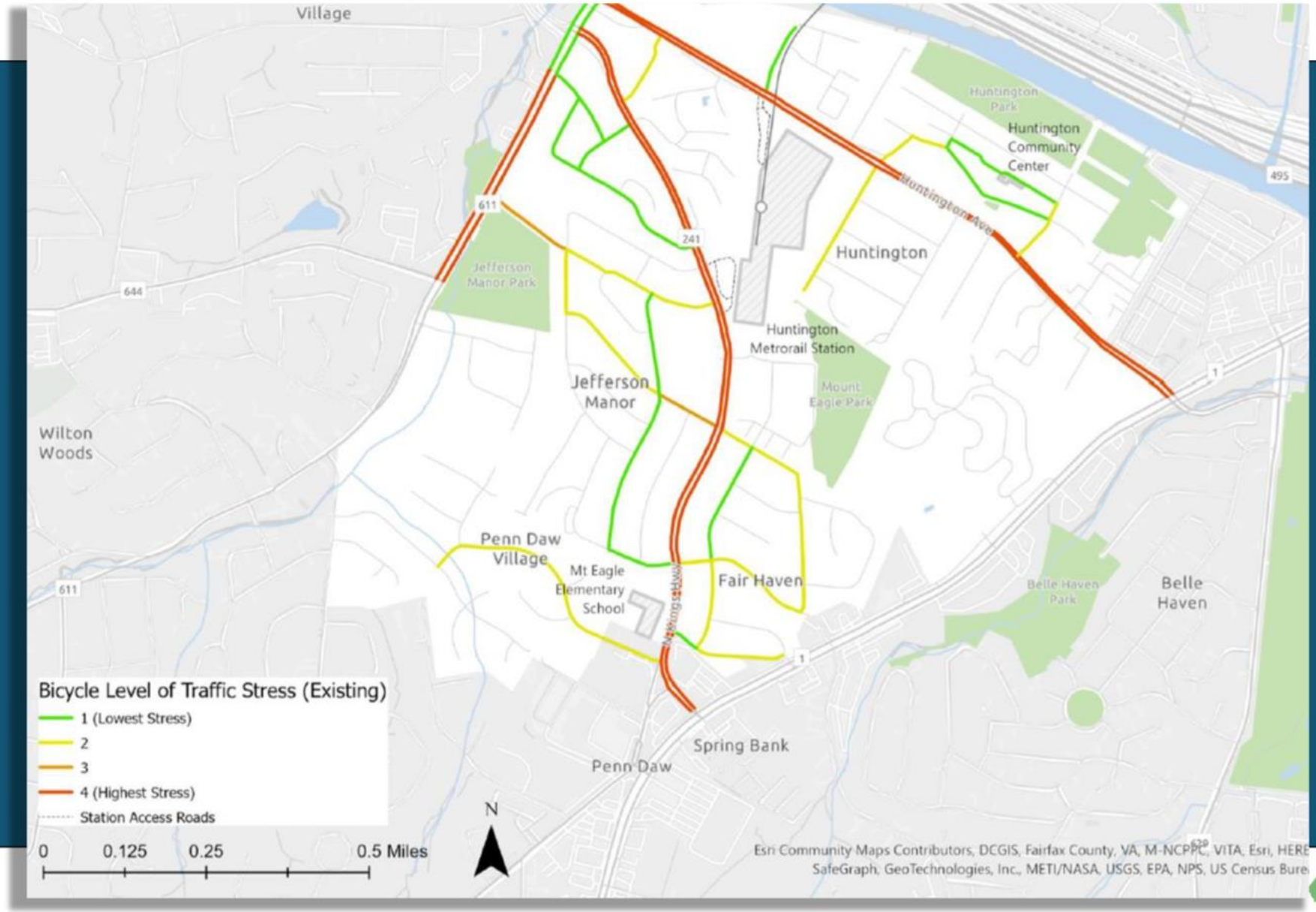
- Ten locations missing marked crosswalks
- Stretches on Huntington Ave and N Kings Hwy where the distance between crossings exceeds 400 feet:
  - Huntington Ave, between Biscayne Dr and Foley St (~2,000 feet)
  - N Kings Hwy, between Telegraph Rd and Jefferson Dr (~2,100 feet)
  - N Kings Hwy, between Fort Dr and Fairhaven Ave (~1,100 feet)
- Six uncontrolled crosswalks in the study area; three on Huntington Avenue and three on N Kings Hwy

Existing Conditions: Pedestrian Comfort



County of Fairfax, Virginia

Existing Conditions: Bicycle Level of Traffic Stress



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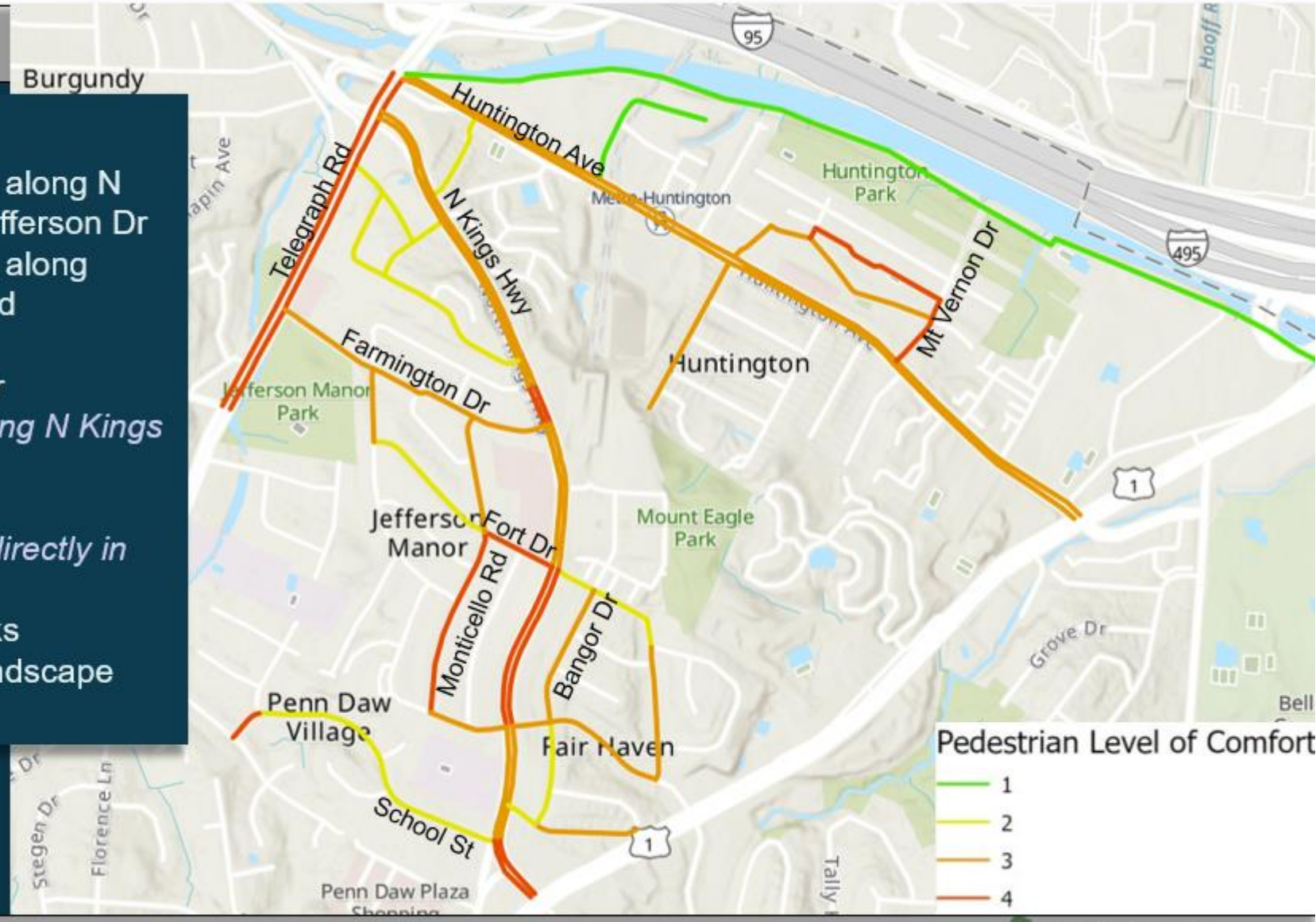
Future Baseline: Pedestrian Comfort

Proposed Improvements*

- Install 10 ft path and 5 ft landscape buffer along N Kings Hwy, between Telegraph Rd and Jefferson Dr
- Install 10 ft path and 5 ft landscape buffer along Huntington Ave between Telegraph Rd and Richmond Highway
- Install a 6 ft sidewalk along Farmington Dr
- *Allocate excess space to the sidewalk along N Kings Hwy from narrowing the travel lanes*
- Install pedestrian-scale lighting
- *Install a HAWK beacon at the crosswalk directly in front of the Mount Eagle ES*
- Construct new / improve existing sidewalks throughout the TSA and install 2 to 3 ft landscape buffer

*Includes recommendations from the Comprehensive Plan and *North Kings Highway Resolution from MVCCA & JMCA*



County of Fairfax, Virginia

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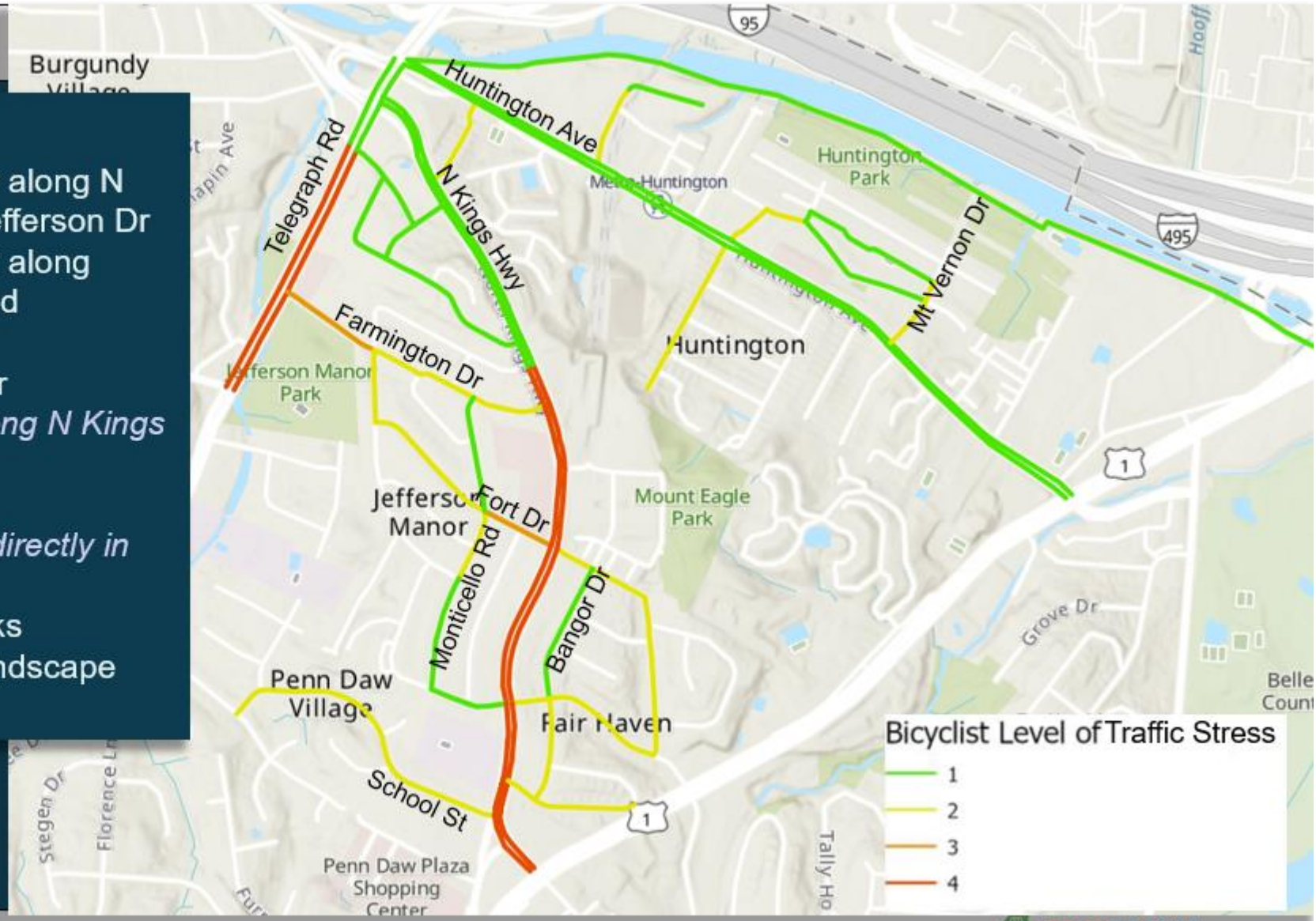
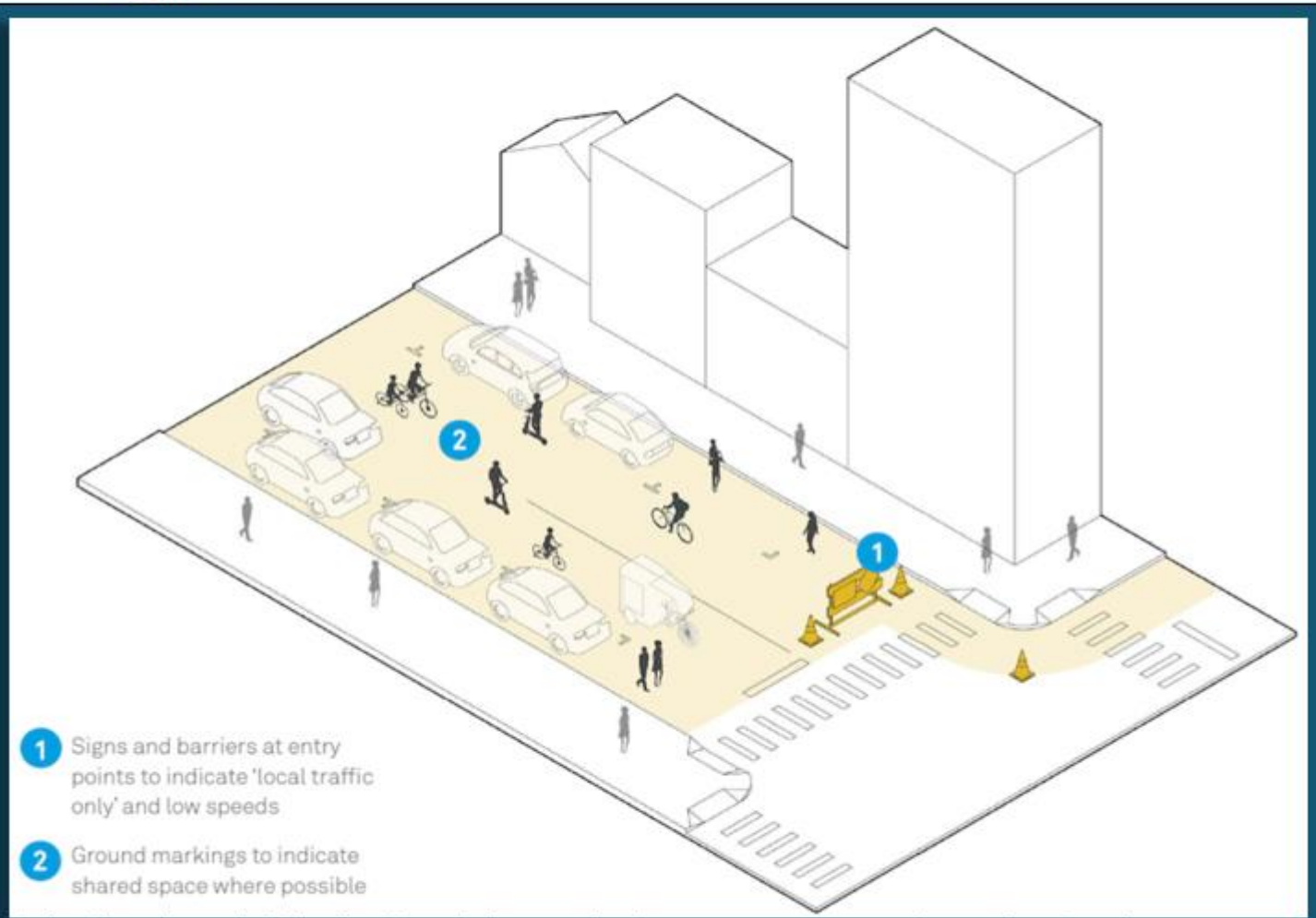


Recommended Improvements



https://nacto.org/publication/streets-for-pandemic-response-recovery/emerging-street-strategies/slow-streets/

Slow Streets:
Limit vehicular traffic on a stretch of roadway to create a shared space for vehicles, pedestrians, and bicyclists.

Characteristics of Slow Streets include:
- Speeds of 15 MPH or less
- Partial barriers at entry points with signage
- Allow local access, deliveries, and emergency vehicles

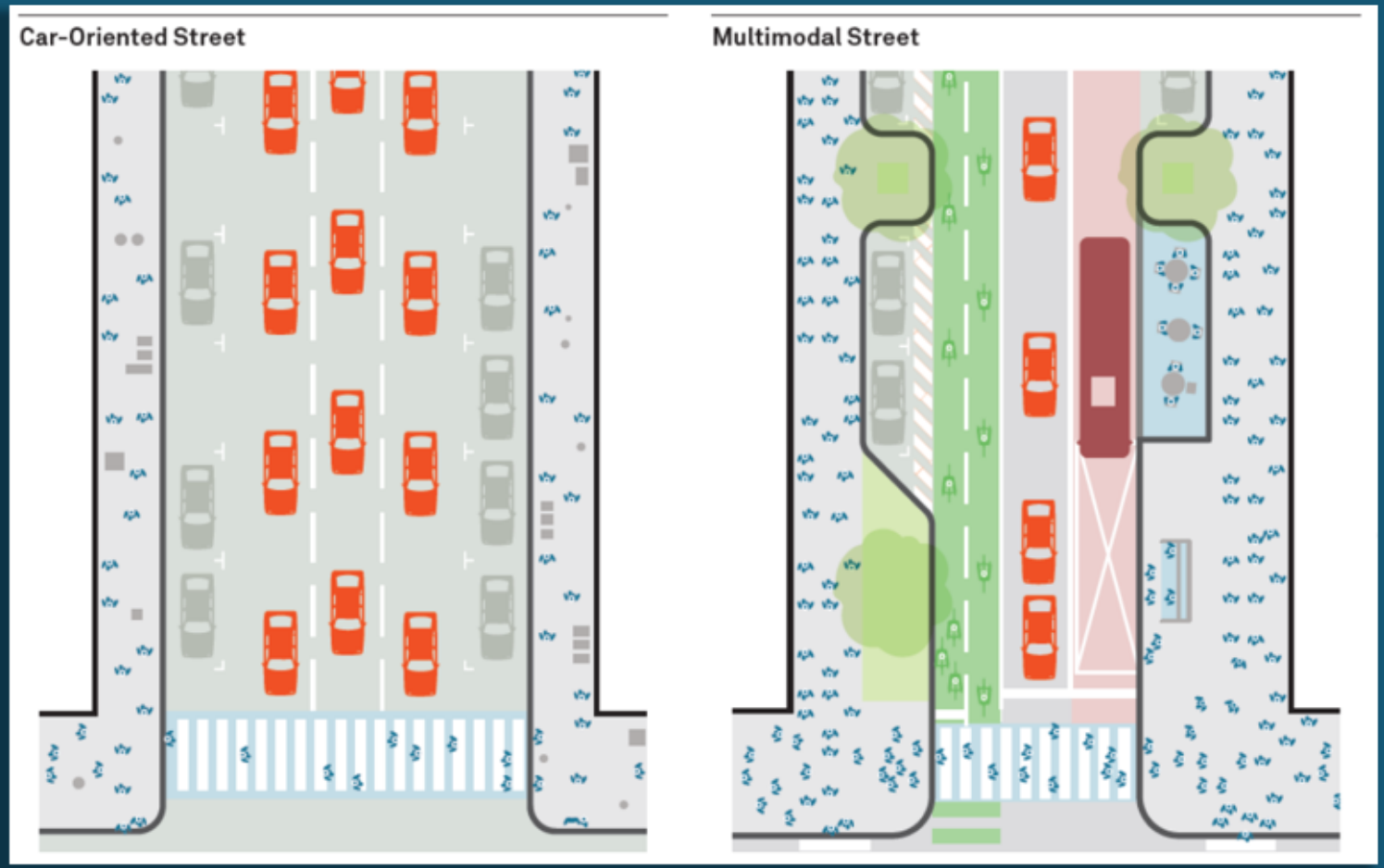
https://www.sfmta.com/sites/default/files/reports-and-documents/2021/09/slow_streets_design_toolkit_document_lakest.pdf

Recommended Improvements

Road Diet:
Reduce number of travel lanes and repurpose space for active transportation uses.

Huntington Ave - Remove one through-lane in each direction between Telegraph Rd to Richmond Hwy and provide two-way protected bike lane and 8 ft sidewalk

Detailed traffic analysis is needed to determine the impacts of a road diet



http://carfreeamerica.net/road-diet-guide/

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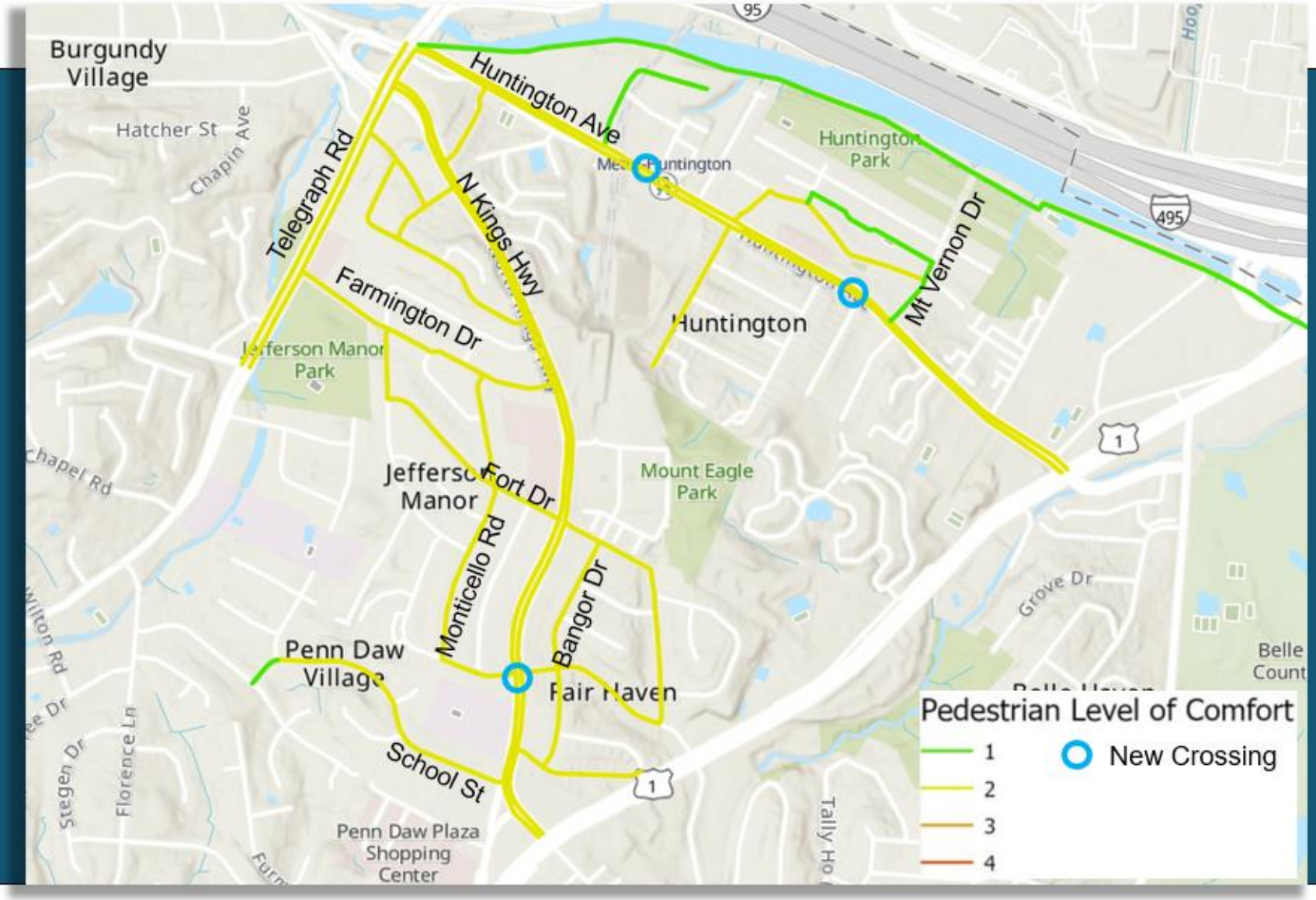
Recommended Improvements

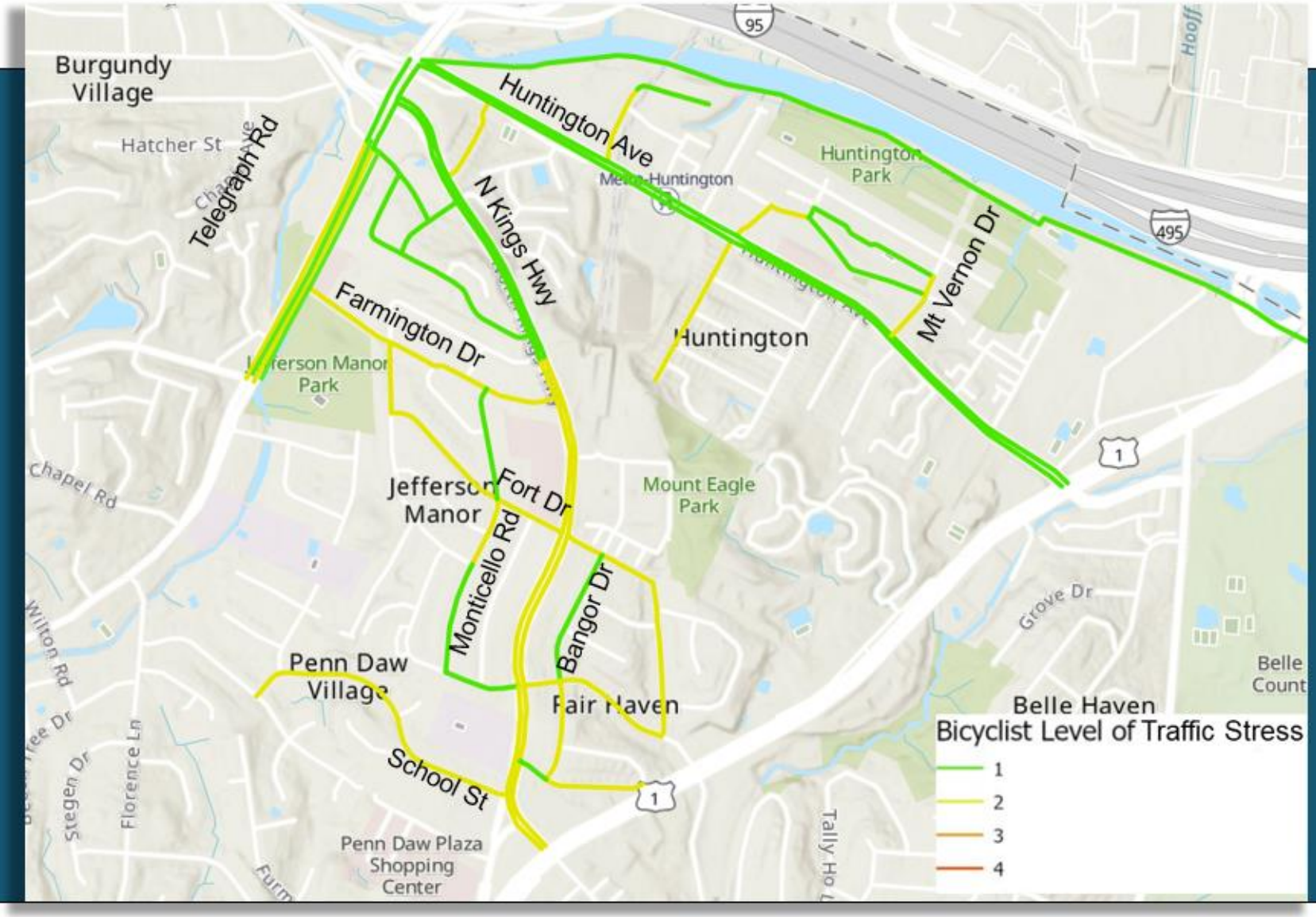
Bangor Dr
Improve sidewalk quality, widen sidewalk to 6 – 8 ft, and install pedestrian-scale lighting between Fort Dr and Fairhaven Ave
Fort Dr
Slow streets opportunity; reduce through traffic and speeds to 15 MPH or less between Monticello Rd and N Kings Hwy
Increase sidewalk width to 6 ft between Monticello Rd and N Kings Hwy
Farmington Dr
Slow streets opportunity; reduce through traffic and speeds to 15 MPH or less between Telegraph Rd and N Kings Hwy
Improve sidewalk quality to smooth surface between Monticello Rd and N Kings Hwy
School St
Install pedestrian-scale lighting between Dewey Dr and Shaffer Dr
Monticello Rd
Improve sidewalk quality, widen sidewalks to 6 – 8 ft, and install pedestrian scale lighting between Farmington Dr and Fairhaven Ave
Community Center Access Rd
Install pedestrian-scale lighting between Liberty Dr and Mt Vernon Dr
Mt Vernon Dr
Install pedestrian-scale lighting between Huntington Park and Huntington Ave

Huntington Ave
Reduce posted speeds to 25 MPH
Remove one through-lane in each direction between Telegraph Rd to Richmond Hwy and provide two-way protected bike lane and 8 ft sidewalk
Add marked crosswalks at Fenwick Dr, Biscayne Dr and Richmond Hwy intersections, 5 legs total
Add advance “Yield Here to (Stop Here For) Pedestrian” sign and yield lines to all unsignalized crossings
Add pedestrian refuge island and RRFB at mid-block crossings between 1) Kathryn St and Metroview Pkwy, 2) Foley St and Hunting Creek Rd
New crossing locations between 1) Metroview Pkwy and Fenwick Dr, and 2) Blaine Dr and Fifer Dr, with pedestrian refuge islands and RRFBs
North Kings Hwy
Reduce posted speeds to 30 MPH
Add advance “Yield Here to (Stop Here For) Pedestrian” sign and yield lines to all unsignalized crossings
Extend shared use path south to Richmond Highway
New crossing location at Fairhaven Ave with pedestrian refuge island, yield lines and RRFB
Telegraph Rd
Add marked crosswalks at Lenore Ln, Farmington Dr and Franconia Rd intersections, 3 legs total
Install 10 ft shared use path from Lenore Ln to Franconia Rd

Future Recommendations: Pedestrian Comfort



Future Recommendations: Bicycle Level of Traffic Stress



Next Steps

- Conduct community and stakeholder outreach
- Finalize study report
- Consider relevant recommendations in Huntington Metrorail Plan Amendment
- Coordinate recommendations with the Countywide ActiveFairfax Plan

Questions?

timothy.kutzjr@fairfaxcounty.gov

703-877-5600 | TTY 711

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Transportation Analysis

Why study vehicle trips?

- New higher intensity land uses proposed at Huntington Metrorail Station.
- Additional people and more overall trips - pedestrians, bicyclists, transit riders, and drivers.
- 45% of new trips (growth) anticipated to not be single occupant vehicle (SOV) trips.
- Remaining 55% anticipated to be SOVs traveling to and from this Metrorail station site.
- Future growth around the region will increase demand for area roadways as drivers travel to and from DC, Alexandria, Maryland, etc.
- Regional traffic may take advantage of potential time savings on Richmond Hwy, Huntington Ave, N. Kings Hwy, versus I-95, I-395 and I-495, Telegraph Rd, or Fort Hunt Rd.

Transit Oriented Development (TOD) Guidelines

Principle 1: Transit Proximity and Station Area Boundaries – *Focus and concentrate the highest density or land use intensity close to the rail transit station, and where feasible, above the rail transit station.*

- Ensure efficient bus access to the Metrorail station from Huntington Avenue and N Kings Highway
- Accommodate the needs of the BRT system
- Do not preclude the future potential Yellow Line extension

Source: 2017 Edition of Land Use Policy Plan: https://www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/compplan/policy/landuse.pdf

Transit Oriented Development (TOD) Guidelines

Principle 3: Pedestrian and Bicycle Access – *Provide safe pedestrian and bicycle travel to and from and within the station area.*

- Prioritize pedestrian connectivity
- Minimize potential conflict with vehicles
- Implement wayfinding signage, landscaping, and pedestrian-scale lighting
- Build a 10-foot-wide shared use path along Huntington Ave
- Install secure bicycle parking/storage facilities proximate to Metrorail station entrance(s)

Source: 2017 Edition of Land Use Policy Plan: https://www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/compplan/policy/landuse.pdf

Transit Oriented Development (TOD) Guidelines

Principle 7: Street Design – *Provide a grid of safe, attractive streets for all users which provide connectivity throughout the site and to and from adjacent areas.*

- Consolidate access points for vehicles to minimize interference with other modes
- Implement elements such as on-street parking, wide sidewalks, and street trees

Principle 8: Parking – *Encourage the use of transit while maximizing the use of available parking throughout the day and evening and minimizing the visual impact of parking structures and surface parking lots.*

- Maintain adequate structured parking while employing strategies that reduce single-occupancy vehicle usage (carpooling, car-sharing, etc.)

Source: 2017 Edition of Land Use Policy Plan: https://www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/compplan/policy/landuse.pdf

Transit Oriented Development (TOD) Guidelines

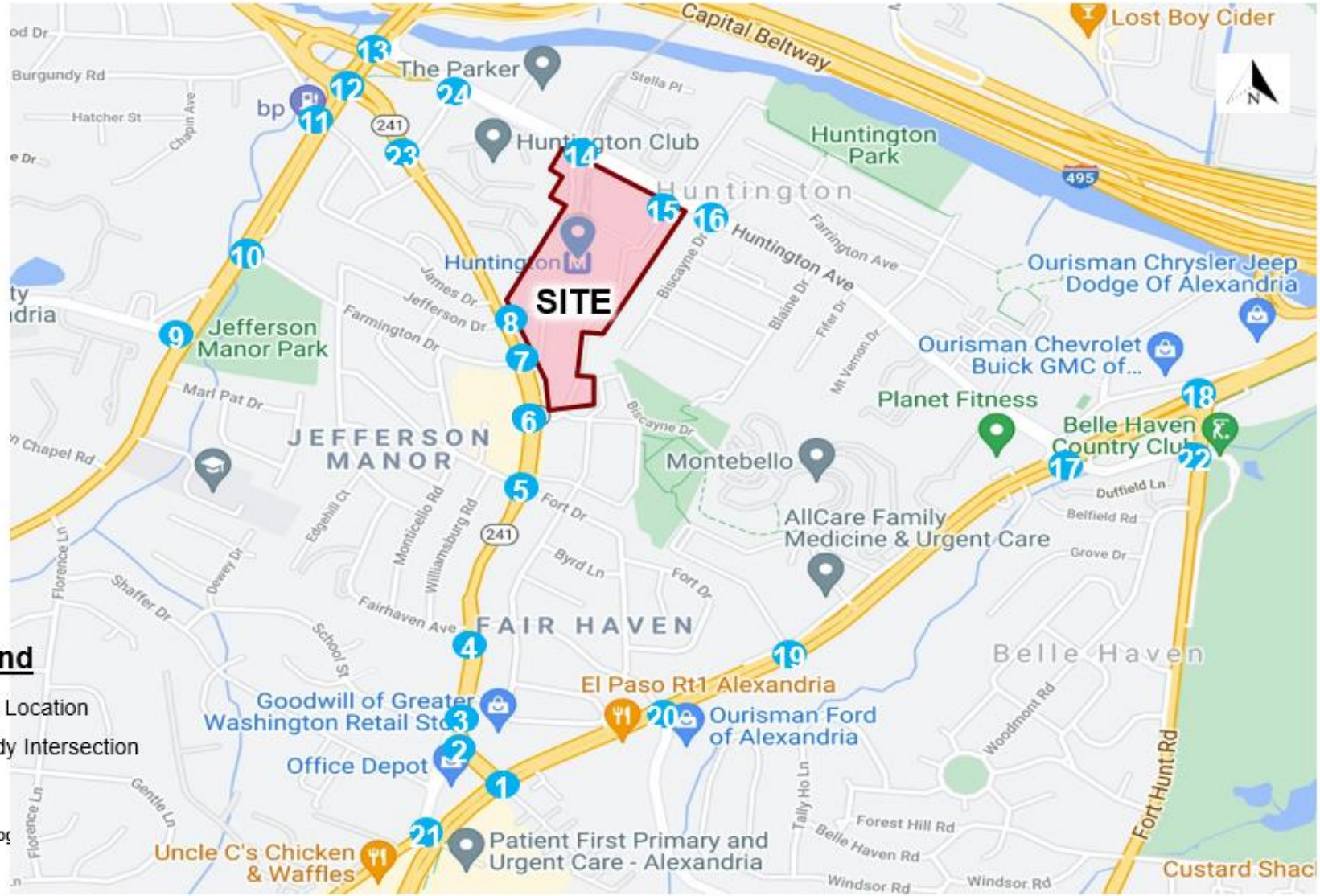
Principle 9. Transportation and Traffic – *Promote a balance between the intensity of TOD and the capacity of the multimodal transportation infrastructure provided and affected by TOD, and provide for and accommodate high quality transit, pedestrian, and bicycle infrastructure and services and other measures to limit single occupant vehicle trips.*

- Transportation Demand Management (TDM) strategies should be employed to meet the 45 percent trip reduction goal for residential and office components of the site. These strategies may include:
  - Ridesharing programs
  - Bus transit planning and promotion
  - Parking management programs
  - Alternative work schedules and teleworking
  - Non-motorized connections
  - Etc.

Source: 2017 Edition of Land Use Policy Plan: https://www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/compplan/policy/landuse.pdf

Nearby Projects and Analysis Resources

24-Intersection TIA* Analysis



Legend

- Site Location
- Study Intersection

Source: Goog

Analyze

- Existing 2019
- Comp Plan 2045
- Proposed Land Use 2045

Calculate

- Delay, Level of Service (LOS)
- Turning/through volumes
- Lane queues

Identify

- TOD Guidelines
- Ped/Bike/Transit
- Mitigations

*TIA = Transportation Impact Analysis

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2019 Average Annual Daily Trip (AADT) Volumes

- Estimated daily traffic volumes per 24-hour weekday period, averaged for year
- Analysis Year - 2019

*VDOT AADT: https://www.virginiadot.org/info/resources/Traffic_2019/AADT_029_Fairfax_2019.pdf

Conceptual Land Use Plan - Transportation Analysis

Conceptual Land Uses for Transportation Analysis

Scenario	Low Rise Residential	Mid Rise Residential	High Rise Residential	Office	Retail
Current Comp Plan	48 DU*	802 DU**	n/a	257,000 SF***	30,000 SF
Proposed Comp Plan	n/a	+685 DU	+815 DU	+78,000 SF	+17,000 SF
Total Proposed Comp Plan	48 DU	1,487 DU	815 DU	335,000 SF	47,000 SF

Proposed Residential Total in Huntington Transit Station Area Land Units E/F = 2,350 DUs.

*Pavilions at Huntington Metro.
**Courts at Huntington + Aventon.
***250,000 SF Land Unit E; 7,000 SF Land Unit I.

Trip Generation Comparison

- Compare Trips – Current Comp Plan vs. Proposed Comp Plan land uses
- Transit Station – allows for 45% vehicle trip, internal capture, pass-by trip reduction credits

Scenario	Daily*	AM Peak Hour Vehicle Trips*			PM Peak Hour Vehicle Trips*		
		Total	Enter	Exit	Total	Enter	Exit
Current Comprehensive Plan Land Uses	4,661	320	176	144	412	175	237
Proposed Comprehensive Plan Land Uses	9,377	622	280	342	794	383	411
Additional Site Vehicle Trips (Net New Trips)	4,716	302	104	198	382	208	174

* Trip generation estimates for all uses are derived from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition (2018). Average Rates, Logarithmic Formulas, or Fitted Curve Equations can be used to estimate trips.

Calculating Trip Generation

- Definition – Estimates the number of trips generated by a land use in a study area
- One Trip – A single, purposeful journey made by an individual between two points

Land Use	ITE Land Use Code	Variable, per	Weekday Avg Rate*	AM Peak Avg Rate*	PM Peak Avg Rate*
Low-Rise Residential (1-2 Levels)	220	1 Dwelling Unit	7.32	0.56	0.67
Mid-Rise Residential (3-10 Levels)	221	1 Dwelling Unit	5.44	0.32	0.41
High-Rise Residential (10+ Levels)	222	1 Dwelling Unit	4.45	0.34	0.36
General Office	710	1000 SF	9.74	1.47	1.42
Shopping Center (Retail)**	820	1000 SF	37.75	3.00	4.21

* Trip generation rates for all uses are from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition (2018). Average Rates, Logarithmic Formulas, or Fitted Curve Equations can be used to estimate trips.
** Specific retail uses not identified for Huntington Metrorail Station future development.

Transportation Analysis Understanding

Countywide Transportation Policy for Level of Service "D" on street network*

- Minimum, LOS D should be provided, except where a lower level of service has been determined acceptable

Memorandum of Understanding (MOU) with VDOT, Northern VA District

- VDOT, FCDOT accepts LOS E in Transit Station Area, some Community Business Centers, and on non-National Highway System (NHS) roads
  - Huntington Transit Station Area named in MOU
  - Richmond Hwy is NHS road
- Intent to provide safe, efficient transit-oriented development in Transit Station Areas
- Reviews for Comp Plan amendments, rezoning, use permits, transportation studies

*Transportation Policy Plan, Objective 3: https://www.fairfaxcounty.gov/planning-development/sites/planning-development/files/assets/compplan/policy/transportation.pdf

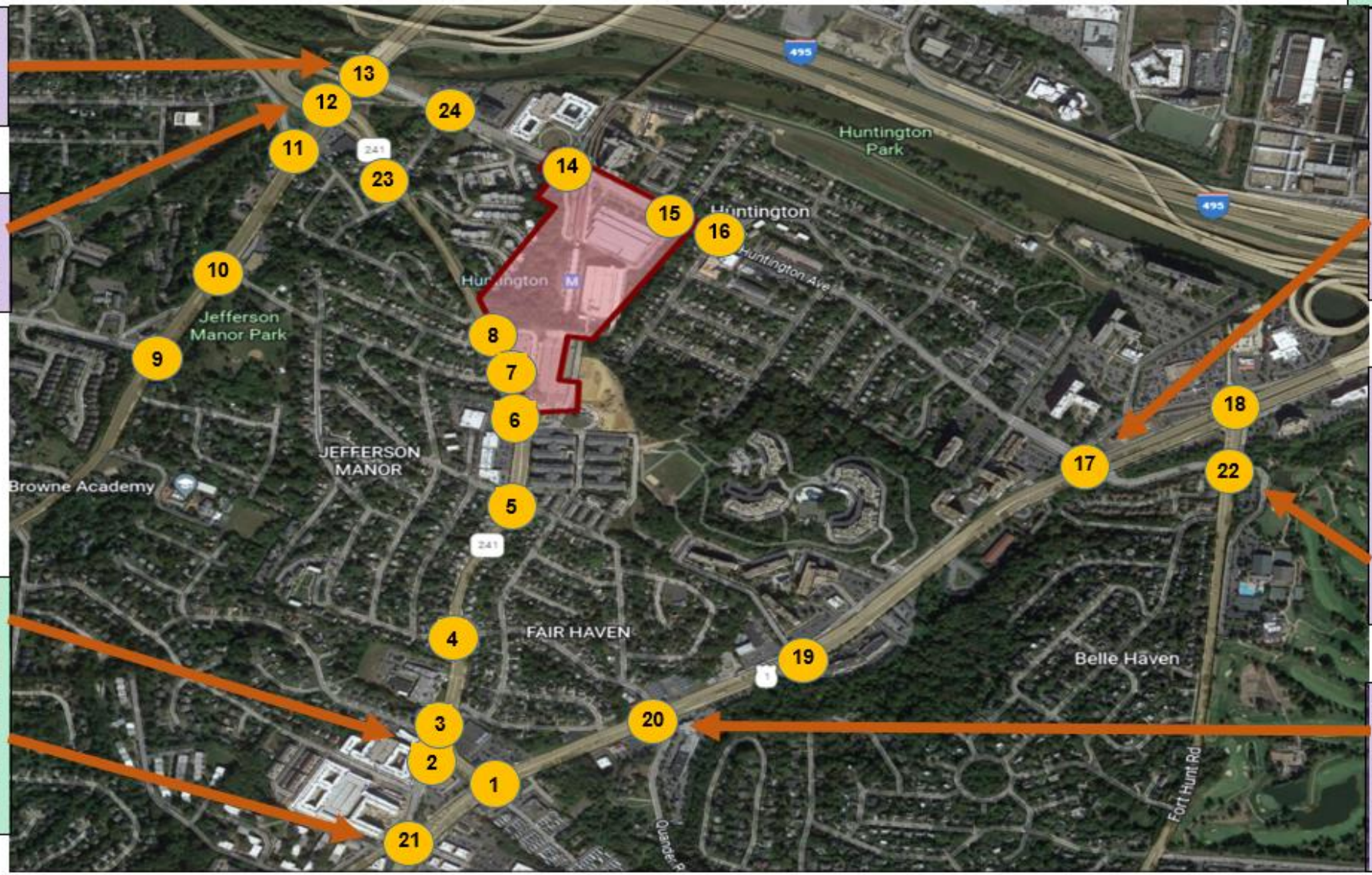
HUNTINGTON METRORAIL STATION

PROPOSED MITIGATIONS

N. Gateway CBC:
Mitig. @ 17, 18, 22
Incl. as Background

13. Huntington Ave @ Telegraph
Modify Signal Timing

12. N. Kings Hwy @ Telegraph
Modify Signal Timing



17. Huntington Ave @ Richmond Hwy
Modify Signal Timing, Turning Movements, Lengthen Left Turn

22. Huntington Ave @ Fort Hunt Rd
Modify Signal Timing, EB/WB Vehicle Movement

BRT Improvements Richmond Hwy to N. Kings Hwy:
Int. 1, 2, 3, 21 Modified for BRT Transition from Richmond Hwy to N. Kings Hwy

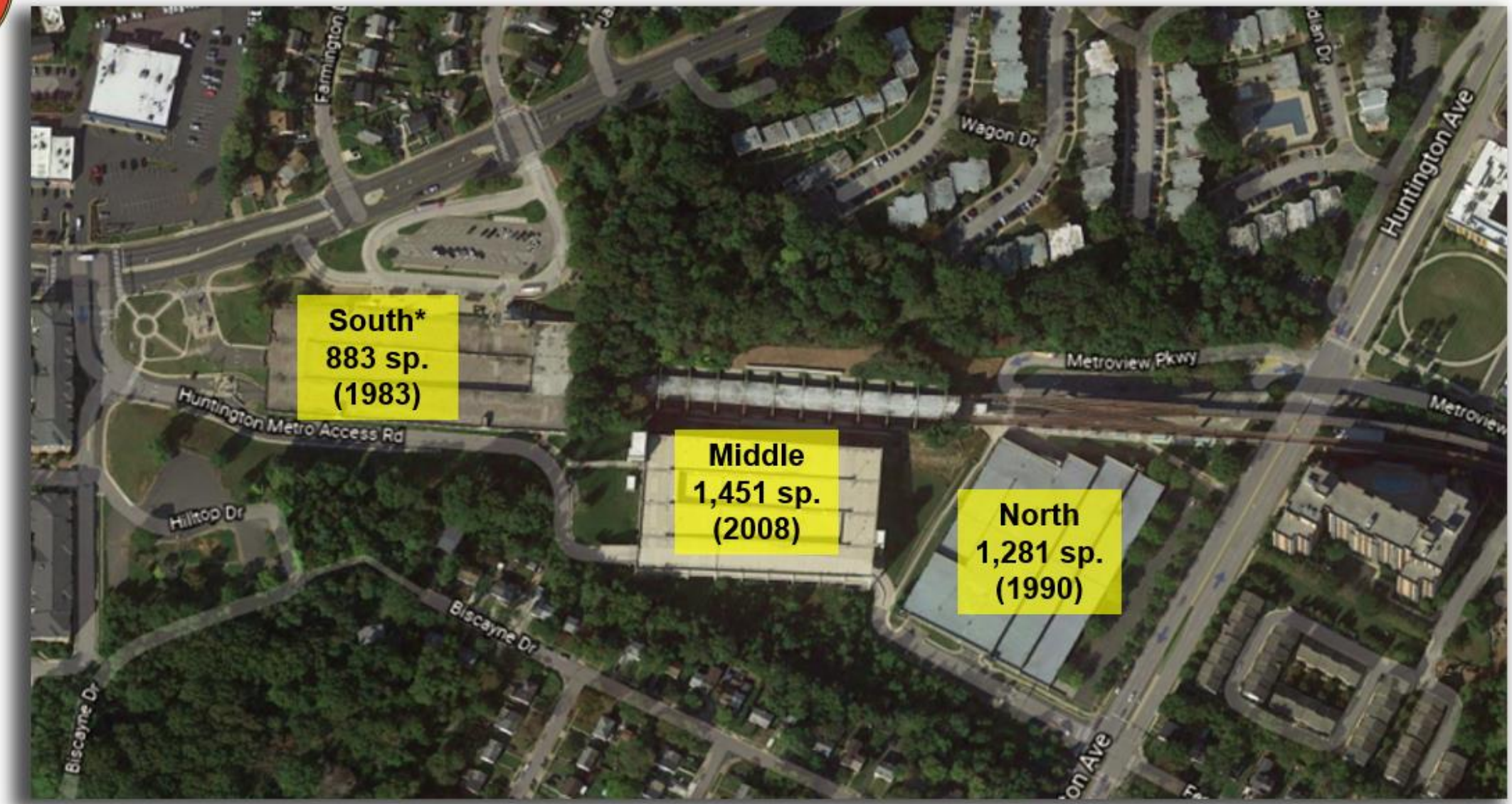
20. Richmond Hwy @ Quander Rd
Lengthen Left Turn Lane

Key Takeaways from Transportation Analysis

1. Proposed Comprehensive Plan land uses do not result in significant additional delays at study intersections.
2. Most study intersections operate at acceptable levels of service for vehicles.
3. Five (5) intersections include mitigations for traffic operations and turning movements.
4. Specific mitigations identified may improve capacity at key intersections.
5. Recommendations for upgrading pedestrian and bicycle facilities in conjunction with site-identified Transportation Demand Management (TDM) techniques could further reduce vehicular demands and impacts.

Park-and-Ride Demand Study

Metrorail Park-and-Ride Demand Analysis

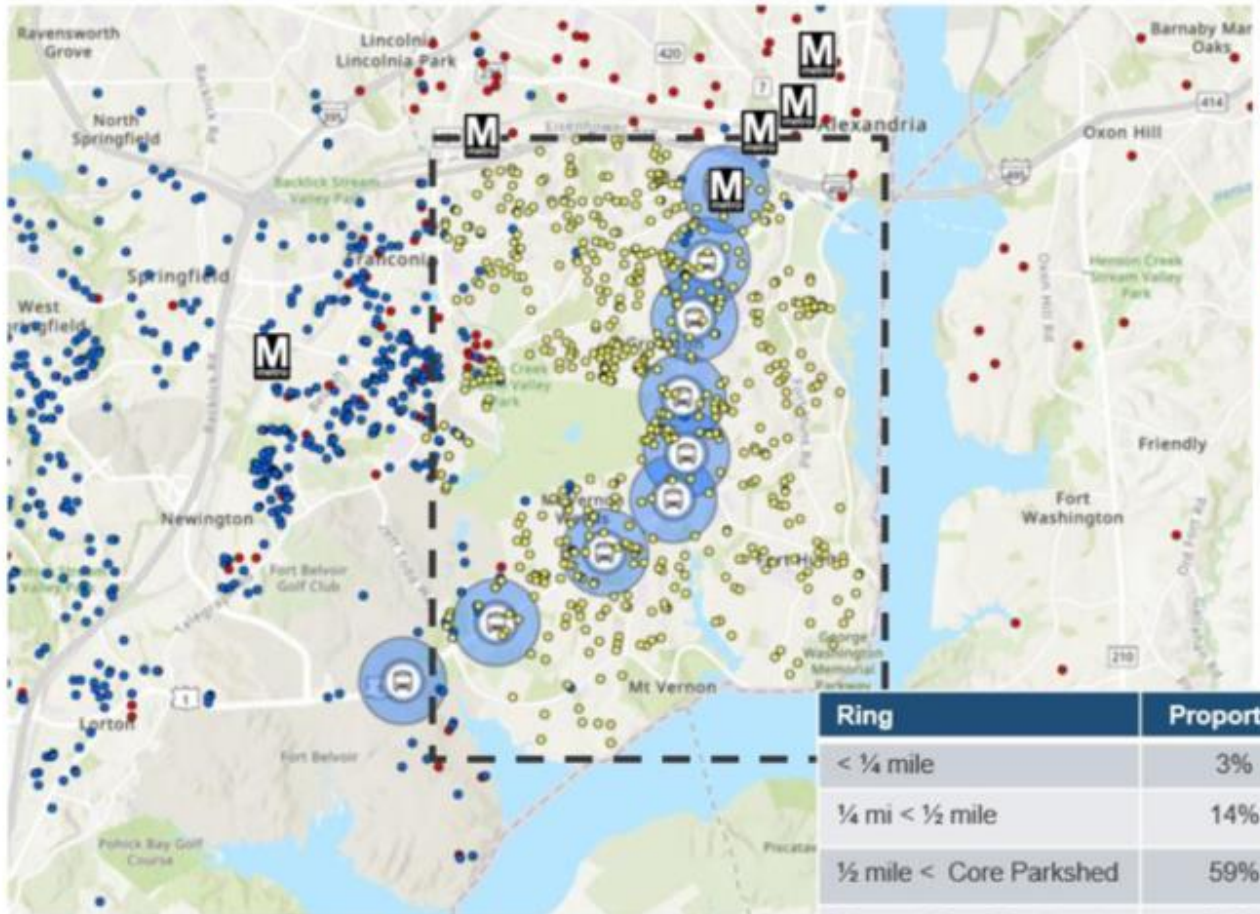


*South Garage closed in August 2018.
https://www.wmata.com/about/news/Huntington-south-garage-closed.cfm

Park-and-Ride Demand Analysis – Study Criteria

WMATA On-Site Garages

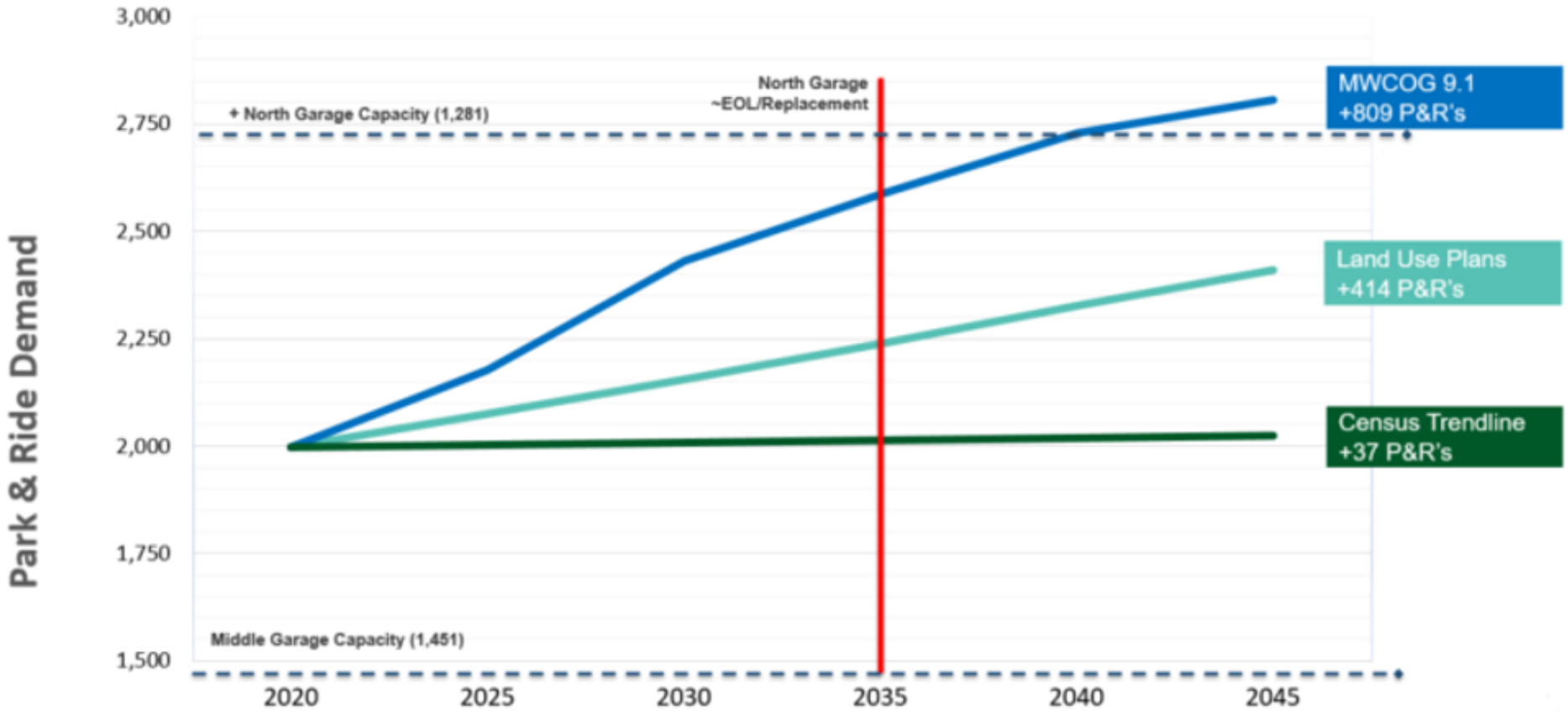
- South Garage closed – Replacement?
  - Proposed Land Uses – Demolish with redevelopment
- Middle and North garages support demand?
- Huntington Metrorail Parkshed – Account for Households and Transit Riders
- Average Annual Peak Hour Riders – 1,997 (2018)



Parkshed is 7.5 miles North to South and 5.0 miles East to West

Ring	Proportion	Total
< ¼ mile	3%	56
¼ mi < ½ mile	14%	282
½ mile < Core Parkshed	59%	1,177
Beyond Core Parkshed	24%	482
Cumulative	**100%**	**1,997**

Park-and-Ride Demand Analysis – Forecasts



- WMATA forecasts parking demand can be met with North and Middle Garages
- North Garage "end of life" ~ 2035: Prepare another demand analysis prior to 2035

Park-and-Ride Demand Analysis Recommendations

Recommendations

1. Prepare letter for WMATA with FCDOT acceptance of analysis.

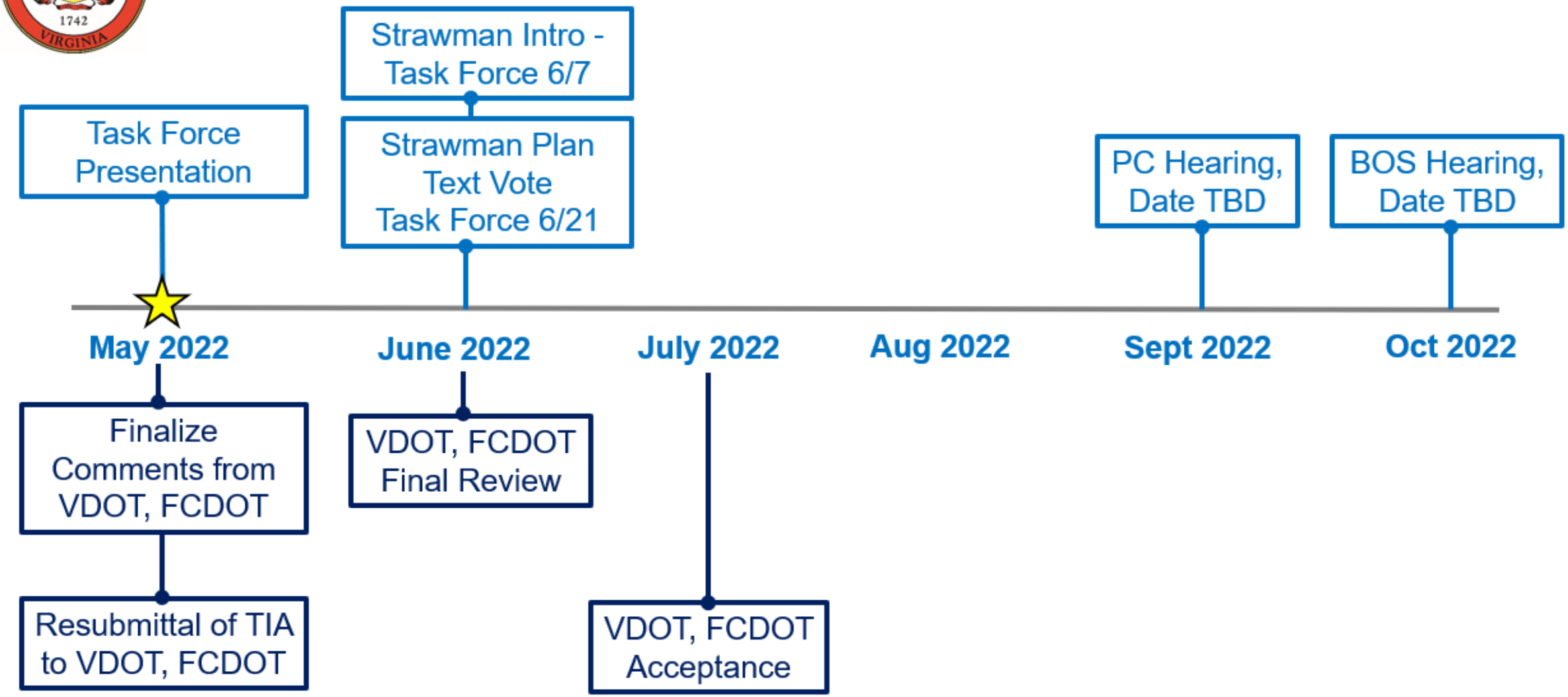
2. Prepare another Demand Analysis after BRT operational (~2030) and before garage replacement (~2035).

3. Account for development in current and future pipeline (i.e., Huntington Club, HQ2).

4. Update ridership per new households built within ¼-mile of station.

5. Future study accounts for and should not preclude potential for Yellow Line Extension.

Plan Text & Transportation Analysis Schedule



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