




Grant Circle
Community
Meeting

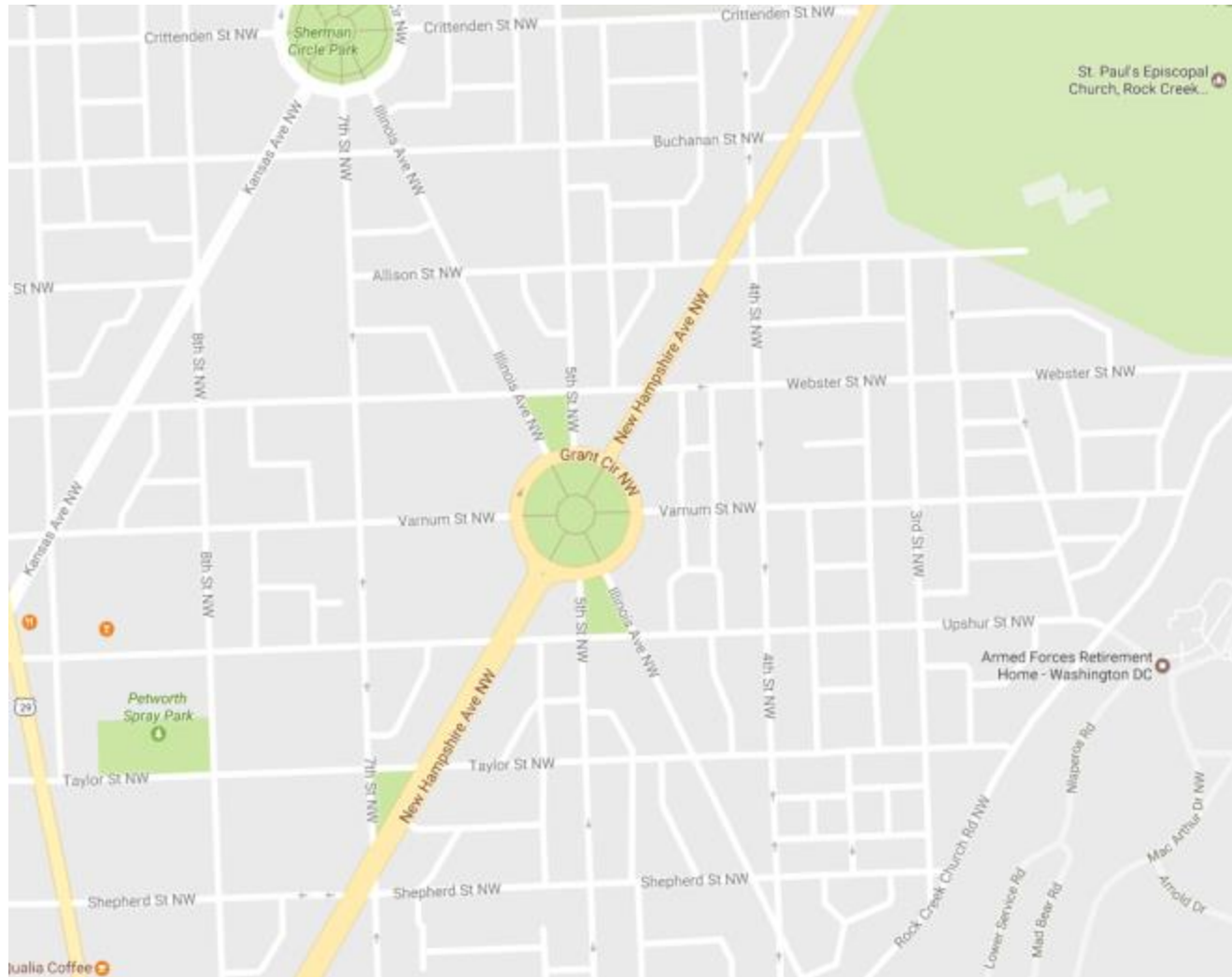
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May 2, 2017


Agenda

- Introduction
 - Existing Conditions
 - Rock Creek East II Livability Study
 - Further Analysis
 - Next Steps
 - Q&A
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Grant Circle



Existing Conditions

- Average daily traffic volume at Grant Circle is 10,000 vehicles
 - All approaches to the circle are unsignalized and controlled by stop or yield signs
 - Five unsignalized crosswalks into the circle
 - 11 and 12 foot wide travel lanes, and one 17 foot wide parking and bus stop lane
 - New Hampshire Avenue has one travel lane in each direction north of the circle and two south of the circle
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Issues

- Speed
 - Safety for all users
 - Crash Data (2013 to 2015)
 - 14 total crashes
 - 8 injuries
 - Zero crashes involving pedestrians
 - 4 crashes involving bicyclists
 - Zero fatalities or disabling injuries
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Rock Creek East II Livability Study


- Recommended reducing Grant Circle from two travel lanes to one
- Goal to slow drivers, improve pedestrian safety
- Extra space could be repurposed for a variety of uses (green infrastructure, bike lane, raised crosswalks, etc)
- Full implementation would take 4-8 years
- Next steps for Grant Circle could be similar for Sherman Circle

Rock Creek East II Livability Study




*Conceptual design, needs further study

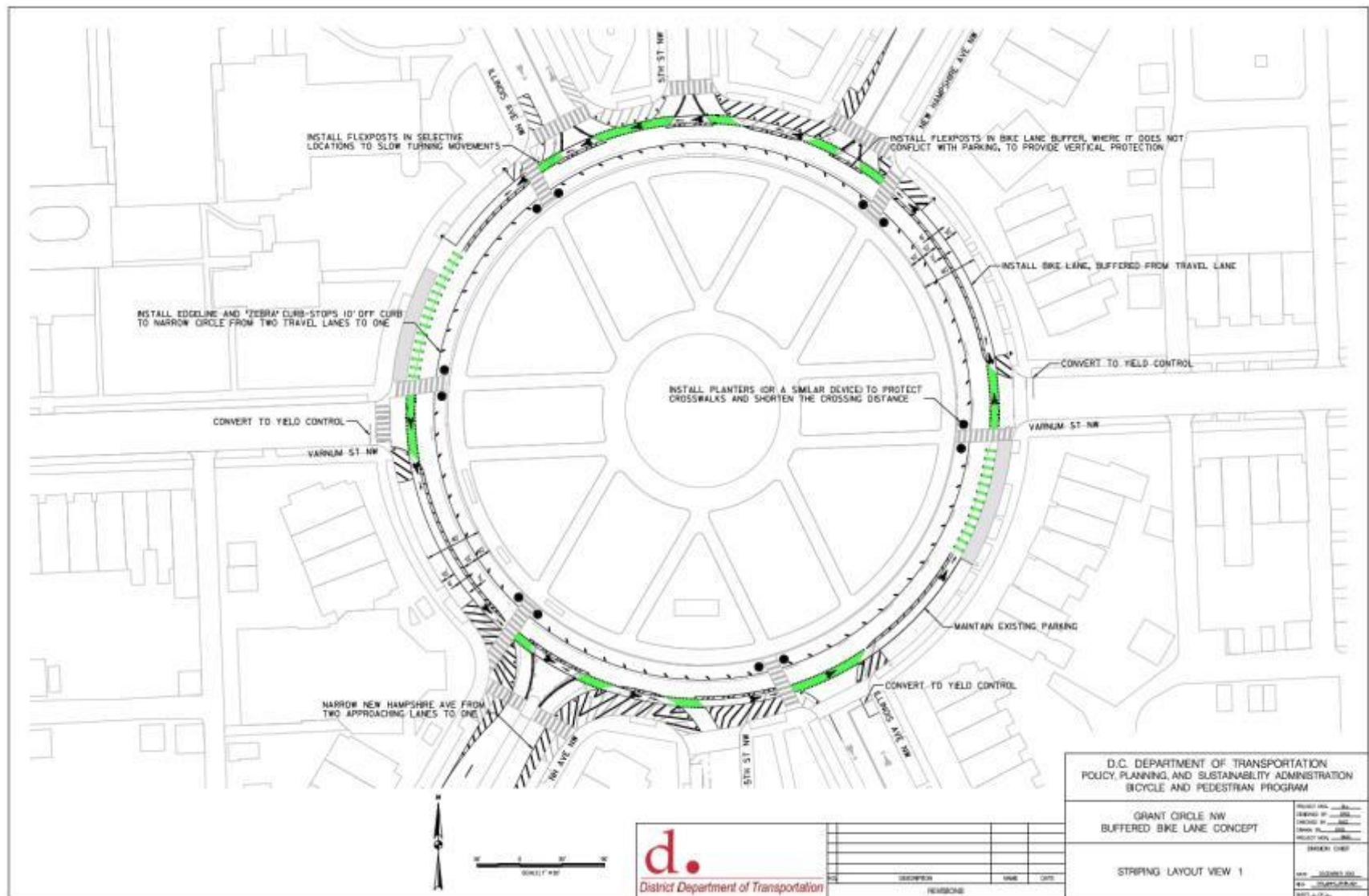
Overall Feedback

- General support for livability study recommendation, but concern with implementation timeline
 - Concerns about the reduction in traffic capacity, and resulting increase in commuter traffic on local roadways
 - DDOT Director and staff attended site visit in November 2016 with ANC Commissioners and residents to observe Grant Circle traffic
 - Sherman Circle was also discussed and a site visit has been scheduled for Monday, May 15 at 10 AM at Sherman Circle
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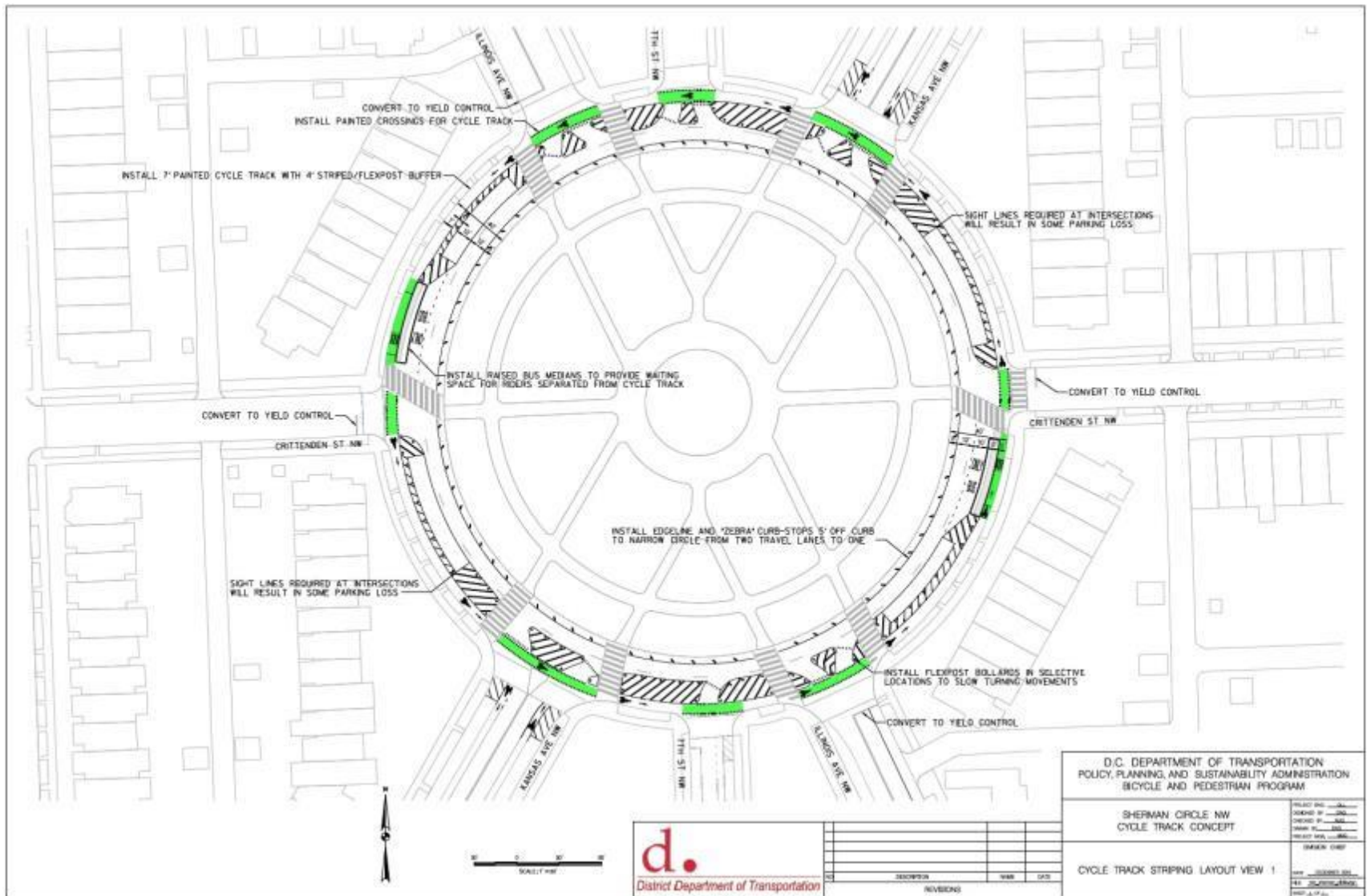
Conceptual Designs

- DDOT drafted three concepts for Grant and Sherman Circles
 - One-Lane Design: Buffered Bike Lane – Narrows traffic operations in the circle to one lane, and adds a bike lane. Protected bike lane when not adjacent to parking. Circle crosswalks shortened from 40 feet to 20 feet.
 - One-Lane Design: Cycle Track Concept – Narrows traffic operations in the circle to one lane, and adds a cycle track. Crosswalks into the circle would be shorter. Bus stops moved off the curb.
 - Two-Lane Design: Flexposts and Revised Striping Concept – Does not eliminate a travel lane, and no bike lane is included. This concept uses flexposts and striping to shift parking off the curb.
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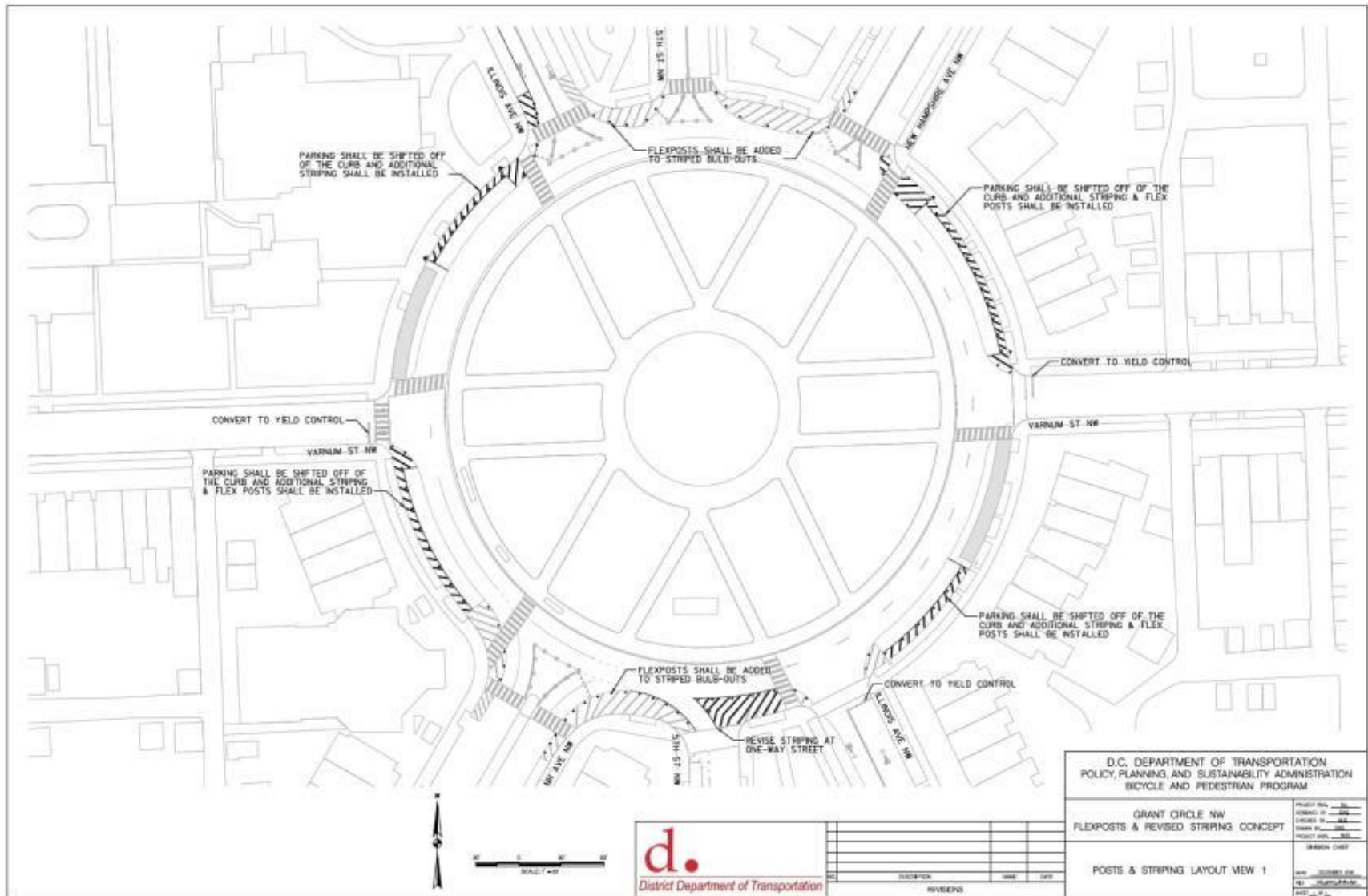
One-Lane Design – Buffered Bike Lane




One-Lane Design – Cycle Track



Two-Lane Design




Further Analysis

- DDOT performed additional analysis on what a reduction to one travel lane would mean for traffic operations at Grant Circle
 - Analysis focused on the performance of traffic entering the circle from New Hampshire and Illinois Avenue approaches
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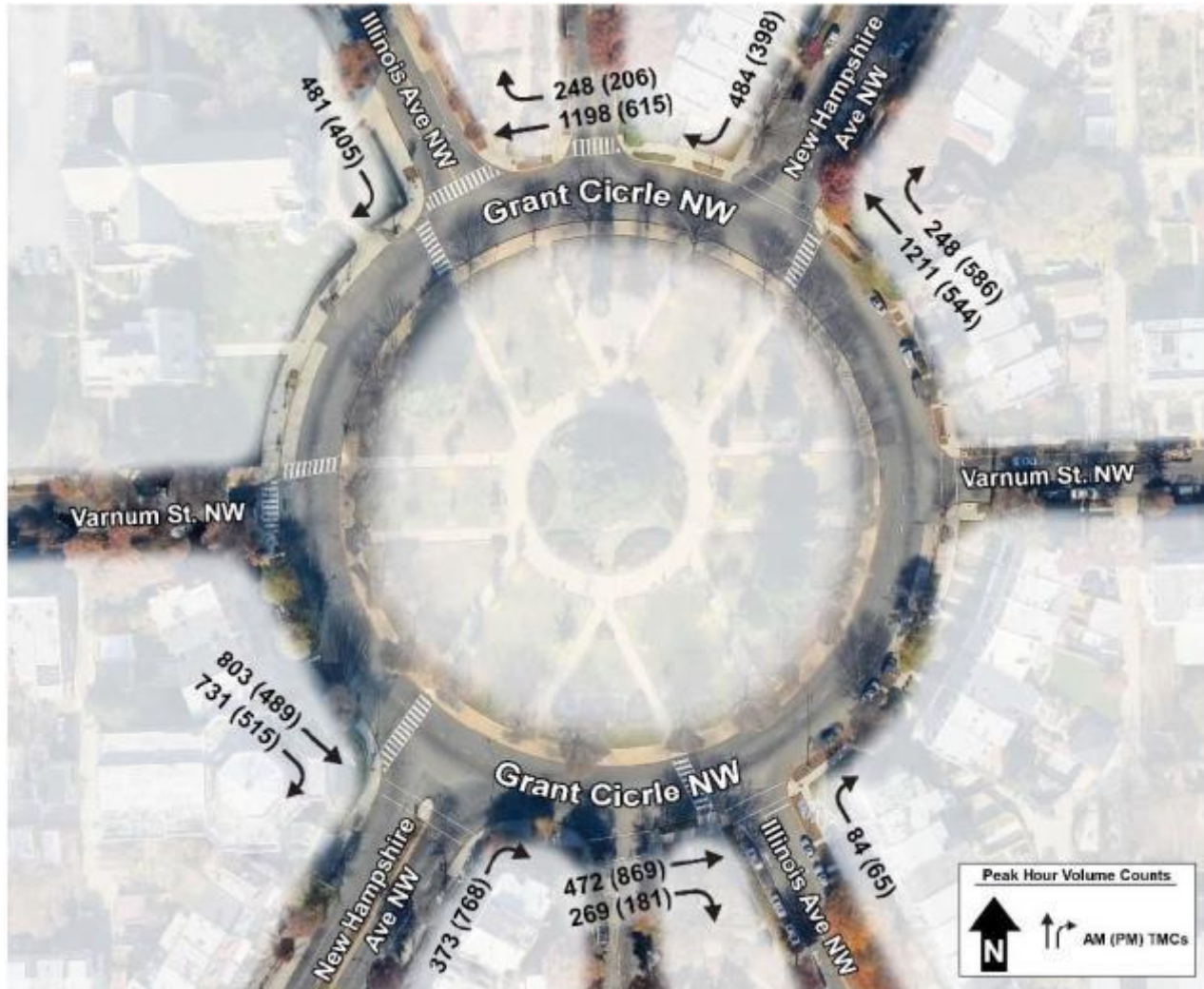
Grant Circle Traffic Analysis Focus



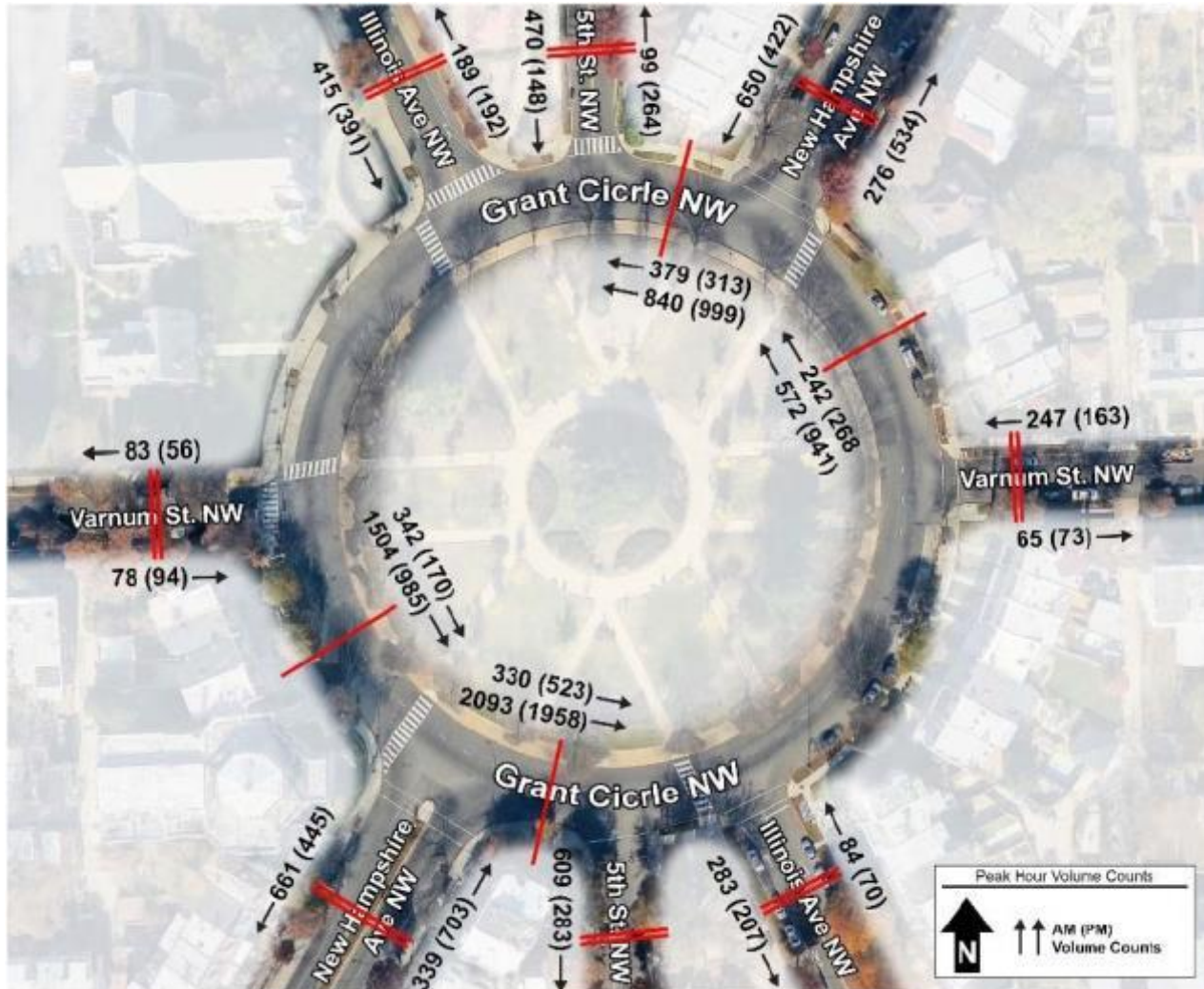
Data Collection

- Weekday AM and PM peak period turning movement counts were collected at the four focal intersections with the circle
 - Daily 24-hour circulatory volume counts by lane were collected on the circle at four midblock locations
 - Daily 48-hour directional inbound and outbound volume counts were collected at each of the eight intersecting legs
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Turning Movement Counts




Volume Counts



Operational and Capacity Analysis

- Study compares existing two lane condition to a single lane configuration
- Traffic volumes were used to run operational analysis of AM and PM peak periods
- Analysis evaluated impacts to delay for vehicles entering the circle, as well as queuing on approaches leading to the circle

Queuing Analysis

- AM Peak Hour – Significant queuing impacts projected for southbound New Hampshire and Illinois Avenues, and queues likely to impact other intersections
 - PM Peak Hour – Queues projected to increase on all approaches, but with only slight impacts on other intersections
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Limitations of Analysis

- DDOT conducted limited planning-level analysis to address potential major impacts or red flags before moving forward
- Analysis works best for traditional four-leg intersections, and has some limitations when working with circles
 - Limitations mainly related to short segments in the circle roadway between intersecting streets
 - Complex roadway design of Grant Circle introduces additional variables
 - Other available modeling tools either don't include queuing analysis, or are more appropriate for future phases

Conclusions of Analysis

- Results of analysis indicate a negative impact on traffic flow if circle is reduced to a single travel lane
 - At peak times, New Hampshire approaches and southbound Illinois approach currently operate with volumes near or exceeding available capacity
 - Reducing to one lane will increase delays and queues, especially north of the circle during AM peak
 - Volumes on several approaches would further exceed available capacity
 - Drivers would likely find other routes that divert away from Grant Circle


Next Steps

- Because the traffic modeling software has limitations when working with traffic circles, and given the safety concerns, DDOT wants to test one-lane design in real time
 - DDOT will test out one-lane configuration for one week (week of May 22)
 - DDOT will post concrete barriers to block off one travel lane in Grant Circle
 - Concrete barriers will also be posted in New Hampshire Avenue south of the circle so drivers can only enter from one lane
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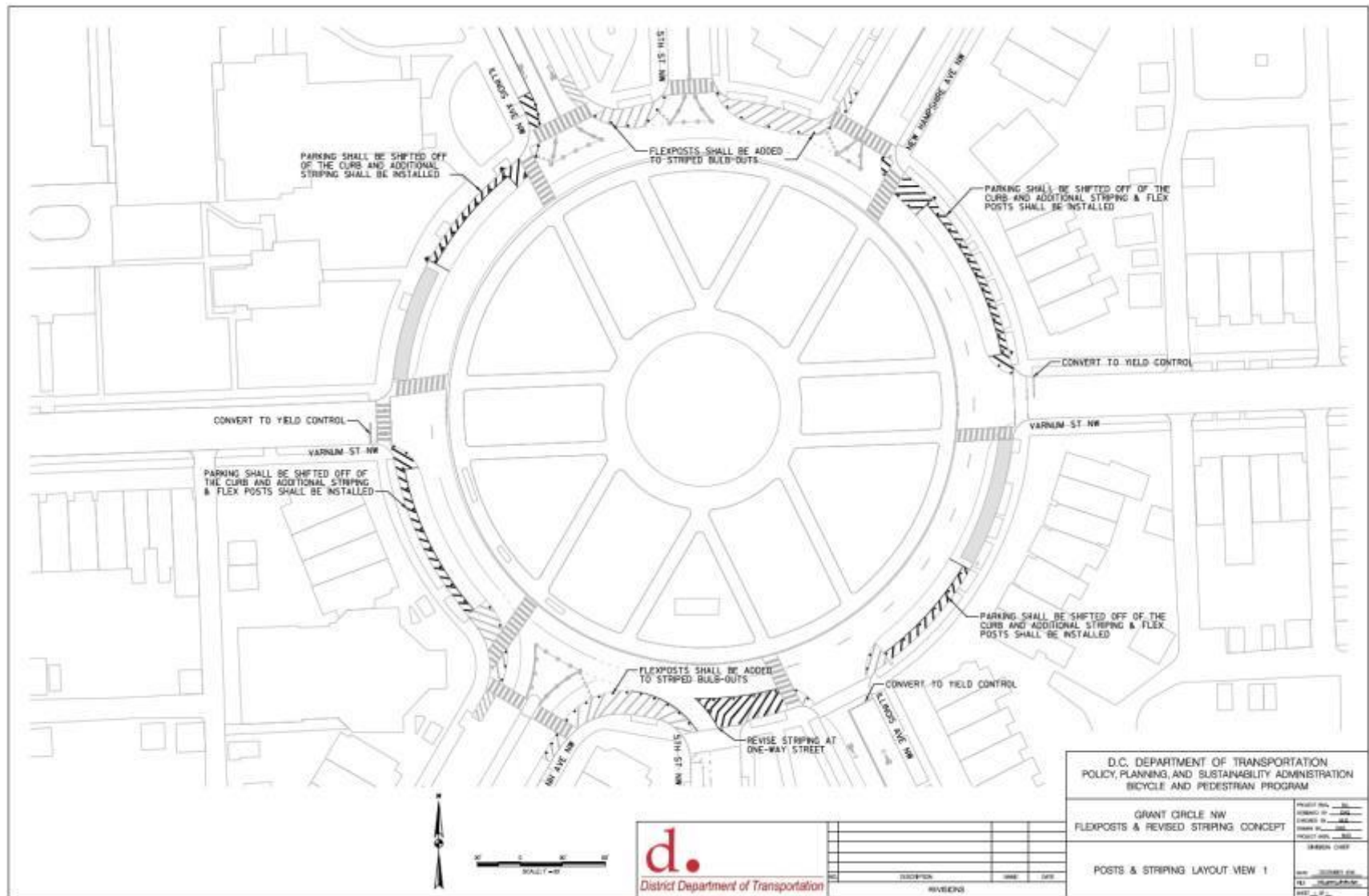
One Lane Design During Trial Period



Evaluation

- DDOT will collect data and conduct field observations during trial period, analyze data, and report back to community
 - Evaluation will be based on changes to traffic operations, volumes, and queuing
 - Focus areas
 - Increased congestion at Grant Circle, particularly at intersections with New Hampshire and Illinois Avenues
 - Queues on southbound New Hampshire and Illinois Avenues during AM peak
 - Increases in commuter volumes
 - Pedestrian and bicycle safety
 - Two outcomes
 - If one-lane configuration works well during trial period, DDOT will retain this option in future plans
 - If one-lane configuration does not work well, DDOT will move forward with a two-lane design option only
 - We also intend to analyze and create design concepts for Sherman Circle at a later date
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Two-Lane Design



Two-Lane Design

- Will retain two lanes of traffic around the circle
- Variety of treatments will be considered
 - Narrowing of existing travel and parking lanes
 - Increased striping and flex posts
 - Shorter pedestrian crosswalks into the circle
 - Tighter turning radii
 - Single lane entrance/exit at New Hampshire Avenue
 - Buffered bike lane
 - Raised crosswalks

Send feedback to:

Ted Van Houten

Transportation Planner

theodore.vanhouten@dc.gov