AGENDA
ANC 6A Transportation & Public Space (TPS) Committee Meeting
September 20, 2021 at 7:00 pm
Virtual Meeting via Zoom
Call-in Number: 1 301 715 8592
Webinar ID (access code*): *857 1331 2187
For those attending via Zoom: https://us06web.zoom.us/j/85713312187
One tap mobile: +13017158592,,85713312187#
Public Meeting – All are welcome

Community comment welcome; may be limited to 2 minutes to provide a chance for everyone to speak.

I. Call meeting to order.

II. Introductions & Announcements (5 minutes)

III. Community Comment (5 minutes)

IV. Old Business
   A. 1300 block of North Carolina Avenue NE bike lane installation options. The District Department of Transportation (DDOT) is currently considering what type of bicycle facility to add to the 1300 block of North Carolina Avenue as part of its high priority bicycle network, and to ensure continuity between the C Street project (under construction) and the rest of the city's bicycle network. This includes consideration of different options for directions of placement of car traffic and bicycle traffic lanes, including conversion to one-way vehicle traffic, as well as consideration of car parking and traffic calming measures. Will Handsfield, DDOT Bicycle Program Specialist, will follow up on questions raised at the July 2021 TPS meeting. DDOT is seeking the recommendation of the ANC as to which of the proposed designs (A through E) the Commission would prefer. In addition, DDOT is seeking input on proposed design adjustments to the intersection at 14th Street and North Carolina Avenue NE. See presentation for details.
   B. Discussion about the ANC 6C letter to DDOT requesting permanent bike lanes around the Capitol Building on Independence and East Capitol Avenues; discussion of temporary fencing.

V. New Business
   A. Update on DDOT walkthrough of 17th Street and 19th Street from C Street NE to Potomac Avenue SE).
   B. Traffic Safety Assessment (TSA) request for all-way stop at local-local intersection of 16th Street and Constitution Avenue NE. Requesting raised crosswalks if DDOT does not grant request for all-way stop control.
   C. Rock 'n Roll Marathon Route. Diane Romo Thomas will discuss planned street closures along H Street NE eastbound from 4th to 13th Street to Constitution Avenue to North Carolina Avenue to C Street to the finish line at RFK for the race taking place on November 13, 2021.

VI. Community Comment (time permitting)

VII. Adjourn meeting

North Carolina Ave NE – 1300 Block Bike Lane Gap & Pedestrian Safety

Monday, July 19th , 2021

Agenda

- Background – DDOT Roles & Process
- Pedestrian & Bicycle Safety
- North Carolina Ave NE - Project Vehicle Circulation Overview
- Consideration of Alternatives
- Discussion

GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

North Carolina Ave NE Schedule

- **Concept Planning**
  - MoveDC (2013)
  - MoveDC Update (2021)
- **ANC 6A TPS Meetings** (Jan, June, July 2021)
- **Circulation Study** (2020/21)
- **Community Consultation on Design and Engineering**
  - ~~Winter/Spring 2021~~ Winter - Fall 2021
- **Design**
- **Public Comment Period- 30 business days from NOI**
  - ~~March 2021~~ Fall 2021
- **Construction**
  - ~~Summer 2021~~ Spring 2022
- **C St Project – related**
  - Construction start in ~~March~~ June 2021 – 1.5 yr construction timeline
  - Opens Fall 2022

GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

Why is DC Installing Bicycle Lanes?

2005 Bicycle Master Plan Goals

- 2000: 1% of commute trips by bike ✓
- 2010: 3% of commute trips by bike ✓
- 2015: 5% of commute trips by bike ✓

Sustainable DC goals

- 75% of all trips by walk, bike, transit by 2032
- 150 more bike share stations
- Carbon Neutrality by 2050

Vision Zero Goals

- Zero Traffic Fatalities
- Few serious injuries
- Create safe conditions through design
- Safe & accessible streets for all users

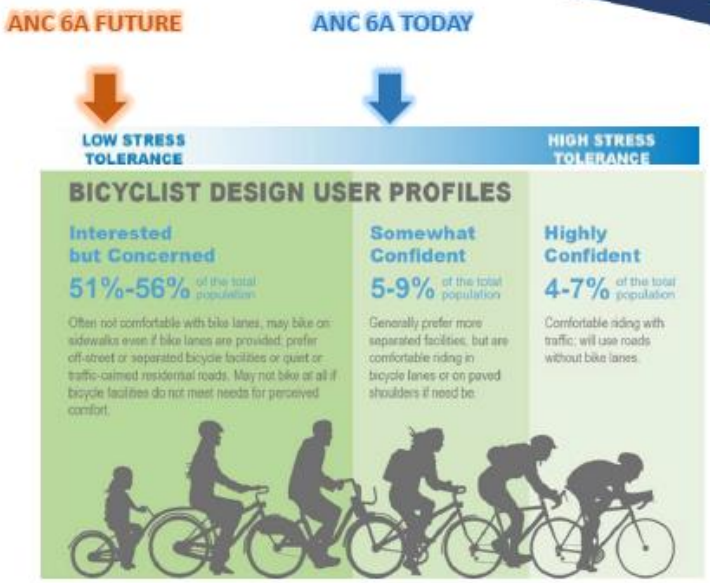
Safe Routes to School

- Building Safe Routes

VISION ZERO
SAFE STREETS FOR WASHINGTON, DC

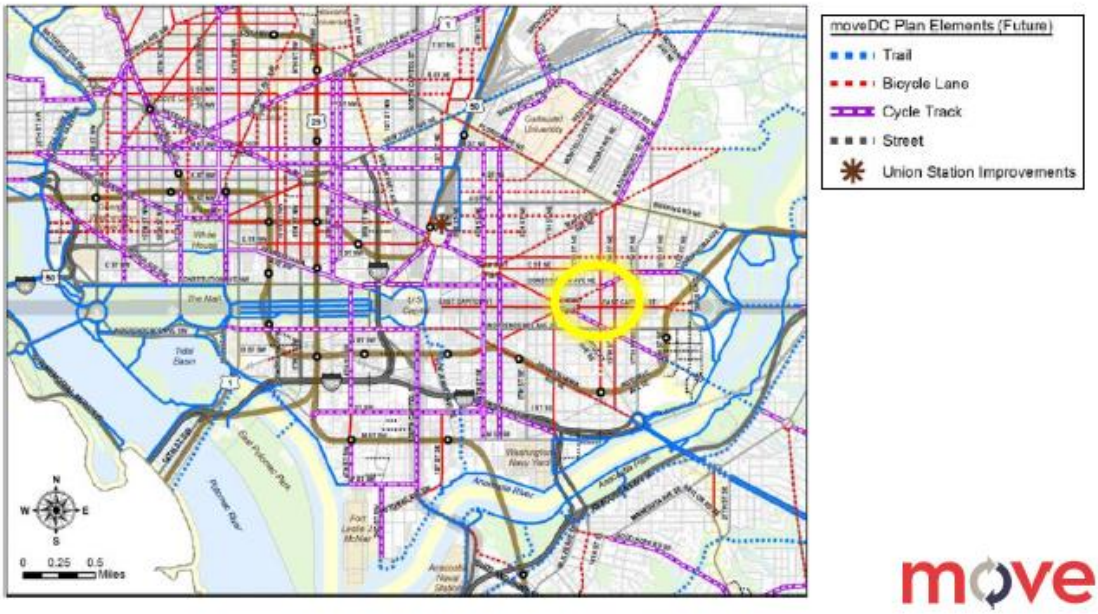
GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

Why Protected Lanes?



GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

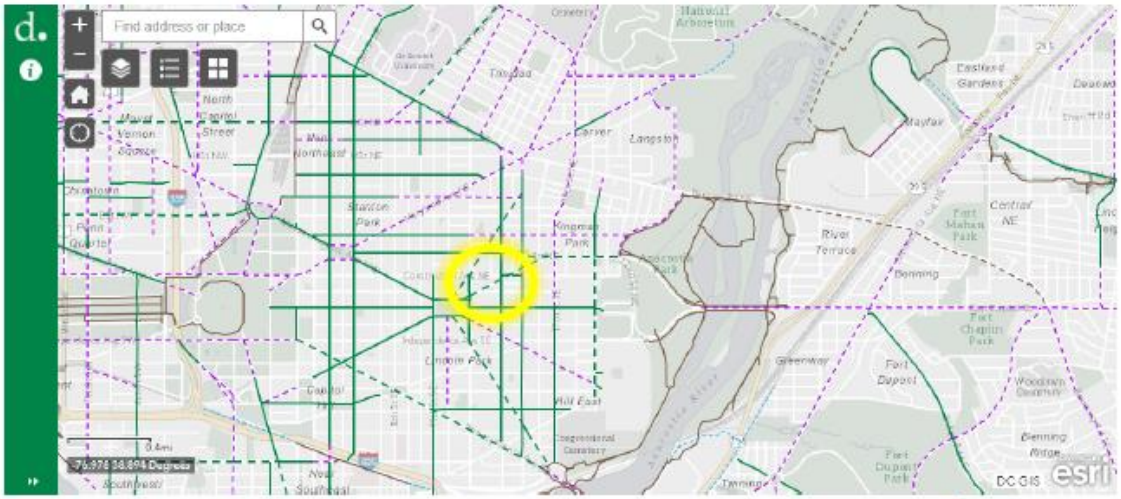
moveDC Bicycle Plan 2014



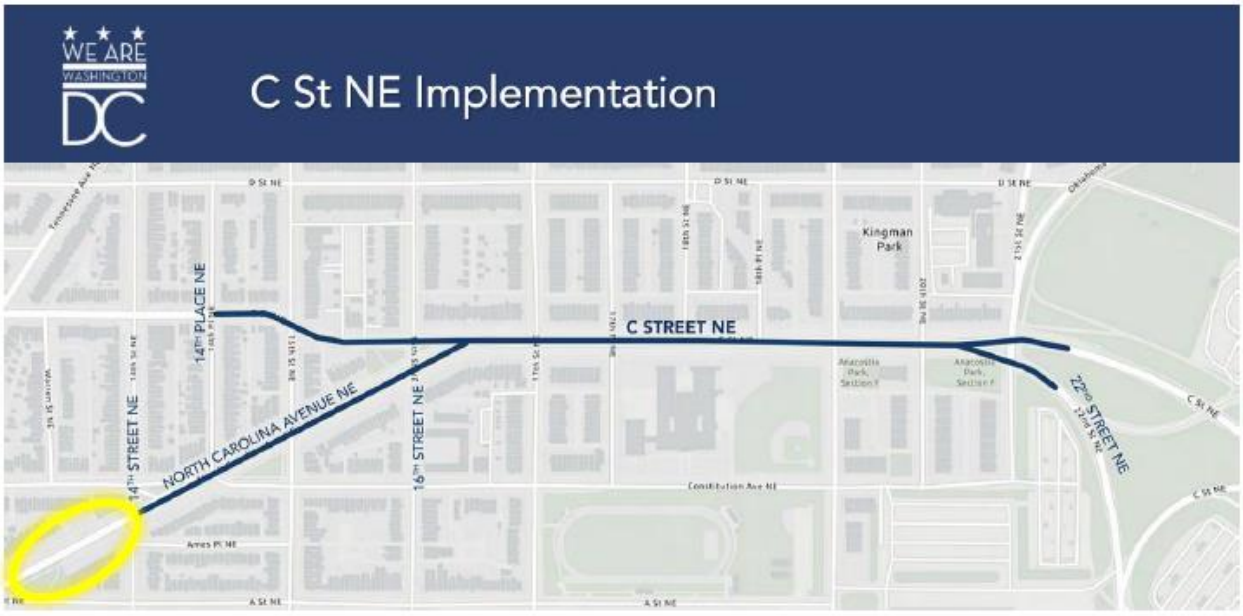
move dc

moveDC Bicycle Plan 2021

move dc Home Equity Goals, Policies & Strategies DC STIP Resources Get Involved Site Map

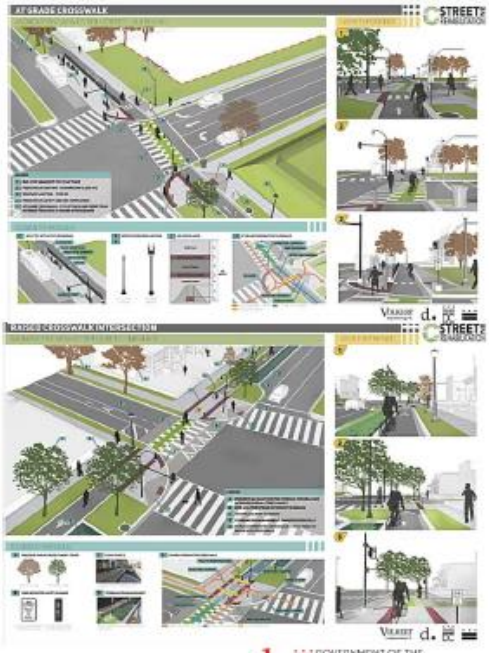


GOVERNMENT OF THE DISTRICT OF COLUMBIA
DC MURIEL BOWSER, MAYOR



GOVERNMENT OF THE DISTRICT OF COLUMBIA
DC MURIEL BOWSER, MAYOR

C Street NE Project –
High level of protection/quality



GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

DDOT Active Transportation Branch Equipment options

18" wide Concrete Delineators

Flex Posts

Planters

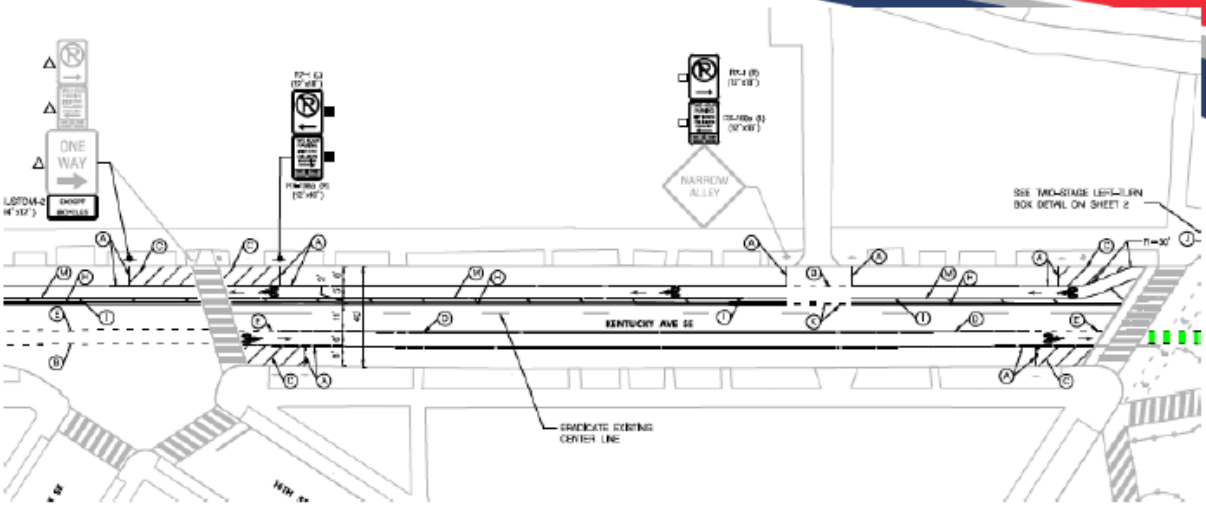
GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

Concerns DDOT Has Heard To Date

- Speeding & Traffic Safety
- Pedestrian Safety
- Desire for continuous connection between RFK Fields, Eliott Hine, and larger Hill community
- Importance of Parking
- Importance of Two-Way Vehicular Travel
- Safety Issues at Intersection of 14th/NC/Constitution + TSA for this location
- Aggressive Drivers
- Will One-Way Traffic Increase Speeding?
- Missing block in the larger C Street Project (under construction)

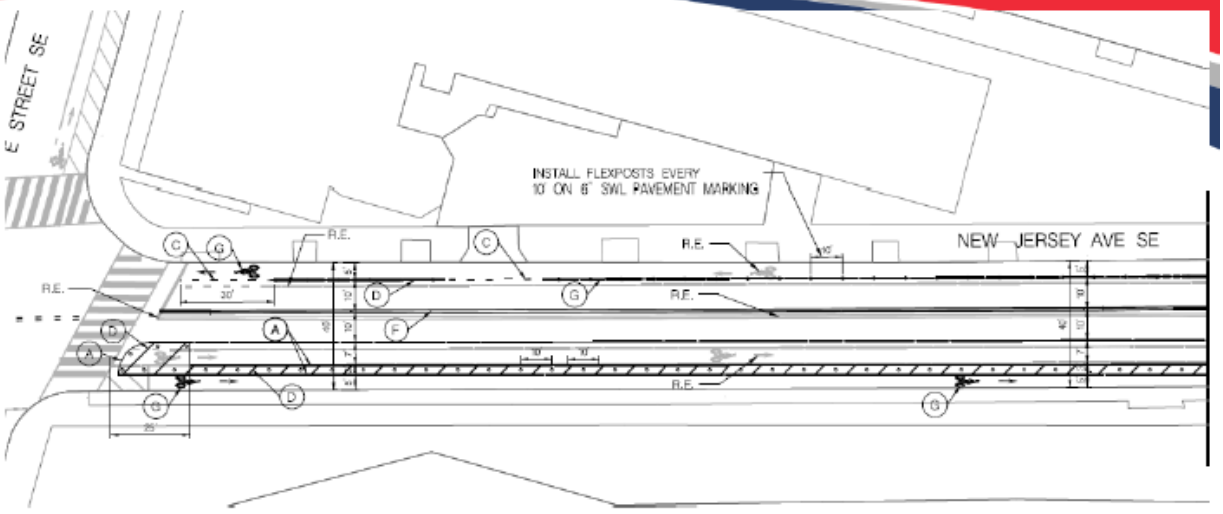
GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

Buffered Bike Lane Example: Kentucky Ave SE



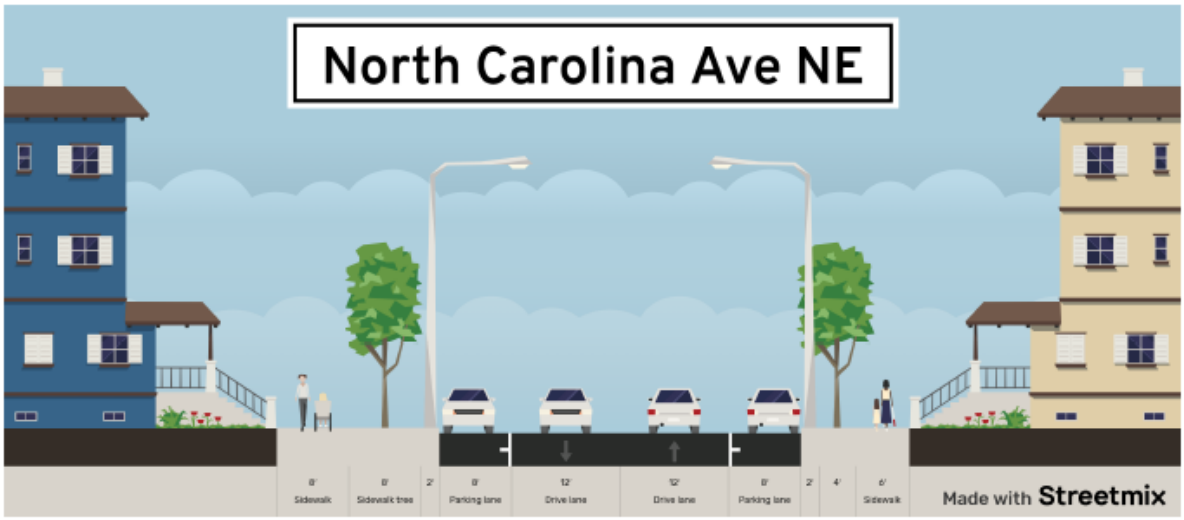
GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

Protected Bike Lane Example: New Jersey Ave SE



GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

Existing Conditions



Existing Conditions Summary:

- Missing block on high-volume bike corridor
- Route to/from RFK Fields, Eliot-Hine Middle School, Eastern High School
- Wider-than recommended travel lanes – lead to speeding

GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

Two Way Concept 1300 blk NC Ave NE

- Retains 2-way Traffic
- Allows for protected or buffered bike lanes

Alternative A2

GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

Alternative A1 – Two-Way + PBL / BL

Alternative A1 Summary:

- Retains 2-way traffic
- South side parking eliminated – 25 spots
- Protected bike lane on North side, regular bike lane on South side

GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

Alternative A2 – Two-Way + PBL / BL

Alternative A2 Summary:

- Retains 2-way traffic
- South side parking eliminated – 25 spots
- Protected bike lane on South side, regular bike lane on North side

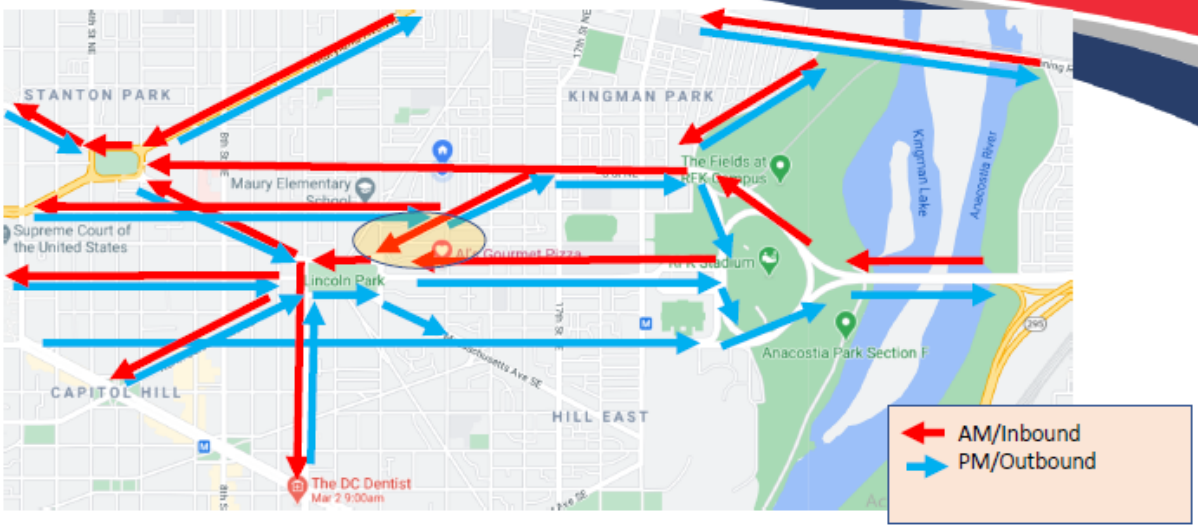
GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

One Way Concept 1300 blk NC Ave NE

- Maximizes Parking
- Allows for protected or buffered bike lanes
- Bike lane physically narrows vehicle lanes to reduce speeding
- Additional complexity and time for neighborhood vehicular circulation
- Eliminates lower volume direction (600 vehicles daily, or 20%, rerouted)
- Eliminated direction fed by NB 13th St NE and WB A St NE
- Recovers Large SE corner at NC & 14th for bumpout/ ped area

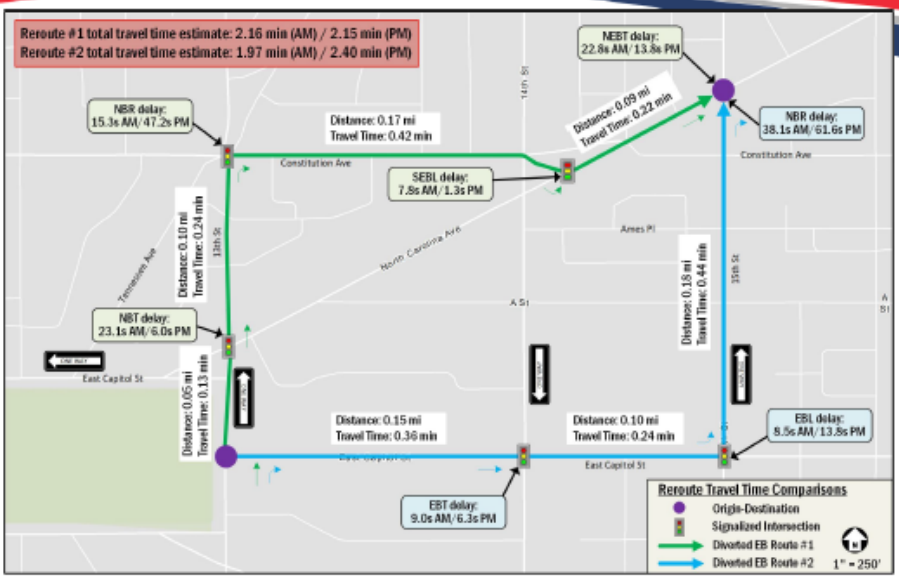
GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

Macro Area Circulation – AM/PM Flows



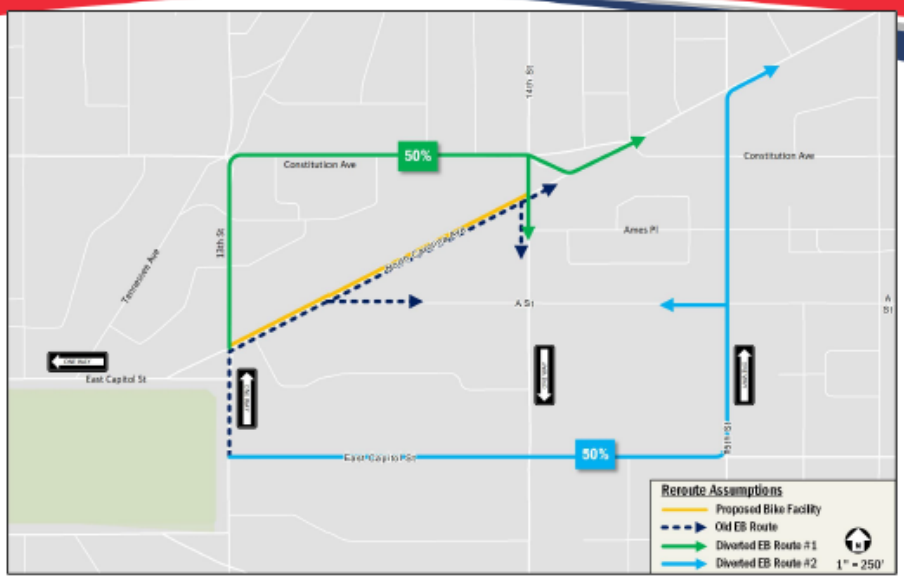
GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

Travel Time Analysis



GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

Reroute Assumptions



GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

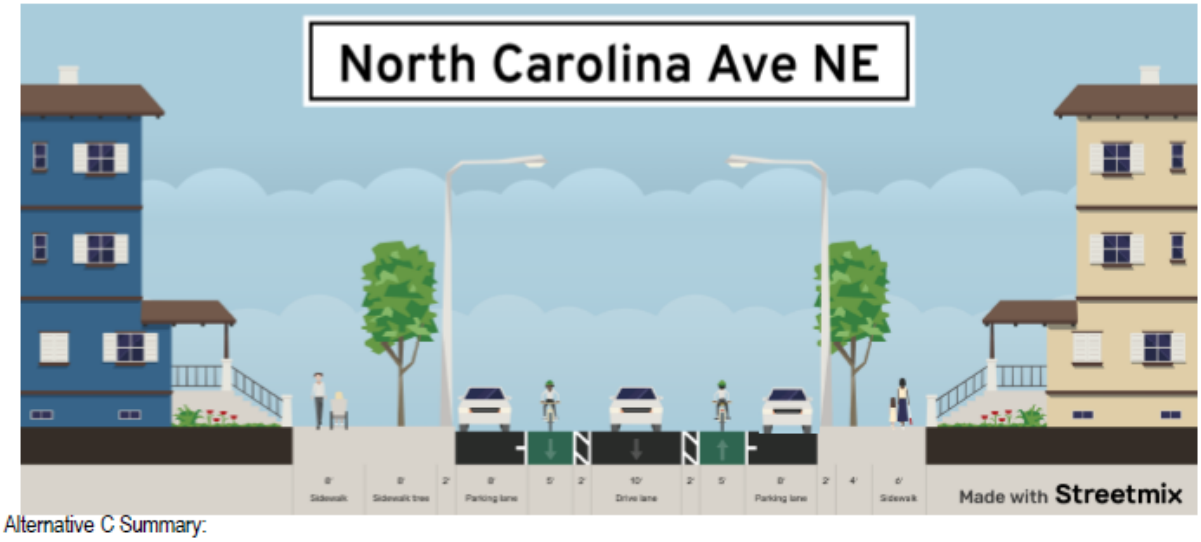
Alternative B – One-Way + WB PBL + EB PBL

Alternative B Summary:

- Retains parking throughout – needs parking setback at driveway/intersection
- Provides EB & WB protected bike lane
- Matches inbound/outbound bike facilities from C St Project

GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

Alternative C – One-Way + Buffered Bike Lane

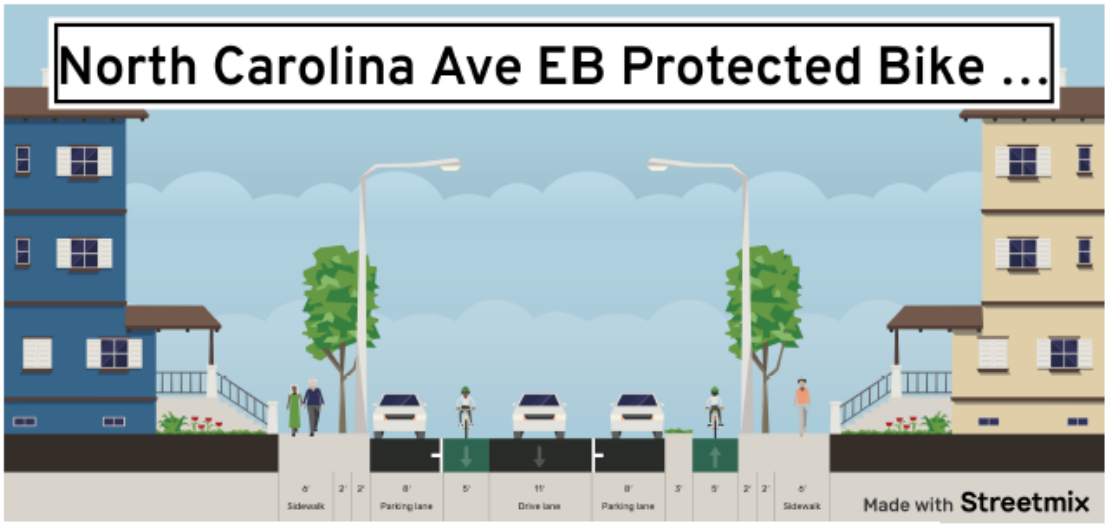


Alternative C Summary:

- Retains curbside parking throughout
- Provides buffered bike lanes – safer than typical bike lanes
- Retains wider unobstructed cross section – important for events like marathons/ parades/ marching bands

GOVERNMENT OF THE DISTRICT OF COLUMBIA MURIEL BOWSER, MAYOR

Alternative D – One-Way BL+ EB PBL

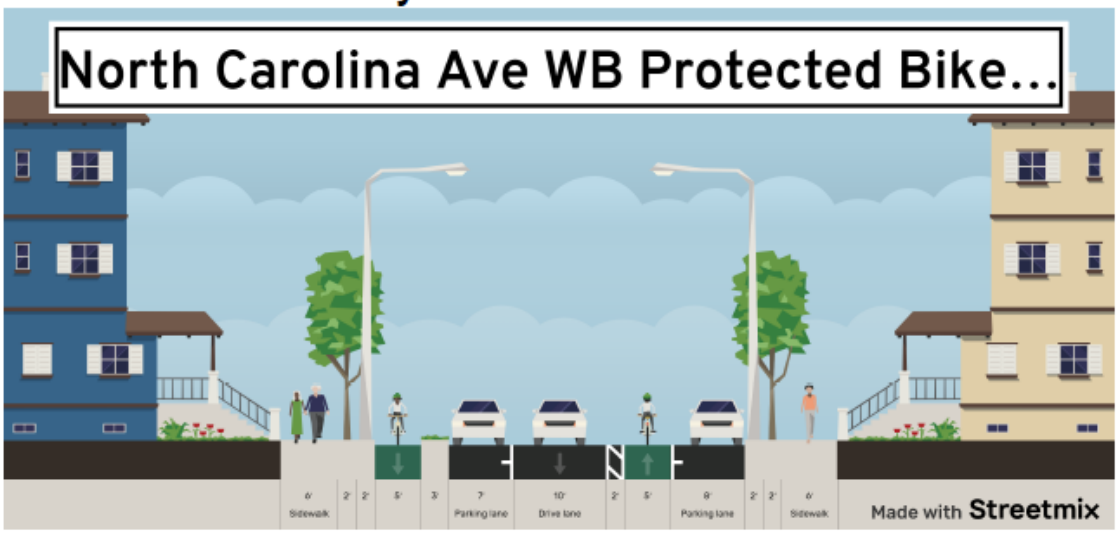


Alternative D Summary:

- Retains parking throughout
- Provides EB protected bike lane, WB bike lane
- Matches inbound/outbound bike facilities from C St Project

GOVERNMENT OF THE DISTRICT OF COLUMBIA MURIEL BOWSER, MAYOR

Alternative E – One-Way + WB PBL + EB Buffered BL



Alternative E Summary:

- Retains parking throughout
- Provides WB protected bike lane, EB buffered bike lane
- Matches inbound/outbound bike facilities from C St Project

GOVERNMENT OF THE DISTRICT OF COLUMBIA MURIEL BOWSER, MAYOR

NC Corridor sketch marking plan

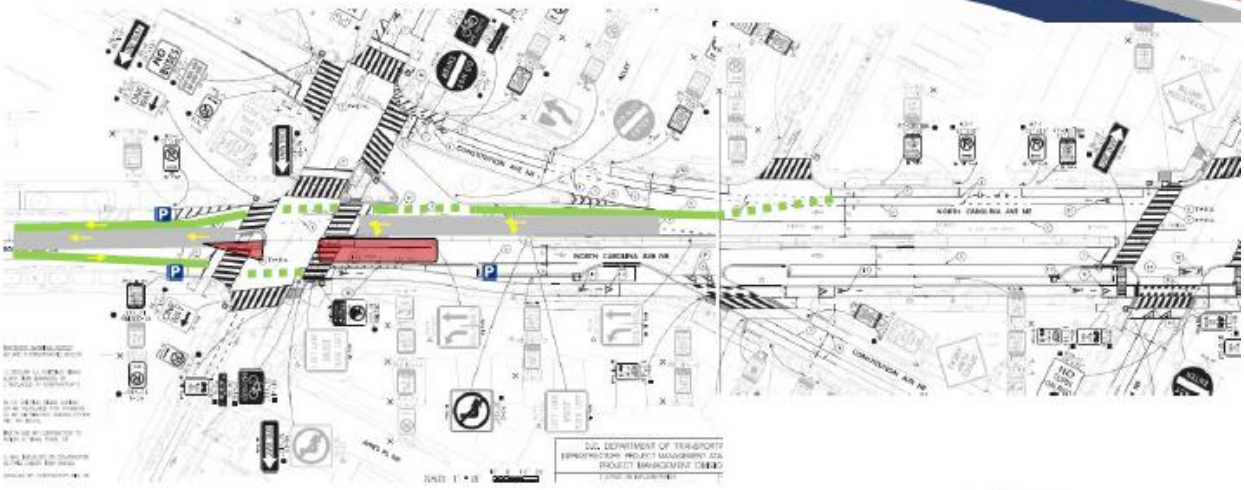
GOVERNMENT OF THE DISTRICT OF COLUMBIA MURIEL BOWSER, MAYOR

13th / NC Intersection

- Curbside options along 13th
- No Right Turn at NC Ave

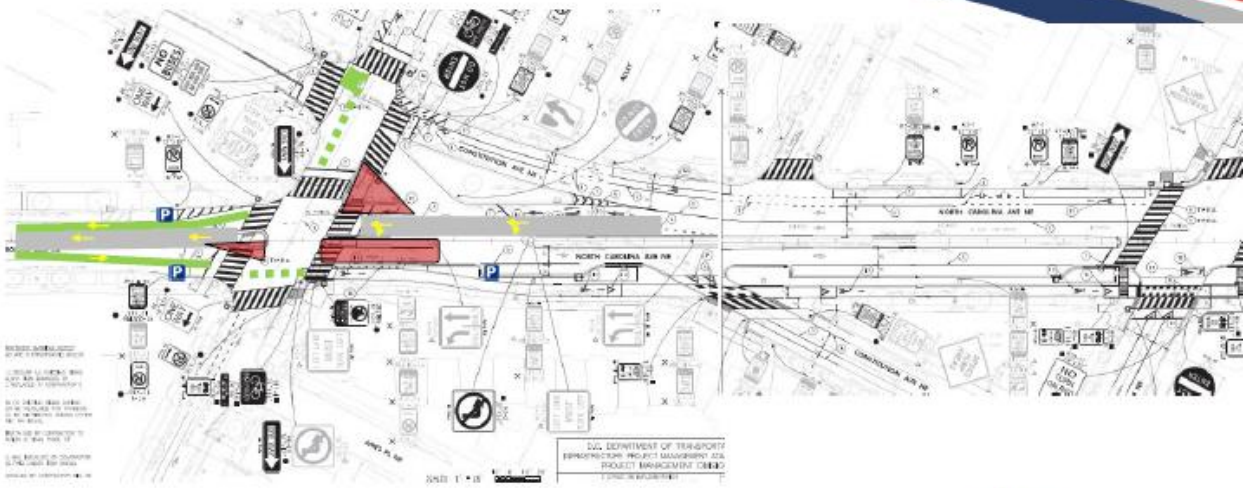
GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

North Carolina/14th/Constitution Intersection Concept 1



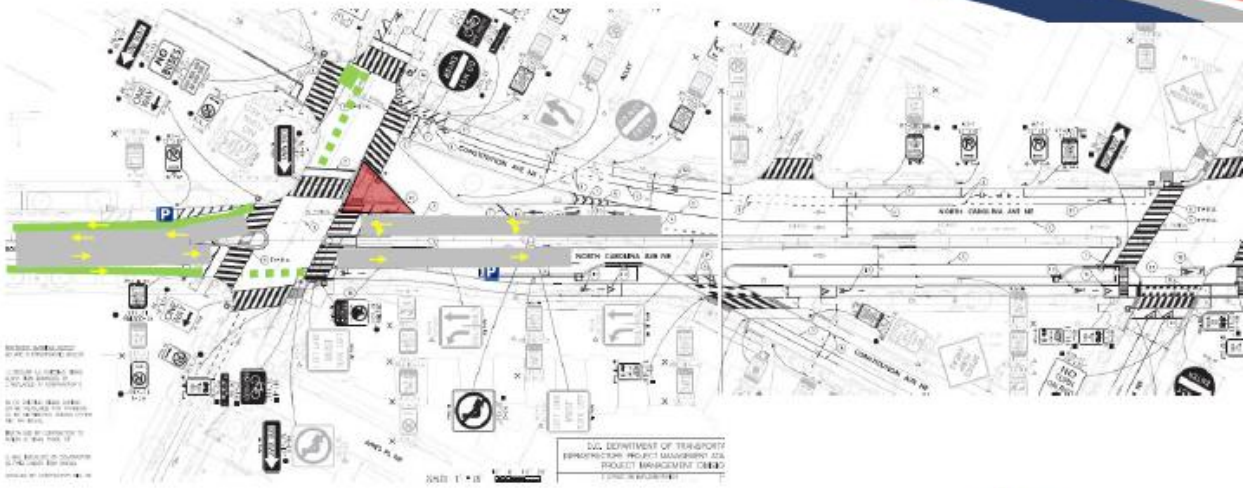
GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

North Carolina/14th/Constitution Intersection Concept 2



GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

North Carolina/14th/Constitution Intersection Concept 3



GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

Alternatives A, B, C, D, E Trade-Offs to Consider

Neighborhood Considerations

- Relative need for parking
- Micro-area circulation
- Comfort level with vehicle setbacks
- Speeding

Big Picture

- Contribution to Sustainable DC / MoveDC / Climate Adaptation plans
- Contribution to Vision Zero (eliminating traffic injuries/fatalities citywide)
- Macro-area traffic circulation

Did We Miss Anything?

- What else is important to consider here?
- What is the right balance of tradeoffs between the goals the city is committed to achieving and issues on the ground?

GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

Wrap-Up

What next?

DDOT is committed to completing this missing section of the bike network, improving pedestrian safety, and reducing vehicular speeds.

Please help by providing feedback on which option to fully design and install.

GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

Contact Information

Please reach out with any comments or questions:

Will Handsfield, AICP
DDOT Bicycle Program Specialist
Will.Handsfield@dc.gov

George Branyan
Manager – Active Transportation
George.Branyan@dc.gov

GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

d.
District Department of Transportation

GOROVE SLADE
Transportation Planners and Engineers

TECHNICAL MEMORANDUM

To:	Daniel Lovas, PE	VHB
	Bethany Turner, PE	
From:	Brandon Zhang, PhD, PE	
	Katie Wagner, PE, PTOE	
	Erwin Andres, PE	
Date:	July 2, 2021	
Subject:	North Carolina Avenue NE One-Way Conversion Evaluation	

Introduction

This memorandum presents findings of a one-way conversion analysis performed along North Carolina Avenue NE between 13th Street NE and 14th Street NE in Washington, DC. The analysis studied the effects of converting North Carolina Avenue NE to a one-way westbound roadway between 13th Street NE and 14th Street NE to accommodate proposed separate bike lanes on both sides of North Carolina Avenue NE. The impact of diverting existing eastbound vehicles on North Carolina Avenue NE was also analyzed in this memo.

Based on the vehicular analysis, the following conclusions were made:

- Approximately 55 AM and 125 PM vehicular trips are to be rerouted as a result of the proposed North Carolina Avenue NE protected bicycle facility.
- Roadways identified as reroute options included 13th Street NE, 14th Street NE, 15th Street NE, Constitution Avenue NE, and East Capital Street NE.
- Capacity analysis indicates that proposed reroutes will not create significant delays on area roadways during the morning and afternoon peak hours.

Background

DDOT continues to analyze the crosstown connectivity gaps in the 2016 *Crosstown Multimodal Transportation Study* and many different multimodal connections have been advanced as a result. The proposed bicycle facility on North Carolina Avenue NE provides additional connectivity and further improves crosstown multimodal connections. Separated bike lanes are proposed on North Carolina Avenue NE between 13th Street NE and 14th Street NE. This segment of North Carolina Avenue NE will be converted to a one-way westbound road to accommodate the proposed bicycle facility. As such, the existing vehicular trips traveling eastbound on North Carolina Avenue NE need to be diverted onto other streets in the network. The objective of this study is to evaluate the impact of diverted trips at intersections in the network.

Study Area

Figure 1 illustrates the study area under which the North Carolina Avenue NE bicycle facility will be evaluated. The North Carolina Avenue NE study corridor stretches from the intersection with 13th Street NE to the intersection of 14th Street NE. Under existing conditions, this portion of North Carolina Avenue NE generally consists of one (1) travel lane in each direction, with time-restricted metered parking on both sides of the road. The study area is well served by several Metrobus routes. Figure 2 shows the map of study intersections. Seven (7) signalized intersections in the vicinity of the study corridor were identified as the potential intersections to be impacted by the proposed project.

Figure 3 shows the existing bicycle facilities, including bike lanes along 13th Street NE, 14th Street NE, 15th Street NE, East Capitol Street NE, portion of Constitution Avenue NE, and North Carolina Avenue NE east of the study corridor, and signed route along 12th Street NE. Two (2) Capital Bikeshare stations are located near the intersection of North Carolina Avenue NE and 13th Street NE and the intersection of East Capitol Street NE and 15th Street NE, respectively.

Planned Projects

A bicycle facility project along C Street NE was reviewed and treated as a background project for the current North Carolina Avenue project. Cycle tracks are planned to replace the existing bike lanes along C Street NE between 15th Street NE and 21st Street NE, and along North Carolina Avenue between 14th Street NE and 16th Street NE. The traffic patterns under the C Street NE bicycle facility build-scenario were incorporated into the baseline conditions for the current analysis.

One-Way Conversion and Reroutes Evaluation

Directionality Assessment

A brief qualitative assessment was conducted with respect to the directionality of the one-way conversion, i.e., whether converting the North Carolina Avenue NE study corridor to one-way westbound or one-way eastbound. The traffic volumes under the C Street NE bicycle facility build-scenario, which serves as the baseline conditions of this project, show that approximately 90% and 60% of the traffic is heading westbound during the morning and the afternoon peak hours, respectively. It makes more sense to eliminate the direction with lower peak hour volumes in order to reduce the amount of rerouted traffic. Therefore, the study corridor is proposed to be converted to a one-way westbound operation.

Reroute Alternatives Evaluation

Under baseline conditions, the vehicular trips traveling eastbound on the North Carolina Avenue NE study corridor consist of the right-turn volumes from the North Carolina Avenue NE and 13th Street NE intersection. This is due to the fact 13th Street NE is one-way northbound and that the west leg of the North Carolina Avenue NE and 13th Street NE intersection is one-way westbound. A Street NE, which intersects with the study corridor in the middle, is a two-way road that allows westbound right turns onto North Carolina Avenue NE. However, available traffic volume data shows a zero (0) westbound right-turn volume from A Street NE during both the morning and afternoon peak hours. Therefore, it is assumed that A Street NE is a negligible

source of eastbound traffic on North Carolina Avenue NE and thus the existing eastbound trips are assumed to be only originating from the right turns at the North Carolina Avenue NE and 13th Street NE intersection.

Under proposed conditions, the segment of North Carolina Avenue NE between 13th Street NE and 14th Street NE will converted into a one-way westbound street to accommodate the proposed bicycle facility. The existing vehicular trips entering eastbound North Carolina Avenue NE from northbound right-turn lane on 13th Street NE will be diverted to other roads in the study area. Based on C Street NE build-scenario baseline traffic volumes, 55 vehicular trips need to be diverted during the morning peak hour and 125 vehicular trips need to be diverted during the afternoon peak hour.

In addition, based on C Street NE build-scenario baseline traffic volumes, there are eastbound right turn volumes from North Carolina Avenue NE onto A Street NE, which are 5 and 25 vehicular trips during the morning and afternoon peak hours, respectively. There are also eastbound right turn volumes from North Carolina Avenue NE onto 14th Street NE, which are 5 and 45 vehicular trips during the morning and afternoon peak hours, respectively. These existing eastbound right turn volumes will also need to be diverted to other roads in the study area.

Based on a review of the study area, two (2) routes have been identified as the most likely routes for trip diversion. They are:

- Reroute #1: Northbound 13th Street NE followed by eastbound Constitution Avenue NE; and
- Reroute #2: Eastbound East Capitol Street NE followed by northbound 15th Street NE.

On Reroute #1, the intersection of 13th Street NE and North Carolina Avenue NE is signalized. The north segment of 13th Street NE operates as one-way northbound. The intersection of 13th Street NE and Constitution Avenue NE is signalized as well. Constitution Avenue NE operates as a two-way street. Capacity exists at this intersection for additional northbound vehicles to turn right at Constitution Avenue NE. The signalized intersection at Constitution Avenue NE and North Carolina Avenue NE is expected to accommodate the rerouted trips before they travel back onto eastbound North Carolina Avenue NE or southbound 14th Street NE through this intersection.

On Reroute #2, the intersection of 13th Street NE and East Capitol Street NE is signalized. The dedicated northbound right turn lane is likely to accommodate the additional northbound right turns. East Capitol Street NE operates as a two-way street. The intersection of East Capitol Street NE and 15th Street NE is signalized with permissive eastbound left turn phase. 15th Street NE operates as one-way northbound and crosses A Street NE, Ames Place NE, and Constitution Avenue NE with east-west minor streets being stop controlled. The North Carolina Avenue NE and 15th Street NE intersection is signalized. Capacity exists at this intersection for additional northbound vehicles to turn right at North Carolina Avenue NE.

Reroute Assumptions

The reroute assumptions are primarily based on travel time estimates, travel distances, signal phasing, and available capacity. Figure 4 presents the travel time estimate comparisons between the two (2) primary reroutes. The travel time on each roadway segment was calculated based on the travel distance and posted speed limit. The turning movement delay at each signalized intersection was from the intersection capacity analysis results for the baseline scenario.

Based on Figure 4, the estimated travel time difference is minimal (approximately 13 to 15 seconds) between the two candidate routes in terms of both the morning and the afternoon peak hours. Therefore, this study assumed that the diverted trips are evenly distributed through the two candidate routes, as described below and shown in Figure 5.

Existing northbound right turning movements from 13th Street NE onto North Carolina Avenue NE:

- 50% of vehicles will travel further north along 13th Street NE to make a right turn onto Constitution Avenue NE; and
- 50% of vehicles will make a right turn earlier at the intersection 13th Street NE and East Capitol Street NE and turn left onto 15th Street NE.

Existing eastbound right turning movements from North Carolina Avenue NE onto A Street NE:

- 50% of vehicles will travel further north along 13th Street NE to make a right turn onto Constitution Avenue NE, and then turn right and travel southbound at 14th Street NE to reach the A Street NE neighborhood; and
- 50% of vehicles will make a right turn earlier at the intersection 13th Street NE and East Capitol Street NE and turn left onto 15th Street NE to reach the A Street NE neighborhood.

Existing eastbound right turning movements from North Carolina Avenue NE onto 14th Street NE:

- 50% of vehicles will travel further north along 13th Street NE to make a right turn onto Constitution Avenue NE, and then turn right and travel southbound at 14th Street NE to reach the A Street NE neighborhood; and
- 50% of vehicles will make a right turn earlier at the intersection 13th Street NE and East Capitol Street NE and turn left onto 15th Street NE to reach the A Street NE neighborhood.

Figure 1: Study Area Aerial

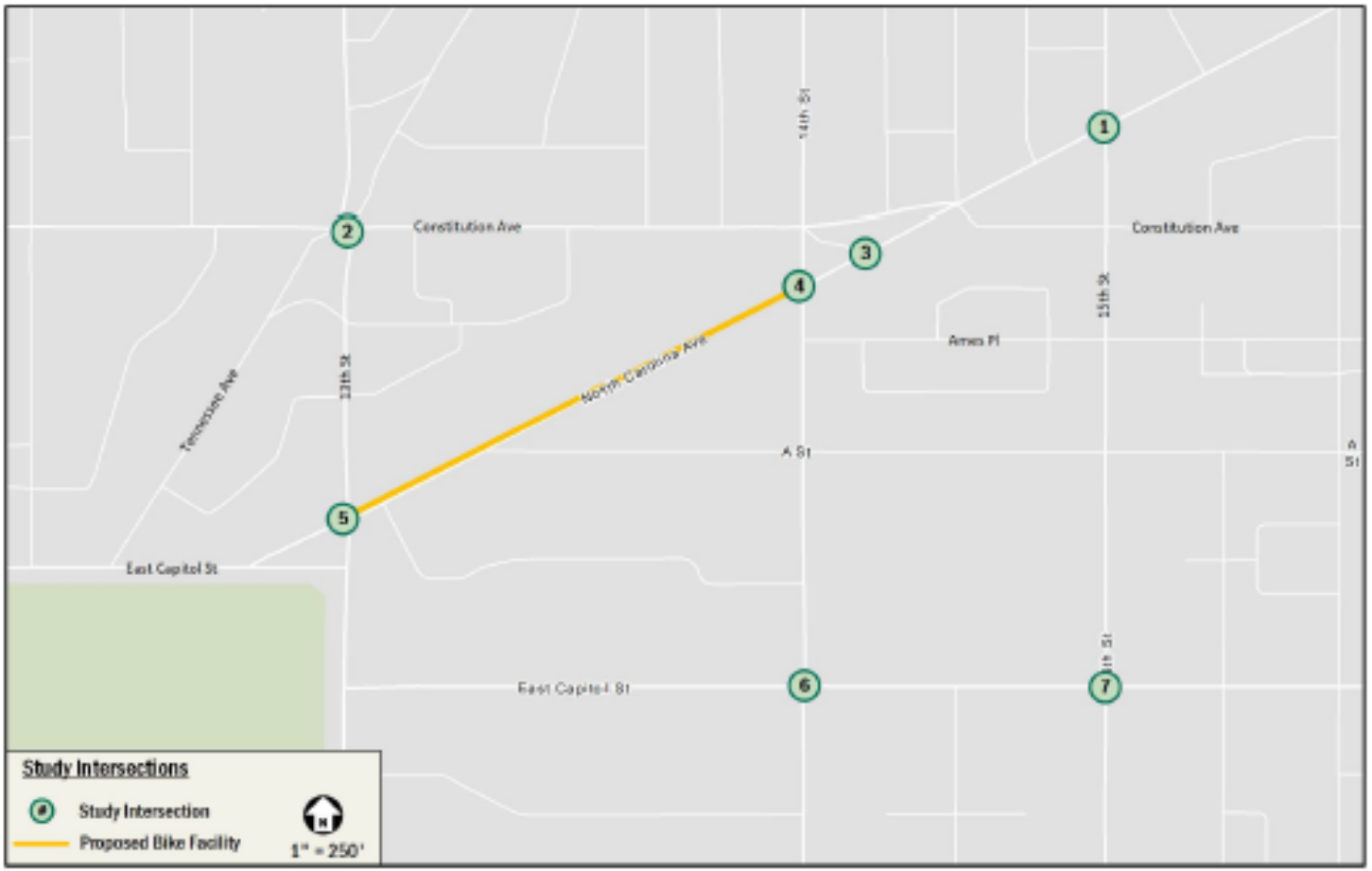


Figure 2: Study Intersections

Figure 3: Existing Bicycle Facilities

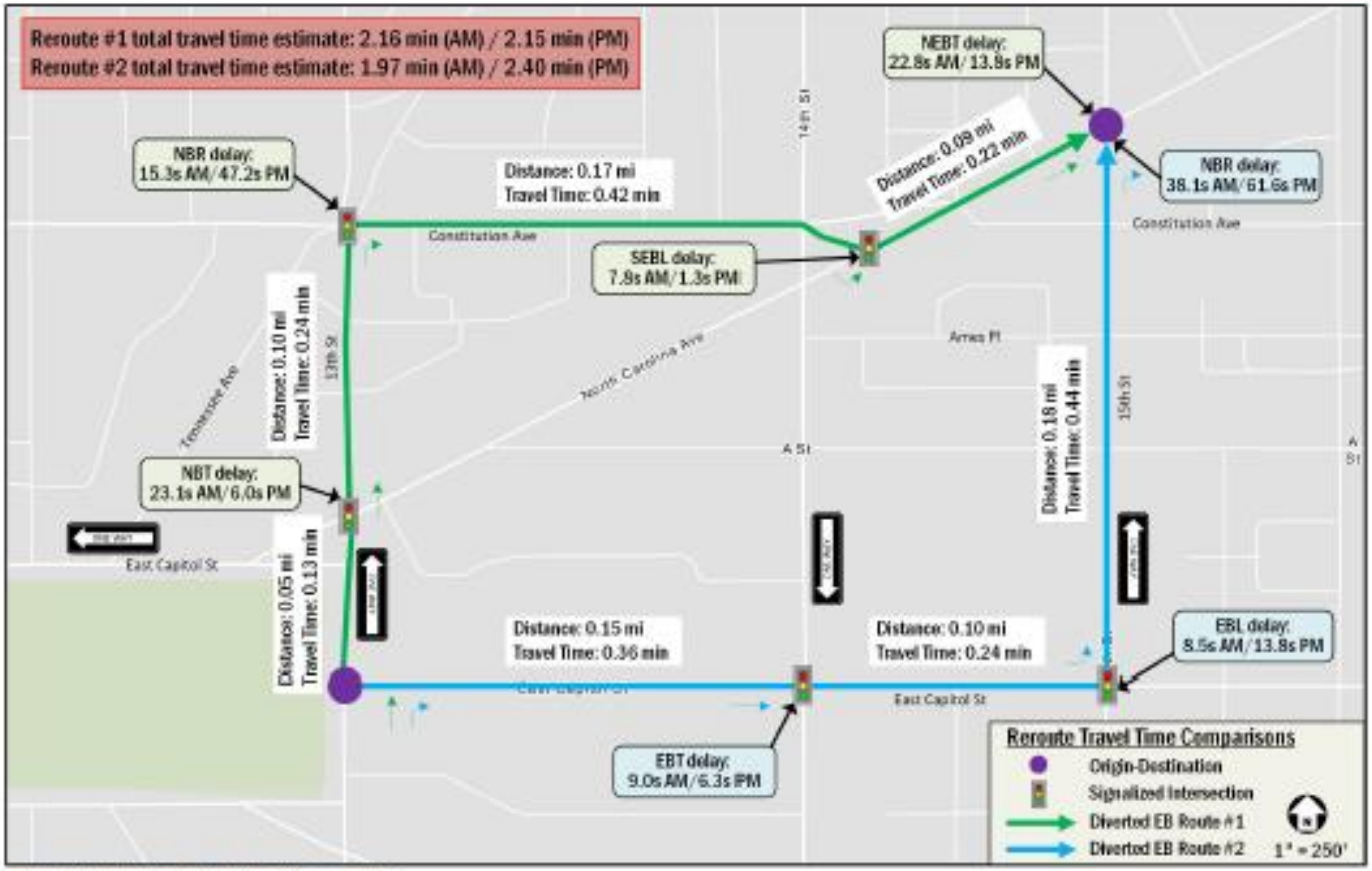


Figure 4: Rerouting Travel Time Comparisons

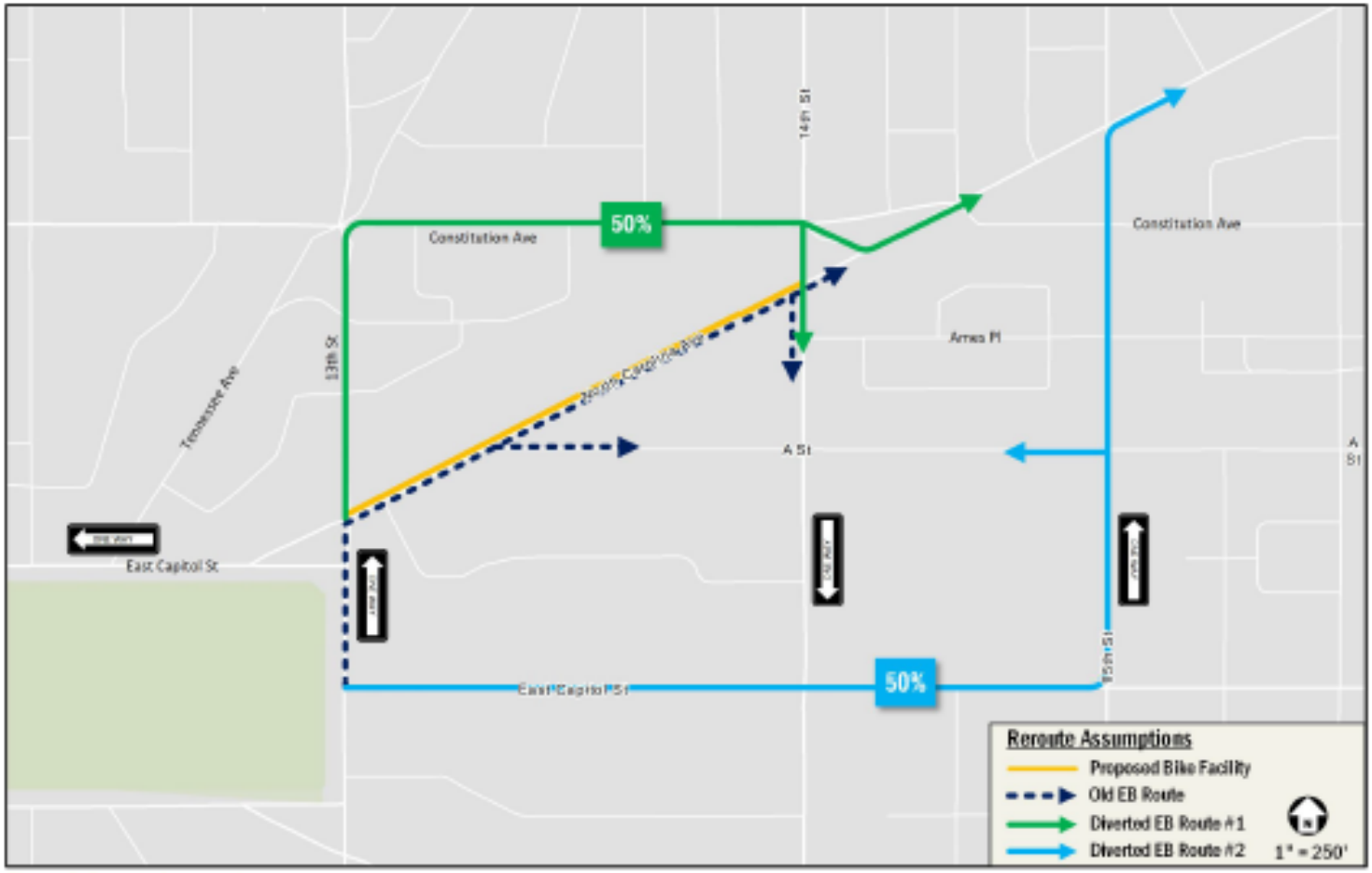


Figure 5: Reroute Assumptions

Vehicular Analysis

This section summarizes the analysis of existing and future roadway capacity surrounding the proposed North Carolina Avenue NE bicycle facility. The purpose of the capacity analysis is to:

- Determine the capacity of the study area roadways under the baseline conditions;
- Determine the overall impact of the project on the study area roadways; and
- Discuss any potential improvements and mitigation measures to accommodate the rerouted vehicular trips.

Scope of Analysis

The vehicular capacity analyses were performed to determine whether the project will lead to adverse impacts on traffic operations. This is accomplished by comparing two scenarios: (1) Baseline Conditions and (2) Future Conditions with Rerouted Vehicular Trips.

The study area of the analysis is a set of intersections where detailed capacity analyses were performed for the scenarios listed above. The intersections included are most likely to have potential impacts or require changes to traffic operations to accommodate the project. Based on the reroute assumptions, the following intersections were chosen and agreed upon by DDOT for analysis:

1. North Carolina Avenue & 15th Street, NE
2. Tennessee Avenue & Constitution Avenue & 13th Street, NE
3. North Carolina Avenue & Constitution Avenue, NE
4. North Carolina Avenue & 14th Street, NE
5. North Carolina Avenue & 13th Street, NE
6. East Capitol Street & 14th Street, NE
7. East Capitol Street & 15th Street, NE

Figure 2 shows a map of the study area intersections.

Traffic Volume Assumptions

Baseline Conditions

The traffic volume data used to establish the baseline conditions was acquired from DDOT's Traffic Engineering and Signals Division (TESD). The baseline conditions incorporated the bicycle facility project along C Street NE and part of North Carolina Avenue NE as a background project. The projected traffic volumes under the C Street NE project were used to establish the baseline conditions traffic volumes in this study.

The lane configurations and traffic controls for the Baseline Conditions are shown on Figure 6. The baseline peak hour traffic volumes are shown on Figure 7.

Future Conditions (Rerouted Trips)

The traffic volumes for the Future Conditions consist of the baseline traffic volumes with the adjustment of rerouted trips. The volumes of the rerouted trips were calculated based on the reroute assumptions discussed in the previous section. The rerouted trip assignment results are shown on Figure 9.

The future peak hour traffic volumes with the rerouted trips at each of the study intersections are presented on Figure 10.

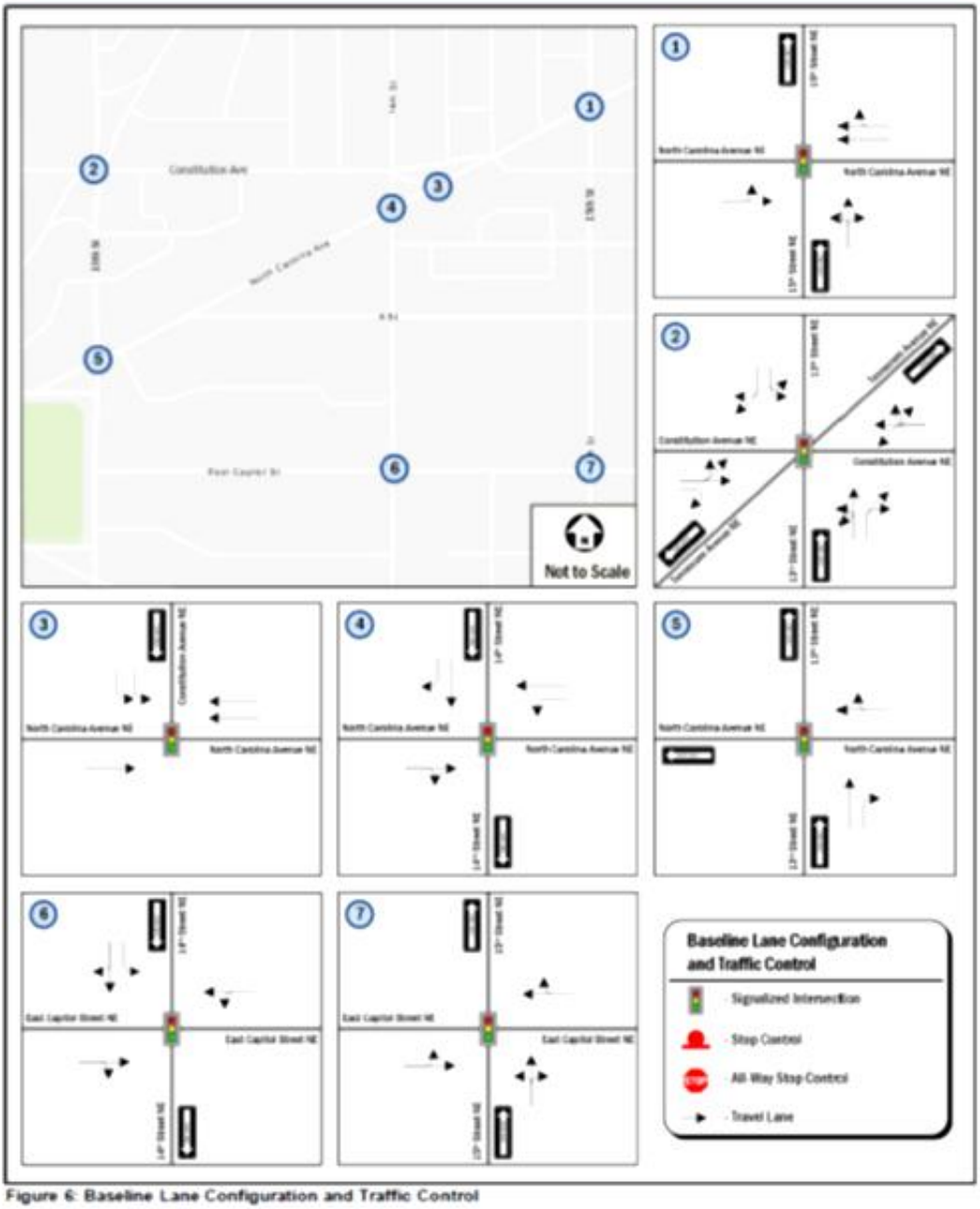


Figure 6: Baseline Lane Configuration and Traffic Control

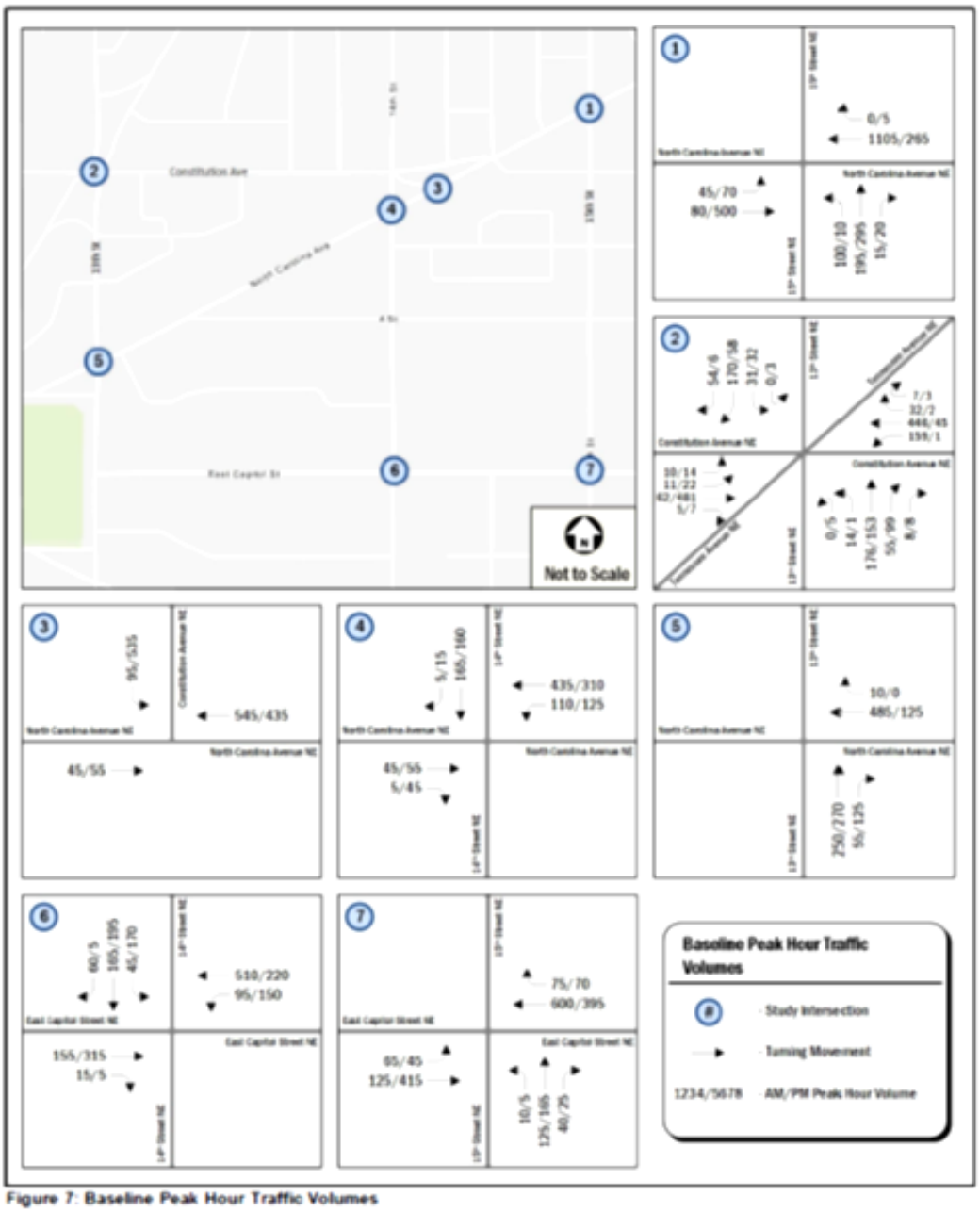


Figure 7: Baseline Peak Hour Traffic Volumes

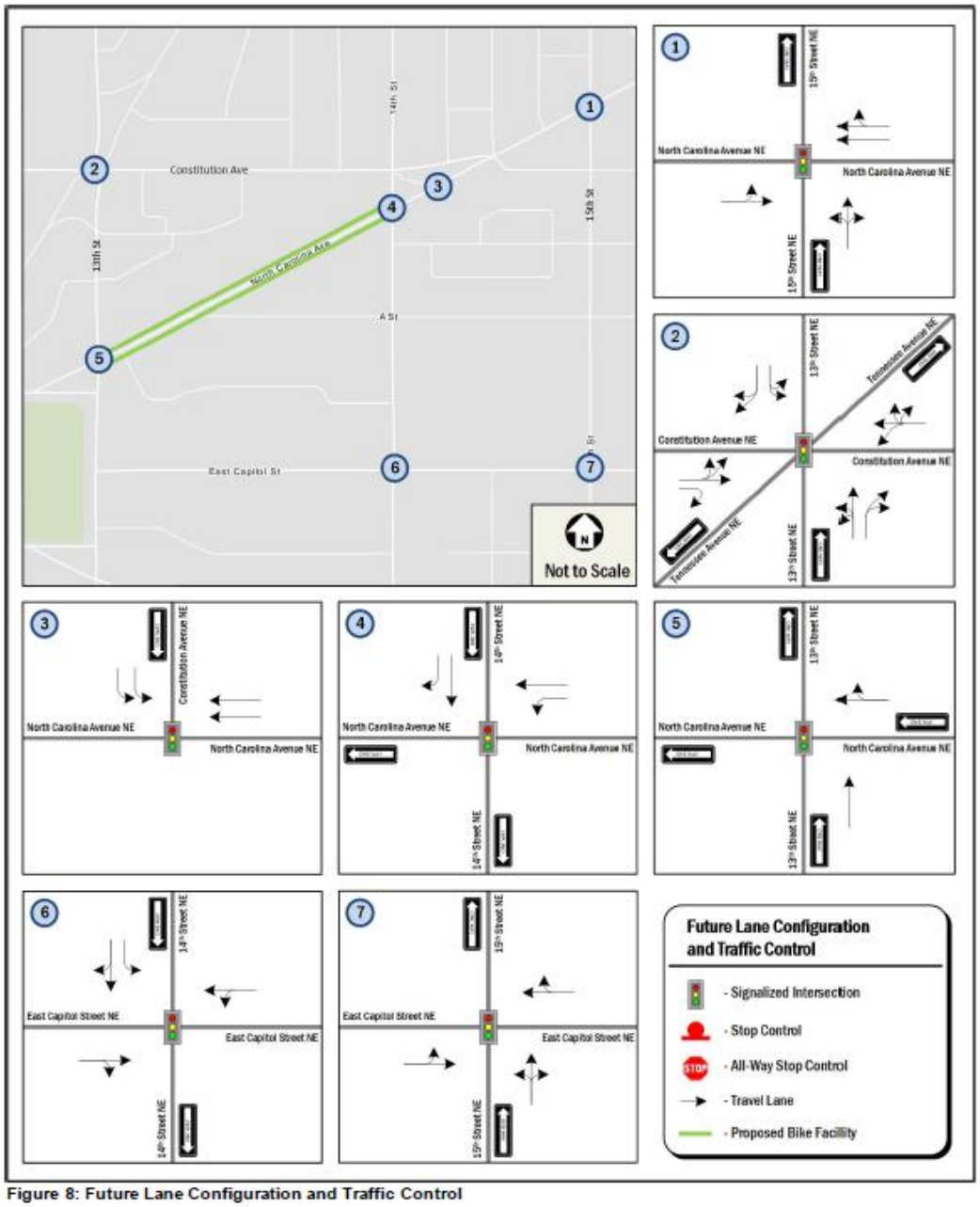


Figure 8: Future Lane Configuration and Traffic Control

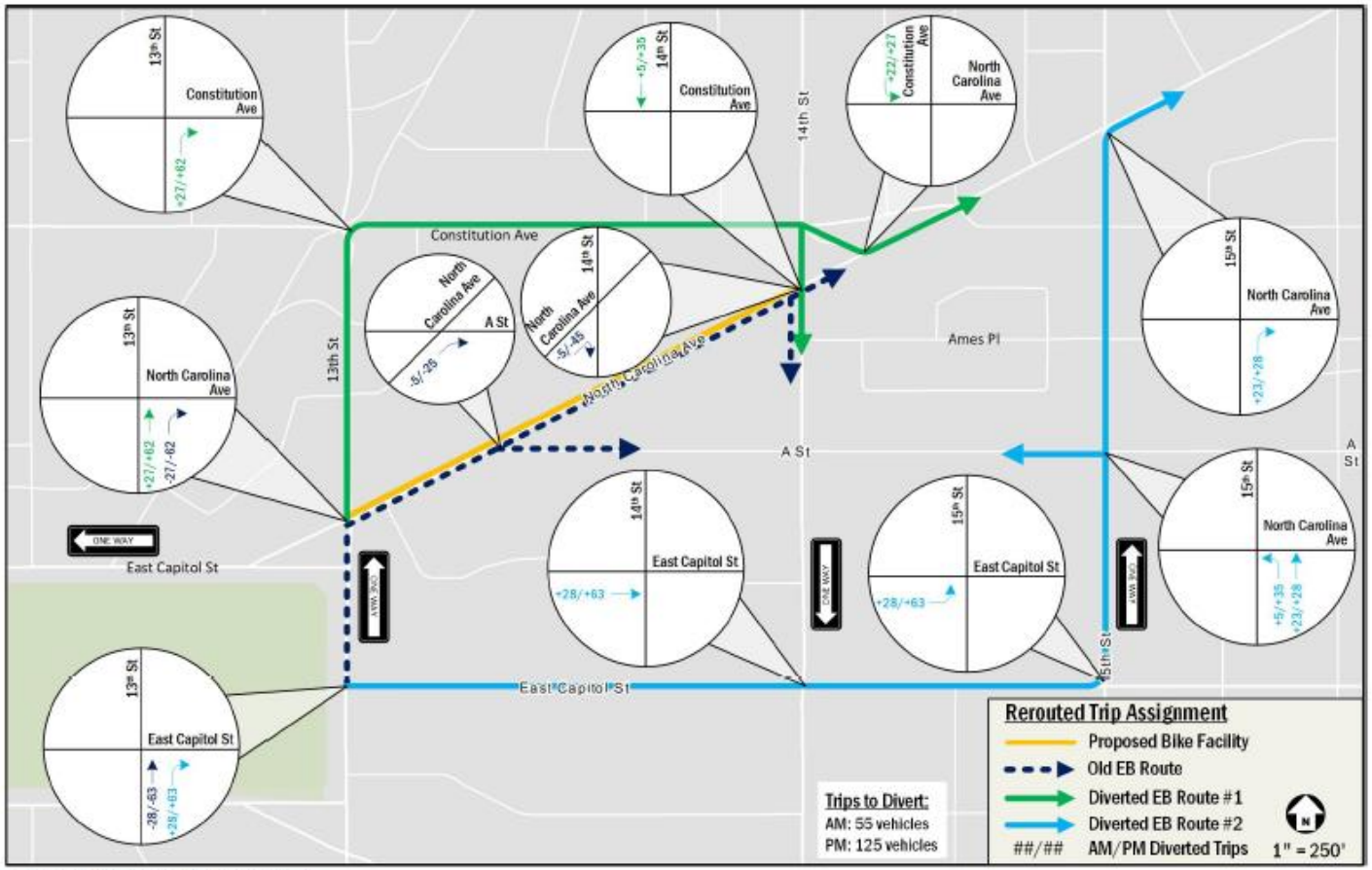


Figure 9: Rerouted Trip Assignment

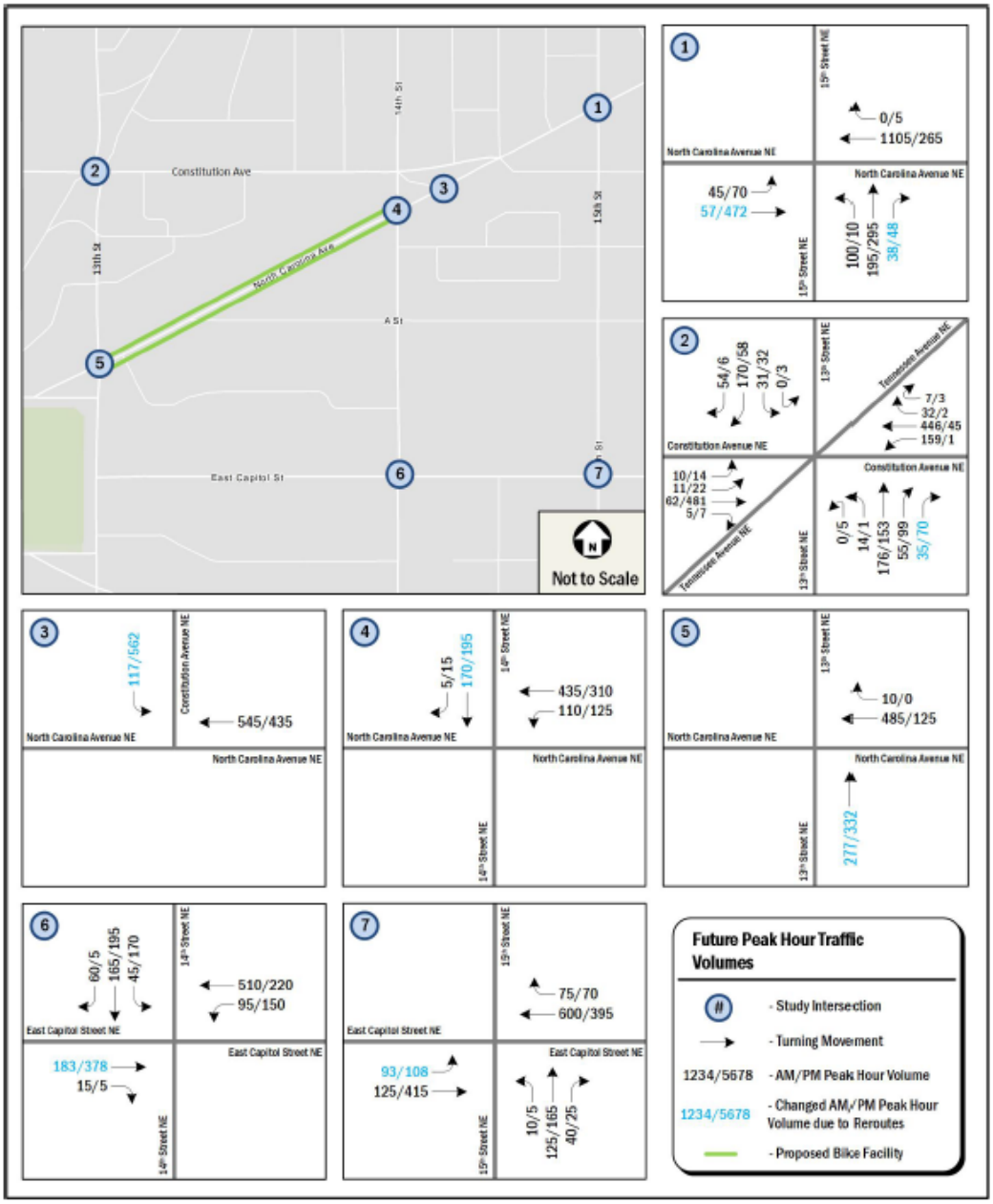


Figure 10: Future Peak Hour Traffic Volumes

Analysis Results

Intersection capacity analyses were performed for the two (2) scenarios outlined previously at the intersections contained within the study area during the morning and afternoon peak hours. *Synchro, Version 10* was used to analyze the study intersections based on the Highway Capacity Manual (HCM) 2000 methodology and *SimTraffic, Version 10* was used to conduct the queueing analysis.

The results of the capacity analyses are expressed in level of service (LOS) and delay (seconds per vehicle) for each approach. A LOS grade is a letter grade based on the average delay (in seconds) experienced by motorists traveling through an intersection. LOS results range from "A" being the best to "F" being the worst. LOS D is typically used as the acceptable LOS threshold in the District; although LOS E or F is sometimes accepted in urbanized areas if vehicular improvements would be a detriment to safety or non-auto modes of transportation.

The LOS capacity analyses were based on: (1) the intersection peak hour traffic volumes; (2) the lane use and traffic controls; and (3) the HCM methodologies (using Synchro software). The average delay of each approach and LOS is shown for the signalized intersections in addition to the overall average delay and intersection LOS grade.

Signal timing was based on the existing conditions Synchro files acquired from DDOT's Traffic Engineering and Signals Division (TESD). The cycle lengths for all the study area intersections are 120 seconds during both the morning and afternoon peak hours, with exceptions at East Capitol Street & 14th Street NE and East Capitol Street & 15th Street NE, which will operate with half cycle (60 seconds) during the afternoon peak hour. Optimization in terms of splits and offsets was performed for both Baseline Conditions and Future Conditions.

Table 1 shows the results of the intersection capacity analyses, including LOS and average delay per vehicle (in seconds) for the Baseline and Future scenarios. Table 2 shows the queueing analysis results reported by SimTraffic microsimulation.

As shown in Table 1, all the study intersections operate at acceptable conditions under the Baseline Conditions. The introduction of the rerouted trips results in one (1) study intersection that operates at unacceptable conditions or has one or more approaches operating at unacceptable levels under the Future Conditions:

- East Capitol Street & 15th Street, NE
  - Eastbound (PM)

Project Impact and Recommendations

Based on DDOT standards, the project may be considered to have a notable impact at an intersection within the study area if any of the following conditions are met:

- The capacity analyses show a LOS E or F at an intersection or along an approach in the future with conditions with the project where one does not exist in the existing conditions; or
- There is an increase in delay at any approach or overall intersection operating under LOS E or F of greater than 5 percent when compared to the existing conditions.

Based on these criteria, the following intersection is impacted by the proposed project:

- East Capitol Street & 15th Street, NE
  - Eastbound (PM)

For the intersection of East Capitol Street and 15th Street NE, the eastbound approach operates as one lane with permissive left turns. It operates at LOS B under the Baseline Conditions while deteriorates to LOS E under the Future Conditions due to the diverted trips making eastbound left turns at this intersection.

Mitigation was attempted by adding a protected/permissive eastbound left turn phase. However, due to the limitation of number of eastbound and westbound lanes, such mitigation did not achieve to improve all three approaches to operate within acceptable LOS. Therefore, mitigation in terms of signal phasing is not being recommended at this intersection. Although the eastbound approach operates at an unacceptable LOS E, the overall intersection operates at an acceptable LOS D.

It should be noted that the analysis results were based on the assumption of 50%/50% diversion trip split on the two (2) routes. It is likely that more drivers would choose the 13th Street NE – Constitutional Avenue NE option instead of the East Capitol Street NE – 15th Street NE option, if they experience significant delay at the East Capitol Street and 15th Street NE intersection. A dynamic equilibrium is like to be eventually achieved under which the travel time on the two (2) routes are similar, and the delay for the eastbound approach at the East Capitol Street and 15th Street NE intersection is alleviated.

Summary and Conclusions

This memorandum presents findings of a one-way conversion analysis performed along North Carolina Avenue NE between 13th Street NE and 14th Street NE in Washington, DC. The analysis studied the effects of converting North Carolina Avenue NE to a one-way westbound roadway between 13th Street NE and 14th Street NE to accommodate proposed separate bike lanes on both sides of North Carolina Avenue NE. The impact of diverting existing eastbound vehicles on North Carolina Avenue NE was analyzed.

Based on the vehicular analysis, the following conclusions were made:

- Approximately 55 AM and 125 PM vehicular trips are to be rerouted as a result of the proposed North Carolina Avenue NE protected bicycle facility.
- Roadways identified as reroute options included 13th Street NE, 14th Street NE, 15th Street NE, Constitution Avenue NE, and East Capital Street NE.
- Capacity analysis indicates that proposed reroutes will not create significant delays on area roadways during the morning and afternoon peak hours.

Table 1: Intersection Delay and Level of Service

	Intersection and Approach	2040 Baseline Conditions				2040 Proposed Conditions			
		AM Peak		*PM Peak*		*AM Peak*		*PM Peak*	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1.	**15th St & North Carolina Ave NE**								
	Overall	**25.0**	**C**	**21.7**	**C**	**27.1**	**C**	**21.3**	**C**
	Eastbound	22.8	C	12.7	B	37.6	D	11.3	B
	Westbound	21.6	C	10.4	B	22.6	C	12.3	B
	Northbound	38.1	D	46.8	D	39.2	D	43.6	D
2.	**Tennessee Ave & Constitution Ave & 13th St NE**								
	Overall	**22.1**	**C**	**17.0**	**B**	**22.1**	**C**	**19.6**	**B**
	Eastbound	7.5	A	15.1	B	7.5	A	20.4	C
	Westbound	19.3	B	8.8	A	19.8	B	11.9	B
	Northbound	27.8	C	19.3	B	26.2	C	18.9	B
	Southbound L	9.4	A	7.5	A	9.4	A	6.3	A
	Southbound R	31.1	C	35.0	D	31.1	C	29.9	C
3.	**North Carolina Ave & Constitution Ave NE**								
	Overall	**20.2**	**C**	**22.3**	**C**	**20.9**	**C**	**23.5**	**C**
	Eastbound	2.1	A	8.7	A	-	-	-	-
	Westbound	23.9	C	48.0	D	23.7	C	51.0	D
	Southeastbound	7.8	A	2.9	A	7.8	A	2.3	A
4.	**North Carolina Ave & 14th St NE**								
	Overall	**9.7**	**A**	**8.8**	**A**	**8.5**	**A**	**8.1**	**A**
	Eastbound	23.5	C	14.3	B	-	-	-	-
	Westbound	9.8	A	10.4	B	9.5	A	11.4	B
	Southbound	5.4	A	1.4	A	5.5	A	1.3	A
5.	**13th St & North Carolina Ave NE**								
	Overall	**12.0**	**B**	**5.1**	**A**	**13.5**	**B**	**4.9**	**A**
	Eastbound	5.1	A	1.9	A	5.4	A	2.2	A
	Northbound	23.1	C	6.1	A	28.1	C	5.8	A
6.	**14th St SE/14th St NE & East Capitol St**								
	Overall	**17.9**	**B**	**12.1**	**B**	**17.8**	**B**	**14.3**	**B**
	Eastbound	9.3	A	6.4	A	9.3	A	7.5	A
	Westbound	7.9	A	11.2	B	8.2	A	17.6	B
	Southbound	45.8	D	18.0	B	45.8	D	18.0	B
7.	**15th St SE/15th St NE & East Capitol St**								
	Overall	**20.4**	**C**	**16.3**	**B**	**20.6**	**C**	**37.7**	**D**
	Eastbound	8.5	A	14.6	B	11.2	B	63.2	E
	Westbound	15.9	B	17.4	B	15.9	B	17.4	B
	Northbound	50.7	D	17.7	B	50.7	D	17.7	B

Table 2: SimTraffic Queueing Analysis Results

	Intersection and Lane Group	Storage Length (ft)	2040 Baseline Conditions				2040 Proposed Conditions			
			AM Peak		*PM Peak*		*AM Peak*		*PM Peak*	
			50th	95th	50th	95th	50th	95th	50th	95th
1.	**15th St & North Carolina Ave NE**									
	Eastbound LT	390	91	177	59	122	92	175	34	94
	Westbound T	380	454	468	17	63	454	466	60	237
	Westbound R	380	455	470	67	141	456	473	120	300
	Northbound LTR	70	69	90	67	78	70	90	68	80
2.	**Tennessee Ave & Constitution Ave & 13th St NE**									
	Eastbound L	160	29	71	874	902	33	80	871	936
	Eastbound T	160	3	19	6	31	3	19	6	30
	Westbound LTR	430	51	102	15	45	59	114	15	47
	Northbound LT	90	87	123	57	108	90	127	49	100
	Northbound R	90	26	74	31	77	32	86	57	113
	Southbound L	130	23	57	25	55	23	57	28	58
	Southbound R	130	77	122	29	91	77	124	41	116
3.	**North Carolina Ave & Constitution Ave NE**									
	Eastbound T	70	0	0	0	5	-	-	-	-
	Westbound T	150	42	88	100	152	40	86	96	143
	Westbound T	150	123	137	123	141	122	140	123	138
	Southeastbound L	50	2	16	1	8	1	10	1	8
	Southeastbound L	50	0	8	0	0	0	3	0	3
4.	**North Carolina Ave & 14th St NE**									
	Eastbound TR	480	15	50	35	80	-	-	-	-
	Westbound L	50	-	-	-	-	1	8	1	8
	Westbound LT	50	6	25	19	38	-	-	-	-
	Westbound T	50	-	-	-	-	0	4	0	0
	Southbound T	40	13	34	1	9	14	36	2	17
	Southbound R	40	1	6	0	3	0	3	0	6
5.	**13th St & North Carolina Ave NE**									
	Westbound TR	240	107	207	19	53	115	242	16	47
	Northbound T	50	28	44	23	42	30	45	25	47
	Northbound R	50	9	37	5	27	-	-	-	-
6.	**14th St SE/14th St NE & East Capitol St**									
	Eastbound TR	660	59	129	40	121	72	152	75	170
	Westbound LT	440	299	633	239	483	404	676	184	382
	Southbound L	340	51	163	76	127	54	175	80	136
	Southbound TR	340	164	256	86	143	179	263	81	139
7.	**15th St SE/15th St NE & East Capitol St**									
	Eastbound LT	440	74	158	196	349	84	186	260	469
	Westbound TR	330	458	948	162	330	596	1061	140	258
	Northbound LTR	330	156	295	79	132	154	304	78	134

Government of the District of Columbia
Department of Transportation

d. Planning & Sustainability Division

September 20, 2021

ANC 6A
C/O
Dr. Amber Gove
Chair, ANC 6A
1349 A St. NE
Washington, DC 20002
amberanc6a@gmail.com

Memorandum on Bicycle Facility Selection Criteria and Related Issues for 1300 North Carolina Ave NE

Dear Commissioner Gove and fellow commissioners,

As part of our work on the North Carolina Ave corridor, we were asked by commissioners or the community to explore some additional areas of interest following our July 19th meeting with the Transportation and Public Space Committee. What follows is a summary of those issues, collected through requests by commissioners, emailed comments or other communications with the community.

Bicycle Facility Selection Criteria:
DDOT uses two primary criteria to determine facility type on District roadways, the NACTO Bicycle Facility Selection Guide (https://nacto.org/publication/urban-bikeway-design-guide/designing-ages-abilities-new/choosing-ages-abilities-bicycle-facility/), and the FHWA Bikeway Selection Guide (https://safety.fhwa.dot.gov/ped_bike/tools_solve/docs/fhwasa18077.pdf) I've taken the most relevant chart (Charts 1 & 2) from each to show how DDOT interprets this guidance and applied the characteristics of this block of North Carolina Ave. In both the guides we use, the street characteristics would indicate using bike lanes, preferably buffered bike lanes, or protected bike lanes. With the additional context from the C Street project and the "all ages & abilities" features of that facility, it suggests tilting towards the higher orders of protection for a bike

facility on 1300 North Carolina.

Inquiry into Advisory Bike Lanes:
DDOT was asked to explore the applicability of advisory bike lanes (ABLs) for this segment. While DDOT is currently participating in a federally-supervised study on this roadway pattern, and even went so far as to request additional segments be eligible for this study, FHWA declined to expand the study beyond the initial five segments from our initial application in 2019. Even if using the pattern were possible at this time, the 1300 block of North Carolina is not a good candidate for that pattern. While its total volume is at the threshold for ABLs (3,000 AADT – annualized average daily traffic) it is highly imbalanced, with 80% of vehicles going westbound. The dynamics of this condition would not create safe, predictable space for cyclists to use. For comparison, the roadways in the current ABL study top out around 1,500 AADT.

Historical Record on this Project:
DDOT was asked to explore the historical record on why this block was not included in the C Street project planning. What we learned is that in 2007, DDOT produced a striping plan for NC Ave that included sharrows for this block, while the rest of the plan was installed, the sharrows on this block were not installed - we don't have a record for why. In 2010, the C Street project concept plan (pg 62) included sharrows in one direction, and a bike lane in the other direction, but by the 30% drawings for the project (and on to 100%), this block had been dropped out of them. Soumya Dey (retired) was the project manager at the time, and may know more about that decision if we can reach him. DDOT is now proposing lanes here for what appears to be the 3rd time. To match the level of protection and safety expected of a principal bike route in 2021, our bicycle facility selection criteria indicates, at minimum, a regular or buffered bike lane in each direction is the minimum facility type that would be acceptable on this segment. However, regular bike lanes will not fit geometrically with two-way traffic and parking on both sides.

This is how we arrived at the various proposals we have shared with the community, the geometric limits within the curb, paired with the considerable need for a bicycle facility in this corridor to connect to Lincoln Park results in two principal options, removing parking from one side to create space for the bike lanes, or changing the street to a one-way pattern and using the space from the 2nd lane to create the bike facilities.

Additional Traffic Study:
Some community members expressed an interest in an additional traffic study, to follow the installation of the C Street project, before DDOT should move forward on this project. To recount, the initial C Street project completed an extensive traffic study and diversion analysis which we reviewed as we planned the concepts for 1300 North Carolina. Following our January 25th ANC 6A TPS meeting, DDOT took the extra step of commissioning a subsequent study looking narrowly at the question of eastbound traffic diversions, where they would go, and how much extra time that might impose on residents of the block and the surrounding area. The full analysis with those answers has been shared with the ANC and community. At this time, DDOT believes we have a reasonable and accurate expectation of what will occur under the different options presented, and we are comfortable moving forward with any of the options from a traffic network standpoint. We do not plan to commission further traffic studies prior to implementing this project.

One Way Traffic Effects:
An anticipated effect of a one-way option is diversion of up to 600 vehicles per day onto East Capitol and Constitution - 300 vehicles to each, or about 5% of their known 2018 AADT volume, (anticipated diversion of (55 vehicles in AM peak hour, 125 vehicles in PM peak hour). DDOT believes these diversions are de-minimus changes to the function of either roadway compared to existing conditions, and will not produce significant effects for the community (example: there are turn lanes DC that process 300 turns per hour for comparison, this is 300 spread throughout the day). Another area of community interest was a New York Times article by Emily Badger about speeding on one way arterial streets. The article was describing multi-lane arterial streets (example, 18th St NW in Foggy Bottom), and is a good representation on some of the effects of multi-lane one-way streets. However, the proposed context here would be a single lane one-way in a neighborhood setting. The dynamics of such a street are significantly different than the subject of the article, and we would expect less speeding and better overall safety than the current conditions.

Other Traffic Calming:
The community has expressed interest in several other traffic calming and roadway configuration changes that can be incorporated into this project, among them, a mid-block raised crossing on the 1300 block of North Carolina, alterations to the 14th/North Carolina/Constitution intersection to eliminate certain dangerous traffic behaviors, and adjustments to turn geometry at A Street. Some of these have been the subject of TSAs which can be satisfied through this project.

Areas of Community Interest:
Rounding out some related topics that have come from community comment, DDOT has a strong interest in creating a network of protected, all ages and abilities bike routes. These routes should be simple to use, and reduce complex routing whenever possible. Creating a straight facility for the entire C St / North Carolina corridor serves this interest. The need for this project also derives from the new Fields at RFK youth sports facilities, Eliot Hine MS, Kingman Island, and the Anacostia River Trail. Several elementary schools are also reachable by using the bike lane network that connects to Lincoln Park (Payne, Maury, Watkins, Miner, Tyler, Peabody). Additionally, future work with the two churches in the corridor will be conducted to ensure their operational needs are met, particularly with regard to weddings and funerals.

Construction Timeline:
DDOT does not yet have a preferred concept, which is why we are soliciting the views of the community at this moment, so it is difficult to estimate a construction date. We have several engineering and community notice steps yet to go, however, we would seek to pair the opening of this facility to align with, or precede the completion of the C Street project, currently on track for a fall 2022 completion. Depending on the alternative selected, DDOT would likely modify the intersection geometry at 14th/North Carolina/Constitution, and have those modifications built as part of the C Street project.

We hope this answers in full the requests we have received from the ANC and community, but if not, please send any further requests our way, and we will endeavor to respond to them.

Sincerely,

Will Handsfield, AICP
Bicycle Program Specialist
District Department of Transportation - Planning & Sustainability Division
william.handsfield2@dc.gov
202-671-3378

CC: Councilmember Charles Allen
Ellen Jones, Chief, Project Delivery Administration, DDOT
George Branyan, Manager, Active Transportation Branch, DDOT

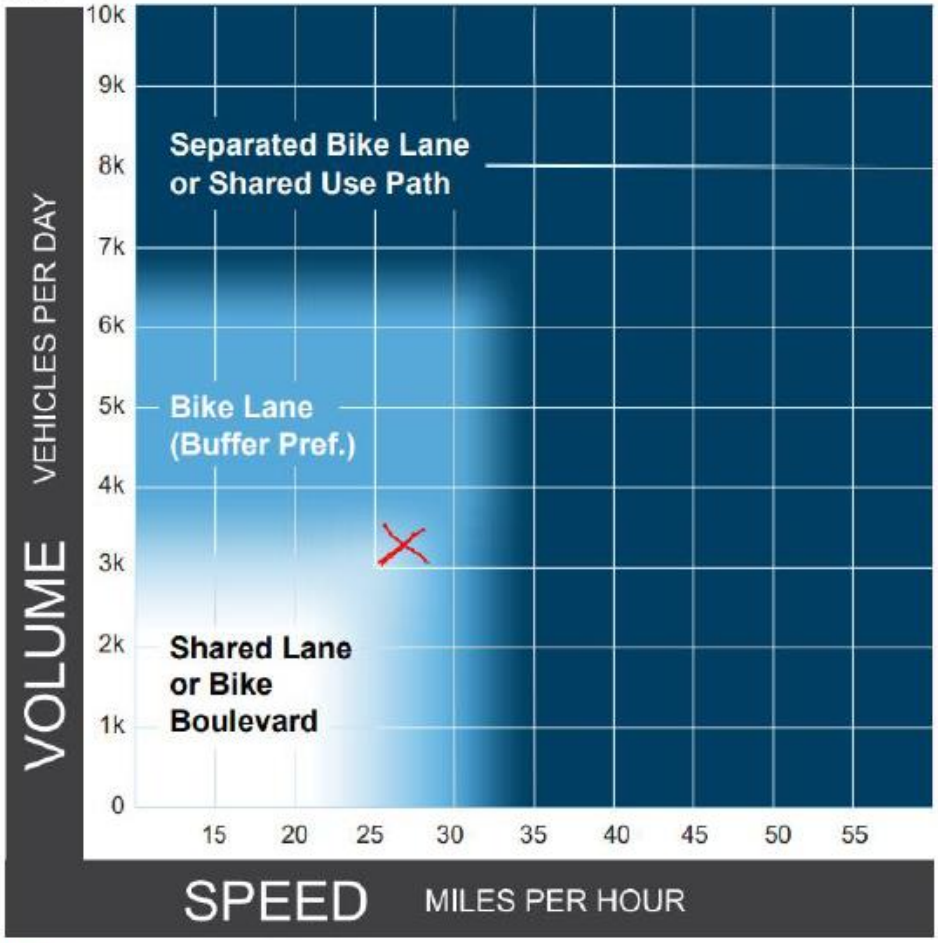
Chart 1

Contextual Guidance for Selecting All Ages & Abilities Bikeways

Roadway Context				All Ages & Abilities Bicycle Facility
Target Motor Vehicle Speed*	Target Motor Vehicle Volume (ADT)	Motor Vehicle Lanes	Key Operational Considerations	
Any		*Any*	*Any of the following:* high curbside activity, frequent buses, motor vehicle congestion, or turning conflicts‡	**Protected Bicycle Lane**
≤ 10 mph	Less relevant	No centerline, or single lane one-way	Pedestrians share the roadway	**Shared Street**
≤ 20 mph	≤ 1,000 – 2,000		< 50 motor vehicles per hour in the peak direction at peak hour	**Bicycle Boulevard**
≤ 25 mph	≤ 500 – 1,500		Low curbside activity, or low congestion pressure	**Conventional or Buffered Bicycle Lane, or Protected Bicycle Lane**
	≤ 1,500 – 3,000	Single lane each direction, or single lane one-way		**Buffered or Protected Bicycle Lane**
	≤ 3,000 – 6,000			
	Greater than 6,000			**Protected Bicycle Lane**
	Any	Multiple lanes per direction		
Greater than 25 mph†	≤ 6,000	Single lane each direction	Low curbside activity, or low congestion pressure	**Protected Bicycle Lane, or Reduce Speed**
		Multiple lanes per direction		**Protected Bicycle Lane, or Reduce to Single Lane & Reduce Speed**
	Greater than 6,000	*Any*	*Any*	**Protected Bicycle Lane**
High-speed limited access roadways, natural corridors, or geographic edge conditions with limited conflicts		*Any*	High pedestrian volume	**Bike Path with Separate Walkway or Protected Bicycle Lane**
			Low pedestrian volume	**Shared-Use Path or Protected Bicycle Lane**

*While posted or 85th percentile motor vehicle speed are commonly used design speed targets, 95th percentile speed captures high-end speeding, which causes greater stress to bicyclists and more frequent passing events. Setting target speed based on this threshold results in a higher level of bicycling comfort for the full range of riders.

Chart 2

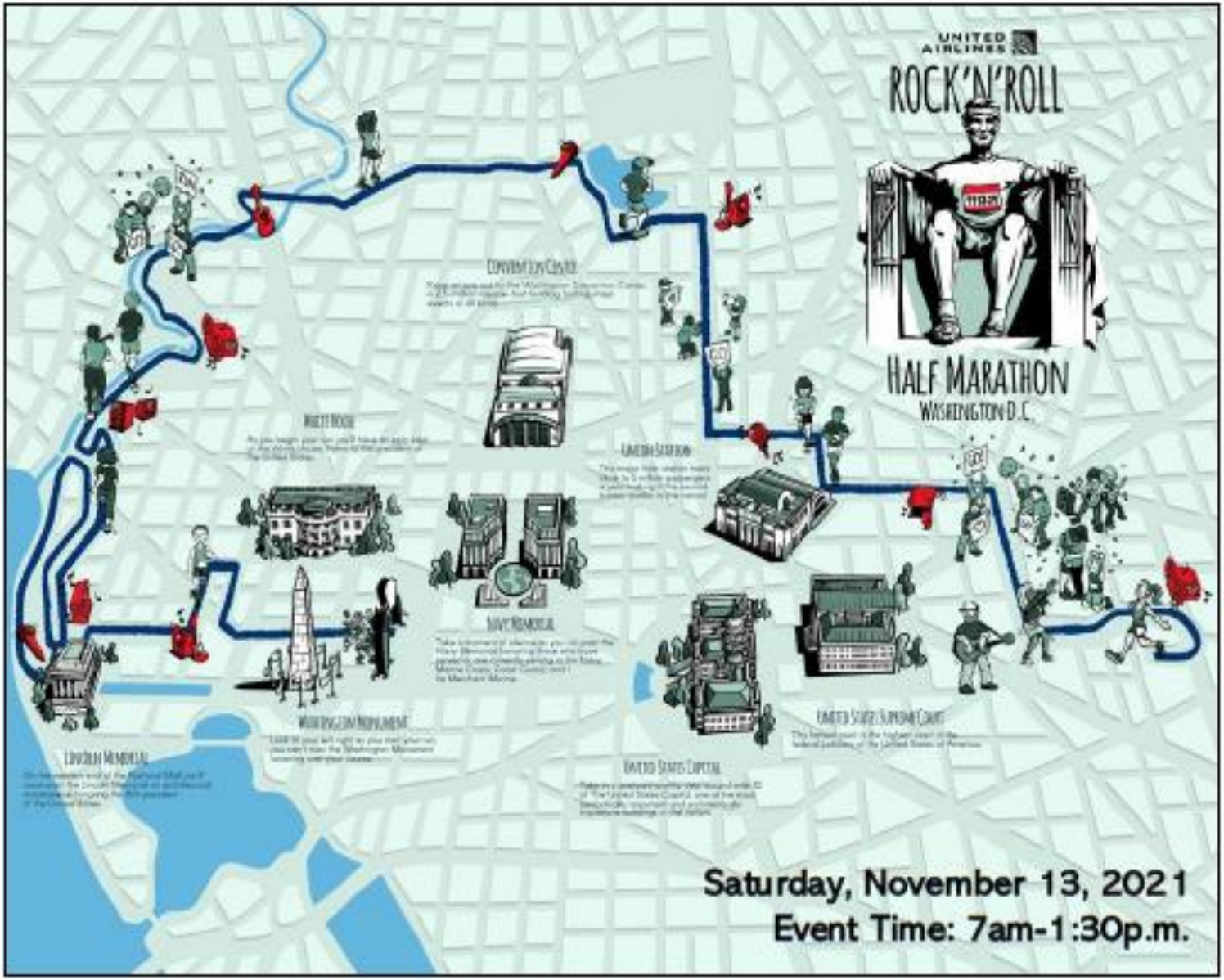


Notes

1 Chart assumes operating speeds are similar to posted speeds. If they differ, use operating speed rather than posted speed.

2 Advisory bike lanes may be an option where traffic volume is <3K ADT.

3 See page 32 for a discussion of alternatives if the preferred bikeway type is not feasible.


UNITED AIRLINES
ROCK 'N' ROLL
HALF MARATHON
WASHINGTON D.C.
Saturday, November 13, 2021
Event Time: 7am-1:30p.m.

United Airlines Rock 'N' Roll Running Series
Washington, D.C.

1. Name/title of the proposed event:

   Rock 'n' Roll DC™ Half Marathon and 5k

2. Organizer/sponsor of the proposed event:

   Ironman (event owner)/United Airlines (event title sponsor)

3. Purpose/intent of the proposed event: Run/walk/fitness/fun

4. Proposed date of the event: Saturday, November 13, 2021

5. Beginning and ending times of the proposed event:

   8:00am – 9:00am 5k

   8:30am – 1:30pm Half Marathon

6. Event organization telephone number and website for public notice:

https://www.runrocknroll.com/washington-dc

7. Expected attendance:20,000 participants

Safe Return to Running Guidelines

The Ready to Rock: Safe Return to Running Guidelines will empower everyone involved to focus on a safe return to running. These guidelines outline measures we will be taking to reduce risk for participants, volunteers, our team and communities. With attention to density reduction, touchpoint minimization, enhanced hygiene, screening and education, as well as self-awareness, we will continue to deliver to you a rockin' participant experience with necessary adjustments so that participants can race safely, race smart, race their best.

- **Enhanced Hygiene**
  - Hand sanitizer, hand washing stations and disinfectant wipes will be readily available around our event venues. Cleaning of common venue areas will be enhanced.
  - Staff and volunteers will be provided with face coverings, and are required to wear the face covering properly at all times around the event venue. Disposable gloves will be used in applicable areas.
  - Participants will be provided with face coverings at packet pick-up, and participants are required to wear a face covering properly around our event venues, including the start corrals and finish line areas. Find the World Health Organization (WHO) instructional video on how to properly wear a mask.

- **Screening & Education**
  - We are providing training for staff and volunteers in appropriate personal health, personal hygiene, and safe support in necessary functional areas.
  - We will provide Volunteer Smart™ guidelines for event volunteers.
  - Participants, staff, and volunteers will be required to respond to a pre-event health questionnaire.
  - We will in many venues institute no-touch body temperature screening. Individuals with a body temperature greater than 100.4° Fahrenheit, or 38° Celsius will not be allowed to participate, volunteer or work.

- **Touchpoint Minimization**
  - We will be reducing or removing touchpoints and points of interaction between staff, participants, and volunteers without compromising event safety and security.
  - We have redesigned and reimagined areas such as packet pick-up, expo, merchandise, and finish line to minimize person-to-person contact.
  - Aid stations will be reconfigured with more space to minimize both participant-to volunteer and participant-to-participant touchpoints.

- **Density Reduction**
  - We will institute measures to increase space for participants and supporting personnel in areas such as expo, packet pickup and finish line.
  - Alternative start configurations may be implemented to reduce the number of participants waiting in an enclosed area and to optimize distancing opportunities.
  - Modification or elimination of non-essential race services and functions, such as expo and merchandise may also occur.
  - The most significant element in course density reduction is being able to extend the duration of the start line program.


HARVARD ST NW
CALVERT ST NW
N CAPITOL ST NW
K ST NE
H ST NE
C ST NE
START
CONSTITUTION AVE NW
EAST CAPITOL ST NE
FINISH
5K START

Rock 'n' Roll DC Road Closures - Saturday, November 13, 2021						
STREET CLOSED	**COURSE(S)**	**SIDE OF ROAD**	**CLOSED FROM**	**CLOSED TO**	**TIME CLOSED**	**TIME OPEN**
Constitution Ave NW	Half Marathon	Whole Road	15th Street NW	9th Street NW	3:00 AM	12:00 PM
14th/12th/10th/9th Streets NW will be shut down to north/south vehicular traffic from 7:00am to 12:00pm						
Constitution Ave NW	Half Marathon	Whole Road	15th Street NW	23rd Street NW	7:00 AM	10:15 AM
Virginia Ave NW	Half Marathon	Whole Road	Constitution Ave NW	21st Street NW	7:00 AM	10:00 AM
18th Street NW	Half Marathon	Whole Road	Virginia Ave NW	E Street NW	7:00 AM	10:00 AM
E Street NW	Half Marathon	Eastbound	18th Street NW	19th Street NW	7:00 AM	10:00 AM
19th Street NW	Half Marathon	Whole Road	E Street NW	Constitution Ave NW	7:00 AM	10:15 AM
23rd Street NW	Half Marathon	Whole Road	Constitution Ave NW	Lincoln Memorial Circle	7:00 AM	10:30 AM
Lincoln Memorial Circle	Half Marathon	Whole Road	23rd Street NW	Potomac Parkway	7:00 AM	10:30 AM
Parkway Drive	Half Marathon	Whole Road	Lincoln Memorial Circle	Rock Creek Parkway	7:00 AM	10:30 AM
Rock Creek Parkway	Half Marathon	Whole Road	Potomac Parkway	Virginia Ave NW	7:00 AM	11:00 AM
Virginia Ave NW	Half Marathon	Whole Road	Rock Creek Parkway NW	I St NW	7:00 AM	11:00 AM
I St NW	Half Marathon	Whole Road	Virginia Ave NW	Potomac Freeway	7:00 AM	11:00 AM
Potomac Freeway	Half Marathon	Whole Road	I St NW	27th Street NW	7:00 AM	11:15 AM
Rock Creek Parkway	Half Marathon	Whole Road	Virginia Ave NW	Shoreham Drive NW	7:00 AM	11:30 AM
Shoreham Drive NW	Half Marathon	Whole Road	Rock Creek Parkway NW	Calvert Street NW	7:30 AM	11:30 AM
Calvert St NW	Half Marathon	Whole Road	Shoreham Drive NW	Adams Mill Road NW	7:30 AM	11:45 AM
Adams Mill Road NW	Half Marathon	Whole Road	Calvert St NW	Columbia Rd NW	7:30 AM	11:45 AM
Columbia Road NW	Half Marathon	Whole Road	Adams Mill Road NW	Harvard Street NW	7:30 AM	11:45 AM
Harvard Street NW	Half Marathon	Whole Road	Columbia Road NW	5th Street NW	7:30 AM	12:15 PM
5th Street NW / 4th Street NW	Half Marathon	Whole Road	Harvard Street NW	W Street NW	7:30 AM	12:15 PM
Bryant Street NW	Half Marathon	Whole Road	4th Street NE	North Capitol Street NW	7:30 AM	12:30 PM
North Capitol Street NW	Half Marathon	Southbound	Bryant Street NW	K Street NE	7:30 AM	12:45 PM
K Street NE	Half Marathon	Whole Road	North Capitol Street NE	4th Street NE	7:30 AM	1:00 PM
4th Street NE	Half Marathon	Whole Road	K Street NE	H Street NE	7:30 AM	1:00 PM
H Street NE	Half Marathon	Whole Road	4th Street NE	13th Street NE	7:00 AM	1:30 PM
13th Street NE	Half Marathon/5k	Whole Road	H Street NE	Constitution Ave NE	7:00 AM	1:30 PM
Constitution Ave NE	Half Marathon/5k	Whole Road	13th Street NE	North Carolina Ave NE	7:00 AM	1:30 PM
North Carolina Ave NE	Half Marathon/5k	Westbound	Constitution Ave NE	C Street NE	7:00 AM	1:30 PM
C Street NE	Half Marathon/5k	Whole Road	East Capitol St NE	North Carolina Ave NE	7:00 AM	1:45 PM
22nd Street NE	All Courses	Whole Road	C Street NE	East Capitol Street NE	7:00 AM	2:00 PM
East Capitol St/Whitney Young Bridge	All Courses	Westbound	295 Exit Ramp	C Street NE	6:30 AM	2:00 PM
East Capitol Street NE	All Courses	Westbound	22nd Street NE	19th Street NE	2:30 AM	3:00 PM
East Capitol Street SE	Runner's Village	Eastbound	19th Street SE	22nd Street SE	5:30 AM	1:30 PM
Road closures and times are subject to change						

2021
5K START TIME 8:00 AM
HALF MARATHON COURSE
BAND STAGES
WATER + CHOCOLATE MILK
RESTROOMS
MEDICAL
FINISH
START
2ND ST
C ST NE
D ST NE
H ST NE
13TH ST SE
NORTH CAROLINA AVE NE
CONSTITUTION AVE NE
Maryland Ave NE
19th St SE
11th St NE
Lincoln Park

R'n'R Washington DC '21 Course Elements v1.2

Water Stations

Station #	Mileage	Separation	Location	Page #	HALF Service Times	5K Service Times	Notes
W1	1.4		23rd St NW between Constitution Ave NW & Lincoln Memorial Circle	16	8:35am - 9:35am		
W2 & G	2.9	1.5	Southbound Potomac River Freeway at Fwy 66 West Off Ramp	19	8:40am - 10:05am		
W3	4.9	1.6	Rock Creek & Potomac Pkwy NW at P St NW Northbound onramp on East side	25	8:50am - 10:45am		
W4 & G	7.1	2.2	Columbia Rd NW between Mozart Place & 18th St NW	30	9:00am - 11:25am		
W5 & GEL	9.1	2.0	N Capitol St NW South of Bryant St NW on West side only	34	9:10am - 12:05pm		
W6 & G	11.1	2.0	H St NE between 6th St NE & 7th St NE	44	9:20am - 12:40pm		
W7 6K	1.1		13th Sr & F St NE on East side of roadway	47		8:05am - 8:40am	6K Only
G - Gatorade							

Medical Stations

Station	Mileage	Separation	Location	Page #	HALF Service Times	5K Service Times	Notes
M1	2.8 / 3.6	0.8	Potomac River Freeway just South of Virginia Ave Underpass on center median	19 & 21	8:40am - 10:15am		Double Pass
M2	6.1	2.0	Rock Creek & Potomac Pkwy NW & Cathedral Ave NW on East side on grass	26	9:00am - 11:05am		
M3	8.0	1.9	Harvard St NW & 5th St NW on North West corner	32	9:05am - 11:40am		
M4	10.2	2.2	N Capitol St NW & M St on North West side of intersection	39	9:15am - 12:20pm		
M5	12.1	2.2	13th St NE & Tennessee Ave NE on grass triangle	48	9:25am - 12:55pm	8:00am - 9:00am	Ino 6K

Entertainment Sites

E Site #	Mileage	Separation	Location	Page #	HALF Playing Times	5K Playing Times	Notes
E1	1.1		19th St NW & Constitution Ave NW on North East corner	15	8:35am - 9:30am		No stage
E2	1.6	0.5	Lincoln Memorial Circle & Rock Creek & Potomac Pkwy NW on grass triangle	17	8:35am - 9:40am		
E3	3.2	1.6	Potomac River Freeway near Rock Creek Pkwy at horseshoe turnaround	20	8:45am - 10:15am		
E4	4.4	1.2	Rock Creek & Potomac Pkwy NW just North of K St Overpass on East side on grass	23	8:50am - 10:35am		
E5	4.8	0.4	Rock Creek & Potomac Pkwy NW & P St NW Southbound on/off ramps on West side	24	8:50am - 10:45am		
E6	6.3	1.5	Calvert St NW & Woodley Ave NW on sidewalk on South side	28	9:00am - 11:10am		
E7	8.1	1.8	5th St NW & Gresham Pl NW on West side of intersection	32	9:05am - 11:40am		No stage
E8	8.8	1.5	N Capitol St NW & Q St NW / Florida Ave on triangle	38	9:10am - 12:10pm		
E9	10.6	0.9	K St NE & 1st St NE on South East corner	41	9:20am - 12:25pm		
E10	11.4	0.9	H St NE & 12th St NE in Auto Zone lot on SE corner	45	9:25am - 12:45pm	8:05am - 8:45am	Ino 6K
E11	12.9	1.5	22nd St NE & C St NE on grass divider	52	9:30am - 1:10pm	8:10am - 9:15am	Ino 6K

Activation Sites

A Site #	Mileage	Separation	Location	Page #	HALF Service Times	5K Service Times	Notes
A1	11.0		Potatoes USA - H St NE & 5th St NE	43	9:20am - 12:35pm		