



**Corridor Safety
Assessment**
K Street NE

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May 4, 2017

Overview

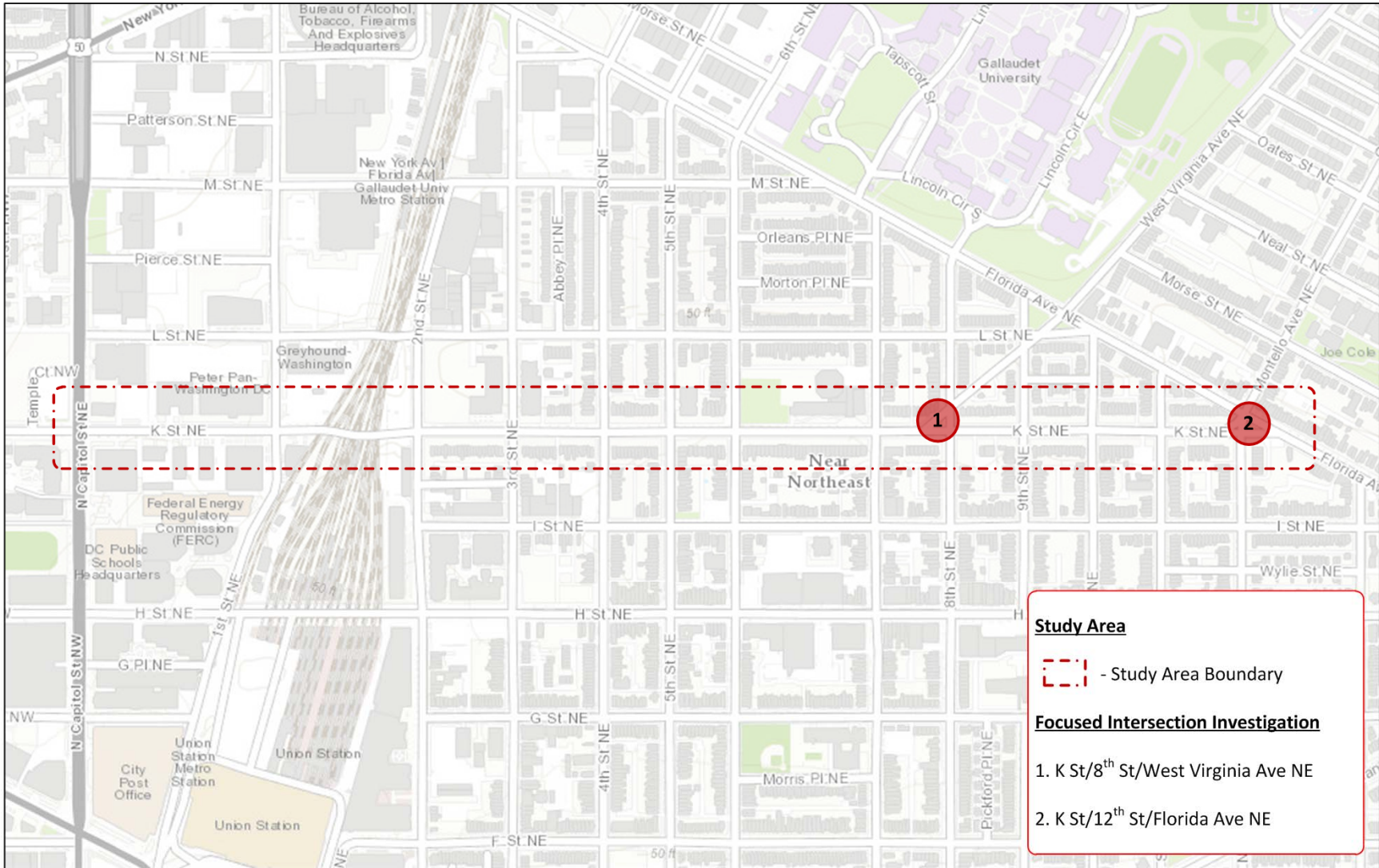
- Study Goals – *What brought us here?*
- Existing Conditions – *What are the issues?*
- Corridor Operations – *What are the results of the corridor analysis?*
- Intersection Safety – *What are the results of the safety investigation?*
- Recommendations – *What are the proposed improvements to mitigate the safety concerns?*
- Next Steps – *Where do we go from here?*

Study Goals

What brought us here?

- Resolution passed by ANC 6C in April 2016 to request corridor study of K Street NE from North Capitol Street to Florida Avenue NE
- DDOT initiated Corridor Safety Assessment to provide comprehensive analysis of safety concerns, including speeding and vehicular crashes
- Assessment includes evaluation of crash history and existing traffic operations along the K Street NE corridor
- Additional focus assessments conducted at the intersections of K Street/8th Street/West Virginia Avenue NE and of K Street/12th Street/Florida Avenue NE due to additional concerns raised regarding the traffic control and intersection geometry
- DDOT presented results of study at ANC 6C Transportation and Public Space Committee meeting on February 2, 2017. Committee asked DDOT to perform additional analysis regarding the on-street parking rush hour restrictions, as well as to perform additional traffic calming analysis along the corridor.

Study Area





EXISTING CONDITIONS



Existing Conditions

What are the issues?

- Concerns due to traffic speeds and red light violations
- Roadway provides access to residences, as well as the DCOA Senior Wellness Center and J.O. Wilson Elementary School, while also providing connection to downtown DC for commuters and through trips
- High pedestrian and bike traffic along corridor
- High demand for student pick-up/drop-off at J.O. Wilson Elementary School
- Concerns due to intersection clusters at 8th St/West Virginia Ave NE and 12th St/Florida Ave NE, which cause driver confusion

Existing Conditions

- K Street NE is classified as a minor arterial in DDOT's Functional Classification System
- The roadway serves an average daily traffic of 12,000 vehicles
- The posted speed limit is 25 mph, with a School Zone of 15 mph between 5th Street NE and West Virginia Avenue NE
- The curb-to-curb width is 40 feet, with 10-foot lanes in most locations and an average sidewalk width of 5-6 feet

DC's functional classification system is based on guidelines provided by the Federal Highway Administration.

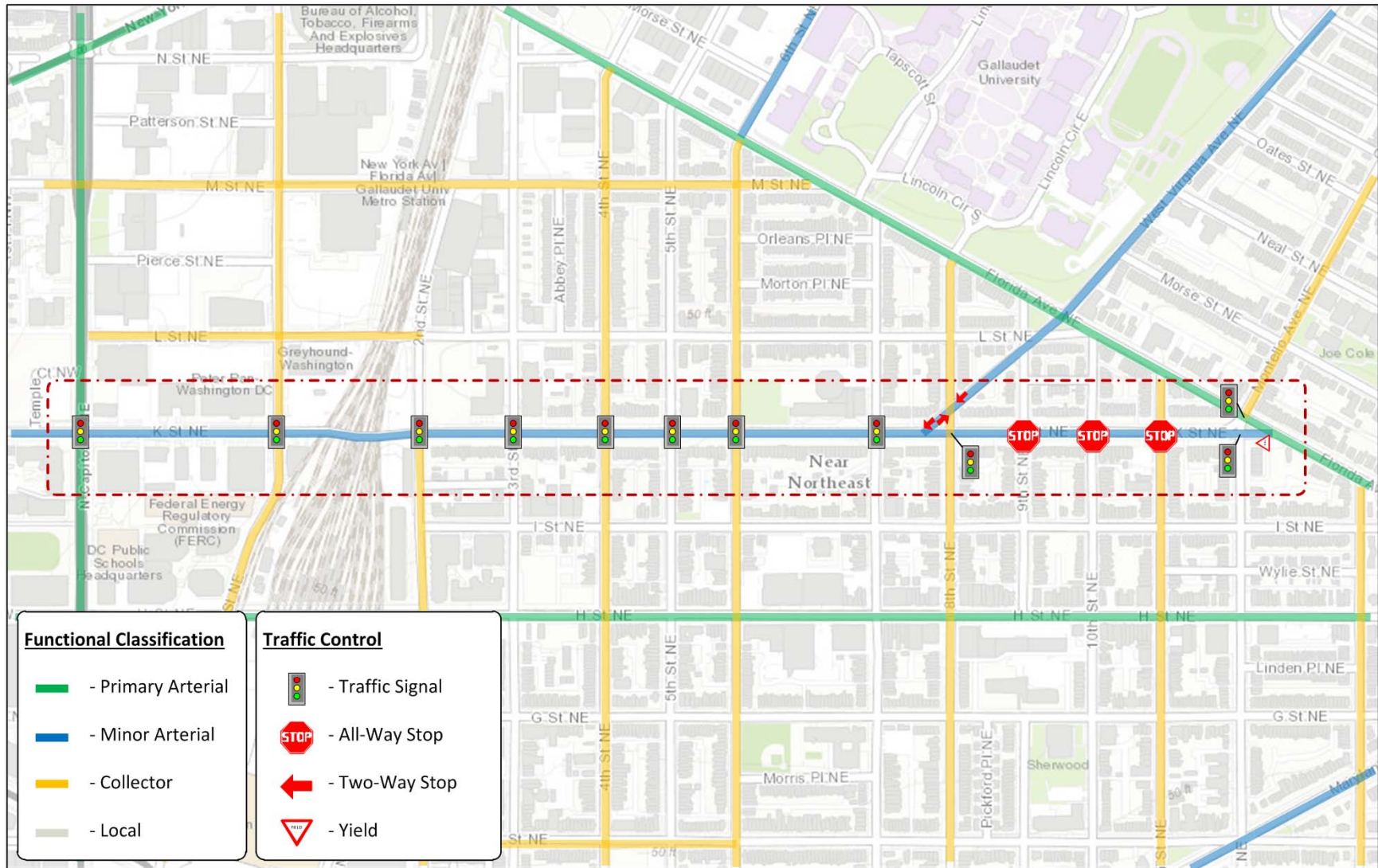
- **Primary Arterials** serve to connect major activity centers. They are the highest traffic volume corridors and serve the greatest proportion of urban travel demand. In an urban area, primary arterials typically carry 7,000-27,000 vehicles per day.

- **Minor Arterials** serve to connect and augment the network of primary arterials and to provide intra-community connectivity. In an urban area, they typically carry 3,000-14,000 vehicles per day.

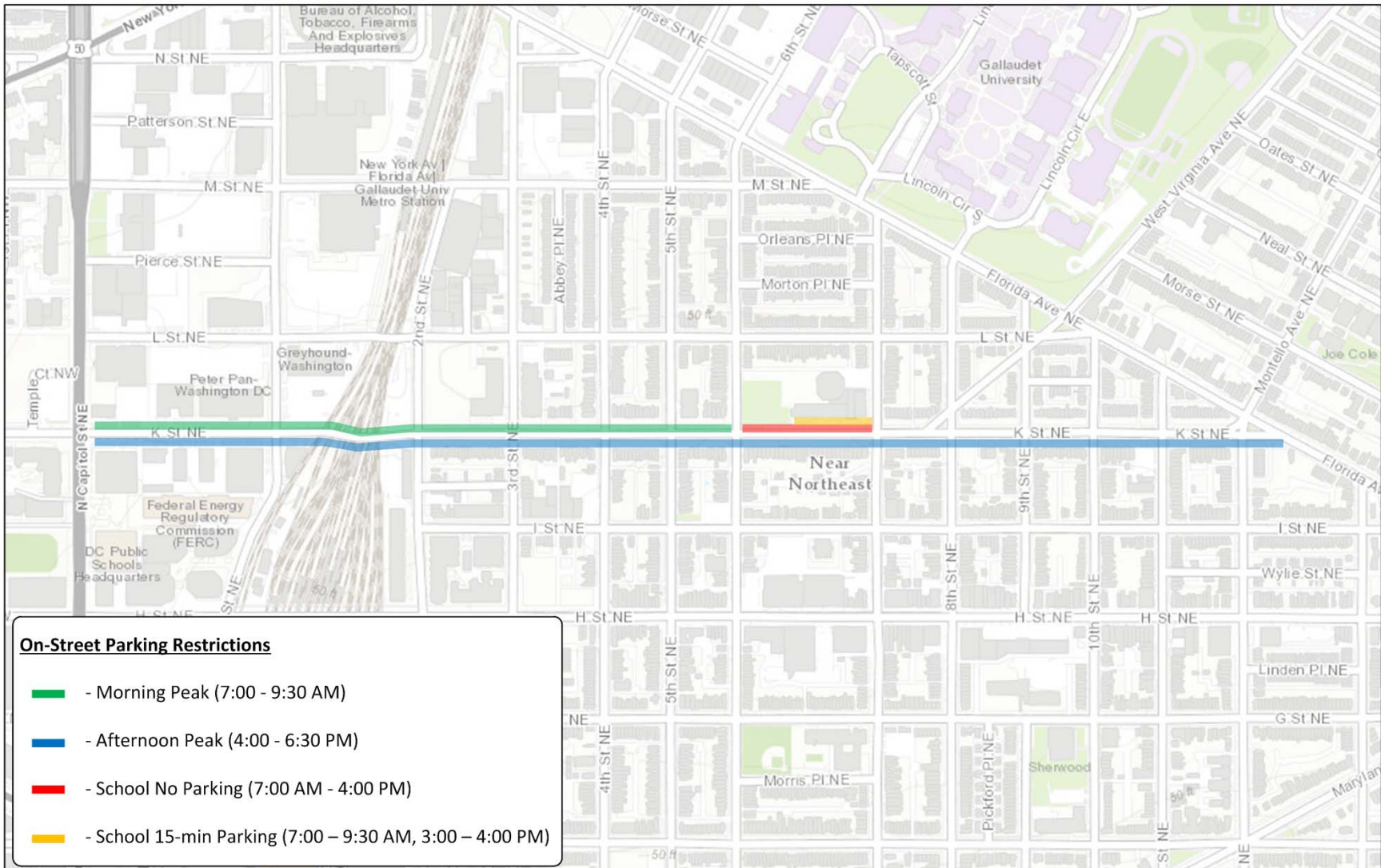
- **Collector Roadways** serve to gather local traffic and funnel trips to the arterial roadway network. In an urban area, they typically carry 1,100-6,300 vehicles per day.

- **Local Roadways** serve to provide access to the adjacent land use. While they are often designed to discourage through traffic, they are accessible for public use. In an urban area, local roadways typically carry 80-700 vehicles per day.

Classification & Traffic Control



On-Street Parking

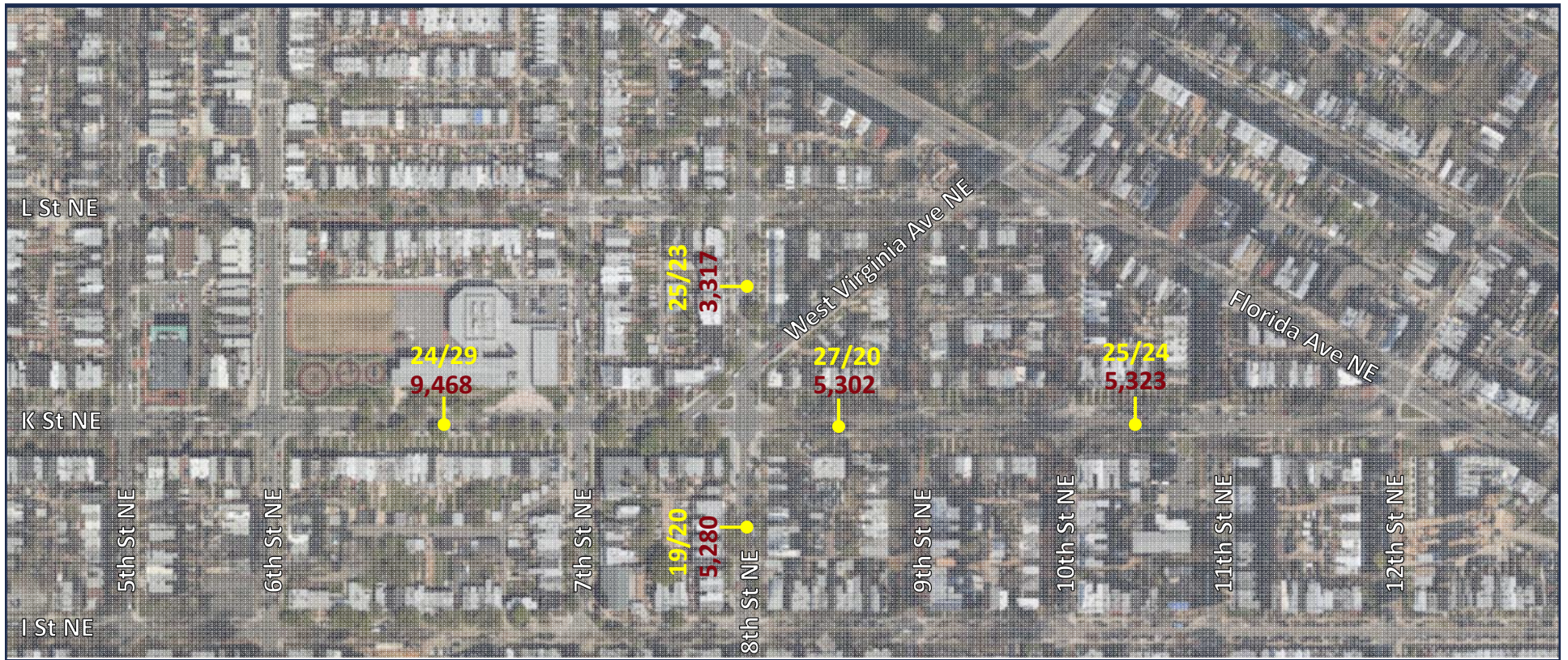


Traffic Speeds and Volumes



##/## 85th Percentile Speed (WB/EB or NB/SB)
Annual Avg. Daily Traffic (AADT)

Traffic Speeds and Volumes



###/### 85th Percentile Speed (WB/EB or NB/SB)
Annual Avg. Daily Traffic (AADT)

Corridor Operations

What are the results of the corridor analysis?

- Western portion of the K Street NE corridor (North Capitol Street to 4th Street NE) has higher traffic volumes due to proximity to Union Station and the Capitol, which leads to congestion during the peak hour
- Mid-segment portion of the K Street NE (5th Street to 8th Street NE) experiences less congestion than the western portion of the corridor, but queue spillback occurs during the evening peak period at the intersection with 8th Street/West Virginia Avenue NE that contributes to turning movement issues
- Eastern portion of the K Street NE corridor (8th Street to 12th Street NE) experiences the least amount of delay, but significant queuing occurs along Florida Avenue NE during the morning and afternoon peak periods that can spillback onto the side streets

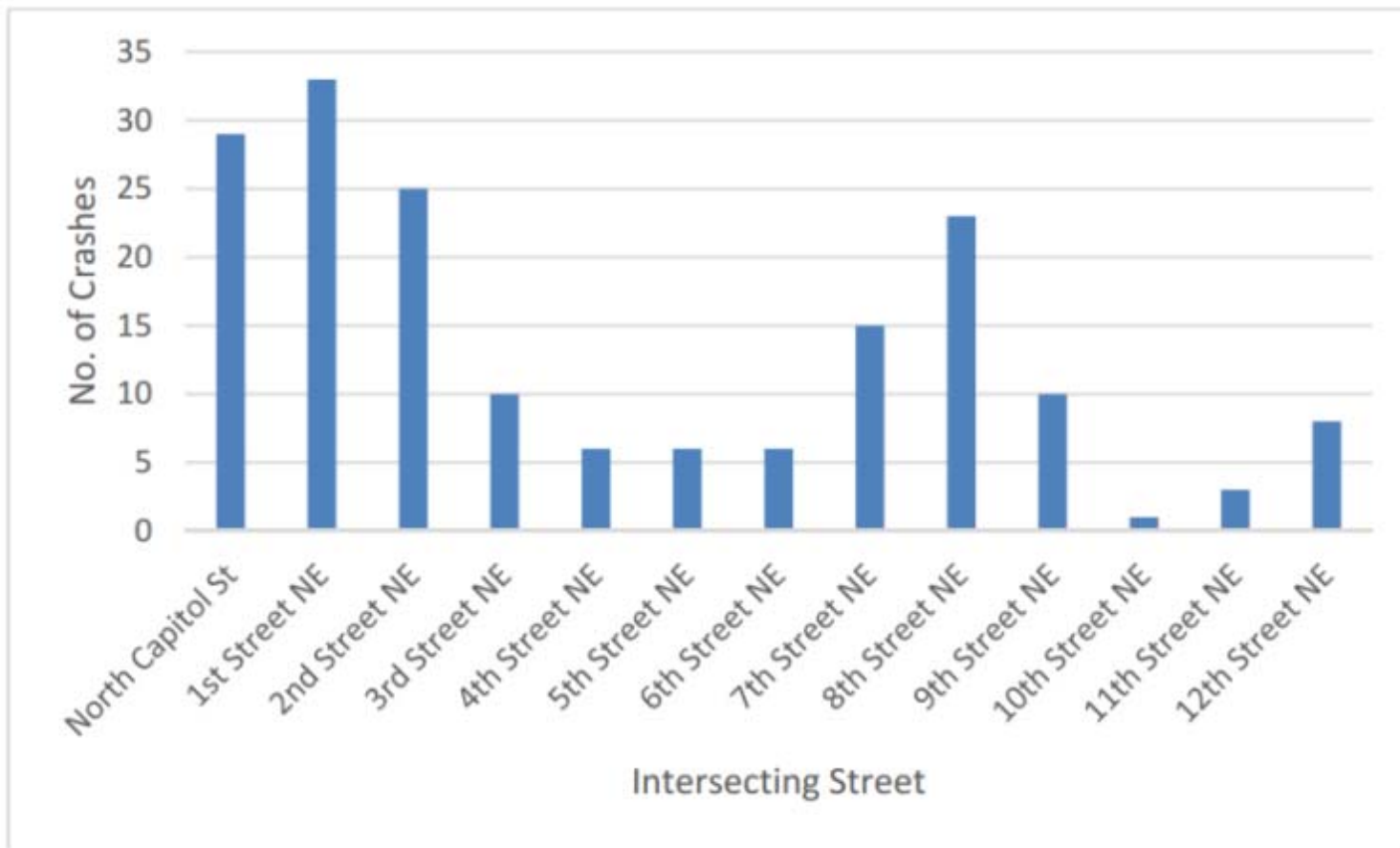
Intersection Safety

What are the results of the safety investigation?

- DDOT examined crash data along the K Street NE corridor from 2013-2015
- There were a total of 176 crashes reported
 - 58 crashes (33%) occurred at or near the intersections of K Street NE with 1st and 2nd Streets NE
 - 38 crashes (22%) occurred at or near the intersections of K Street NE with 7th and 8th Streets NE, an area that includes J.O. Wilson Elementary School
- Crashes involving a pedestrian or bicyclist accounted for 15% of all crashes (8 pedestrian crashes, 18 bicycle crashes)
- More than 60% of the crashes resulted in property damage only
- There were no reported fatal crashes between 2013 and 2015

Crash Data

K Street NE Crashes by Intersection, 2013-2015



Crash Data

K Street/1st Street NE

- 33 reported crashes between 2013-2015, included 5 bike crashes and 3 pedestrian crashes
- Largest percentage of crashes were sideswipe and right-angle crashes (21%)

K Street/2nd Street NE

- 25 reported crashes between 2013-2015
- Largest percentage of crashes were left-turn crashes (32%), sideswipe crashes (24%), and right-angle crashes (16%)

K Street/7th Street NE

- 15 reported crashes between 2013-2015, included 3 bike crashes
- Largest percentage of crashes were rear-end crashes (40%)

K Street/8th Street/West Virginia Avenue NE

- 23 reported crashes between 2013-2015, included 1 pedestrian crash
- Largest percentage of crashes were rear-end crashes (40%) and right-angle crashes (25%)

K Street/12th Street/Florida Avenue NE

- 8 reported crashes between 2013-2015
- Largest percentage of crashes were rear-end crashes (50%) and right-angle crashes (25%)

Crash Data

Trends Identified

- K Street and 8th Street NE
 - 3 of the 14 reported crashes involved Metrobuses, including 2 crashes on the northbound approach in which a passenger vehicle rear-ended a bus; all 3 Metrobus crashes involved Metrobus vehicles traveling in the northbound direction. Crash reports indicate drivers either trying to go around a stopped bus or not anticipating the bus stopping in the travel lane.
- K Street and 9th Street NE
 - Half of the crashes (5 out of 10) involved angle crashes. Crash reports indicate each of these crashes resulted from vehicles running a stop sign or driver confusion over right of way at the all-way stop. As this is the first all-way stop intersection for eastbound vehicles after a long segment of signalized intersections, it is possible that drivers either do not expect an all-way stop-controlled intersection or simply execute a rolling stop after having picked up speed through the signalized portion of the corridor. Advanced warning signs may improve driver behavior.
- 8th Street and West Virginia Avenue NE
 - In all 5 crashes that occurred in the intersection, the driver entering the intersection from West Virginia Avenue NE was found to be at fault. Limited sight distance, queuing and/or speed are potential contributing factors in these crashes



CORRIDOR-WIDE RECOMMENDATIONS

Corridor Recommendations

What are the proposed improvements to mitigate the safety concerns?

- Several treatments can be applied to the K Street NE corridor to enhance multimodal safety, including providing drivers with enhanced warning signs to hazards, implementing lane and turn restrictions, and increasing driver expectancy
- Improvements include installing new signage and pavement markings, realigning signal heads, and trimming back trees and other foliage

Corridor Recommendations

Corridor-wide treatments

- Update existing signage to ensure compliance with Federal standards and to be consistent throughout the corridor



MUTCD Compliant Stop, Do Not Enter and One Way Signs

- Install additional signage to improve visibility and driver awareness



Left: 10th Street lacks back-to-back stop-control sign panels. Right: Back-to-back sign panels at 9th Street.

Corridor Recommendations

Corridor-wide treatments

- Trim trees and foliage to improve sight distance and visibility of traffic control devices



Left: A tree obscures the street name sign on 3rd Street. Center: The "No Right Turn On Red" sign is almost completely hidden at 8th Street. Right: A parking restriction sign is post next to tree, limiting the sign conspicuity.

- Realign pedestrian signal heads to improve visibility



Left: The misaligned pedestrian signal head at 1st street in the northeast quadrant. Right: The misaligned pedestrian signal head at 2nd Street in the southwest quadrant.

Corridor Operations

- Three candidate alternatives to calm traffic along K Street NE corridor
 - Goals: to slow vehicle speeds, reduce aggressive driving behaviors, and reduce pedestrian crossing distance where feasible
- Focus on corridor east of 2nd Street NE due complicating factors at western end (e.g., rail underpass, commercial activity)




Corridor Operations

- Alternative #1: Full-time parking on both sides of K Street NE
 - Remove existing peak-hour peak-direction parking prohibition on K Street NE between 2nd Street NE and 12th Street NE
 - Reduce cross-section to single travel lane in each direction, including peak periods
- Alternative #2: Full-time parking on both sides of K Street NE – East of 8th St.
 - Remove existing peak-restricted parking prohibition on K Street NE between 8th Street NE and 12th Street NE
 - Reduce cross-section to single travel lane in each direction, including peak periods
 - West of 8th Street NE, maintain peak-restricted parking prohibition to facilitate traffic operations in more heavily congested portion of corridor
- Alternative #3: Road Diet (with full-time parking on north side of K Street NE)
 - Reduce cross-section to single travel lane in each direction
 - Allow full-time parking on north side of K Street NE between 2nd Street NE and 12th Street NE
 - Install center left-turn lanes removing left-turning vehicles from through travel lane
 - Construct curb extensions at all intersections along north side of K Street NE



Corridor Operations

Alternative #1: Full-time parking on both sides of K Street NE

- Decrease the number of travel lanes to reduce vehicle speeds and have a calming effect on corridor traffic operations
 - K Street at 5th Street NE intersection experiences operational degradation to LOS D, with volume exceeding capacity and significant delay increase
 - Traffic model suggests significant queue increases on some portions of the corridor
 - AM Peak: westbound queue increases at K Street/5th Street NE and K Street/7th Street NE intersections
 - PM Peak: eastbound queue increases on K Street at the intersections with 2nd Street, 3rd Street, 5th Street, 6th Street, and 7th Street NE
 - Optimizing K Street signal progression improves some intersection LOS, but increases approach delay and LOS on many side streets
- 

Corridor Operations

Alternative #2: Full-time parking on both sides of K Street NE, east of 8th St.

- Decrease the number of travel lanes to reduce vehicle speeds and have a calming effect on corridor traffic operations at the east end of the corridor
- Focuses traffic calming on east end of the corridor and doesn't change operational character on west end of corridor
- Maintains existing lane geometry and traffic operations on more congested portion of the corridor
- Likely moderate queue increases at the east end of the corridor
- Optimizing K Street signal progression improves some intersection LOS, but increases approach delay and LOS on many side streets



Corridor Operations

Alternative #3: Road Diet (full-time parking on north side)

- Decrease the number of travel lanes to reduce vehicle speeds and have a calming effect on corridor traffic operations
- Maintains parking and school drop-off zone on north side of the street
- Eliminates on-street parking on south side of street between 2nd Street and 12th Street NE
- Curb extensions on north side of roadway reduce road width and pedestrian crossing distances across K Street
- Center left-turn lanes maintain efficient traffic operations and improved LOS over other traffic calming alternatives
- Traffic model suggests moderate queue increases at multiple intersections
 - AM Peak: westbound queue increases at K Street/4th Street NE and K Street/5th Street NE intersections
 - PM Peak: eastbound queue increases at K Street/2nd Street NE and K Street/3rd Street NE intersections



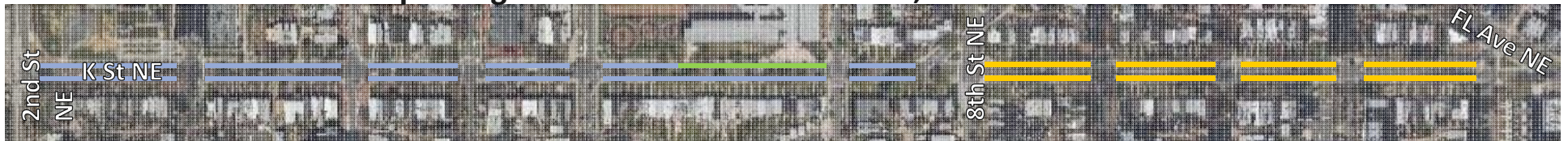
Corridor Operations

Impacts to Parking

Alternative # 1 – Full-time parking on both sides of K Street NE, east of 2nd Street NE



Alternative # 2 – Full-time parking on both sides of K Street NE, east of 8th Street NE



Alternative # 3 (Road Diet) – Full-time parking on north side only; parking prohibited on south side



- Full-time Parking
- Parking Prohibited
- Existing Parking Restrictions Remain
- School Drop-off Zone

Corridor Operations

Alternative #3: Road Diet Concept

K Street NE: 200 block to 400 block



Corridor Operations

Alternative #3: Road Diet Concept

K Street NE – 500 block to 600 block



Corridor Operations

Alternative #3: Road Diet Concept

K Street NE – 700 block to 900 block



Corridor Operations

Alternative #3: Road Diet Concept

K Street NE – 1000 block to 1200 block



Corridor Operations

Impacts to Traffic Operations – AM Peak

Intersection Name	Control	AM Existing Conditions			AM Alternative I			AM Alternative II			AM Alternative III		
		LOS	Delay (sec.)	V/C Ratio	LOS	Delay (sec.)	V/C Ratio	LOS	Delay (sec.)	V/C Ratio	LOS	Delay (sec.)	V/C Ratio
2nd St NE & K St NE	Signalized	C	31.7	0.78	C	24.1	0.72	C	25.8	0.72	C	24.1	0.72
3rd St NE & K St NE	Signalized	C	22.5	0.52	C	22.8	0.85	C	23.8	0.52	C	23.5	0.82
4th St NE & K St NE	Signalized	B	19.1	0.69	D	46.5	1.01	C	21.4	0.69	C	32.2	0.91
5th St NE & K St NE	Signalized	B	13.0	0.46	C	20.2	0.77	B	13.5	0.46	B	17.7	0.69
6th St NE & K St NE	Signalized	C	21.9	0.63	B	18.9	0.63	B	18.9	0.63	B	18.4	0.63
7th St NE & K St NE	Signalized	B	11.8	0.38	B	10.6	0.38	B	12.4	0.38	B	12.6	0.58
8th St NE & K St NE	Signalized	B	18.5	0.36	B	18.2	0.36	B	17.4	0.36	B	19.8	0.47
8th St NE & West Virginia Ave NE	Unsignalized Stop-Controlled	A	6.7	0.40	A	6.8	0.40	A	6.8	0.40	A	6.7	0.40
12th St NE & K St NE	Signalized	C	20.5	0.13	C	20.5	0.13	C	20.5	0.13	C	20.7	0.15
K St NE & Florida Ave NE	Unsignalized Yield- Controlled/ Stop-Controlled	A	8.9	0.29	A	8.9	0.29	A	8.9	0.29	A	8.9	0.29

Corridor Operations

Impacts to Traffic Operations – PM Peak

Intersection Name	Control	PM Existing Conditions			PM Alternative I			PM Alternative II			PM Alternative III		
		LOS	Delay (sec.)	V/C Ratio	LOS	Delay (sec.)	V/C Ratio	LOS	Delay (sec.)	V/C Ratio	LOS	Delay (sec.)	V/C Ratio
2nd St NE & K St NE	Signalized	B	19.0	0.68	B	12.5	0.67	B	15.5	0.67	B	16.9	0.71
3rd St NE & K St NE	Signalized	B	18.7	0.61	C	26.3	0.91	C	21.6	0.61	C	31.2	0.89
4th St NE & K St NE	Signalized	B	19.5	0.57	B	17.2	0.89	B	11.7	0.57	B	20.0	0.90
5th St NE & K St NE	Signalized	A	8.3	0.39	A	7.6	0.66	A	8.6	0.39	B	10.8	0.63
6th St NE & K St NE	Signalized	B	15.8	0.67	D	35.8	0.96	B	16.0	0.66	C	20.6	0.80
7th St NE & K St NE	Signalized	B	11.1	0.45	A	9.7	0.73	B	10.7	0.45	B	14.5	0.71
8th St NE & K St NE	Signalized	B	13.6	0.31	B	14.1	0.30	B	12.7	0.30	B	15.3	0.44
8th St NE & West Virginia Ave NE	Signalized Stop-Controlled	A	9.1	0.55	A	9.3	0.55	A	9.3	0.55	A	9.1	0.55
12th St NE & K St NE	Signalized	C	25.0	0.25	C	25.0	0.25	C	25.0	0.25	C	27.0	0.33
K St NE & Florida Ave NE	Signalized Yield- Controlled/ Stop-Controlled	A	2.2	0.35	B	11.7	0.35	B	11.7	0.35	A	11.7	0.35



INTERSECTION FOCUS AREAS



K St NE Underpass (1st/2nd St NE)

Existing Concerns

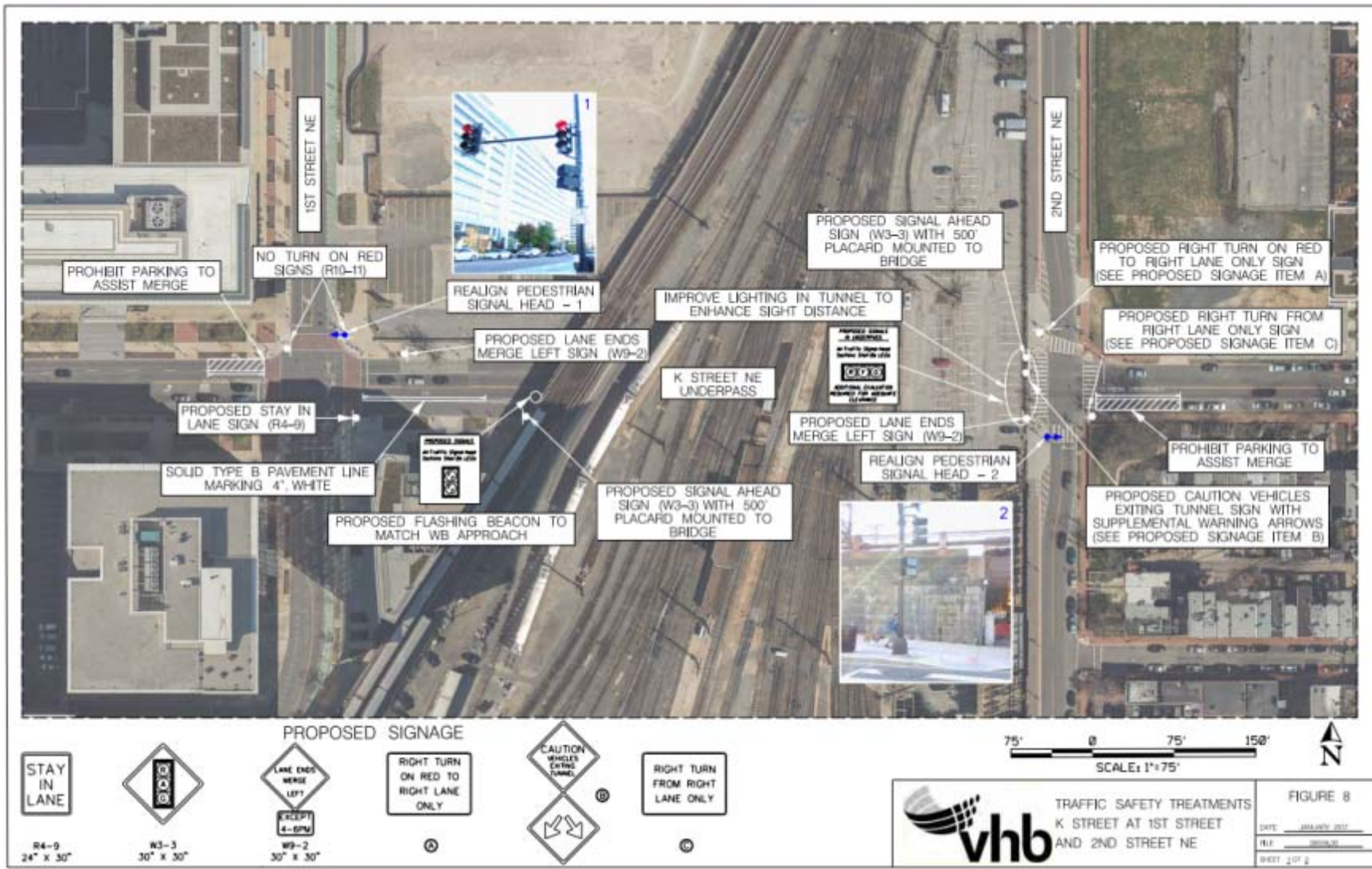
- Underpass poses several safety concerns, including sight distance, lane changing, and illegal turn maneuvers
- On eastbound K Street NE, visibility is limited as vehicles travel through the underpass towards the intersection at 2nd Street NE
- Eastbound vehicles were observed changing lanes at the last-minute before the bridge columns to get into the proper lane position to make a right-turn at 2nd Street NE, some vehicles were observed turning right onto 2nd Street NE from the left-most lane
- East of 2nd Street, K Street NE necks down to a single travel lane during the off-peak periods, which led to observed aggressive merging behavior
- Crashes for westbound vehicles at K Street/2nd Street NE noted that drivers had difficulty seeing oncoming eastbound vehicles as they emerged from the underpass

K St NE Underpass (1st/2nd St NE)

Recommendations

- Work with Signals Team to install supplemental signal heads on the eastbound approach of K Street NE near the underpass portal to 2nd Street NE to improve visibility
- Investigate lighting improvements in the tunnel, particularly in the vicinity of the 2nd Street NE intersection, to increase vehicle conspicuity
- Install a “Caution Vehicles Exiting Tunnel” sign on the underpass
- Investigate feasibility of installing a flashing beacon on the structural column on the eastbound approach to the underpass to warn drivers of the fixed object hazard
- Improve signage and pavement markings to help provide drivers with more information regarding lane usage, turn restrictions, and upstream parked vehicles as they approach the underpass on eastbound K Street NE
- Remove 1-2 parking spaces on K Street east of 2nd Street NE to provide additional room for drivers to merge into the through lane during off-peak hours
- Implement no right-turn on red restrictions on northbound 1st Street NE and westbound K Street NE to improve bicycle safety

K St NE Underpass (1st/2nd St NE)



K St at 7th St NE (J.O. Wilson)

Existing Concerns

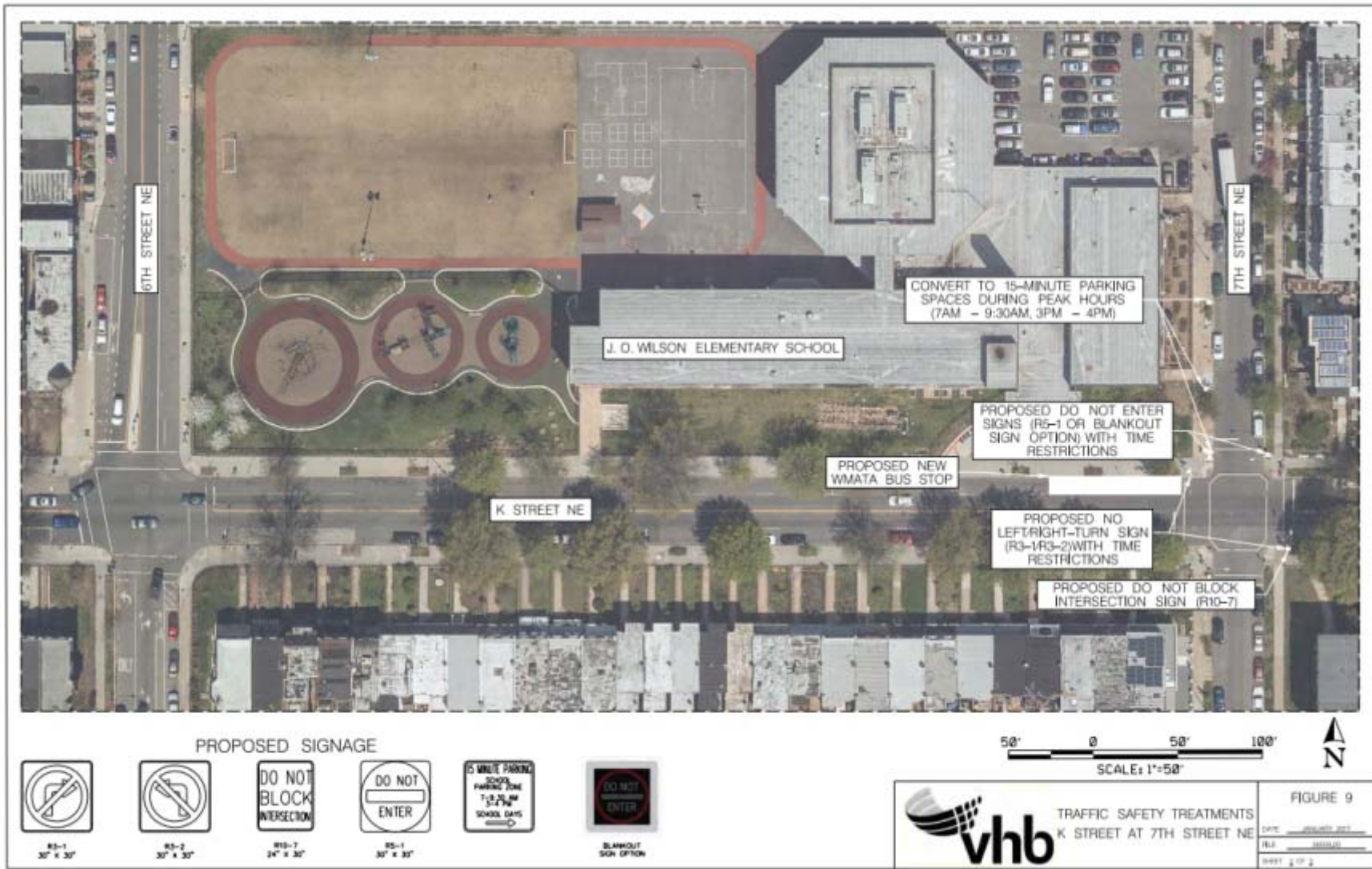
- Issues related to traffic operations and driver behavior occur primarily in conjunction with school arrival and dismissal times
- Existing 15-minute parking zone accommodates approximately 9 vehicles, which fills quickly during pick-up/drop-off periods. Drivers were observed illegally parking during these periods and blocking crosswalks or parking on the south side of K Street NE and crossing mid-block
- A school bus boarding/alighting zone is provided on the north side of K Street NE, but buses were observed stopping in the westbound travel lane and blocking traffic as they unloaded students. This led to impatient drivers bypassing the stopped traffic by crossing the centerline into the oncoming eastbound travel lanes
- Aggressive driver behavior was observed, including not yielding to pedestrians at crosswalks
- Students arrive via Metrobus, using the bus stops at the intersection of K Street/8th Street/West Virginia Avenue NE. This leads to significant student crossings at the unsignalized crosswalk at West Virginia Avenue NE
- A crossing guard is stationed at the intersection of K Street/7th Street NE
- Drivers double-parked on 7th Street NE also block northbound vehicles due to narrow roadway width

K St at 7th St NE (J.O. Wilson)

Recommendations

- Work with WMATA to relocate the existing bus stop from the northwest corner of 6th Street NE to directly in front of J.O. Wilson Elementary School on westbound K Street NE. A new bus stop would greatly reduce the number of students alighting at the 8th Street NE bus stop during the morning peak period
- Determine if additional crossing guard can be station at the intersection of K Street/7th Street NE to help ensure safe crossings for students and help mitigate aggressive driver behavior
- Coordinate with the Safe Routes to School (SRTS) coordinator to determine if an additional pick-up/drop-off zone can be established on southbound 7th Street NE adjacent to the school
- Possibly prohibit northbound 7th Street NE during the school peak hours (7:00 - 9:00 AM, 3:00 - 5:00 PM) to improve overall operational conditions on K Street NE and reduce conflicts and congestion at the K Street/7th Street NE intersection
- Request increased enforcement from MPD to curtail aggressive and unlawful driver behavior
- Work with the Office of the State Superintendent of Education (OSSE) to ensure that school buses utilize the designated curbside pick-up/drop-off zone on westbound K Street NE
- Work with the SRTS Coordinator and school to provide additional education to students, parents, and staff on safe and appropriate driver and pedestrian behavior

K St at 7th St NE (J.O. Wilson)



K St at 8th St NE

Existing Concerns

- During evening peak period, eastbound queues were observed on K Street NE due to drivers waiting to turn left onto West Virginia Avenue NE. Queues on West Virginia Avenue NE extend from the intersection with Florida Avenue NE. Eastbound queues on K Street NE were observed to spillback into the intersection with 7th Street NE
- Aggressive driver behavior was observed, including drivers blocking westbound K Street NE, using the southbound lane of West Virginia Avenue NE to join the northbound queue, and tailgating as drivers allowed very small gaps for other vehicles to join the queue
- During the morning peak period, drivers traveling on southwestbound West Virginia Avenue NE were observed coming to a rolling stop at the stop sign as they turned right onto westbound K Street NE. Some drivers continued without stopping when an adequate gap was available on westbound K Street NE

K St at 8th St NE

Supplemental Traffic Safety Evaluations

- Conducted Stopping Sight Distance (SSD) Evaluation
 - Evaluated sight distance for vehicles on 8th Street at West Virginia Avenue NE
 - SSD did not meet minimum requirement for southbound vehicles on 8th Street
- Conducted speed study on 8th Street NE
 - 85th percentile speeds were within acceptable range for posted speed limit and roadway classification



Diagram showing limited SSD for southbound vehicles on 8th Street NE

K St at 8th St NE

Prior Recommendations

- Restripe the northbound approach of 8th Street at West Virginia Avenue NE to include a separate through lane and right-turn only lane
- Evaluate signal timing options at the intersection of West Virginia Avenue/Florida Avenue NE to improve the queuing along northbound West Virginia Avenue NE during the evening peak period
 - Existing congestion at the K Street / 8th Street / West Virginia Avenue NE intersection cluster is heavily influenced by the downstream queuing on West Virginia Avenue



K St at 8th St NE

Additional Improvements Considered

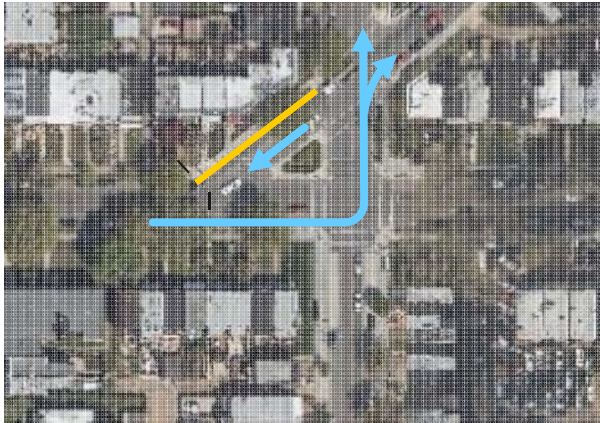
- Three alternatives were considered for the short West Virginia Avenue segment, between K Street NE and 8th Street NE
 1. Close West Virginia Ave segment to vehicular traffic entirely
 2. Convert segment to southbound traffic only
 3. Convert segment to northbound traffic only



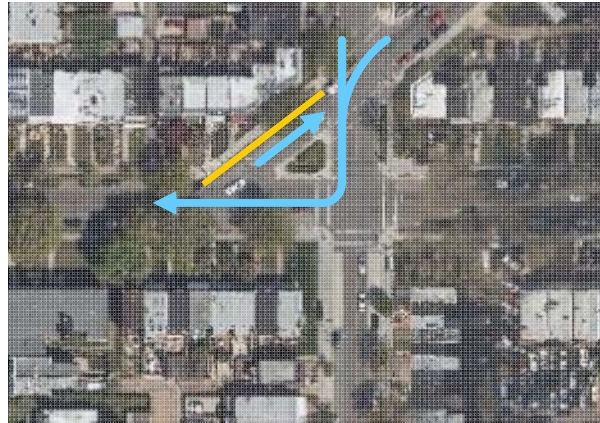
West Virginia Ave NE "Stub"

K St at 8th St NE

Alternative # 1
Southbound Traffic Only



Alternative # 2
Northbound Traffic Only



Alternative # 3
Segment Closed to Traffic

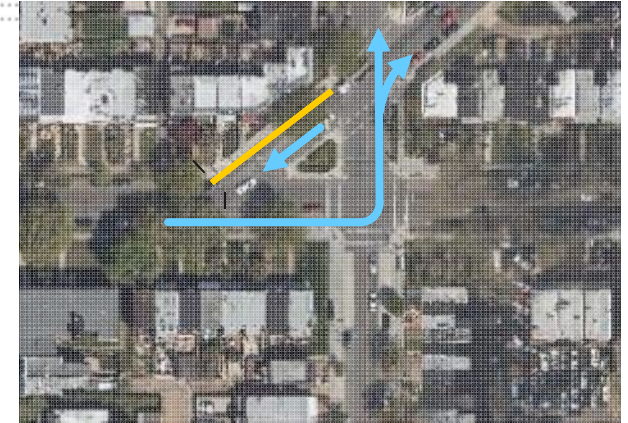


- Potential On-street Parking
- New Traffic Pattern
- ▨ Segment Closed to Traffic



K St at 8th St NE

Alternative # 1
Southbound Traffic Only

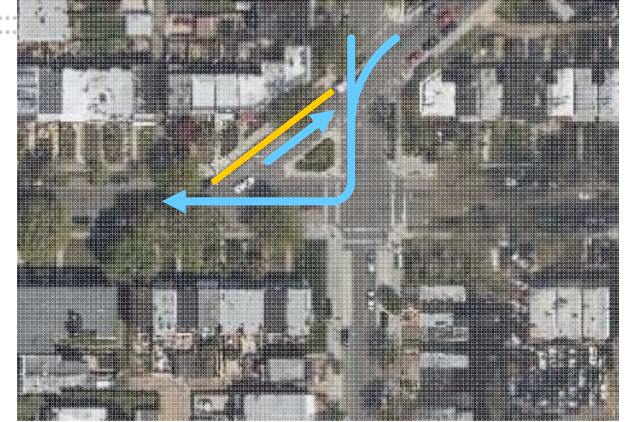


Convert West Virginia Ave NE segment to one-way southbound

- Addresses sight distance issues for northbound vehicles on West Virginia Avenue NE at 8th Street NE
- Reduces number of conflicting movements and potential crashes at the 8th Street / West Virginia Ave intersection
- Shifts eastbound left turns from an unsignalized intersection (K St/West Virginia Ave) to a signalized intersection (K St/8th St)
- Provides additional storage for queuing left-turning vehicles on EB K Street
- Best traffic operations outcomes of the three alternatives
 - No reduction in LOS, reduced delay and queuing compared to existing
- Doesn't specifically address rolling stops for right-turning vehicles on SB stub
- Avoids putting additional traffic onto short SB approach to 8th/K intersection

K St at 8th St NE

Alternative # 2
Northbound Traffic Only



Convert West Virginia Ave NE segment to one-way northbound

- Eliminates rolling stops for right-turning vehicles from SB West Virginia Avenue onto K Street
- No reduction in LOS, but substantially increased queuing compared to existing conditions
- Doesn't address SD issues for northbound left-turning and through vehicles on West Virginia Avenue at 8th Street NE
- Short SB 8th Street segment between K Street and West Virginia Avenue is not well suited to additional traffic volume and queues

K St at 8th St NE

Alternative # 3
Segment Closed to Traffic



Close West Virginia Ave NE segment in both directions

- Eliminates rolling stops for right-turning vehicles from SB West Virginia Avenue onto K Street
- No reduction in LOS, but substantially increased queuing compared to existing conditions
- Short SB 8th Street segment between K Street and West Virginia Avenue is not well suited to additional traffic volume and queues
- Maximizes new traffic activity at K Street/8th Street intersection, which is an existing bus transfer and high-activity pedestrian intersection

K St at 8th St NE

Intersection Capacity Summary – AM Peak

Intersection Name	Control	AM Existing Conditions			AM NB Only			AM SB Only			AM Closed		
		LOS	Delay (sec.)	V/C Ratio	LOS	Delay (sec.)	V/C Ratio	LOS	Delay (sec.)	V/C Ratio	LOS	Delay (sec.)	V/C Ratio
8th St NE & K St NE	Signalized	B	18.6	0.36	B	18.0	0.47	B	16.8	0.36	B	17.7	0.48
8th St NE & West Virginia Ave NE	Unsignalized Stop-Controlled	A	6.7	0.40	A	7.0	0.41	A	6.0	0.41	A	5.4	0.38
K St NE & West Virginia Ave NE	Signalized Stop-Controlled	A	3.4	0.24	A	0.6	0.2	A	2.8	0.23	---	---	---

Intersection Capacity Summary – PM Peak

Intersection Name	Control	PM Existing Conditions			PM NB Only			PM SB Only			PM Closed		
		LOS	Delay (sec.)	V/C Ratio	LOS	Delay (sec.)	V/C Ratio	LOS	Delay (sec.)	V/C Ratio	LOS	Delay (sec.)	V/C Ratio
8th St NE & K St NE	Signalized	B	13.6	0.31	B	13.4	0.32	B	12.1	0.51	B	13.6	0.53
8th St NE & West Virginia Ave NE	Signalized Stop-Controlled	A	9.1	0.55	A	10.6	0.56	A	1.9	0.22	A	1.8	0.32
K St NE & West Virginia Ave NE	Signalized Stop-Controlled	A	4.0	0.22	A	3.3	0.23	A	0.8	0.20	---	---	---



K St at 12th St NE

Existing Concerns


- The lack of pavement markings on the 1200 block of K Street NE leads to driver confusion over the number of travel lanes as drivers approach the yield-controlled intersection at Florida Avenue NE. The lane configuration and potential for multiple lanes of traffic merging on Florida Avenue NE contributes to elevated traffic speeds and sideswipe crashes
- Aggressive driver behavior was observed on eastbound K Street NE, including drivers quickly accelerating upon receiving a green signal at the intersection with 12th Street NE in an effort to quickly reach the intersection ahead of traffic on southeastbound Florida Avenue NE. Drivers were also observed driving aggressively as they jockeyed for position in the queue on eastbound K Street at Florida Avenue NE
- Drivers were observed queuing adjacent to one another in the 1200 block of K Street NE in order to make dual rights onto Florida Avenue NE. This led to sight-distance concerns for drivers adjacent to the curb
- During the evening peak period, queuing on eastbound K Street NE was observed to spillback through the intersection
- Several drivers were observed making the illegal northbound left-turn from 12th Street to K Street NE past the channelizing island/pedestrian refuge

K St at 12th St NE

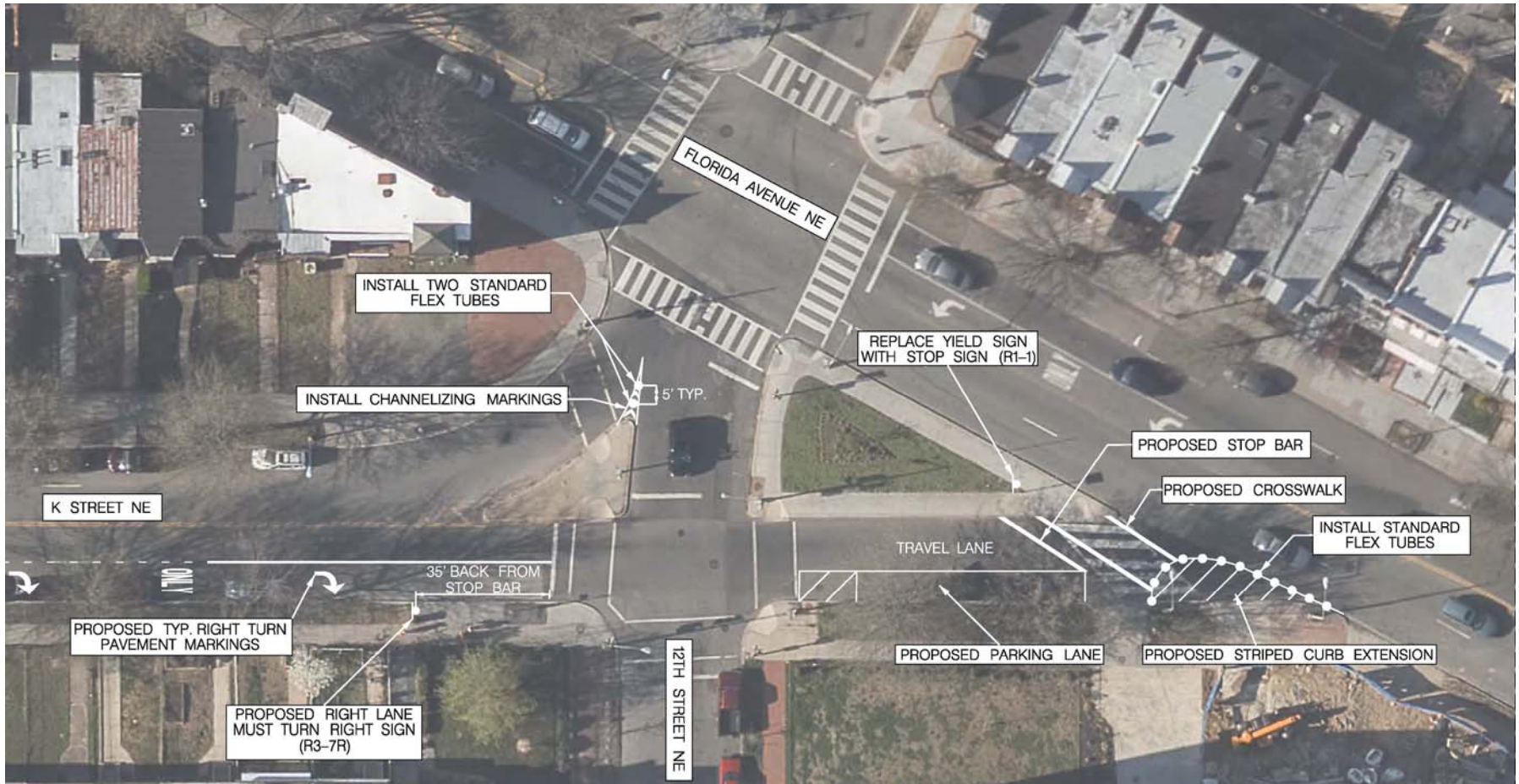
Prior Recommendations

- To reduce driver confusion and improve sight distance, restripe the eastbound approach of K Street at Florida Avenue NE to include a single 11-foot wide travel lane, and install flexpost delineators to reinforce the reduced width of the travel lane
- Restripe the eastbound approach of K Street at 12th Street NE to include a separate through/left-turn lane and right-turn only lane and install advanced lane use signage to properly position eastbound vehicles in advance of the Florida Avenue NE intersection (note: this lane configuration may change if road diet is implemented)
- Convert the eastbound approach of K Street at Florida Avenue NE from yield control to stop control to better manage traffic speeds and regulate merging behavior
- Modify the existing triangular channelizing median at the K Street/12th Street NE intersection to include additional pavement markings and flexposts to limit illegal northbound left-turns

Additional recommendations

- Slightly realign the eastbound approach to create additional deflection and reduce vehicle speeds
 - Maintain a 35-40 foot parking lane on eastbound K Street between 12th Street and Florida Avenue NE
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K St at 12th St NE



Next Steps

Where do we go from here?

- Signing and marking improvements to be completed by DDOT Field Operations Division. (Timeframe: 45 days)
- DDOT to gather feedback on proposed K Street NE Alternatives and 8th Street/K Street NE Alternatives, before issuing Notice of Intent. (Timeframe: 30 days)
- DDOT will issue Notice of Intent for proposed changes to parking and traffic control, which opens 30-day public comment period.
- Begin coordination with DDOT Signals Team and other agency departments, as well as OSSE and MPD to implement other recommended improvements

Questions?

- Contact Emily Dalphy (emily.dalphy@dc.gov)