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# **TRAFFIC SAFETY AND OPERATIONAL STUDY**

## **MD 185 (CONNECTICUT AVENUE) AND JONES BRIDGE ROAD/KENSINGTON PARKWAY**

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**Submitted by:**



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## 1. Introduction

According to the field observation and historical crashes, it is necessary to improve traffic operations and safety at the intersections of MD 185 (Connecticut Ave) at Jones Bridge Road/Kinsington Parkway, Chevy Chase, Montgomery County, MD, as shown in **Figure 1**. Community/Driver/pedestrian' safety concerns and severe crashes have been reported at the study intersections. This study evaluates existing conditions, including traffic safety, operational performance, and signal phasing/timing, by field observation, traffic safety analysis, and Synchro modeling, develops short-, mid-, and long-term improvement alternatives to address identified operation and safety issues, and recommends preferred alternatives with concept plans using the MdMUTCD, SHA Context Driven Guide, and the Pedestrian Safety Treatments Best Practices Guidelines.

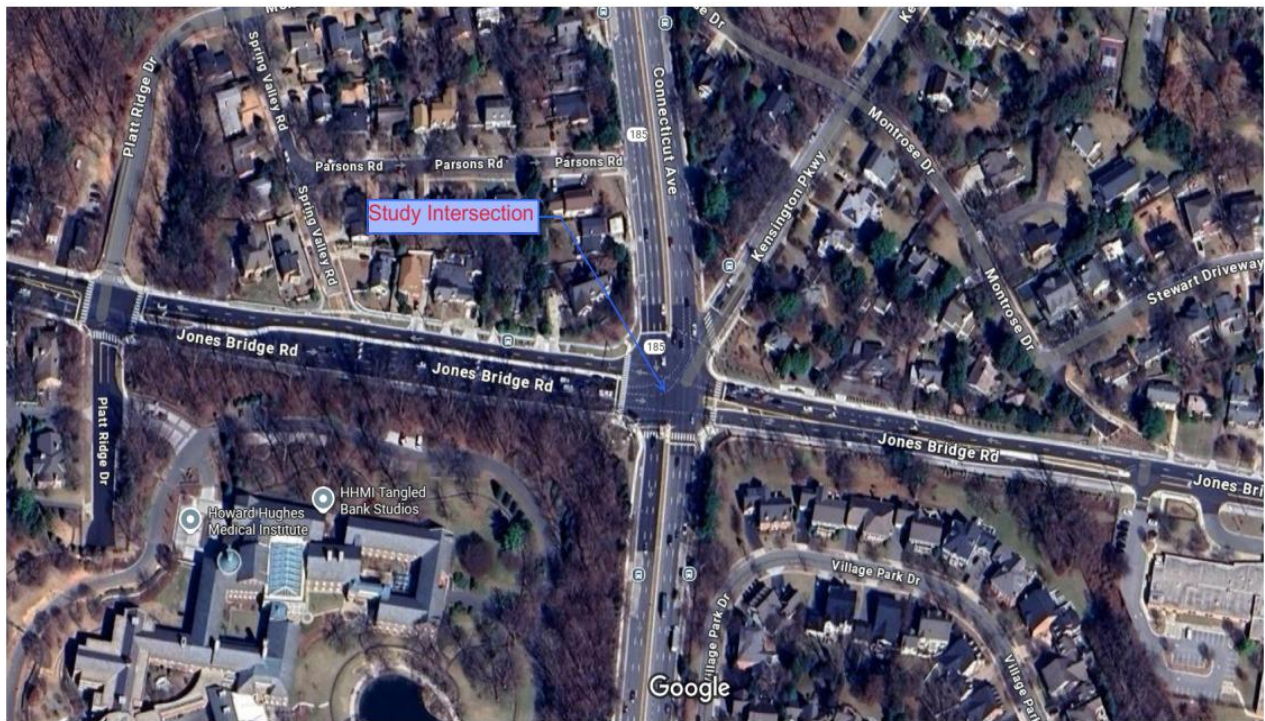


Figure 1 – Google Earth Intersection of MD 185 (Connecticut Avenue) at Jones Bridge Road

## 2. Existing Condition Analysis

The intersection of MD 185 (Connecticut Avenue) and Jones Bridge Road/Kensington Parkway is a five-leg skewed intersection, as illustrated in **Figure 1**. **Photos 1-5** provide a visual representation of all approaches at the intersection.

MD 185 features three through lanes, one right-turn lane southbound and three through lanes and a shared right/through lane on the northbound approach. Left-turn and U-turn movements on both northbound and southbound MD 185 are prohibited.

The eastbound approach of Jones Bridge Road includes one through lane, one shared right/through lane and three left-turn lanes. The westbound approach of Jones Bridge Road includes one through lane, one shared right/through lane, and one exclusive right-turn lane. The left-turn movements from westbound Jones Bridge Rd are prohibited.

The Kensington Parkway approach includes two outbound lanes. The curbside lane accommodates three turning movements: a hard right turn to northbound MD 185 (Connecticut Avenue), a soft right turn to westbound Jones Bridge Road, and a soft left turn to southbound MD 185, which is permitted from this lane and occurs with some frequency under existing conditions. The second outbound lane provides two turning movements: a soft left turn to southbound MD 185 and a hard left turn to eastbound Jones Bridge Road, which appears to be permitted based on existing signage.

The posted speed limit is 35 mph on MD 185, 35 mph on Jones Bridge Road, and 25 mph on Kensington Parkway. The intersection operates under fully actuated traffic signal control, with an exclusive left-turn phase provided for the eastbound Jones Bridge Road approach. No-turn-on-red restrictions are in place for northbound and southbound MD 185, Kensington Parkway, and westbound Jones Bridge Road. U-turn movements are prohibited on all approaches. Marked crosswalks with APS/CPS are provided on all legs of the intersection except the north leg, where no crosswalks or APS/CPS are present. Intersection lighting is provided at the intersection.



Photo 1 - NB MD 185 Connecticut Ave



Photo 2 - SB MD 185 Connecticut Ave



Photo 3 - WB Jones Bridge Rd



Photo 4 - EB Jones Bridge Rd



Photo 5 – Kensington Pkwy

## 2.1 Field Investigation

BAI Team conducted field investigations on Monday (September 8, 2025) and Thursday (September 11, 2025) to observe traffic circulation and queues at all approaches of the intersection and signal operations. We also verified the existing traffic control devices, pedestrian facilities, and other site characteristics. The investigation revealed:

### Traffic Flow and Queuing Issues

- long queues on each approach, particularly, on left-turn lanes of the intersection of Connecticut Avenue and Jones Bridge Road during peak hours and off-peak.
- The southbound through movement experiences significant queuing.
- Eastbound traffic approaching the intersection is affected by southbound queuing, leading to honking and driver frustration.
- WB Jones Bridge Rd right-turning vehicles to Connecticut Ave and Kensington Parkway are particularly impacted, as they often face conflicts with left-turning vehicles from EB Jones Bridge Rd, creating near-miss situations.
- Visibility and Infrastructure Constraints.
  - On the Kensington Parkway approach, the acute skew angle, dense roadside vegetation, and proximity of residential driveways restrict drivers' ability to see northbound and southbound MD 185 (Connecticut Avenue) traffic. These conditions also make it extremely difficult to observe the vehicles from westbound Jones Bridge Road vehicles, including vehicles that may be accelerating to clear the intersection as the signal transitions to red, as well as vehicles that may be executing turns during a No-Turn-On-Red (NTOR) condition.
  - Along MD 185 (Connecticut Avenue), the slight vertical grade and horizontal curvature approaching Jones Bridge Road reduce advance visibility of the signal heads and downstream traffic conditions, including through-lane queue formation and stopping vehicles at the intersection, which may limit driver reaction time.
  - The shared right/through lane on northbound Connecticut Avenue creates operational bottlenecks, as right-turning vehicles decelerate, introducing turbulence and delay to through traffic.

- For many years visibility at the northeast corner of Jones Bridge Road had been impaired by the presence of many mature trees that obstructed drivers' views and limited sight lines between Jones Bridge Road and Kensington Parkway. While those trees had recently been removed by State Highway Administration, which had the effect of significantly improving driver and pedestrian visibility at the intersection, subsequent thereto a new row of trees has been planted which again obstructs visibility and over time is expected to worsen as the trees mature, further reducing driver visibility.
- Limited visibility increases the likelihood of collisions and reduces driver reaction time when responding to oncoming traffic.

#### Unsafe Driver Behavior

- Some drivers run red lights
- Left-turn movements were observed from Kensington Parkway to southbound MD 185 (Connecticut Avenue) or eastbound Jones Bridge Road, including permitted "soft left" movements that provide critical access to MD 185. While these movements are allowed under existing conditions, their operation may be affected by limited sight distance and complex geometry at the intersection.
- Illegal U-turns were observed from eastbound traffic heading in the opposite direction.
- These maneuvers suggest that current signal timing and intersection geometry may not adequately accommodate traffic volumes or vehicular demand.

#### Safety Implications

- Observed frequent near misses.
- Queuing, visibility obstruction, and illegal maneuvers collectively increase the potential for crashes, particularly involving EB left turns from Jones Bridge Rd.
- Pedestrian and cyclist safety could be impacted if these patterns persist, as unpredictable vehicle movements create conflict points.

### 2.2 Sight Distance Evaluation

Signalized intersection sight distance (ISD) ensures drivers can see traffic signals and conflicting vehicles, even for turning movements such as Right-Turn-On-Red. It requires drivers to see traffic control devices from a specific distance while having sufficient visibility of other traffic, including potential turning vehicles in right-on-red scenarios. This ensures that drivers have adequate time to stop, adjust their speed, or make safe turns, and is often based on standards from the AASHTO Green Book and state-specific design manuals.

- Drivers must have sufficient sight distance to complete a right turn on red safely.
- Drivers need to see the traffic signals, even if they are some distance from the stop line.

BAI team measured the available Stopping Sight Distance (SSD) at the intersection. **Tables 1** indicates the available SSD at MD 185 at Jones Bridge Road/Kensington Parkway. The available SSDs along all approaches meet or exceed the American Association of State Highway Transportation Official's 2018 Policy of Geometric Design of Highways and Streets recommended SSD values for the corresponding posted speed limits.

*Table 1 – Stopping Sight Distance at MD 185 at Jones Bridge Road/ Kensington Parkway*

Intersection Approach		Speed Limit (mph)	Recommended SSD (ft)	Available SSD (ft)	Met?
<b>NB</b>	MD 185 (Connecticut Avenue)	35	250	512	Yes
<b>SB</b>	MD 185 (Connecticut Avenue)	35	250	365	Yes
<b>EB</b>	Jones Bridge Road	35	250	800	Yes
<b>WB</b>	Jones Bridge Road	35	250	750	Yes
<b>SWB</b>	Kensington Parkway	25	155	560	Yes

### 2.3 Traffic Safety Analysis

Reviewing historic crash data can help identify safety deficiencies. Three years of crash records from January 1, 2021, to December 31, 2023, were obtained from the Maryland State Police Crash Database. The data encompassed all crashes occurring within the study intersection. Currently, the crash data from 2024 to the present are not available due to limitations accessing the Maryland State Police Crash database for retrieving intersection-specific records.

The crash data were reviewed to identify trends and potential traffic safety risks at the study intersection. An average of six (6) injury crashes occur per year. No fatalities were reported in the study area. The total number of crashes at the intersection increased significantly over the three-year study period. **Table 2 & 3** summarizes all crashes for three years. Total 38 reported crashes occurred at this intersection, over 40 percent of which were angle crashes (15 of 38) in which the drivers may have run red light, failed to give full attention, or were possibly under the influence of drugs and alcohol. Furthermore, six (6) angle crashes associated with straight-through movements were reported involving vehicles entering or exiting from Kensington Parkway. These crashes may be attributed to the complex intersection layout, and drivers attempting to merge or turn with insufficient gaps in traffic. The proportion of angle and turning-related crashes observed at this intersection is higher than what is typically reported for signalized arterial intersections within Montgomery County and statewide, indicating elevated conflict potential and an increased need for operational and safety improvements.

Nine (9) of thirty-eight (38) crashes were rear-end crashes in which the drivers might have driven too fast for the condition or followed too closely. Long queues, which are common at this intersection, and close vehicle spacing on MD 185 (Connecticut Avenue) appear to be predominant circumstances contributing to rear-end crashes. Six (6) rear-end collisions occurred on the MD 185 (Connecticut Avenue) northbound approach. These crashes were likely influenced by the sharp-angle alignment of the south leg, which may limit drivers’ sight distance and delay their recognition of the yellow or red signal indication ahead. Driver’s inattention and failure to adjust to slowing or queued traffic further contributed to these occurrences. In addition to the rear-end crashes, two (2) rear-end crashes caused by illegal left-turn were reported at the intersection, involving vehicles turning left from SB MD 185 (Connecticut Avenue), turning left from WB Jones Bridge Rd and conflicting with opposing vehicles. Lastly, four (4) sideswipe collisions occurred along MD 185 (Connecticut Avenue), likely related to lane-changing maneuvers under congested conditions and the presence of multiple through lanes with heavy peak-hour volumes.

*Table 2 – Summary of Crash Data at MD 185 at Jones Bridge Road/ Kensington Parkway*

Crash Type	Year	2021	2022	2023	Total
Rear End		1	1	7	9
Sideswipe		0	0	4	4
Left Turn		0	1	1	2
Angle		2	5	8	15
Single Vehicle		0	1	0	1
Right Turn		1	2	1	4
Other		0	2	1	3
<b>Total</b>		<b>4</b>	<b>12</b>	<b>22</b>	<b>38</b>

*Table 3 – Summary of Crash Data at MD 185 at Jones Bridge Road/ Kensington Parkway*

Severity	Year	2021	2022	2023	Total
Injury Crash		1	6	12	19
Property Damage Crash		3	6	10	19
<b>Total</b>		<b>4</b>	<b>12</b>	<b>22</b>	<b>38</b>

#### 2.4 Turning Movement Counts (TMCs)

48-hour turning movement counts (TMCs) at the intersection were performed on Tuesday, September 9, 2025, by the BAI Team. In addition to vehicular volumes, these counts included bicycle and pedestrian volumes. Based on the TMCs, the AM/PM peak hours were determined to be 7:00 AM—8:00 AM and 4:00 – 5:00 PM. **Figures 2** show the AM/PM peak hour TMCs. Detailed TMCs can be found in **Appendix B**.

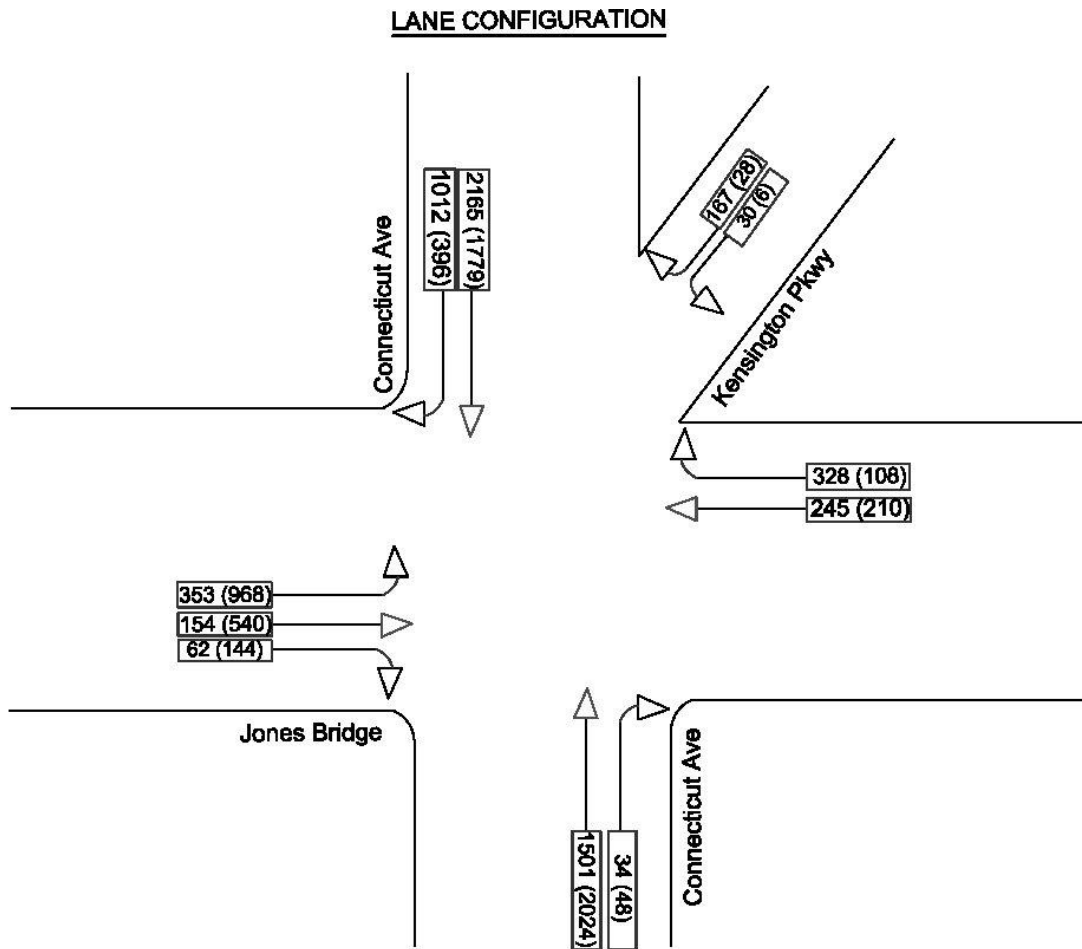


Figure 2 – AM/PM Peak Hour Turning Movements of MD 185 (Connecticut Avenue) at Jones Bridge Road / Kensington Parkway (AM volumes shown first; PM volumes shown in parentheses)

## 2.5 Traffic Operations Analysis for Existing Condition

Intersection traffic operations were analyzed using Synchro models that utilize the Capacity Analysis methodologies documented in the Highway Capacity Manual (HCM). A Synchro model was developed to mimic existing geometry, such as the number of through and turn lanes, storage length for turn lanes, distances between traffic control (link distance), speed limits, and signal timing parameters. The primary performance measures used in the study are Level of Service (LOS), average delay (seconds/vehicle), and 95<sup>th</sup> percentile queue length (feet). The results of operational performance analysis are described in terms of LOS ranging from A to F (Highway Capacity Manual, 6<sup>th</sup> Edition), with LOS A operating with the least delay and LOS F operating with the most delay. **Table 4** illustrates the criteria. Based on standard practice in traffic engineering, LOS D or better is considered acceptable, and LOS E or worse may be regarded as unacceptable. The actual signal timing parameters (see **Tables 5** below) were input into the Synchro models to simulate the existing traffic conditions of the signalized intersection.

*Table 4 – LOS for Signalized Intersections*

Total Delay Per Vehicle	Level-of-Service (LOS) <sup>(1)</sup>	
	v/c ratio ≤ 1.0	v/c ratio > 1.0
≤ 10.0 seconds	A	F
>10.0 and ≤ 20.0 seconds	B	F
>20.0 and ≤ 35.0 seconds	C	F
>35.0 and ≤ 55.0 seconds	D	F
>55.0 and ≤ 80.0 seconds	E	F
>80.0 seconds	F	F

Note:  
\* (1) For approach-based and intersection-wide assessments, LOS is defined solely by delay.

Source: Transportation Research Board. Highway Capacity Manual, 6th Edition.

*Table 5 – Existing Signal Timing Plan at The Intersection (AM/PM Peak Periods)*

CYCLE LENGTH		Cycle Length= 150 Sec				
SIGNAL PHASE		1	2	3	4	8
INTERSECTION MOVEMENT		SWL/R	SBT/R	WBL	EBT/R	WBT/R
MINIMUM GREEN (INITIAL)	(SEC.)	5	7	5	10	10
MAXIMUM GREEN 2	(SEC.)	15	60	50	50	50
YELLOW CHANGE	(SEC.)	3.5	4	3.5	4	4
ALL RED CLEARANCE	(SEC.)	5	3	3.5	2.5	2.5

**Table 6** summarizes the intersection level of service (LOS), average control delays, and 95th-percentile queue lengths during both the AM and PM peak hours. Detailed Synchro analysis results are provided in **Appendix C**.

- Under existing conditions, the overall intersection operates at LOS F in both peak hours, with overall delays exceeding 220 seconds per vehicle.
- The southbound approach experiences the most severe congestion, operating at LOS F with delays of 360 seconds per vehicle in the AM peak and 234 seconds in the PM peak.
- The eastbound left-turn movement operates at LOS F, with delays of 160 seconds in the AM and 589 seconds in the PM, and its 95th-percentile queue (1,203 ft) exceeds the available 560-ft storage length, causing queue spillback into upstream intersections and adjacent lanes.
- The northbound through movement experiences a LOS F and delays reaching 81 seconds in the AM and 191 seconds in the PM.
- The Kensington Parkway approach similarly operates at LOS F, with delays of 241–288 seconds in the AM peak and approximately 85–87 seconds in the PM peak.
- The westbound approach performs considerably better, maintaining LOS C for both right-turn and through movements during both peak hours, with maximum delays below 82 seconds. Overall, the

intersection exhibits substantial delay and queuing across most movements. The values in **red** reflect severe operational deficiencies. Values in **brown** reflect potential operational deficiency.

*Table 6 – Approach/Movement LOS, Delay, and 95<sup>th</sup> Percentile Queue Lengths*

Intersection /Approach	Storage Length (ft)		AM Peak					PM Peak				
	LOS (Movement Delay (sec/veh))		95% Queue Length (ft)		LOS (Movement Delay (sec/veh))			95% Queue Length (ft)				
	L	R	L	T	R	L	R	L	T	R	L	R
EASTBOUND JONES BRIDGE ROAD	560 (3-LN)		F (159.8)	E (55.5)		401		F (589.3)	F (95.5)		1203	
WESTBOUND JONES BRIDGE ROAD		370		C (28.7)	E (81.3)		215		C (26.7)	C (27.4)		132
SOUTHBOUND MD 185 (CONNECTICUT AVENUE)				F (360.4)	F (300)				F (233.6)	D (46.5)		
NORTHBOUND MD 185 (CONNECTICUT AVENUE)				F (81.3)					F (191.2)			
KENSINGTON PARKWAY			F (240.6)		F (287.7)			F (87.2)		F (85.1)		
Overall	N/A	N/A	F (223.4)			N/A		F (235.5)			N/A	

### 3. The Issues of Traffic Safety and Operation

The existing condition analysis of the study intersection has verified traffic safety concerns expressed by the Village and identified a series of traffic safety and operational deficiencies that should be addressed:

- The vehicle operations at the intersection of MD 185 (Connecticut Avenue) and Jones Bridge Road/ Kensington Parkway are currently experiencing excessive delays during the AM and PM peak hours. The analysis results indicated that the intersection LOS was F during both AM/PM peak hours. The LOS for all left-turn movements is E or F except for Jones Bridge Road westbound.
- Long queues in the eastbound left-turn lane of Jones Bridge Road and Kensington Parkway (observed during the field investigation) frequently overflow into the through travel lane or spill back to the upstream intersection due to insufficient left-turn storage capacity. These excessive queues may contribute to left-turn, angle, and rear-end crashes. The resulting traffic spillback blocks the upstream intersection, creates operational issues, and obstructs the line of sight for drivers making left turns from the side streets, increasing safety concerns.
- Blocked visibility at the intersection of Jones Bridge Road and Kensington Parkway, resulting from the setback of the stop line on Jones Bridge Road and a cluster of trees and roadside vegetation at the corner, may have contributed to rear-end and angle crashes. Angle and rear-end crashes comprise approximately sixty-four (64) percent of total intersection crashes.

## 4. Development of Improvement Alternatives

According to the results of traffic operation and safety analysis, following strategies were considered to address the identified deficiencies at the study intersection when the improvement alternatives were developed:

- Traffic signal retiming/phasing changes
- Traffic signing and pavement marking enhancements
- Reconfigure turning lanes and movements
- Geometric modification of the intersections (e.g., roundabout)
- Reroute traffic to mitigate long queues and risk of crashes
- Improve pedestrian facilities for pedestrian safety and connectivity
- Red light enforcement

These strategies can address operational deficiencies and mitigate traffic conflicts to minimize the risk of traffic crashes, particularly angle, left-turn, and rear-end crashes for the study intersection. These proposed alternatives represent various short-term, mid-term, and long-term improvement alternatives.

### 4.1 Short-Term Improvements

#### **Alternative 1 – Traffic Signal Re-timing/Phasing.**

To improve vehicular operation, the re-timing alternative will optimize signal timing for the intersection based on current turning movements. Re-timing is the process of adjusting signal timing to improve the flow of all roadway users, including vehicles, pedestrians, and cyclists, by minimizing wait times and congestion using software (e.g. Synchro) to model and develop new timing plans. Optimizing signal timing will improve the intersection operation, particularly for left-turning vehicles arriving in red to complete the turn during one signal cycle.

#### **Alternative 2 – Repurpose Shared Lanes**

To improve safety and efficiency without major reconstruction, modifying or reconfiguring turn lanes aim to maximize capacity on the major road and separate conflicting movements, particularly where high volumes occur. The core improvement under this alternative is focused on the northbound MD 185 (Connecticut Avenue) and westbound Jones Bridge Road approaches by removing the operational impacts on through-moving vehicles. The detailed recommended modifications are shown in **Table 7**. The modification concept plan for turning lanes is illustrated in **Figure 3**.

*Table 7 – Recommended Modifications by Modifying or Reconfiguring Turning Lanes.*

Approach	Current Configuration	Recommended Modification
<b>Northbound Connecticut Avenue</b>	3 Thru + 1 Shared Thru/Right	Repurpose the shared lane into a right-turn only lane. New Configuration: 3 Through + 1 Right-Turn
<b>Westbound Jones Bridge Road</b>	1 Right-Turn + 1 Shared Through/Right-Turn + 1 Thru	Repurpose the shared lane into a Through Lane. New configuration: 1 Right-Turn Only + 2 Through lanes.

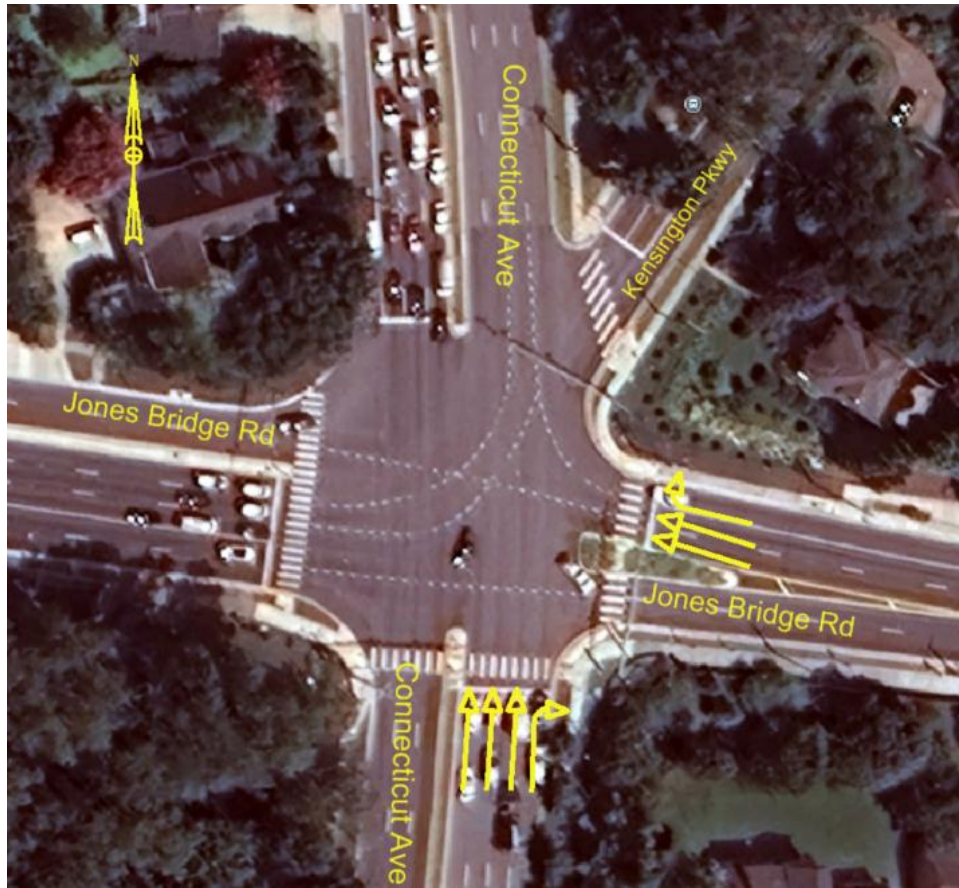


Figure 3 – Alternative 2 – Repurpose Shared Lanes Concept Plan

### Alternative 3 – Improve Visibility and Pedestrian Accessibility

To enhance visibility for all users, reduce crossing distances, and improve accessibility through geometric refinements, construct curb extensions (bulb-outs) at both the Northwest (NW) and Southwest (SW) corners of the Jones Bridge Road and Connecticut Avenue intersection. These extensions physically project the sidewalk into the roadway by occupying the existing shoulder or parking lane area, which has the dual benefit of significantly reducing the pedestrian crossing distance across Connecticut Avenue. Furthermore, this geometric tightening effectively forces right-turning vehicles to navigate a sharper path at lower speeds, substantially improving safety by increasing the driver's reaction time and visibility of pedestrians waiting at the crosswalk. The modification concept plan is illustrated in **Figure 4**. Additionally, relocation or removal of the row of trees recently planted at the northeastern corner of Jones Bridge Road would significantly improve driver and pedestrian sight line visibility between Jones Bridge Road and Kensington Parkway.

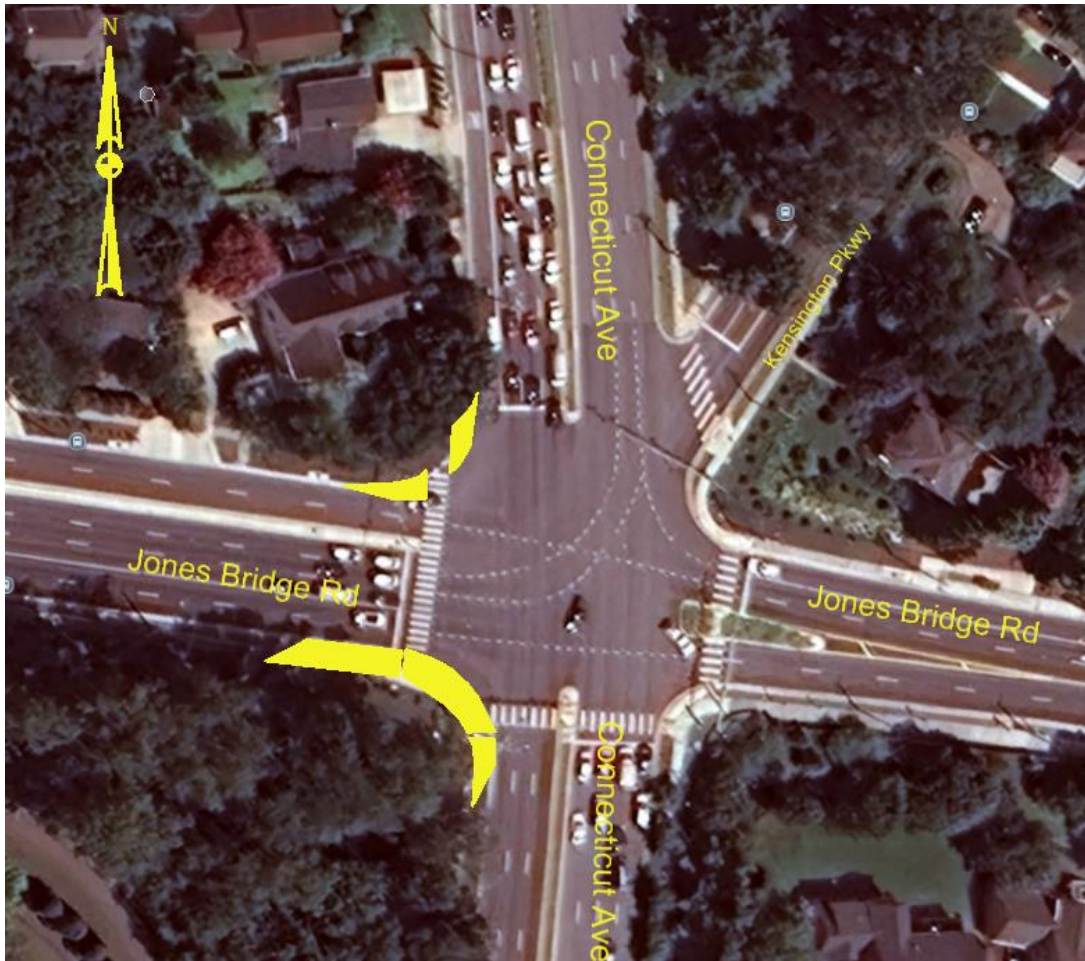


Figure 4 – Alternative 3 - Improve Visibility and Pedestrian Accessibility Concept Plan

#### Alternative 4 – Red-Light Camera (RLC) Enforcement

This alternative considers the installation of a Red-Light Camera (RLC) system to reduce red-light–running violations and associated angle crashes at the intersection. According to MDOT/SHA’s *Red-Light Camera Installation Guidelines* (August 2024), RLC deployment is treated strictly as a safety countermeasure and requires data-driven justification. To warrant RLC deployment, a detailed Engineering Evaluation must be completed, including review of:

- Documented evidence that red-light running creates significant traffic safety problems,
- Three to five years of crash history focused on right-angle and pedestrian-related crashes,
- Red-light–running violation data (measured 0.5 seconds after onset of red),
- Signal visibility, yellow/all-red interval compliance, and overall signal condition,
- Confirmation that no major geometric or operational deficiencies are contributing to violations.

The red-light enforcement is expected to improve driver compliance with signal indications and reduce severe crash risk. This alternative serves as a short-term safety enforcement that may complement operational or geometric improvements identified in other alternatives.

**Alternative 5 – Combined Above Three Alternatives (Incorporating Alt 1, 2, 3, 4)**

The Combined Alternative integrates the key strategies from Alternatives 1, 2, 3 and 4 into a coordinated short-/mid-term improvement package designed to enhance operational performance, safety, and multimodal accessibility at the intersection.

This scenario includes:

- Signal retiming and phasing optimization to reduce delay for all approaches and improve progression and left-turn operations (**Alternative 1**).
- Repurposing shared lanes to separate conflicting movements and increasing capacity on Connecticut Avenue and Jones Bridge Road by converting shared lanes into dedicated right-turn or through lanes, as previously recommended (**Alternative 2**).
- Geometric enhancements to improve visibility and pedestrian accessibility through the construction of curb extensions (bulb-outs) at the northwest and southwest corners, reducing crossing distances and encouraging slower, more controlled right-turn movements (**Alternative 3**).
- Installation of a Red-Light Camera (RLC) system to reduce red-light–running violations and associated angle crashes at the intersection (**Alternative 4**).

By combining operational, geometric, and safety-focused improvements, this alternative provides a more robust and comprehensive strategy than any single alternative alone. The combined scenario should be evaluated as an enhanced short- to mid-term solution, capable of addressing current operational deficiencies while laying the groundwork for potential long-term improvements.

## 4.2 Mid-Term Improvements

**Alternative 6 – Adjust Curb Radii**

At the intersection, the curb radii at each approach were evaluated. The curb radius is a critical element of an intersection approach that impacts vehicle turning speeds, pedestrian crossing distances, and safety of pedestrians and cyclists. Smaller radii force vehicles to slow down and shorten crossing distances, while larger radii are needed in areas with high volumes of large vehicles like trucks and buses.

The northeast corner (Jones Bridge Road to Kensington Parkway) currently has a tight 15-ft radius, which is recommended to be increased to 25 ft to provide adequate turning paths for larger vehicles such as school bus, transit bus, fire truck and enhance visibility. This proposed increase in curb radius can be accommodated primarily through curb realignment and adjustments within existing pavement and curb line, without requiring additional right-of-way or reducing the effective width of Kensington Parkway.

The northwest corner, now about 45 ft, should be tightened to 35 ft to reduce turning speeds and shorten pedestrian crossing distances. Similarly, the southwest corner should be tightened from 45 ft to 30 ft. The northeast corner between Connecticut Avenue and Kensington Parkway is highly space-constrained—bounded by residential properties and vegetation—and should remain unchanged at 8 ft. Overall, these refinements balance operational efficiency and pedestrian safety while optimizing the intersection

geometry without requiring additional right-of-way. The detailed recommended modifications are shown in **Table 8**. The modification concept plan for adjusting curb radii is illustrated in **Figure 5**.

*Table 8 – Recommended Modifications by Adjusting Curb Radii.*

Corner	Existing Est. Radii	Adjustment
<b>Northeast<sup>1</sup></b>	15 ft	Increase to 25 ft
<b>Southeast</b>	25 ft	No change
<b>Northwest</b>	45 ft	Tightened to 35 ft
<b>Southwest</b>	45 ft	Tightened to 30 ft
<b>Northeast<sup>2</sup></b>	8 ft	No Change



*Figure 5 – Alternative 6 – Adjust Curb Radii Concept Plan*

### 4.3 Long-Term Improvements

#### **Alternative 7 –Roundabout**

This alternative proposes converting the existing signalized five-leg intersection into a three-lane roundabout to enhance safety, operational efficiency, and overall corridor aesthetics while reducing the number of vehicular conflict points. The three-lane roundabout would accommodate the high traffic

<sup>1</sup> Eastbound Jones Bridge Road to Kensington Avenue and northbound MD 185 (Connecticut Avenue)

<sup>2</sup> South-westbound Kensington Parkway to northbound MD 185 (Connecticut Avenue)

volumes on Connecticut Avenue and Jones Bridge Road while maintaining lower operating speeds and continuous flow through yield-controlled entries. Compared to the current signalized layout, it would eliminate signal delay, simplify turning movements, and reduce the likelihood of severe angle and rear-end crashes. Pedestrian crosswalks would be provided on all legs of the roundabout to ensure safe and accessible pedestrian circulation. The modification concept plan is illustrated in **Figure 6**.

Traffic control strategies for peak periods: to effectively manage the pronounced peak-hour demand from the northbound and southbound Connecticut Avenue approaches, this alternative incorporates targeted traffic-control strategies designed to preserve throughput on the major street. These measures include directional lane-use assignments within the circulating lanes to prioritize dominant north-south through and left-turn movements, extended splitter islands to reinforce yield-on-entry behavior for side-street drivers, and advance guide signage to promote early lane selection. During the highest demand periods, supplemental measures, such as traffic officers' assistance or adaptive lane-use signing, could be implemented, if warranted by future operations analysis, to further support major-street performance while maintaining safe access for minor approaches and pedestrians.

Off-peak traffic control (flash-mode-equivalent-operations): although roundabouts do not rely on traffic signals and therefore do not employ traditional night flash (flashing red/yellow) operations, this alternative inherently delivers the same benefits during low-volume periods. The yield-controlled geometry allows vehicles on all approaches to enter the roundabout with minimal delay, effectively mimicking the reduced-control environment of flashing operations while maintaining superior safety performance. Off-peak operations can be further reinforced through enhanced yield signage, lighting improvements, and speed-management devices that promote safe but efficient circulation. These features collectively provide an off-peak traffic-control strategy equivalent to flash mode, minimizing delay, reducing unnecessary stops, and maintaining smooth traffic operations without the need for signal infrastructure.

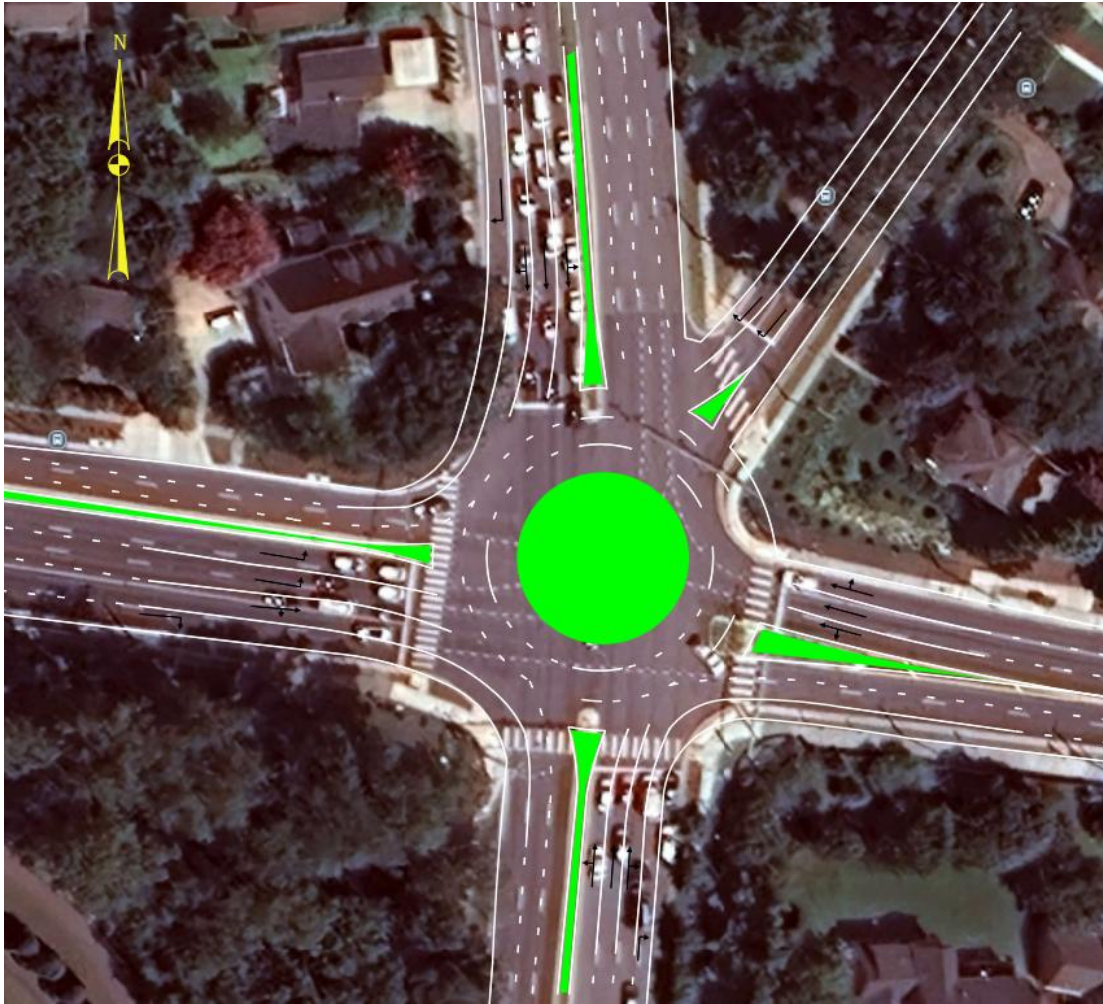


Figure 6 – Alternative 7 – Three Lane Roundabout Concept Plan

## 5. Traffic Operational Performance for Improvement Alternatives

To evaluate and determine alternative priorities for the intersections, vehicular operation performance through LOS, Delays, and 95<sup>th</sup> were taken into consideration. A ranking table for the alternatives was provided. A high rank indicates a significant improvement or no consequences if the performance is already good under the existing conditions. Alternative ranking is relative to the other alternatives for comparison purposes based on technical data, analysis results, and engineering judgment. Using traffic modeling tools such as Synchro and Sidra, the vehicular operation performance of proposed alternatives was analyzed based on factors including intersection TMCs, number of travel lanes, intersection controls, signal timing characteristics, roadway grade, posted speed limit, etc., to make performance comparisons. All output reports of analysis results from the traffic simulation tools are included in **Appendix C**. Alternatives 3, 4, and 6 will improve traffic safety, but have no or minor impacts on traffic operations. Traffic operational performance evaluations were limited to these alternatives.

**Alternative 1 – Traffic Signal Re-timing/Phasing.** The optimization was conducted for cycle length and green split with the same phasing and geometric condition. The vehicular traffic operation performance is shown in **Table 9** and summarized below. The values in **bold red** reflect severe operational deficiencies.

Values in **bold brown** reflect potential operational deficiency. To better illustrate the changes between Alternative 1 and the existing condition, **Table 10** presents the delay differences, with increases shown in **bold red** and decreases (improvements) shown in **bold green**.

- During the AM peak hour, the intersection operates at an overall LOS F with an overall delay of 141.3 sec/veh.
  - The eastbound Jones Bridge Road approach operates at LOS F. Average vehicular delay for the left-turns almost doubles compared to existing conditions without Alt 1 to 290.3 sec/veh with a 95th-percentile queue length of 252 ft<sup>3</sup>. The through movement along eastbound Jones Bridge Road operates at LOS E with a minor increase in delay (59.8 sec/veh) compared to existing conditions without Alt 1.
  - The westbound Jones Bridge Road approach operates at LOS D for both through and right-turns, with delays of 40.8 and 42.8 seconds, respectively. Vehicular delays increase for the through movement and decrease for the right-turns compared to existing conditions without Alt 1. The 95th-percentile queue length for the right-turns would be 239 ft, which is about one car length more than the existing conditions without Alt 1.
  - The southbound MD 185 (Connecticut Avenue) approach continues to operate at LOS F for both through and right-turns, however average vehicular delays significantly decrease from the existing conditions without Alt 1 to 157.7 sec/veh and 277.6 sec/veh, respectively.
  - Vehicular traffic operations along northbound MD 185 (Connecticut Avenue) approach also improve from the existing conditions without Alt 1 with LOS D (41.1 sec/veh) for the through movement.
  - The Kensington Parkway approach continues to operate at LOS F; however average vehicular delays significantly decrease from the existing conditions without Alt 1 to 134.6 sec/veh for the left turn and LOS F (161.9 sec/veh) for the right turn.
  
- During the PM peak hour, the intersection continues to operate at an overall LOS F, with an overall delay of 222 sec/veh.
  - The eastbound Jones Bridge Road approach operates at LOS F, average vehicular delays increase significantly to 727.1 sec/veh for the left turns with a 95th-percentile queue length of 962 ft which exceeds the available 560-ft storage length, and LOS F (265.5 sec/veh) for the through movements.
  - The westbound Jones Bridge Road approach operates at LOS C for both movements (through and right-turn), with slightly increased delays of 30 and 30.8 sec/veh, and about the same 95th-percentile queue of 127 ft.
  - The southbound MD 185 (Connecticut Avenue) approach continues to operate at LOS F (145.4 sec/veh) for the through and improves to LOS C (23.1 sec/veh) for the right turn.
  - The northbound MD 185 (Connecticut Avenue) through movement continues to operate at LOS F with a significantly reduced average vehicular delay of 110.2 sec/veh.
  - The Kensington Parkway approach operates with an improved LOS E and average vehicular delays of 63.1 sec/veh for the left turn and LOS E (62 sec/veh) for the right turn.

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<sup>3</sup> The reduction in the left-turn queue length compared to existing conditions without improvements is likely due to a greater portion of left-turn vehicle demands unable to reach the intersection, i.e., unserved by the signal, due to excessive signal control delays. Therefore, the queue length reduction is not indicative of an operational improvement.

Under these optimized conditions, the intersection remains oversaturated, with long delays and extensive queuing observed on several approaches during both peak hours. Detailed Synchro output results are provided in **Appendix C**.

*Table 9 – Alternative 1 – Traffic Signal Re-timing/Phasing  
Approach/Lane Peak-Hour LOS, Delay, 95<sup>th</sup> Percentile Queue Length*

Intersection /Approach	AM Peak						PM Peak					
	Storage Length (ft)		LOS (Movement Delay (sec/veh))			95% Queue Length (ft)		LOS (Movement Delay (sec/veh))			95% Queue Length (ft)	
	L	R	L	T	R	L	R	L	T	R	L	R
EASTBOUND JONES BRIDGE ROAD	560 (3-LN)		F (290.3)	E (59.8)		252		F (727.1)	F (265.5)		962	
WESTBOUND JONES BRIDGE ROAD		370		D (40.8)	D (42.8)		239		C (30)	C (30.8)		127
SOUTHBOUND MD 185 (CONNECTICUT AVENUE)				F (157.7)	F (277.6)				F (145.4)	C (23.1)		
NORTHBOUND MD 185 (CONNECTICUT AVENUE)				D (41.1)					F (110.2)			
KENSINGTON PARKWAY			F (134.6)		F (161.9)			E (63.1)		E (62)		
Overall	N/A	N/A	F (141.3)			N/A		F (222)			N/A	

*Table 10 – Delay Comparisons Between Alternative 1 and Existing Condition*

Intersection /Approach	AM Peak			PM Peak		
	Difference in LOS (Movement Delay (sec/veh))			Difference in LOS (Movement Delay (sec/veh))		
	L	T	R	L	T	R
EASTBOUND JONES BRIDGE ROAD	130.5	4.3		137.8	170	
WESTBOUND JONES BRIDGE ROAD		12.1	-38.5		3.3	-5
SOUTHBOUND MD 185 (CONNECTICUT AVENUE)		-202.7	-22.4		-88.2	-23.4
NORTHBOUND MD 185 (CONNECTICUT AVENUE)		-40.2			-81	
KENSINGTON PARKWAY	-106		-125.8	-24.1		-23.1
Overall	-82.1			-13.5		

\*Delay values represent the difference between Alternative 1 and the existing condition. Increases in delay are shown in red, and decreases are shown in green.

**Alternative 2 – Repurpose Shared Lanes.** Under Alternative 2, the intersection geometry was modified to separate shared through/right-turn lanes on the northbound Connecticut Avenue and westbound Jones Bridge Road approaches. The operational results are summarized in **Table 11** and summarized below. To better illustrate the changes between Alternative 2 and the existing condition, **Table 12** presents the delay differences, with increases shown in **bold red** and decreases (improvements) shown in **bold green**.

- During the AM peak hour, the intersection continues to operate at an overall LOS F, with an average delay of 236.2 sec/veh.
  - The eastbound Jones Bridge Road approach continues to operate at LOS F but delays decrease to 106.6 sec/veh for the left-turn movement with a 95th-percentile queue length of 356 ft and remain the same at LOS E (55.5 sec/veh) for the through movement.
  - The westbound Jones Bridge Road approach improves to LOS C for both movements (through and right-turn), with delays of 27.6 and 31 sec/veh, and an increased but still acceptable 95th-percentile right-turn queue length of 275 ft. The right-turn queue length increases due to repurposing the right-through shared lane as a through only lane.
  - The southbound MD 185 (Connecticut Avenue) approach continues to operate at LOS F (360.4 sec/veh) for the through and LOS F (300.0 sec/veh) for the right turn. The operation on southbound approach does not change as no improvements were proposed along southbound MD 185 under this alternative.
  - The northbound MD 185 (Connecticut Avenue) approach continues to operate at LOS F but average vehicular delays decrease to 147.6 sec/veh for the through movement. Right-turn movement LOS improves to LOS D (51.6 sec/veh) due to the proposed new right-turn lane.
  - The Kensington Parkway approach operates at LOS F (240.6 sec/veh) for the left-turn and LOS F (287.7 sec/veh) for the right-turn movement.
  
- During the PM peak hour, the intersection continues to operate at an overall LOS F, with an average delay of 257.1 sec/veh.
  - The eastbound approach continues to operate at LOS F, but average vehicular delays significantly decrease to 480.2 sec/veh with a 95th-percentile queue length of 1,164 ft for the left-turn movement, which still exceeds the available 560-ft storage length, causing spillback into upstream intersections and blocking adjacent driveways. LOS F (95.5 sec/veh) remains the same for the through movement.
  - The westbound approach continues to operate at LOS C for both movements (through and right-turn), with delays of 25.5 and 29.9 sec/veh, and the right-turn 95th-percentile queues of 223 ft.
  - The southbound approach continues to operate at LOS F (233.6 sec/veh) for the through movement and LOS D (46.5 sec/veh) for the right-turn movement. The operation on southbound approach does not change as no improvements were proposed along southbound MD 185 under this alternative.
  - The northbound approach continues to operate at LOS F but average vehicular delays significantly increase to 313.6 sec/veh for the through movement, however, improves to LOS D (46.5 sec/veh) for the right turns due to the proposed new right-turn lane.
  - Kensington Parkway approach continues to operate at LOS F (87.2 sec/veh) for the left-turn and LOS F (85.1 sec/veh) for the right-turn movement. The operation on Kensington Parkway approach does not change as no improvements were proposed along Kensington Parkway under this alternative.

Under these geometric conditions, the intersection remains oversaturated during both peak hours, with significant delays and excessive queuing on multiple approaches. Detailed Synchro output results are provided in **Appendix C**.

**Table 11 – Alternative 2 – Repurpose Shared Lanes**  
Approach/Lane Peak-Hour LOS, Delay, 95<sup>th</sup> Percentile Queue Length

Intersection /Approach	AM Peak						PM Peak					
	Storage Length (ft)		LOS (Movement Delay (sec/veh))			95% Queue Length (ft)		LOS (Movement Delay (sec/veh))			95% Queue Length (ft)	
	L	R	L	T	R	L	R	L	T	R	L	R
EASTBOUND	560 (3-LN)		F (106.6)	E (55.5)		356		F (480.2)	F (95.5)		1164	
WESTBOUND		370		C (27.6)	C (31)		275		C (25.5)	C (29.9)		223
SOUTHBOUND				F (360.4)	F (300)				F (233.6)	D (46.5)		
NORTHBOUND				F (147.6)	D (51.6)				F (313.6)	D (46.5)		
KENSINGTON PKWY			F (240.6)		F (287.7)			F (87.2)		F (85.1)		
Overall	N/A	N/A	F (236.2)			N/A		F (257.1)			N/A	

**Table 12– Delay Comparisons Between Alternative 2 and Existing Condition**

Intersection /Approach	AM Peak						PM Peak		
	Difference in LOS						Difference in LOS		
	(Movement Delay (sec/veh))						(Movement Delay (sec/veh))		
	L	T	R	L	T	R	L	T	R
EASTBOUND JONES BRIDGE ROAD	-53.2	0		-109.1	0				
WESTBOUND JONES BRIDGE ROAD		-1.1	-50.3		-1.2	2.5			
SOUTHBOUND MD 185 (CONNECTICUT AVENUE)		0	0		0	0			
NORTHBOUND MD 185 (CONNECTICUT AVENUE)		66.3	N/A		112.4	N/A			
KENSINGTON PARKWAY	0		0	0		0			
Overall	12.8			21.6					

\*Delay values represent the difference between Alternative 2 and the existing condition. Increases in delay are shown in red, and decreases are shown in green.

**Alternative 7 – Roundabout.** The roundabout alternative offers meaningful safety and operational benefits through the conversion of the existing five-leg signalized intersection into a modern three-lane roundabout. This configuration substantially reduces severe angle-crash potential, improve traffic operation, and reduce conflict potions (from 32 to 8 points), resulting in a safer environment for both motorists and pedestrians.

**Table 13** summarizes the results of The SIDRA analysis. Compared with the existing signalized condition-intersection average delay 223.4 seconds in the AM and 235.5 seconds in the PM, the roundabout alternative will reduce overall delay to 35 seconds in the AM and 171 seconds in the PM, an improvement of 188 s and 65 s per vehicle achieved, respectively. In terms of queuing, the longest 95th-percentile queue

improves from over 640 ft under existing AM conditions and more than 1,200 ft in the PM to 640 ft (AM) and 125 ft (PM) with the roundabout, representing significant PM improvements and maintaining stable AM queuing.

During the AM peak, the eastbound, westbound, and northbound all experience substantially reduced delays and shorter queues, with operations improving to LOS B–C. These results indicate that the roundabout distributes traffic more efficiently during the morning period, allowing all three approaches to enter the circulating flow with minimal delay. During the PM peak, the roundabout continues to provide improved performance on multiple approaches. The eastbound, northbound, and Kensington Parkway approaches operate at LOS B–C, demonstrating that the circulating environment manages these movements effectively even under higher traffic demand. Although the PM peak southbound and westbound movements continue to experience elevated delays due to exceptionally high volumes on MD 185, the roundabout still provides several advantages relative to the existing condition.

*Table 13 – Roundabout Approach/Lane Peak-Hour LOS, Delay, 95th Percentile Queue Length*

Approach	AM			PM		
	Average Delay (s)	95% Queue (ft)	LOS	Average Delay (s)	95% Queue (ft)	LOS
EASTBOUND	63	174	E	170	125	F
WESTBOUND	31	114	C	19.8	78	B
SOUTHBOUND	31	640	C	17	15	B
NORTHBOUND	23	244	C	379	3184	F
KENSINGTON PKWY	82	179	F	17	15	B
OVERALL	35	640	C	171	125	F

## 6. Discussion on Pro and Cons of the Alternatives

### Alternative 1 – Traffic Signal Re-timing/Phasing

Optimizing signal timing and phasing can significantly improve intersection efficiency with relatively low cost and minimal construction impacts. By adjusting cycle lengths, green splits, and offsets to better match current traffic patterns, this alternative can reduce delays, enhance progression along major approaches, and improve overall capacity—particularly benefiting left-turn movements that previously experienced long queues. However, the effectiveness of this improvement is limited by the existing physical geometry and demand imbalance between approaches; it cannot fully address safety issues such as angle or rear-end crashes caused by high-speed entries or red-light running. Additionally, as traffic volumes continue to grow, the benefits of signal re-timing may diminish over time, making this a short- to medium-term operational enhancement rather than a long-term geometric solution.

### Alternative 2 – Repurpose Shared Lanes

By repurposing the shared right/through lanes into right-turn lanes, the effective capacity of the through lanes on northbound Connecticut Avenue and westbound Jones Bridge Road are significantly increased, reducing congestion and delay. Dedicated right-turn lanes reduce the primary conflict type at intersection approaches: the rear-end collision (caused by through traffic stopping behind a turning vehicle in a shared lane) and side-swipe collisions (caused by aggressive lane changes near the intersection). Fully dedicated movements allow for more effective protected only or optimized signal phasing, particularly for right turns, leading to safer operations. However, it does not improve the overall intersection operation.

### Alternative 3 – Improve Visibility and Pedestrian Accessibility

Alternative 3 would improve pedestrian safety and visibility by shortening crossing distances and increasing pedestrian prominence at the crosswalks through the use of curb extensions at the northwest and southwest corners of the intersection. The tighter geometry would reduce right-turn vehicle speeds, improve driver awareness, and enhance ADA accessibility, while remaining largely within the existing roadway footprint and avoiding additional right-of-way acquisition. However, the proposed curb extensions may reduce available shoulders or parking space, could constrain turning movements for large vehicles if not carefully designed, and may result in minor increases in right-turn delay during peak periods. Temporary traffic disruptions during construction and potential impacts to drainage infrastructure would also need to be considered during final design.

#### **Alternative 4 – Red-Light Camera (RLC) Enforcement**

RLC enforcement offers a low-cost, short-term safety enhancement focused on reducing red-light-running violations and related angle crashes. It requires minimal physical construction and can be implemented relatively quickly once the engineering evaluation is completed. Automated enforcement also provides consistent, around-the-clock compliance that complements operational or geometric improvements without altering roadway capacity. RLC installation is limited to locations where violations and crash patterns clearly justify enforcement, and it cannot substitute for necessary signal, geometric, or visibility improvements. It may lead to increased rear-end crashes if not paired with adequate signal timing and visibility upgrades. Additionally, RLC enforcement does not address congestion and offers little benefit to operational performance, making it a targeted safety measure rather than a broader mobility solution.

#### **Alternative 5 – Combined Alternative (Incorporating Alt 1, 2, 3 and 4)**

The combined alternative integrates operational, geometric, safety enhancements, producing the most comprehensive improvement among all options. By simultaneously optimizing signal timing, repurposing shared lanes, enhancing pedestrian visibility and accessibility and installing red-light camera, this scenario maximizes intersection performance and safety benefits across all user groups. It addresses both congestion and multimodal needs, offering a balanced short-/mid-term strategy that does not require full reconstruction.

Because the alternative bundles multiple treatments, it may involve a higher implementation cost and greater coordination effort compared with single-element options. Some modifications, such as curb extensions and lane reconfiguration, may introduce construction impacts or require additional right-of-way confirmation. The combined approach also requires careful evaluation to ensure that benefits are not offset by unintended effects, such as new turning constraints or increased delays for minor approaches.

#### **Alternative 6 – Adjust Curb Radii**

Modifying curb radii involves a major trade-off between accommodating vehicle movement and ensuring pedestrian safety. Reducing curb radii can enhance pedestrian safety by increasing pedestrian visibility and calm traffic by slowing vehicle turning speeds. On the other hand, increasing curb radii allows large vehicles to turn smoothly and stay within their lanes without mounting the curb and more controlled turning path for older drivers. The most effective design often involves using the smallest practical radius possible while still accommodating the specific large vehicle.

#### **Alternative 7 –Roundabout**

Converting the existing signalized intersection into a three-lane modern roundabout offers substantial safety and operational benefits by reducing conflict points, eliminating signal delay, and promoting continuous traffic flow at lower speeds. The design improves intersection efficiency, particularly during off-peak hours, and enhances aesthetics with landscaped central and splitter islands. However, this alternative requires potential right-of-way acquisition and reconstruction, which may increase costs and temporarily disrupt traffic during construction. Large vehicles such as trucks and buses may also require special accommodation through wider circulating lanes or truck aprons. Additionally, the unfamiliar configuration may initially confuse drivers and require a short adaptation period.

#### **Conceptual Cost Estimates**

Conceptual planning-level construction cost estimates were prepared for each alternative to provide a point of comparison. For each cost estimate, this is an estimate for the cost of all improvements associated with an alternative. The cost estimates were calculated based on broad-scope assumptions and using resources such as the 2022 SHA Highway Cost Estimating Manual and the latest SHA Price Index.

The short-term improvements, including Alternative 1 - Traffic Signal Re-timing/Phasing and Alternative 2 - Repurpose Shared Lanes, and Alternative 3 - Improve Visibility and Pedestrian Accessibility would cost approximately \$15,000 and \$50,000, respectively. Red light camera installation (Alternative-4) costs vary significantly but typically range from \$60,000 to \$150,000 per intersection. For mid-term improvements, Alternative 6 - Adjust Curb Radii are expected to cost around \$80,000, respectively. These alternatives can be implemented within a short time frame and require no right-of-way acquisition. These alternatives enhance pedestrian and vehicular safety without significantly changing the intersection geometry. For the long-term improvement, Alternative 7 - Roundabout would cost approximately \$5-6 million and require substantial right-of-way acquisition and geometric reconfiguration. Alternative 7 results in the highest construction cost and right-of-way acquisition requirement.

Based on the intersections' existing characteristics, alternative evaluation, and element rankings, the following Alternatives are recommended, as shown in **Table 14**. Alternative 5, which combines Alternatives 1 through 4 and incorporates the benefits of all short-term improvements, is recommended for short-term implementation. As a long-term improvement, Alternative 7, which provides the greatest operational and safety benefits, is recommended for implementation.

*Table 14 – Recommended Improvement Alternatives*

Alt.	Options	LOS(AM/PM)	Delay (AM/PM) (Sec)	Safety Improv.	Cost	R/W	Term
1	Traffic Signal Re-timing/Phasing	F/F	141.3/222	Yes	\$15,000	None	Short
7	Roundabout	C/F	311/498	Yes	\$6,000,000	High	Long
3	Visibility & Pedestrian Accessibility	Same as No Build	Same as No Build	Yes	\$60,000	Med	Short
6	Modify Curb Radii	Same as No Build	Same as No Build	Yes	\$400,000	Med	Mid
2	Modify or Reconfigure Turning Lanes	F/F	236.2/257.1	Yes	\$500,000	Low	Short
4	Red Light Camera	N/A	N/A	Yes	Min. \$60,000	None	Short

Appendix A: Crash Data

Crash Data Collected From 2021 to 2023 Within Study Area

Reportnumber	AgencyCode	CountyOfCrash	Reporttype	UseData	Crashdate	CrashPoint	Latitude	Longitude
MCP3165004V	Montgomery County Police	Montgomery	Property Damage Crash	TRUE	10/21/2023	Point	38.99974598	-77.0767466
MCP30690049	Montgomery County Police	Montgomery	Property Damage Crash	TRUE	2/23/2021	Point	39.00013167	-77.07672667
MCP3161004V	Montgomery County Police	Montgomery	Property Damage Crash	TRUE	1/5/2023	Point	39.0000883	-77.07777574
MCP1174006K	Montgomery County Police	Montgomery	Property Damage Crash	TRUE	10/27/2023	Point	39.00026667	-77.07662557
MCP20590082	Montgomery County Police	Montgomery	Property Damage Crash	TRUE	11/13/2023	Point	39.00001405	-77.07693722
MCP31610063	Montgomery County Police	Montgomery	Property Damage Crash	TRUE	12/14/2023	Point	39.00017983	-77.076875
MCP29670051	Montgomery County Police	Montgomery	Property Damage Crash	TRUE	12/21/2023	Point	38.9992735	-77.07684383
MCP209400MW	Montgomery County Police	Montgomery	Injury Crash	TRUE	11/7/2023	Point	38.99925333	-77.07656667
MCP3160003G	Montgomery County Police	Montgomery	Injury Crash	TRUE	3/23/2022	Point	39.00037606	-77.07696373
MCP209400KD	Montgomery County Police	Montgomery	Property Damage Crash	TRUE	9/19/2022	Point	39.00036833	-77.07640833
MCP3257003X	Montgomery County Police	Montgomery	Property Damage Crash	TRUE	1/14/2022	Point	38.99973833	-77.07644667
MCP12330047	Montgomery County Police	Montgomery	Property Damage Crash	TRUE	11/24/2021	Point	38.99928167	-77.07729667
MCP3263002Q	Montgomery County Police	Montgomery	Property Damage Crash	TRUE	10/15/2022	Point	39.00025	-77.07675833
MCP1205008F	Montgomery County Police	Montgomery	Property Damage Crash	TRUE	10/15/2022	Point	38.99994169	-77.07775708
MCP31610052	Montgomery County Police	Montgomery	Property Damage Crash	TRUE	3/5/2023	Point	38.99981948	-77.07700878
HA24790009	Maryland-National Capital Park Police Montgomery County	Montgomery	Property Damage Crash	TRUE	5/17/2021	Point	38.99987967	-77.07735851
MSP735800BJ	Maryland State Police	Montgomery	Property Damage Crash	TRUE	5/17/2023	Point	38.97556883	-77.17843083
MDTA1647006M	Maryland Transportation Authority Police	Montgomery	Property Damage Crash	TRUE	6/27/2023	Point	39.097	-77.01564
MCP30590086	Montgomery County Police	Montgomery	Property Damage Crash	TRUE	7/19/2022	Point	39.22905333	-77.280225
MCP2637004V	Montgomery County Police	Montgomery	Property Damage Crash	TRUE	12/14/2022	Point	39.09152	-77.24902667
MCP2633003J	Montgomery County Police	Montgomery	Property Damage Crash	TRUE	10/17/2023	Point	39.02491333	-77.20631167
MCP3300002C	Montgomery County Police	Montgomery	Injury Crash	TRUE	8/19/2023	Point	39.06297967	-77.05449267
MCP3014003R	Montgomery County Police	Montgomery	Injury Crash	TRUE	12/31/2022	Point	39.06013417	-77.0509111
MCP137800W3	Montgomery County Police	Montgomery	Injury Crash	TRUE	1/5/2021	Point	39.15245759	-77.21209041
MCP3058004X	Montgomery County Police	Montgomery	Injury Crash	TRUE	4/12/2023	Point	39.11568333	-77.16617333
MCP271700X7	Montgomery County Police	Montgomery	Injury Crash	TRUE	12/27/2022	Point	39.06994533	-77.1690895
MCP271700Y2	Montgomery County Police	Montgomery	Injury Crash	TRUE	10/10/2023	Point	38.99628167	-77.02824333
MCP3277002S	Montgomery County Police	Montgomery	Injury Crash	TRUE	5/28/2023	Point	39.15820898	-77.20437116
MCP25870007	Montgomery County Police	Montgomery	Injury Crash	TRUE	6/7/2023	Point	39.18846833	-77.25147167
MCP2950002R	Montgomery County Police	Montgomery	Injury Crash	TRUE	11/3/2023	Point	39.18126822	-77.23839943
MCP15950027	Montgomery County Police	Montgomery	Injury Crash	TRUE	4/16/2023	Point	39.04308461	-77.0519928
MCP1595002B	Montgomery County Police	Montgomery	Injury Crash	TRUE	6/14/2023	Point	39.04309819	-77.05199053
MCP24320011	Montgomery County Police	Montgomery	Injury Crash	TRUE	9/1/2023	Point	39.15828283	-77.2038895
MCP3000004D	Montgomery County Police	Montgomery	Injury Crash	TRUE	6/4/2023	Point	39.210234	-77.2394385
MCP33370011	Montgomery County Police	Montgomery	Injury Crash	TRUE	12/18/2022	Point	39.0766075	-77.08068817
DD5527004C	Rockville Police	Montgomery	Injury Crash	TRUE	10/23/2022	Point	39.07718707	-77.13944434
MCP3377000R	Montgomery County Police	Montgomery	Injury Crash	TRUE	11/3/2023	Point	38.976962	-77.09091333
MCP23720055	Montgomery County Police	Montgomery	Injury Crash	TRUE	12/13/2022	Point	39.00010233	-77.10976817

Crash Data Collected From 2021 to 2023 Within Study Area

Collisiontype	Doctype	Fixedobjectstruck	Harmfuleventone	Harmfuleventtwo	Interchangearea	Intersectiontype	Junction	Lanedirection
Same Direction Rear End	ACRS	N/A	Other Vehicle	N/A	Intersection Related	Four-Way Intersection	Intersection Related	N
Same Direction Right Turn	ACRS	N/A	Other Vehicle	N/A	N/A	Five-Point or More	Intersection	W
Same Direction Right Turn	ACRS	N/A	Other Vehicle	N/A	N/A	N/A	N/A	W
Straight Movement Angle	ACRS	N/A	Other Vehicle	N/A		Five-Point or More	Intersection Related	N
Same Direction Sideswipe	ACRS	N/A	Other Vehicle	N/A		Five-Point or More	Intersection	S
Same Direction Sideswipe	ACRS	N/A	Other Vehicle	N/A	Intersection	Four-Way Intersection	Intersection	N
Same Direction Rear End	ACRS	N/A	Other Vehicle	N/A	Intersection	Five-Point or More	Intersection	N
Same Direction Rear End	ACRS	N/A	Other Vehicle	N/A	Thru Road	N/A	Non-Intersection	N
Same Direction Right Turn	ACRS	N/A	Other Vehicle	N/A	N/A	N/A	Non-Intersection	N
Straight Movement Angle	ACRS	N/A	Other Vehicle	N/A	N/A	Five-Point or More	Intersection	N
Same Direction Rear End	ACRS	N/A	Other Vehicle	N/A	N/A	N/A	Non-Intersection	N
Straight Movement Angle	ACRS	N/A	Other Vehicle	N/A	N/A	Four-Way Intersection	Intersection	S
Straight Movement Angle	ACRS	N/A	Other Vehicle	N/A	Intersection	Five-Point or More	Intersection	W
Same Direction Right Turn	ACRS	N/A	Other Vehicle	N/A	N/A	N/A	Non-Intersection	W
Same Direction Sideswipe	ACRS	N/A	Other Vehicle	N/A	N/A	Four-Way Intersection	Intersection	W
Same Direction Rear End	ACRS	Other	Other Vehicle	Other Vehicle	Intersection	Four-Way Intersection	Intersection	E
Same Direction Rear End	ACRS	Other Vehicle	Other Vehicle	Other Vehicle	N/A	N/A	Non-Intersection	W
Same Direction Rear End	ACRS	N/A	Other Vehicle	N/A	N/A	N/A	N/A	W
Other	ACRS	N/A	Parked Vehicle	N/A		N/A	Non-Intersection	N
Opposite Direction Both Left Turn	ACRS	N/A	Other Vehicle	N/A	N/A	N/A	N/A	S
Same Direction Rear End	ACRS	N/A	Other Vehicle	N/A	N/A	N/A	Non-Intersection	N
Same Direction Rear End	ACRS	N/A	Other Vehicle	N/A	N/A	Four-Way Intersection	Intersection	N
Straight Movement Angle	ACRS	N/A	Other Vehicle	N/A	N/A	Four-Way Intersection	Intersection	N
Straight Movement Angle	ACRS	N/A	Other Vehicle	N/A	N/A	Four-Way Intersection	Intersection	N
Straight Movement Angle	ACRS	N/A	Other Vehicle	N/A	N/A	Four-Way Intersection	Intersection	N
Other	ACRS	N/A	Pedestrian	N/A	N/A	Four-Way Intersection	Intersection	N
Other	ACRS	N/A	Other Pedalcycle	N/A	N/A	Four-Way Intersection	Intersection	N
Straight Movement Angle	ACRS	N/A	Other Vehicle	N/A	N/A	Four-Way Intersection	Intersection	N
Head On Left Turn	ACRS	N/A	Other Vehicle	N/A	Intersection	Four-Way Intersection	Intersection	N
Straight Movement Angle	ACRS	N/A	Other Vehicle	N/A	Intersection	Four-Way Intersection	Intersection	N
Straight Movement Angle	ACRS	N/A	Other Vehicle	N/A	Intersection	Four-Way Intersection	Intersection	N
Straight Movement Angle	ACRS	N/A	Other Vehicle	N/A	Intersection	Four-Way Intersection	Intersection	N
Straight Movement Angle	ACRS	N/A	Other Vehicle	Other Vehicle	Intersection	Four-Way Intersection	Intersection	N
Straight Movement Angle	ACRS	N/A	Other Vehicle	Offroad	Intersection	Four-Way Intersection	Intersection	N
Single Vehicle	ACRS	Other Pole	Fixed Object	N/A	Intersection	Four-Way Intersection	Intersection	N
Straight Movement Angle	ACRS	N/A	Other Vehicle	N/A	Intersection	Four-Way Intersection	Intersection	N
Opposite Direction Sideswipe	ACRS	N/A	Pedestrian	N/A	Intersection	Four-Way Intersection	Intersection	S
Straight Movement Angle	ACRS	N/A	Other Vehicle	N/A	Intersection	Four-Way Intersection	Intersection	S

## Crash Data Collected From 2021 to 2023 Within Study Area

Lanumber	Lighting	Logmile Dir	MaintenanceZone	Milepoint	Milepointdirection	Milepointdistance	Milepointdistanceunits	Nontraffic	Numberoflanes
2	Dark Lights On	N	N	2.22	S	50	F	N	3
	Dusk	E	N	1.13	E	0	F	N	2
2	Daylight	E	N	1.13	W	50	F	N	2
3	Daylight	N	N	2.22	N	0	F	N	3
1	Daylight	N	N	2.22	N	0	F	N	4
2	Dusk	N	N	2.22	N	0	F	N	4
4	Dark Lights On	N	N	2.22	N	0	F	N	4
3	Daylight	N	N	2.22	S	100	F	N	3
1	Daylight	N	N	2.22	N	100	F	N	3
3	Daylight	N	N	2.22	N	0	F	N	3
1	Dark Lights On	N	N	2.22	S	20	F	N	3
2	Daylight	N	N	2.22	N	0	F	N	3
1	Dark Lights On	S	N	2.02	S	0	F	N	2
2	Dark Lights On	E	Y	1.13	W	50	F	N	2
2	Daylight	N	Y	2.22	N	0	F	N	2
2	Daylight	E	N	1.13	E	0	F	N	4
1	Daylight	E	N	0.27	W	0.1	M	N	4
3	Daylight	E	N	12.481	W	0.1	M	N	3
1	Daylight	S	N	0.87	N	0.37	M	N	2
1	Daylight	S	N	2.52	N	1	M	N	2
1	Daylight	N	N	0.52	S	0.25	M	N	1
2	Dark Lights On	N	N	5.09	N	0	F	N	3
2	Dark Lights On	N	N	4.81	N	0	F	N	3
1	Dark Lights On	N	N	3.59	N	0	F	N	5
2	Dark Lights On	N	N	11.84	N	0	F	N	3
2	Dark Lights On	N	N	7.78	N	0	F	N	3
1	Dark Lights On	N	N	0	N	0	F	N	3
1	Dark Lights On	N	N	4.16	N	0	F	N	2
2	Dark Lights On	N	N	6.52	N	0	F	N	3
2	Dark Lights On	N	N	18.02	N	0	F	N	2
2	Dark Lights On	N	N	3.58	N	0	F	N	3
2	Dark Lights On	N	N	3.58	N	0	F	N	3
2	Dark Lights On	N	N	4.16	N	0	F	N	6
3	Dark Lights On	N	N	0.54	N	0	F	N	4
3	Dark Lights On	N	N	7.75	N	0	F	N	3
2	Dark Lights On	N	N	8.71	N	0	F	N	3
	Daylight	N	N	1.14	N	0	F	N	3
1	Daylight	N	N	1.43	N	0	F	N	3



Crash Data Collected From 2021 to 2023 Within Study Area

Roadgrade	Route Number	Route Type	Schoolbusinvolvement	Status Id	Surfacecondition	Timeofcrash	Trafficcontrol	Trafficcontrolfunctioning	Weather
Level	185	Maryland Route	1	Approved	Dry	2:30:00	1		N/A
Level	537	County Road	1	Approved	Dry	17:30:00	3	Y	Clear
Level	537	County Road	1	Approved	Dry	15:25:00	1		Clear
Level	185	Maryland Route	1	Approved	Dry	16:26:00	3	Y	Clear
Level	185	Maryland Route	1	Approved	Dry	7:29:00	3	Y	Clear
Level	185	Maryland Route	2	Approved	Dry	17:05:00	3	Y	Clear
Level	185	Maryland Route	1	Approved	Dry	18:07:00	3	Y	Clear
Level	185	Maryland Route	1	Approved	Dry	11:08:00	1		N/A
Level	185	Maryland Route	1	Approved	Wet	18:10:00	3	Y	Raining
Level	185	Maryland Route	1	Approved	Dry	17:47:00	3	Y	Clear
Level	185	Maryland Route	1	Approved	Dry	23:20:00	3	Y	Clear
Level	185	Maryland Route	1	Approved	Dry	16:44:00	3	Y	Clear
Level	50	Municipal Road	1	Approved	Dry	19:30:00	3	Y	Clear
Level	537	County Road	1	Approved	Dry	23:55:00	1		Clear
Level	185	Maryland Route	1	Approved	Dry	15:06:00	3	Y	Clear
Level	537	County Road	1	Approved	Dry	10:41:00	3	Y	Clear
Level	495	Interstate Route	00	Approved	Dry	12:50	00		Cloudy
Grade Downhill	200	Maryland Route	00	Approved	Dry	7:55	00		Clear
Hill Uphill	6340	County Road	01	Approved	Dry	17:01	01		Clear
Level	209	County Road	01	Approved	Dry	11:56	00		Cloudy
Hill Uphill	189	Maryland Route	01	Approved	Dry	16:02	01		Cloudy
Level	97	Maryland Route	01	Approved	Dry	4:03	03	Y	Clear
Level	97	Maryland Route	01	Approved	Dry	3:31	03	Y	Clear
Level	124	Maryland Route	01	Approved	Dry	18:37	03	Y	Cloudy
Level	355	Maryland Route	01	Approved	Dry	22:27	03	Y	Clear
Level	355	Maryland Route	01	Approved	Dry	17:30	03	Y	Clear
Level	97	Maryland Route	01	Approved	Dry	19:15	03	Y	Clear
Level	124	Maryland Route	01	Approved	Dry	1:16	04	Y	Clear
Level	118	Maryland Route	01	Approved	Dry	22:05	03	Y	Clear
Level	355	Maryland Route	01	Approved	Dry	0:12	03	Y	Clear
Level	97	Maryland Route	01	Approved	Dry	23:05	03	Y	Clear
Level	97	Maryland Route	01	Approved	Dry	1:07	03	Y	Clear
Level	124	Maryland Route	01	Approved	Dry	21:48	03	Y	Clear
Level	27	Maryland Route	01	Approved	Dry	21:48	03	Y	Clear
Level	185	Maryland Route	01	Approved	Dry	18:30	03	Y	Clear
Level	355	Maryland Route	01	Approved	Dry	3:25	03	Y	Clear
Level	355	Maryland Route	01	Approved	Dry	17:15	03	Y	Clear
Level	187	Maryland Route	01	Approved	Dry	10:21	03	Y	Clear

Appendix B: TMC Data

## Maryland State Highway Administration Data Services Engineering Division Turning Movement Counts - Field Sheet

Job No.:

Location: Jones Bridge and Connecticut Ave  
 Date: 9/9/2025  
 Recorder: Yohannes and Yongcan  
 Interval (dd) : 15  
 (In Minutes)

County: Montgomery  
 Town: Chevy chase  
 Weather: Sunny

PEAK HOURS	AM PERIOD 6:00AM-12:00PM	Start	End	Volume	LOS	V/C	PM PERIOD 12:00PM-7:00PM	Start	End	Volume	LOS	V/C
		07:00	08:00	6019	A	0.26	12:00PM-7:00PM	16:00	17:00	6269	A	0.21

Street Name--> HOUR ENDING	Jones Bridge					Jones Bridge					Connecticut Ave					Connecticut Ave					Kensington Pkwy					
	From East					From West					From South					From North					From Northeast					
	U turn	Left	Through	Right	Total	U-Turn	Left	Through	Right	Total	U-Turn	Left	Through	Right	Total	U-Turn	Left	Through	Right	Total	U-Turn	Bear Left	Hard Left	Through	Right	Total
00:15	0	0	2	2	4	0	8	1	1	10	0	0	48	0	48	0	1	38	8	47	0	1	0	1	0	2
00:30	0	0	0	3	3	0	5	2	2	9	0	0	37	0	37	0	0	27	3	30	0	0	0	0	0	0
00:45	0	0	2	3	5	0	6	1	1	8	0	0	31	0	31	0	0	17	2	19	0	0	0	0	0	0
01:00	0	0	0	1	1	0	11	2	1	14	0	0	14	0	14	0	0	17	5	22	0	0	0	0	0	0
01:15	0	0	0	3	3	0	3	4	1	8	1	0	19	0	20	0	0	9	2	11	0	0	0	0	0	0
01:30	0	0	1	1	2	0	2	2	0	4	0	0	19	0	19	0	1	13	4	18	0	1	0	0	0	1
01:45	0	0	1	1	2	0	2	1	0	3	0	0	16	0	16	0	0	12	1	13	0	0	0	0	0	0
02:00	0	0	0	0	0	0	2	0	1	3	0	0	18	0	18	0	0	10	1	11	0	0	0	0	0	0
02:15	0	0	2	1	3	0	0	0	0	0	0	0	14	0	14	0	0	6	3	9	0	0	0	0	0	0
02:30	0	0	0	0	0	0	2	0	0	2	0	0	20	0	20	0	0	16	5	21	0	0	0	0	0	0
02:45	0	0	0	1	1	0	1	1	2	4	0	0	16	0	16	0	0	19	3	22	0	0	0	0	0	0
03:00	0	0	0	2	2	0	2	0	0	2	0	0	12	0	12	0	0	15	4	19	0	0	0	0	0	0
03:15	0	0	1	1	2	0	2	0	0	2	0	0	10	0	10	0	0	17	5	22	0	0	0	0	0	0
03:30	0	0	1	3	4	0	3	0	0	3	0	0	8	1	9	0	0	20	15	35	0	0	0	0	0	0
03:45	0	0	1	3	4	0	2	1	1	4	0	1	13	0	14	0	1	50	23	74	0	1	0	0	0	1
04:00	0	0	1	1	2	0	3	0	0	3	0	0	5	0	5	0	0	48	19	67	0	0	0	0	0	0
04:15	0	0	3	4	7	0	5	1	0	6	0	0	19	0	19	0	2	88	34	124	0	1	1	0	0	2
04:30	0	0	10	3	13	0	0	0	0	0	0	0	22	1	23	0	0	134	59	193	0	0	0	0	0	0
04:45	0	0	11	6	17	0	7	0	0	7	0	0	28	0	28	1	1	131	71	204	0	1	0	0	1	2
05:00	0	0	12	10	22	0	9	3	6	18	0	0	29	0	29	0	1	155	88	244	0	1	0	1	0	2
05:15	0	0	18	18	36	0	16	3	5	24	0	0	44	0	44	0	0	217	107	324	0	0	0	0	0	0
05:30	0	0	19	27	46	0	15	4	1	20	0	0	59	0	59	0	3	323	180	506	0	0	0	2	0	2
05:45	0	0	43	32	75	0	20	5	1	26	0	0	55	1	56	0	2	345	198	545	0	1	0	0	0	1
06:00	0	0	29	15	44	0	25	2	3	30	0	0	98	1	99	0	3	404	187	594	0	2	0	3	0	5
06:15	0	0	45	23	68	0	34	3	6	43	0	0	128	1	129	0	7	464	233	704	0	7	0	5	0	12
06:30	0	0	63	32	95	0	37	4	7	48	0	0	139	0	139	0	8	560	233	801	0	8	0	8	0	16
06:45	0	0	78	42	120	0	50	18	4	72	0	0	150	2	152	0	5	554	254	813	0	5	0	10	0	15
07:00	0	0	67	49	116	0	52	19	10	81	0	0	216	5	221	0	28	585	223	836	0	27	1	10	0	38
07:15	0	0	80	68	148	0	73	28	16	117	0	0	305	3	308	0	65	561	215	841	0	63	2	21	1	87
07:30	0	0	96	68	164	0	102	37	18	157	0	0	332	4	336	0	47	442	205	694	0	42	5	40	0	87
07:45	0	0	92	59	151	0	92	45	14	151	0	0	359	10	369	0	37	456	243	736	0	27	10	42	0	79
08:00	0	0	78	57	135	0	86	36	12	134	0	0	364	3	367	0	41	474	245	760	0	35	6	46	0	87
08:15	0	0	77	66	143	0	91	40	11	142	0	0	415	12	427	0	46	417	265	728	0	37	9	39	0	85
08:30	0	0	81	63	144	0	84	33	25	142	0	0	363	9	372	0	41	488	257	786	0	36	5	38	2	81
08:45	0	0	75	45	120	0	91	33	15	139	0	0	294	12	306	0	31	513	261	805	0	26	5	25	0	56
09:00	0	0	63	59	122	0	81	40	22	143	0	0	319	8	327	0	23	508	259	790	0	20	3	23	0	46
09:15	0	0	46	66	112	0	72	29	9	110	0	0	287	12	299	0	26	472	240	738	0	16	10	12	0	38
09:30	0	0	40	52	92	0	58	16	15	89	0	0	259	19	278	0	32	473	249	754	0	24	8	11	0	43
09:45	0	0	38	52	90	0	73	23	19	115	0	0	274	7	281	0	17	516	253	786	0	13	4	12	0	29
10:00	0	0	23	27	50	0	57	21	11	89	0	0	324	5	329	0	16	485	210	711	0	11	5	8	1	25
10:15	0	0	26	44	70	1	62	20	9	92	0	0	264	9	273	0	12	422	170	604	0	9	3	8	0	20
10:30	0	0	36	55	91	0	62	16	24	102	0	0	349	7	356	0	14	353	131	498	0	10	3	7	0	20
10:45	0	0	33	34	67	0	63	26	15	104	0	0	288	13	301	0	4	363	119	486	0	4	0	6	1	11
11:00	0	0	19	43	62	0	75	21	21	117	0	0	316	6	322	0	7	354	125	486	0	6	1	6	2	15
11:15	0	0	25	38	63	0	78	25	24	127	0	0	327	9	336	0	13	387	114	514	0	13	0	2	0	15
11:30	0	0	28	40	68	0	76	24	25	125	0	0	305	13	318	0	4	342	115	461	0	4	0	8	0	12
11:45	0	0	39	34	73	0	97	37	17	151	0	0	333	6	339	0	12	369	122	503	0	12	0	9	0	21
12:00	0	0	24	42	66	0	97	36	15	148	0	0	341	11	352	0	9	348	92	449	0	8	1	3	0	12
12:15	0	0	25	50	75	0	98	31	20	149	0	0	409	13	422	0	3	373	99	475	0	3	0	5	0	8
12:30	0	0	23	47	70	0	104	33	17	154	0	0	397	10	407	0	7	347	77	431	0	7	0	6	1	14
12:45	0	0	23	47	70	0	93	27	20	140	0	0	392	8	400	0	16	385	100	501	0	15	1	8	0	24
13:00	0	0	24	45	69	0	127	37	22	186	0	0	412	11	423	0	4	323	90	417	0	4	0	3	2	9
13:15	0	0	31	45	76	0	126	40	20	186	0	0	423	9	432	0	12	332	78	422	0	12	0	3	0	15
13:30	0	0	26	57	83	0	98	34	12	144	0	0	411	7	418	0	8	360	103	471	0	7	1	7	1	16
13:45	0	0	34	61	95	0	105	37	15	157	0	0	373	7	380	0	6	334	93	433	0	6	0	12	2	20
14:00	0	0	30	56	86	1	171	49	16	237	0	1	423	7	431	0	5	346	70	421	0	4	1	2	0	7
14:15	0	0	26	61	87	0	175	49	26	250	0	0	499	10	509	0	6	376	83	465	0	6	0	5	0	11

## Maryland State Highway Administration Data Services Engineering Division Turning Movement Counts - Field Sheet

Job No.:

Location: Jones Bridge and Conneticut Ave  
 Date: 9/9/2025  
 Recorder: Yohannes and Yongcan  
 Interval (dd) : 15  
 (In Minutes)

County: Montgomery  
 Town: Chevy chase  
 Weather: Sunny

PEAK HOURS	AM PERIOD 6:00AM-12:00PM			Start 07:00	End 08:00	Volume 6019	LOS A	V/C 0.26	PM PERIOD 12:00PM-7:00PM			Start 16:00	End 17:00	Volume 6269	LOS A	V/C 0.21										
14:30	0	0	23	54	77	0	186	51	23	260	0	0	533	6	539	0	8	383	94	485	0	8	0	5	1	14
14:45	0	0	28	60	88	0	207	73	32	312	0	0	508	6	514	0	4	359	107	470	0	4	0	7	3	14
15:00	0	0	37	56	93	0	247	74	19	340	0	0	485	5	490	0	12	335	78	425	0	12	0	6	1	19
15:15	0	0	21	42	63	0	243	94	26	363	0	0	514	11	525	0	12	359	82	453	0	10	2	5	1	18
15:30	0	0	20	64	84	0	231	125	24	380	0	0	513	9	522	0	8	325	63	396	0	8	0	5	1	14
15:45	0	0	23	42	65	0	236	139	37	412	0	0	487	4	491	0	13	369	73	455	0	8	5	3	0	16
16:00	0	0	24	51	75	0	253	112	40	405	0	0	461	7	468	0	9	315	66	390	0	8	1	3	1	13
16:15	0	0	35	52	87	0	231	142	45	418	0	0	483	6	489	0	7	326	84	417	0	6	1	8	0	15
16:30	0	0	30	58	88	0	267	128	36	431	0	0	518	17	535	0	12	431	99	542	0	11	1	5	2	19
16:45	0	0	23	53	76	0	243	128	42	413	0	0	513	8	521	0	15	410	93	518	0	13	2	6	1	22
17:00	0	0	17	44	61	0	226	151	32	409	0	0	505	15	520	0	8	435	90	533	0	6	2	5	1	14
17:15	0	0	38	55	93	0	232	133	34	399	0	0	488	8	496	0	17	425	108	550	0	16	1	10	2	29
17:30	0	0	28	60	88	0	217	136	31	384	0	0	489	8	497	0	7	418	118	543	0	7	0	9	2	18
17:45	0	0	24	47	71	0	225	110	35	370	0	0	512	9	521	0	13	365	117	495	0	10	3	2	2	17
18:00	0	0	30	50	80	0	156	103	35	294	0	0	508	13	521	0	14	407	105	526	0	8	6	5	0	19
18:15	0	0	25	26	51	0	166	84	37	287	0	0	513	9	522	0	17	425	104	546	0	9	8	8	0	25
18:30	0	0	20	50	70	0	133	84	23	240	0	0	450	11	461	0	2	355	85	442	0	2	0	7	2	11
18:45	0	0	27	45	72	0	116	51	21	188	0	0	377	18	395	0	7	319	62	388	0	7	0	5	0	12
19:00	0	0	19	52	71	0	83	37	12	132	0	0	420	17	437	0	7	349	56	412	0	7	0	3	0	10
19:15	0	0	25	62	87	0	109	40	15	164	0	0	394	14	408	0	6	274	42	322	0	6	0	5	2	13
19:30	0	0	24	55	79	0	65	28	12	105	0	0	403	18	421	1	3	244	53	301	0	3	0	2	0	5
19:45	0	1	20	62	83	0	95	24	10	129	0	0	287	20	307	0	6	239	50	295	0	5	1	4	2	12
20:00	0	0	7	38	45	0	64	21	7	92	0	0	357	11	368	1	2	231	44	278	0	2	0	1	0	3
20:15	0	0	7	30	37	0	78	34	14	126	0	0	329	8	337	0	4	220	43	267	0	4	0	4	0	8
20:30	0	0	8	27	35	0	76	34	18	128	0	0	301	7	308	0	4	216	46	266	0	4	0	2	0	6
20:45	0	0	11	34	45	0	64	48	9	121	0	0	242	8	250	0	3	198	39	240	0	3	0	3	0	6
21:00	0	0	11	22	33	0	92	38	11	141	0	0	273	9	282	0	2	212	38	252	0	2	2	0	0	4
21:15	0	0	5	26	31	1	61	29	13	104	0	0	256	6	262	0	1	198	20	219	0	1	0	1	1	3
21:30	0	0	3	18	21	0	74	29	9	112	0	0	236	3	239	0	3	205	42	250	0	3	0	0	1	4
21:45	0	0	6	10	16	0	44	14	6	64	0	0	206	2	208	0	14	131	36	181	0	14	0	4	2	20
22:00	0	0	1	11	12	0	55	6	7	68	0	0	218	4	222	0	7	137	24	168	0	7	0	1	1	9
22:15	0	0	4	20	24	0	31	8	4	43	0	0	194	2	196	0	4	113	32	149	0	4	0	1	1	6
22:30	0	0	4	9	13	0	44	4	2	50	0	0	142	0	142	0	1	105	29	135	0	1	0	0	1	2
22:45	0	0	6	6	12	0	30	3	2	35	0	0	138	1	139	0	3	88	18	109	0	3	0	0	0	3
23:00	0	0	3	9	12	0	37	6	2	45	0	0	106	1	107	0	1	85	12	98	0	0	1	0	0	1
23:15	0	0	2	8	10	0	29	10	1	40	0	0	131	1	132	0	0	38	7	45	0	0	0	0	0	0
23:30	0	0	1	12	13	0	23	2	0	25	0	0	95	0	95	0	0	52	12	64	0	0	0	0	0	0
23:45	0	0	2	4	6	0	16	2	1	19	0	0	88	0	88	0	1	41	5	47	0	1	0	0	1	2
00:00	0	0	2	5	7	0	13	0	4	17	0	0	52	0	52	0	0	24	5	29	0	0	0	0	0	0
<b>TOTAL</b>	<b>0</b>	<b>1</b>	<b>2315</b>	<b>3197</b>	<b>5513</b>	<b>3</b>	<b>7989</b>	<b>3335</b>	<b>1289</b>	<b>12616</b>	<b>1</b>	<b>2</b>	<b>25169</b>	<b>574</b>	<b>25746</b>	<b>3</b>	<b>884</b>	<b>26374</b>	<b>8934</b>	<b>36195</b>	<b>0</b>	<b>759</b>	<b>119</b>	<b>595</b>	<b>45</b>	<b>1518</b>
AM Peak Vol	0	0	328	245	573	0	353	154	62	569	0	0	1501	34	1535	0	165	1835	1010	3010	0		30	165	2	332
PM Peak Vol	0	0	108	210	318	0	968	540	144	1652	0	0	2024	48	2072	0	52	1701	390	2143	0		6	26	6	84

# Maryland State Highway Administration Data Services Engineering Division Turning Movement Counts - Field Sheet

Job No.:

Location: Jones Bridge and Conneticut Ave

Date: 9/9/2025

Recorder: Yohannes and Yongcan

Interval (dd) : 15  
(In Minutes)

County: Montgomery

Town: Chevy chase

Weather: Sunny

## SCHOOL CHILDREN, PEDESTRIANS & BICYCLES

Hour Ending	From East Jones Bridge			From West Jones Bridge			From South Conneticut Ave			From North Conneticut Ave		
	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles	School Children	Pedestrians	Bicycles
	00:15	0	0	0	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	0	0	0	0	0	0	0	0	0	0	2
04:45	0	0	0	0	0	1	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0
05:15	0	0	0	0	0	0	0	0	0	0	0	0
05:30	0	0	0	0	0	0	0	0	0	0	0	0
05:45	0	0	0	0	0	2	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0
06:15	0	1	0	0	0	0	0	0	0	0	0	2
06:30	0	0	0	0	0	0	0	0	0	2	0	1
06:45	0	1	0	0	0	0	0	0	0	0	0	2
07:00	0	2	1	0	1	0	0	0	1	0	0	2
07:15	0	0	1	0	0	0	0	0	2	0	0	3
07:30	0	4	1	0	0	1	0	1	1	0	0	2
07:45	0	2	0	0	1	0	0	2	2	0	0	4
08:00	0	1	1	0	2	1	0	0	3	0	1	2
08:15	0	3	1	0	0	0	0	0	2	2	0	2
08:30	0	1	1	0	1	0	0	0	1	0	0	5
08:45	0	1	1	0	2	0	0	0	3	3	0	2
09:00	0	0	2	0	6	0	0	0	3	5	0	2
09:15	0	2	4	0	4	0	0	0	2	1	0	2
09:30	0	1	1	0	0	0	0	0	0	1	0	0
09:45	0	0	0	0	0	1	0	0	0	1	0	0
10:00	0	0	0	0	0	0	0	0	0	0	0	2
10:15	0	0	1	0	0	0	0	0	0	2	0	0
10:30	0	0	1	0	1	0	0	0	0	1	0	1
10:45	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	1	0	0	0	0	1	0	0
11:15	0	1	1	0	0	0	0	0	1	1	0	1
11:30	0	1	0	0	0	0	0	0	0	0	0	0
11:45	0	3	0	0	1	0	0	0	1	2	0	1
12:00	0	2	0	0	0	1	0	0	0	0	3	0
12:15	0	0	3	0	0	2	0	0	0	2	0	0
12:30	0	2	0	0	0	0	0	0	0	0	0	6
12:45	0	0	1	0	0	4	0	0	0	6	0	0
13:00	0	0	1	0	0	0	0	0	1	4	0	0
13:15	0	2	0	0	1	0	0	0	1	1	0	0
13:30	0	1	1	0	1	0	0	0	1	2	0	0
13:45	0	1	1	0	0	1	0	0	2	2	0	0
14:00	0	1	1	0	0	0	0	0	0	3	0	0
14:15	0	3	0	0	1	0	0	0	1	0	0	0
14:30	0	1	0	0	2	1	0	0	0	1	0	0
14:45	0	1	1	0	0	0	0	0	0	5	0	0
15:00	0	3	2	0	0	0	0	0	1	0	0	2
15:15	0	4	0	0	0	0	0	0	1	2	0	1
15:30	0	7	0	0	0	4	0	0	0	4	0	5
15:45	0	1	0	0	0	2	0	0	0	2	0	0
16:00	0	2	1	0	0	1	0	0	2	2	0	2
16:15	0	2	0	0	0	1	0	0	1	2	0	0
16:30	0	5	0	0	0	1	0	0	0	1	0	2
16:45	0	2	0	0	0	1	0	2	2	9	0	0
17:00	0	4	0	0	1	1	0	4	6	0	0	1
17:15	0	2	0	0	0	1	0	3	0	0	0	1
17:30	0	0	0	0	0	1	0	1	2	0	0	0
17:45	0	3	2	0	0	2	0	2	3	0	3	0
18:00	0	2	0	0	1	0	0	4	3	0	3	1
18:15	0	2	2	0	1	0	0	0	3	0	0	1

## Maryland State Highway Administration Data Services Engineering Division Turning Movement Counts - Field Sheet

Job No.:

Location: Jones Bridge and Conneticut Ave

Date: 9/9/2025

Recorder: Yohannes and Yongcan

Interval (dd) : 15  
(In Minutes)

County: Montgomery

Town: Chevy chase

Weather: Sunny

18:30	0	1	3	0	0	1	0	0	2	0	0	0
18:45	0	2	1	0	0	0	0	0	0	0	0	0
19:00	0	3	5	0	0	1	0	0	5	0	1	2
19:15	0	2	1	0	1	0	0	0	2	0	0	1
19:30	0	5	0	0	2	0	0	0	0	0	1	1
19:45	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	3	0	0	0	0	0	0	0	0	0	1
20:15	0	1	1	0	0	0	0	0	0	0	0	0
20:30	0	0	0	0	0	0	0	0	0	0	0	0
20:45	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0
21:15	0	0	0	0	0	0	0	0	0	0	0	0
21:30	0	0	0	0	0	0	0	0	0	0	0	0
21:45	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0
22:15	0	0	0	0	0	0	0	0	0	0	0	0
22:30	0	0	0	0	0	0	0	0	0	0	0	0
22:45	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0
23:15	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0
00:00	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>0</b>	<b>94</b>	<b>44</b>	<b>0</b>	<b>34</b>	<b>29</b>	<b>0</b>	<b>43</b>	<b>107</b>	<b>0</b>	<b>22</b>	<b>65</b>
AM Peak Vol	0	7	3	0	3	2	0	3	8	0	1	11
PM Peak Vol	0	13	0	0	1	4	0	7	18	0	4	3

Appendix C: Synchro Reports

Lanes, Volumes, Timings

2: Connecticut Ave & Jones Bridge Road & Kensington Pkwy

11/04/2025



Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	NBR	SBT	SBR	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	353	154	62	328	245	1501	34	2165	1012	171	167
Future Volume (vph)	353	154	62	328	245	1501	34	2165	1012	171	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	11
Lane Util. Factor	0.97	0.95	0.95	0.91	0.91	0.86	0.86	0.91	1.00	1.00	1.00
Fr <sub>t</sub>		0.957		0.973	0.850	0.997			0.850		0.850
Fl <sub>t</sub> Protected	0.950									0.950	
Satd. Flow (prot)	3433	3387	0	3299	1441	6389	0	5085	1583	1711	1531
Fl <sub>t</sub> Permitted	0.423									0.950	
Satd. Flow (perm)	1529	3387	0	3299	1441	6389	0	5085	1583	1711	1531
Right Turn on Red			Yes						Yes		
Satd. Flow (RTOR)		29							360		
Link Speed (mph)		30		30		30		30		30	
Link Distance (ft)		599		579		666		467		455	
Travel Time (s)		13.6		13.2		15.1		10.6		10.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	384	167	67	357	266	1632	37	2353	1100	186	182
Shared Lane Traffic (%)				29%							
Lane Group Flow (vph)	384	234	0	434	189	1669	0	2353	1100	186	182
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right
Median Width(ft)		24		24		0		0		11	
Link Offset(ft)		0		0		0		0		0	
Crosswalk Width(ft)		16		16		16		16		16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)	15		9		9		9		9	15	9
Turn Type	custom	NA		NA	Perm	NA		NA	Perm	Prot	Perm
Protected Phases		4		8		2		2		1	
Permitted Phases	3				8				2		1
Minimum Split (s)	35.0	35.0		35.0	35.0	40.0		40.0	40.0	26.5	26.5
Total Split (s)	50.0	50.0		50.0	50.0	60.0		60.0	60.0	26.5	26.5
Total Split (%)	26.8%	26.8%		26.8%	26.8%	32.2%		32.2%	32.2%	14.2%	14.2%
Maximum Green (s)	43.0	42.0		43.5	43.5	53.0		53.0	53.0	18.0	18.0
Yellow Time (s)	3.5	4.0		4.0	4.0	4.0		4.0	4.0	3.5	3.5
All-Red Time (s)	3.5	4.0		2.5	2.5	3.0		3.0	3.0	5.0	5.0
Lost Time Adjust (s)	2.5	2.5		2.5	2.5	2.5		2.5	2.5	2.5	2.5
Total Lost Time (s)	9.5	10.5		9.0	9.0	9.5		9.5	9.5	11.0	11.0
Lead/Lag	Lead	Lag				Lag		Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes				Yes		Yes	Yes	Yes	Yes
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0	7.0	7.0	7.0
Flash Don't Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0	0		0	0	0	0
Act Effct Green (s)	40.5	39.5		91.0	91.0	50.5		50.5	50.5	15.5	15.5
Actuated g/C Ratio	0.22	0.21		0.49	0.49	0.27		0.27	0.27	0.08	0.08
v/c Ratio	1.16	0.32		0.27	0.27	0.97		1.71	1.59	1.31	1.43
Control Delay (s/veh)	159.8	55.5		28.7	29.4	81.3		360.4	300.0	240.6	287.7
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0

Lanes, Volumes, Timings

2: Connecticut Ave & Jones Bridge Road & Kensington Pkwy

11/04/2025

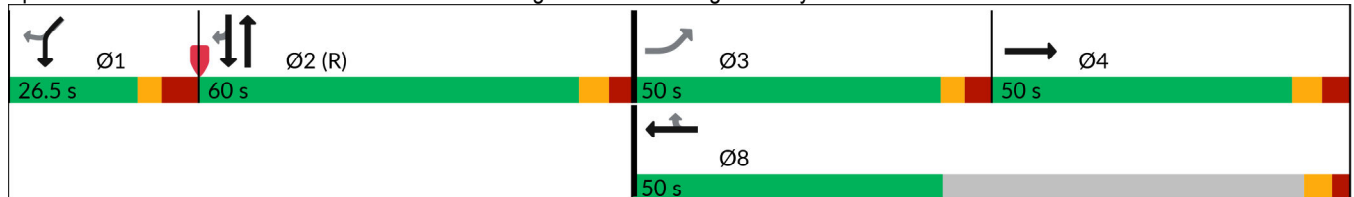


Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	NBR	SBT	SBR	SWL	SWR
Total Delay (s/veh)	159.8	55.5		28.7	29.4	81.3		360.4	300.0	240.6	287.7
LOS	F	E		C	C	F		F	F	F	F
Approach Delay (s/veh)		120.3		28.9		81.3		341.2		263.9	
Approach LOS		F		C		F		F		F	
Queue Length 50th (ft)	~285	112		170	148	592		~1545	~1584	~291	~300
Queue Length 95th (ft)	#401	159		214	215	#665		#1621	#1856	#471	#478
Internal Link Dist (ft)		519		499		586		387		375	
Turn Bay Length (ft)											
Base Capacity (vph)	332	740		1609	703	1729		1376	691	142	127
Starvation Cap Reductn	0	0		0	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0		0	0	0	0
Reduced v/c Ratio	1.16	0.32		0.27	0.27	0.97		1.71	1.59	1.31	1.43

Intersection Summary

Area Type: Other  
 Cycle Length: 186.5  
 Actuated Cycle Length: 186.5  
 Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green  
 Natural Cycle: 150  
 Control Type: Pretimed  
 Maximum v/c Ratio: 1.71  
 Intersection Signal Delay (s/veh): 223.4  
 Intersection LOS: F  
 Intersection Capacity Utilization 109.3%  
 ICU Level of Service H  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

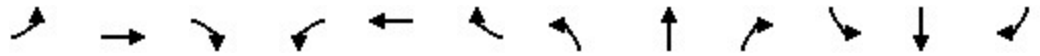
Splits and Phases: 2: Connecticut Ave & Jones Bridge Road & Kensington Pkwy



Lanes, Volumes, Timings

2: Connecticut Ave & Jones Bridge Road

11/04/2025

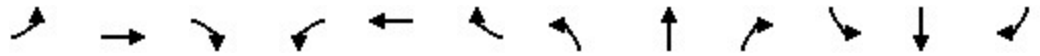


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	353	154	62	0	328	245	0	1501	34	0	2165	1012
Future Volume (vph)	353	154	62	0	328	245	0	1501	34	0	2165	1012
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	0.95	0.95	1.00	0.91	0.91	1.00	0.86	0.86	1.00	0.91	1.00
Fr <sub>t</sub>		0.957			0.973	0.850		0.997				0.850
Fl <sub>t</sub> Protected	0.950											
Satd. Flow (prot)	3433	3387	0	0	3299	1441	0	6389	0	0	5085	1583
Fl <sub>t</sub> Permitted	0.471											
Satd. Flow (perm)	1702	3387	0	0	3299	1441	0	6389	0	0	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			8	40		5				315
Link Speed (mph)		30			30			30				30
Link Distance (ft)		599			579			666				467
Travel Time (s)		13.6			13.2			15.1				10.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	384	167	67	0	357	266	0	1632	37	0	2353	1100
Shared Lane Traffic (%)						29%						
Lane Group Flow (vph)	384	234	0	0	434	189	0	1669	0	0	2353	1100
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA	Perm		NA			NA	Perm
Protected Phases		4			8			2				2
Permitted Phases	4					8						2
Minimum Split (s)	35.0	35.0			35.0	35.0		40.0			40.0	40.0
Total Split (s)	50.0	50.0			50.0	50.0		60.0			60.0	60.0
Total Split (%)	45.5%	45.5%			45.5%	45.5%		54.5%			54.5%	54.5%
Maximum Green (s)	42.0	42.0			43.5	43.5		53.0			53.0	53.0
Yellow Time (s)	4.0	4.0			4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	4.0	4.0			2.5	2.5		3.0			3.0	3.0
Lost Time Adjust (s)	2.5	2.5			2.5	2.5		2.5			2.5	2.5
Total Lost Time (s)	10.5	10.5			9.0	9.0		9.5			9.5	9.5
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0			7.0	7.0		7.0			7.0	7.0
Flash Don't Walk (s)	11.0	11.0			11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)	0	0			0	0		0			0	0
Act Effct Green (s)	39.5	39.5			41.0	41.0		50.5			50.5	50.5
Actuated g/C Ratio	0.36	0.36			0.37	0.37		0.46			0.46	0.46
v/c Ratio	0.63	0.19			0.35	0.34		0.57			1.01	1.23
Control Delay (s/veh)	34.7	24.7			25.4	21.2		22.7			50.7	133.7
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	0.0
Total Delay (s/veh)	34.7	24.7			25.4	21.2		22.7			50.7	133.7

Lanes, Volumes, Timings

2: Connecticut Ave & Jones Bridge Road

11/04/2025

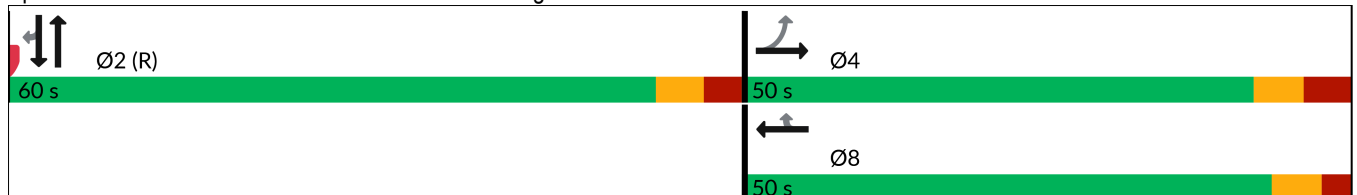


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C			C	C		C			D	F
Approach Delay (s/veh)		30.9			24.2			22.7			77.2	
Approach LOS		C			C			C			E	
Queue Length 50th (ft)	114	58			117	80		243			~605	~835
Queue Length 95th (ft)	168	88			162	145		280			#734	#1091
Internal Link Dist (ft)		519			499			586			387	
Turn Bay Length (ft)												
Base Capacity (vph)	611	1216			1234	562		2935			2334	897
Starvation Cap Reductn	0	0			0	0		0			0	0
Spillback Cap Reductn	0	0			0	0		0			0	0
Storage Cap Reductn	0	0			0	0		0			0	0
Reduced v/c Ratio	0.63	0.19			0.35	0.34		0.57			1.01	1.23

Intersection Summary

Area Type: Other  
 Cycle Length: 110  
 Actuated Cycle Length: 110  
 Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green  
 Natural Cycle: 120  
 Control Type: Pretimed  
 Maximum v/c Ratio: 1.23  
 Intersection Signal Delay (s/veh): 53.2      Intersection LOS: D  
 Intersection Capacity Utilization 89.8%      ICU Level of Service E  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Connecticut Ave & Jones Bridge Road



Lanes, Volumes, Timings

2: Connecticut Ave & Jones Bridge Road & Kensington Pkwy

11/04/2025



Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	NBR	SBT	SBR	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	353	154	62	328	245	1501	34	2165	1012	171	167
Future Volume (vph)	353	154	62	328	245	1501	34	2165	1012	171	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	11
Lane Util. Factor	0.94	0.95	0.95	0.91	0.91	0.86	0.86	0.91	1.00	1.00	1.00
Frt		0.957		0.973	0.850	0.997			0.850		0.850
Flt Protected	0.950									0.950	
Satd. Flow (prot)	4990	3387	0	3299	1441	6389	0	5085	1583	1711	1531
Flt Permitted	0.342									0.950	
Satd. Flow (perm)	1797	3387	0	3299	1441	6389	0	5085	1583	1711	1531
Right Turn on Red			Yes						Yes		
Satd. Flow (RTOR)		33							206		
Link Speed (mph)		30		30		30		30		30	
Link Distance (ft)		599		579		666		467		455	
Travel Time (s)		13.6		13.2		15.1		10.6		10.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	384	167	67	357	266	1632	37	2353	1100	186	182
Shared Lane Traffic (%)				29%							
Lane Group Flow (vph)	384	234	0	434	189	1669	0	2353	1100	186	182
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right
Median Width(ft)		36		36		0		0		11	
Link Offset(ft)		0		0		0		0		0	
Crosswalk Width(ft)		16		16		16		16		16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)	15		9		9		9		9	15	9
Turn Type	custom	NA		NA	Perm	NA		NA	Perm	Prot	Perm
Protected Phases		4		8		2		2		1	
Permitted Phases	3				8				2		1
Minimum Split (s)	25.0	24.5		24.5	24.5	25.0		25.0	25.0	26.5	26.5
Total Split (s)	30.0	24.5		54.5	54.5	63.5		63.5	63.5	27.0	27.0
Total Split (%)	20.7%	16.9%		37.6%	37.6%	43.8%		43.8%	43.8%	18.6%	18.6%
Maximum Green (s)	23.0	18.0		48.0	48.0	56.5		56.5	56.5	18.5	18.5
Yellow Time (s)	3.5	4.0		4.0	4.0	4.0		4.0	4.0	3.5	3.5
All-Red Time (s)	3.5	2.5		2.5	2.5	3.0		3.0	3.0	5.0	5.0
Lost Time Adjust (s)	2.5	2.5		2.5	2.5	3.0		3.0	3.0	3.0	3.0
Total Lost Time (s)	9.5	9.0		9.0	9.0	10.0		10.0	10.0	11.5	11.5
Lead/Lag	Lead	Lag				Lag		Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes				Yes		Yes	Yes	Yes	Yes
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0	7.0	7.0	7.0
Flash Don't Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0	0		0	0	0	0
Act Effct Green (s)	20.5	15.5		45.5	45.5	53.5		53.5	53.5	15.5	15.5
Actuated g/C Ratio	0.14	0.11		0.31	0.31	0.37		0.37	0.37	0.11	0.11
v/c Ratio	1.51	0.60		0.42	0.42	0.71		1.25	1.54	1.02	1.12
Control Delay (s/veh)	290.3	59.8		40.8	42.8	41.1		157.7	277.6	134.6	161.9
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0

Lanes, Volumes, Timings

2: Connecticut Ave & Jones Bridge Road & Kensington Pkwy

11/04/2025

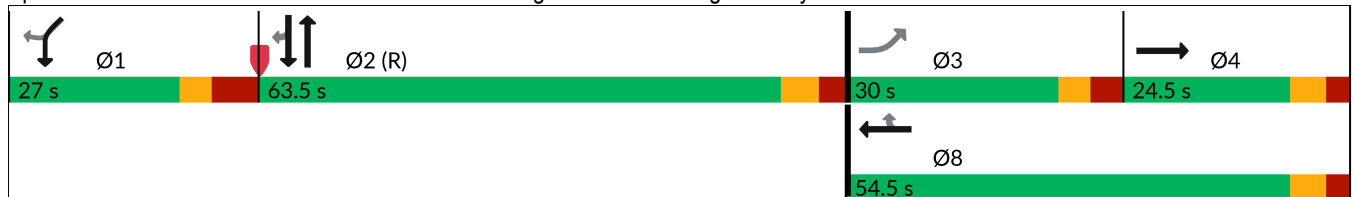


Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	NBR	SBT	SBR	SWL	SWR
Total Delay (s/veh)	290.3	59.8		40.8	42.8	41.1		157.7	277.6	134.6	161.9
LOS	F	E		D	D	D		F	F	F	F
Approach Delay (s/veh)		203.0		41.4		41.1		195.9		148.1	
Approach LOS		F		D		D		F		F	
Queue Length 50th (ft)	~178	96		178	154	390		~1015	~1335	~185	~196
Queue Length 95th (ft)	#252	144		232	239	434		#1103	#1603	#346	#357
Internal Link Dist (ft)		519		499		586		387		375	
Turn Bay Length (ft)											
Base Capacity (vph)	254	391		1035	452	2357		1876	714	182	163
Starvation Cap Reductn	0	0		0	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0		0	0	0	0
Reduced v/c Ratio	1.51	0.60		0.42	0.42	0.71		1.25	1.54	1.02	1.12

Intersection Summary

Area Type: Other  
 Cycle Length: 145  
 Actuated Cycle Length: 145  
 Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green  
 Natural Cycle: 145  
 Control Type: Pretimed  
 Maximum v/c Ratio: 1.54  
 Intersection Signal Delay (s/veh): 141.3  
 Intersection LOS: F  
 Intersection Capacity Utilization 110.1%  
 ICU Level of Service H  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Connecticut Ave & Jones Bridge Road & Kensington Pkwy



Lanes, Volumes, Timings

2: Connecticut Ave & Jones Bridge Road & Kensington Pkwy

11/05/2025



Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	NBR	SBT	SBR	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	353	154	62	328	245	1501	34	2165	1012	171	167
Future Volume (vph)	353	154	62	328	245	1501	34	2165	1012	171	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	11
Lane Util. Factor	0.97	0.95	0.95	0.95	1.00	0.91	1.00	0.91	1.00	1.00	1.00
Frt		0.957			0.850		0.850		0.850		0.850
Flt Protected	0.950									0.950	
Satd. Flow (prot)	3433	3387	0	3539	1583	5085	1583	5085	1583	1711	1531
Flt Permitted	0.510									0.950	
Satd. Flow (perm)	1843	3387	0	3539	1583	5085	1583	5085	1583	1711	1531
Right Turn on Red			Yes							Yes	
Satd. Flow (RTOR)		29								360	
Link Speed (mph)		30		30		30		30		30	
Link Distance (ft)		599		579		666		467		455	
Travel Time (s)		13.6		13.2		15.1		10.6		10.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	384	167	67	357	266	1632	37	2353	1100	186	182
Shared Lane Traffic (%)											
Lane Group Flow (vph)	384	234	0	357	266	1632	37	2353	1100	186	182
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right
Median Width(ft)		24		24		0		0		11	
Link Offset(ft)		0		0		0		0		0	
Crosswalk Width(ft)		16		16		16		16		16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)	15		9		9		9		9	15	9
Turn Type	custom	NA		NA	Perm	NA	Perm	NA	Perm	Prot	Perm
Protected Phases		4		8		2		2		1	
Permitted Phases	3				8		2		2		1
Minimum Split (s)	35.0	35.0		35.0	35.0	40.0	40.0	40.0	40.0	26.5	26.5
Total Split (s)	50.0	50.0		50.0	50.0	60.0	60.0	60.0	60.0	26.5	26.5
Total Split (%)	26.8%	26.8%		26.8%	26.8%	32.2%	32.2%	32.2%	32.2%	14.2%	14.2%
Maximum Green (s)	43.0	42.0		43.5	43.5	53.0	53.0	53.0	53.0	18.0	18.0
Yellow Time (s)	3.5	4.0		4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.5
All-Red Time (s)	3.5	4.0		2.5	2.5	3.0	3.0	3.0	3.0	5.0	5.0
Lost Time Adjust (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Total Lost Time (s)	9.5	10.5		9.0	9.0	9.5	9.5	9.5	9.5	11.0	11.0
Lead/Lag	Lead	Lag				Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes				Yes	Yes	Yes	Yes	Yes	Yes
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Don't Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0	0	0	0
Act Effct Green (s)	40.5	39.5		91.0	91.0	50.5	50.5	50.5	50.5	15.5	15.5
Actuated g/C Ratio	0.22	0.21		0.49	0.49	0.27	0.27	0.27	0.27	0.08	0.08
v/c Ratio	0.96	0.32		0.21	0.34	1.19	0.09	1.71	1.59	1.31	1.43
Control Delay (s/veh)	106.6	55.5		27.6	31.0	147.6	51.6	360.4	300.0	240.6	287.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings

2: Connecticut Ave & Jones Bridge Road & Kensington Pkwy

11/05/2025

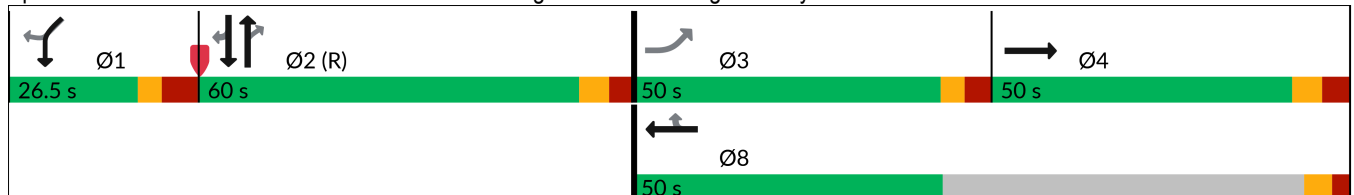


Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	NBR	SBT	SBR	SWL	SWR
Total Delay (s/veh)	106.6	55.5		27.6	31.0	147.6	51.6	360.4	300.0	240.6	287.7
LOS	F	E		C	C	F	D	F	F	F	F
Approach Delay (s/veh)		87.3		29.0		145.5		341.2		263.9	
Approach LOS		F		C		F		F		F	
Stops (vph)	318	157		182	147	1272	25	1411	444	130	120
Fuel Used(gal)	11	4		4	3	60	1	175	68	10	11
CO Emissions (g/hr)	774	301		303	242	4189	47	12201	4750	678	771
NOx Emissions (g/hr)	151	58		59	47	815	9	2374	924	132	150
VOC Emissions (g/hr)	179	70		70	56	971	11	2828	1101	157	179
Dilemma Vehicles (#)	0	0		0	0	0	0	0	0	0	0
Queue Length 50th (ft)	243	112		130	199	~876	34	~1545	~1584	~291	~300
Queue Length 95th (ft)	#356	159		166	275	#969	69	#1621	#1856	#471	#478
Internal Link Dist (ft)		519		499		586		387		375	
Turn Bay Length (ft)											
Base Capacity (vph)	400	740		1726	772	1376	428	1376	691	142	127
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.32		0.21	0.34	1.19	0.09	1.71	1.59	1.31	1.43

Intersection Summary

Area Type: Other  
 Cycle Length: 186.5  
 Actuated Cycle Length: 186.5  
 Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green  
 Natural Cycle: 150  
 Control Type: Pretimed  
 Maximum v/c Ratio: 1.71  
 Intersection Signal Delay (s/veh): 236.2      Intersection LOS: F  
 Intersection Capacity Utilization 106.7%      ICU Level of Service G  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Connecticut Ave & Jones Bridge Road & Kensington Pkwy



Lanes, Volumes, Timings

2: Connecticut Ave & Jones Bridge Road & Kensington Pkwy

11/04/2025



Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	NBR	SBT	SBR	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	968	540	144	108	210	2024	48	1779	396	42	28
Future Volume (vph)	968	540	144	108	210	2024	48	1779	396	42	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	11
Lane Util. Factor	0.97	0.95	0.95	0.91	0.91	0.86	0.86	0.91	1.00	1.00	1.00
Fr't		0.968		0.926	0.850	0.997			0.850		0.850
Flt Protected	0.950									0.950	
Satd. Flow (prot)	3433	3426	0	3139	1441	6389	0	5085	1583	1711	1531
Flt Permitted	0.602									0.950	
Satd. Flow (perm)	2175	3426	0	3139	1441	6389	0	5085	1583	1711	1531
Right Turn on Red			Yes						Yes		
Satd. Flow (RTOR)		17							177		
Link Speed (mph)		30		30		30		30		30	
Link Distance (ft)		599		579		666		467		455	
Travel Time (s)		13.6		13.2		15.1		10.6		10.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1052	587	157	117	228	2200	52	1934	430	46	30
Shared Lane Traffic (%)				50%							
Lane Group Flow (vph)	1052	744	0	231	114	2252	0	1934	430	46	30
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right
Median Width(ft)		24		24		0		0		11	
Link Offset(ft)		0		0		0		0		0	
Crosswalk Width(ft)		16		16		16		16		16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)	15		9		9		9		9	15	9
Turn Type	custom	NA		NA	Perm	NA		NA	Perm	Prot	Perm
Protected Phases		4		8		2		2		1	
Permitted Phases	3				8				2		1
Minimum Split (s)	25.0	24.5		24.5	24.5	25.0		25.0	25.0	26.5	26.5
Total Split (s)	50.0	50.0		50.0	50.0	60.0		60.0	60.0	26.5	26.5
Total Split (%)	26.8%	26.8%		26.8%	26.8%	32.2%		32.2%	32.2%	14.2%	14.2%
Maximum Green (s)	43.0	43.5		43.5	43.5	53.0		53.0	53.0	18.0	18.0
Yellow Time (s)	3.5	4.0		4.0	4.0	4.0		4.0	4.0	3.5	3.5
All-Red Time (s)	3.5	2.5		2.5	2.5	3.0		3.0	3.0	5.0	5.0
Lost Time Adjust (s)	2.5	2.5		2.5	2.5	2.5		2.5	2.5	2.5	2.5
Total Lost Time (s)	9.5	9.0		9.0	9.0	9.5		9.5	9.5	11.0	11.0
Lead/Lag	Lead	Lag				Lag		Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes				Yes		Yes	Yes	Yes	Yes
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0	7.0	7.0	7.0
Flash Don't Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0	0		0	0	0	0
Act Effct Green (s)	40.5	41.0		91.0	91.0	50.5		50.5	50.5	15.5	15.5
Actuated g/C Ratio	0.22	0.22		0.49	0.49	0.27		0.27	0.27	0.08	0.08
v/c Ratio	2.23	0.97		0.15	0.16	1.30		1.41	0.77	0.32	0.24
Control Delay (s/veh)	589.3	95.5		26.7	27.4	191.2		233.6	46.5	87.2	85.1
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0

Lanes, Volumes, Timings

2: Connecticut Ave & Jones Bridge Road & Kensington Pkwy

11/04/2025

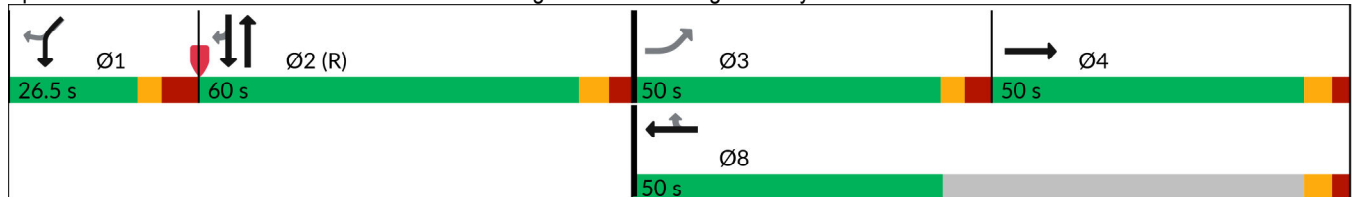


Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	NBR	SBT	SBR	SWL	SWR
Total Delay (s/veh)	589.3	95.5		26.7	27.4	191.2		233.6	46.5	87.2	85.1
LOS	F	F		C	C	F		F	D	F	F
Approach Delay (s/veh)		384.7		26.9		191.2		199.6		86.4	
Approach LOS		F		C		F		F		F	
Queue Length 50th (ft)	~1066	473		85	84	~1022		~1156	304	54	35
Queue Length 95th (ft)	#1203	#611		116	132	#1084		#1243	454	104	75
Internal Link Dist (ft)		519		499		586		387		375	
Turn Bay Length (ft)											
Base Capacity (vph)	472	766		1531	703	1729		1376	557	142	127
Starvation Cap Reductn	0	0		0	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0		0	0	0	0
Reduced v/c Ratio	2.23	0.97		0.15	0.16	1.30		1.41	0.77	0.32	0.24

Intersection Summary

Area Type: Other  
 Cycle Length: 186.5  
 Actuated Cycle Length: 186.5  
 Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green  
 Natural Cycle: 145  
 Control Type: Pretimed  
 Maximum v/c Ratio: 2.23  
 Intersection Signal Delay (s/veh): 235.5  
 Intersection LOS: F  
 Intersection Capacity Utilization 103.5%  
 ICU Level of Service G  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

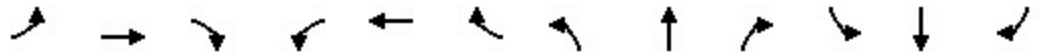
Splits and Phases: 2: Connecticut Ave & Jones Bridge Road & Kensington Pkwy



Lanes, Volumes, Timings

2: Connecticut Ave & Jones Bridge Road

11/04/2025

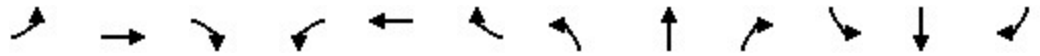


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	968	540	144	0	108	210	0	2024	48	0	1779	396
Future Volume (vph)	968	540	144	0	108	210	0	2024	48	0	1779	396
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	0.95	0.95	1.00	0.91	0.91	1.00	0.86	0.86	1.00	0.91	1.00
Fr <sub>t</sub>		0.968			0.926	0.850		0.997				0.850
Fl <sub>t</sub> Protected	0.950											
Satd. Flow (prot)	3433	3426	0	0	3139	1441	0	6389	0	0	5085	1583
Fl <sub>t</sub> Permitted	0.602											
Satd. Flow (perm)	2175	3426	0	0	3139	1441	0	6389	0	0	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			1	40		5				404
Link Speed (mph)		30			30			30				30
Link Distance (ft)		599			579			666				467
Travel Time (s)		13.6			13.2			15.1				10.6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1052	587	157	0	117	228	0	2200	52	0	1934	430
Shared Lane Traffic (%)						50%						
Lane Group Flow (vph)	1052	744	0	0	231	114	0	2252	0	0	1934	430
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA	Perm		NA			NA	Perm
Protected Phases		4			8			2				2
Permitted Phases	4					8						2
Minimum Split (s)	35.0	35.0			35.0	35.0		40.0			40.0	40.0
Total Split (s)	50.0	50.0			50.0	50.0		60.0			60.0	60.0
Total Split (%)	45.5%	45.5%			45.5%	45.5%		54.5%			54.5%	54.5%
Maximum Green (s)	42.0	42.0			43.5	43.5		53.0			53.0	53.0
Yellow Time (s)	4.0	4.0			4.0	4.0		4.0			4.0	4.0
All-Red Time (s)	4.0	4.0			2.5	2.5		3.0			3.0	3.0
Lost Time Adjust (s)	2.5	2.5			2.5	2.5		2.5			2.5	2.5
Total Lost Time (s)	10.5	10.5			9.0	9.0		9.5			9.5	9.5
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0			7.0	7.0		7.0			7.0	7.0
Flash Don't Walk (s)	11.0	11.0			11.0	11.0		11.0			11.0	11.0
Pedestrian Calls (#/hr)	0	0			0	0		0			0	0
Act Effct Green (s)	39.5	39.5			41.0	41.0		50.5			50.5	50.5
Actuated g/C Ratio	0.36	0.36			0.37	0.37		0.46			0.46	0.46
v/c Ratio	1.35	0.60			0.20	0.20		0.77			0.83	0.46
Control Delay (s/veh)	195.5	31.3			23.8	16.2		27.0			29.9	4.1
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	0.0
Total Delay (s/veh)	195.5	31.3			23.8	16.2		27.0			29.9	4.1

Lanes, Volumes, Timings

2: Connecticut Ave & Jones Bridge Road

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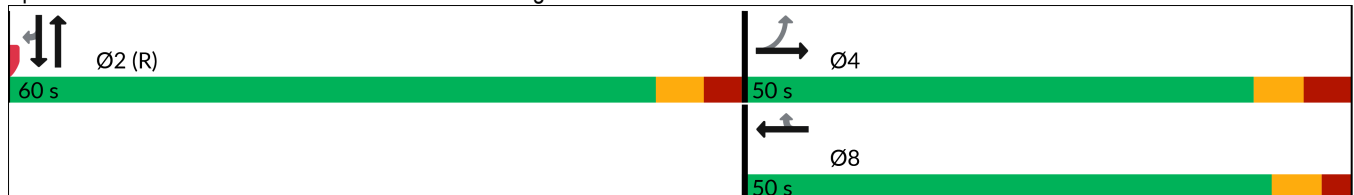


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	F	C			C	B		C			C	A
Approach Delay (s/veh)		127.5			21.3			27.0			25.2	
Approach LOS		F			C			C			C	
Queue Length 50th (ft)	~502	223			59	37		374			424	10
Queue Length 95th (ft)	#630	287			90	82		422			492	66
Internal Link Dist (ft)		519			499			586			387	
Turn Bay Length (ft)												
Base Capacity (vph)	781	1232			1170	562		2935			2334	945
Starvation Cap Reductn	0	0			0	0		0			0	0
Spillback Cap Reductn	0	0			0	0		0			0	0
Storage Cap Reductn	0	0			0	0		0			0	0
Reduced v/c Ratio	1.35	0.60			0.20	0.20		0.77			0.83	0.46

Intersection Summary

Area Type: Other  
 Cycle Length: 110  
 Actuated Cycle Length: 110  
 Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green  
 Natural Cycle: 120  
 Control Type: Pretimed  
 Maximum v/c Ratio: 1.35  
 Intersection Signal Delay (s/veh): 52.8      Intersection LOS: D  
 Intersection Capacity Utilization 91.4%      ICU Level of Service F  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Connecticut Ave & Jones Bridge Road



Lanes, Volumes, Timings

2: Connecticut Ave & Jones Bridge Road & Kensington Pkwy

11/04/2025



Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	NBR	SBT	SBR	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	968	540	144	108	210	2024	48	1779	396	42	28
Future Volume (vph)	968	540	144	108	210	2024	48	1779	396	42	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	11
Lane Util. Factor	0.97	0.95	0.95	0.91	0.91	0.86	0.86	0.91	1.00	1.00	1.00
Frt		0.968		0.926	0.850	0.996			0.850		0.850
Flt Protected	0.950									0.950	
Satd. Flow (prot)	3433	3426	0	3139	1441	6382	0	5085	1583	1711	1531
Flt Permitted	0.606									0.950	
Satd. Flow (perm)	2190	3426	0	3139	1441	6382	0	5085	1583	1711	1531
Right Turn on Red			Yes						Yes		
Satd. Flow (RTOR)		19							238		
Link Speed (mph)		30		30		30		30		30	
Link Distance (ft)		599		579		666		467		455	
Travel Time (s)		13.6		13.2		15.1		10.6		10.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1019	568	152	114	221	2131	51	1873	417	44	29
Shared Lane Traffic (%)				50%							
Lane Group Flow (vph)	1019	720	0	225	110	2182	0	1873	417	44	29
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right
Median Width(ft)		24		24		0		0		11	
Link Offset(ft)		0		0		0		0		0	
Crosswalk Width(ft)		16		16		16		16		16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)	15		9		9		9		9	15	9
Turn Type	custom	NA		NA	Perm	NA		NA	Perm	Prot	Perm
Protected Phases		4		8		2		2		1	
Permitted Phases	3				8				2		1
Minimum Split (s)	25.0	24.5		24.5	24.5	25.0		25.0	25.0	26.5	26.5
Total Split (s)	36.0	29.0		65.0	65.0	53.5		53.5	53.5	26.5	26.5
Total Split (%)	24.8%	20.0%		44.8%	44.8%	36.9%		36.9%	36.9%	18.3%	18.3%
Maximum Green (s)	29.0	22.5		58.5	58.5	46.5		46.5	46.5	18.0	18.0
Yellow Time (s)	3.5	4.0		4.0	4.0	4.0		4.0	4.0	3.5	3.5
All-Red Time (s)	3.5	2.5		2.5	2.5	3.0		3.0	3.0	5.0	5.0
Lost Time Adjust (s)	2.5	2.5		2.5	2.5	2.5		2.5	2.5	2.5	2.5
Total Lost Time (s)	9.5	9.0		9.0	9.0	9.5		9.5	9.5	11.0	11.0
Lead/Lag	Lead	Lag				Lag		Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes				Yes		Yes	Yes	Yes	Yes
Walk Time (s)	7.0	7.0		7.0	7.0	7.0		7.0	7.0	7.0	7.0
Flash Don't Walk (s)	11.0	11.0		11.0	11.0	11.0		11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0	0		0	0	0	0
Act Effct Green (s)	26.5	20.0		56.0	56.0	44.0		44.0	44.0	15.5	15.5
Actuated g/C Ratio	0.18	0.14		0.39	0.39	0.30		0.30	0.30	0.11	0.11
v/c Ratio	2.55	1.48		0.19	0.20	1.13		1.21	0.65	0.24	0.18
Control Delay (s/veh)	727.1	265.5		30.0	30.8	110.2		145.4	23.1	63.1	62.0
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0	0.0

Lanes, Volumes, Timings

2: Connecticut Ave & Jones Bridge Road & Kensington Pkwy

11/04/2025

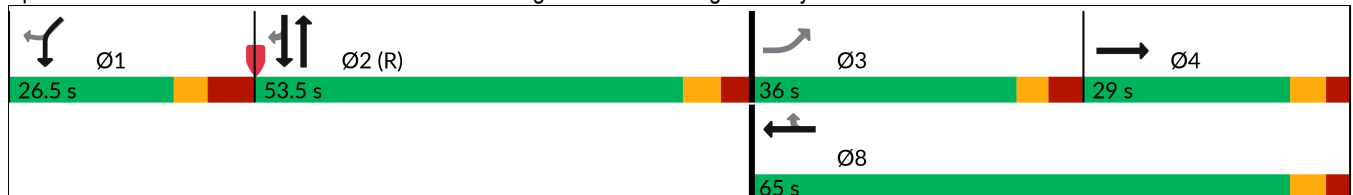


Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	NBR	SBT	SBR	SWL	SWR
Total Delay (s/veh)	727.1	265.5		30.0	30.8	110.2		145.4	23.1	63.1	62.0
LOS	F	F		C	C	F		F	C	E	E
Approach Delay (s/veh)		536.0		30.2		110.2		123.1		62.7	
Approach LOS		F		C		F		F		E	
Queue Length 50th (ft)	~826	~484		76	75	~691		~790	147	39	25
Queue Length 95th (ft)	#962	#616		109	127	#763		#884	270	80	59
Internal Link Dist (ft)		519		499		586		387		375	
Turn Bay Length (ft)											
Base Capacity (vph)	400	488		1212	556	1936		1543	646	182	163
Starvation Cap Reductn	0	0		0	0	0		0	0	0	0
Spillback Cap Reductn	0	0		0	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0		0	0	0	0
Reduced v/c Ratio	2.55	1.48		0.19	0.20	1.13		1.21	0.65	0.24	0.18

Intersection Summary

Area Type: Other  
 Cycle Length: 145  
 Actuated Cycle Length: 145  
 Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green  
 Natural Cycle: 145  
 Control Type: Pretimed  
 Maximum v/c Ratio: 2.55  
 Intersection Signal Delay (s/veh): 222.0      Intersection LOS: F  
 Intersection Capacity Utilization 102.6%      ICU Level of Service G  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Connecticut Ave & Jones Bridge Road & Kensington Pkwy



Lanes, Volumes, Timings

2: Connecticut Ave & Jones Bridge Road & Kensington Pkwy

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Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	NBR	SBT	SBR	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	968	540	144	108	210	2024	48	1779	396	42	28
Future Volume (vph)	968	540	144	108	210	2024	48	1779	396	42	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	11
Lane Util. Factor	0.97	0.95	0.95	0.95	1.00	0.91	1.00	0.91	1.00	1.00	1.00
Frt		0.968			0.850		0.850		0.850		0.850
Flt Protected	0.950									0.950	
Satd. Flow (prot)	3433	3426	0	3539	1583	5085	1583	5085	1583	1711	1531
Flt Permitted	0.678									0.950	
Satd. Flow (perm)	2450	3426	0	3539	1583	5085	1583	5085	1583	1711	1531
Right Turn on Red			Yes							Yes	
Satd. Flow (RTOR)		17								177	
Link Speed (mph)		30		30		30		30		30	
Link Distance (ft)		599		579		666		467		455	
Travel Time (s)		13.6		13.2		15.1		10.6		10.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1052	587	157	117	228	2200	52	1934	430	46	30
Shared Lane Traffic (%)											
Lane Group Flow (vph)	1052	744	0	117	228	2200	52	1934	430	46	30
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right
Median Width(ft)		24		24		0		0		11	
Link Offset(ft)		0		0		0		0		0	
Crosswalk Width(ft)		16		16		16		16		16	
Two way Left Turn Lane											
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)	15		9		9		9		9	15	9
Turn Type	custom	NA		NA	Perm	NA	Perm	NA	Perm	Prot	Perm
Protected Phases		4		8		2		2		1	
Permitted Phases	3			8		2		2		1	
Minimum Split (s)	25.0	24.5		24.5	24.5	25.0	25.0	25.0	25.0	26.5	26.5
Total Split (s)	50.0	50.0		50.0	50.0	60.0	60.0	60.0	60.0	26.5	26.5
Total Split (%)	26.8%	26.8%		26.8%	26.8%	32.2%	32.2%	32.2%	32.2%	14.2%	14.2%
Maximum Green (s)	43.0	43.5		43.5	43.5	53.0	53.0	53.0	53.0	18.0	18.0
Yellow Time (s)	3.5	4.0		4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.5
All-Red Time (s)	3.5	2.5		2.5	2.5	3.0	3.0	3.0	3.0	5.0	5.0
Lost Time Adjust (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Total Lost Time (s)	9.5	9.0		9.0	9.0	9.5	9.5	9.5	9.5	11.0	11.0
Lead/Lag	Lead	Lag				Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes				Yes	Yes	Yes	Yes	Yes	Yes
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Don't Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0	0	0	0
Act Effct Green (s)	40.5	41.0		91.0	91.0	50.5	50.5	50.5	50.5	15.5	15.5
Actuated g/C Ratio	0.22	0.22		0.49	0.49	0.27	0.27	0.27	0.27	0.08	0.08
v/c Ratio	1.98	0.97		0.07	0.30	1.60	0.12	1.41	0.77	0.32	0.24
Control Delay (s/veh)	480.2	95.5		25.5	29.9	313.6	52.4	233.6	46.5	87.2	85.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lanes, Volumes, Timings

2: Connecticut Ave & Jones Bridge Road & Kensington Pkwy

11/05/2025

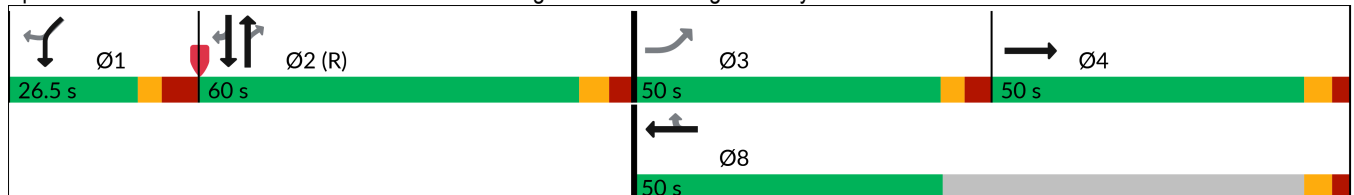


Lane Group	EBL	EBT	EBR	WBT	WBR	NBT	NBR	SBT	SBR	SWL	SWR
Total Delay (s/veh)	480.2	95.5		25.5	29.9	313.6	52.4	233.6	46.5	87.2	85.1
LOS	F	F		C	C	F	D	F	D	F	F
Approach Delay (s/veh)		320.9		28.4		307.5		199.6		86.4	
Approach LOS		F		C		F		F		F	
Stops (vph)	587	621		56	123	1375	36	1322	232	40	26
Fuel Used(gal)	102	20		1	3	147	1	98	6	1	1
CO Emissions (g/hr)	7158	1393		95	203	10297	67	6878	452	78	51
NOx Emissions (g/hr)	1393	271		18	40	2003	13	1338	88	15	10
VOC Emissions (g/hr)	1659	323		22	47	2387	16	1594	105	18	12
Dilemma Vehicles (#)	0	0		0	0	0	0	0	0	0	0
Queue Length 50th (ft)	~1027	473		39	166	~1403	49	~1156	304	54	35
Queue Length 95th (ft)	#1164	#611		60	233	#1482	90	#1243	454	104	75
Internal Link Dist (ft)		519		499		586		387		375	
Turn Bay Length (ft)											
Base Capacity (vph)	532	766		1726	772	1376	428	1376	557	142	127
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.98	0.97		0.07	0.30	1.60	0.12	1.41	0.77	0.32	0.24

Intersection Summary

Area Type: Other  
 Cycle Length: 186.5  
 Actuated Cycle Length: 186.5  
 Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green  
 Natural Cycle: 145  
 Control Type: Pretimed  
 Maximum v/c Ratio: 1.98  
 Intersection Signal Delay (s/veh): 257.1      Intersection LOS: F  
 Intersection Capacity Utilization 102.6%      ICU Level of Service G  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Connecticut Ave & Jones Bridge Road & Kensington Pkwy



# LANE SUMMARY

**Site: 1 [Connecticut Ave at Jones Bridge Rd (Site Folder: General)]**

Roundabout with 5 legs, and 2-lane approaches and circulating road

Site Category: (None)  
Roundabout

Lane Use and Performance													
	DEMAND FLOWS		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
	[ Total veh/h	HV %						[ Veh	Dist ] ft				
South: Connecticut Ave													
Lane 1	537	2.0	697	0.770	100	24.1	LOS C	9.5	240.1	Full	1600	0.0	0.0
Lane 2	537	2.0	697	0.770	100	24.1	LOS C	9.5	240.1	Full	1600	0.0	0.0
Lane 3 <sup>d</sup>	559	2.0	727	0.770	100	23.3	LOS C	9.6	244.8	Full	1600	0.0	0.0
Lane 4	37	2.0	1579	0.023	3 <sup>5</sup>	0.0	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1670	2.0		0.770		23.3	LOS C	9.6	244.8				
East: Jones Bridge Rd													
Lane 1	179	2.0	294	0.608	93 <sup>5</sup>	32.6	LOS C	3.5	88.1	Full	1600	0.0	0.0
Lane 2	179	2.0	294	0.608	93 <sup>5</sup>	32.6	LOS C	3.5	88.1	Full	1600	0.0	0.0
Lane 3 <sup>d</sup>	266	2.0	406	0.657	100	27.6	LOS C	4.5	114.0	Full	1600	0.0	0.0
Approach	624	2.0		0.657		30.5	LOS C	4.5	114.0				
NorthEast: Kensington Pkwy													
Lane 1	160	2.0	182	0.882	100	90.3	LOS F	6.3	160.2	Full	450	0.0	0.0
Lane 2 <sup>d</sup>	207	2.0	235	0.882	100	75.7	LOS E	7.1	179.3	Full	450	0.0	0.0
Approach	367	2.0		0.882		82.1	LOS F	7.1	179.3				
North: Connecticut Ave													
Lane 1	770	2.0	802	0.961	100	45.4	LOS D	24.3	618.1	Full	1600	0.0	0.0
Lane 2	770	2.0	802	0.961	100	45.4	LOS D	24.3	618.1	Full	1600	0.0	0.0
Lane 3 <sup>d</sup>	813	2.0	847	0.961	100	43.9	LOS D	25.2	640.1	Full	1600	0.0	0.0
Lane 4	1100	2.0	1642	0.670	70 <sup>5</sup>	0.5	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	3453	2.0		0.961		30.7	LOS C	25.2	640.1				
West: Jones Bridge Rd													
Lane 1	156	2.0	190	0.821	100	75.7	LOS E	5.8	146.2	Full	1600	0.0	0.0
Lane 2 <sup>d</sup>	228	2.0	277	0.821	100	56.9	LOS E	6.8	173.5	Full	1600	0.0	0.0
Lane 3	167	2.0	191	0.876	100	85.9	LOS F	6.8	173.8	Full	1600	0.0	0.0
Lane 4	67	2.0	1579	0.043	5 <sup>5</sup>	0.0	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	618	2.0		0.876		63.3	LOS E	6.8	173.8				
Intersection	6733	2.0		0.961		34.6	LOS C	25.2	640.1				

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: SIDRA Standard.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

- 5 Lane under-utilisation found by the program
- d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)										
South: Connecticut Ave										
Mov.	L2	T1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From S						veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	W	N	E				v/c	%	%	No.
Lane 1	1	536	-	537	2.0	697	0.770	100	NA	NA
Lane 2	-	537	-	537	2.0	697	0.770	100	NA	NA
Lane 3	-	559	-	559	2.0	727	0.770	100	NA	NA
Lane 4	-	-	37	37	2.0	1579	0.023	3 <sup>5</sup>	NA	NA
Approach	1	1632	37	1670	2.0		0.770			
East: Jones Bridge Rd										
Mov.	L2	T1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From E						veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	S	W	N				v/c	%	%	No.
Lane 1	1	178	-	179	2.0	294	0.608	93 <sup>5</sup>	NA	NA
Lane 2	-	179	-	179	2.0	294	0.608	93 <sup>5</sup>	NA	NA
Lane 3	-	-	266	266	2.0	406	0.657	100	NA	NA
Approach	1	357	266	624	2.0		0.657			
NorthEast: Kensington Pkwy										
Mov.	R1	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.		
From NE				veh/h	Satn	Util.	SL Ov.	Lane		
To Exit:	W				v/c	%	%	No.		
Lane 1	160	160	2.0	182	0.882	100	NA	NA		
Lane 2	207	207	2.0	235	0.882	100	NA	NA		
Approach	367	367	2.0		0.882					
North: Connecticut Ave										
Mov.	L2	T1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From N						veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	E	S	W				v/c	%	%	No.
Lane 1	179	591	-	770	2.0	802	0.961	100	NA	NA
Lane 2	-	770	-	770	2.0	802	0.961	100	NA	NA
Lane 3	-	813	-	813	2.0	847	0.961	100	NA	NA
Lane 4	-	-	1100	1100	2.0	1642	0.670	70 <sup>5</sup>	NA	NA
Approach	179	2174	1100	3453	2.0		0.961			
West: Jones Bridge Rd										
Mov.	L2	T1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From W						veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	N	E	S				v/c	%	%	No.
Lane 1	156	-	-	156	2.0	190	0.821	100	NA	NA
Lane 2	228	-	-	228	2.0	277	0.821	100	NA	NA
Lane 3	-	167	-	167	2.0	191	0.876	100	NA	NA
Lane 4	-	-	67	67	2.0	1579	0.043	5 <sup>5</sup>	NA	NA
Approach	384	167	67	618	2.0		0.876			
Total %HV Deg.Satn (v/c)										
Intersection	6733	2.0		0.961						

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

5 Lane under-utilisation found by the program

<b>Merge Analysis</b>												
	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Connecticut Ave Merge Type: <b>Not Applied</b>												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
East Exit: Jones Bridge Rd Merge Type: <b>Not Applied</b>												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
NorthEast Exit: Kensington Pkwy Merge Type: <b>Not Applied</b>												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Connecticut Ave Merge Type: <b>Not Applied</b>												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
Full Length Lane	4	Merge Analysis not applied.										
West Exit: Jones Bridge Rd Merge Type: <b>Not Applied</b>												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										

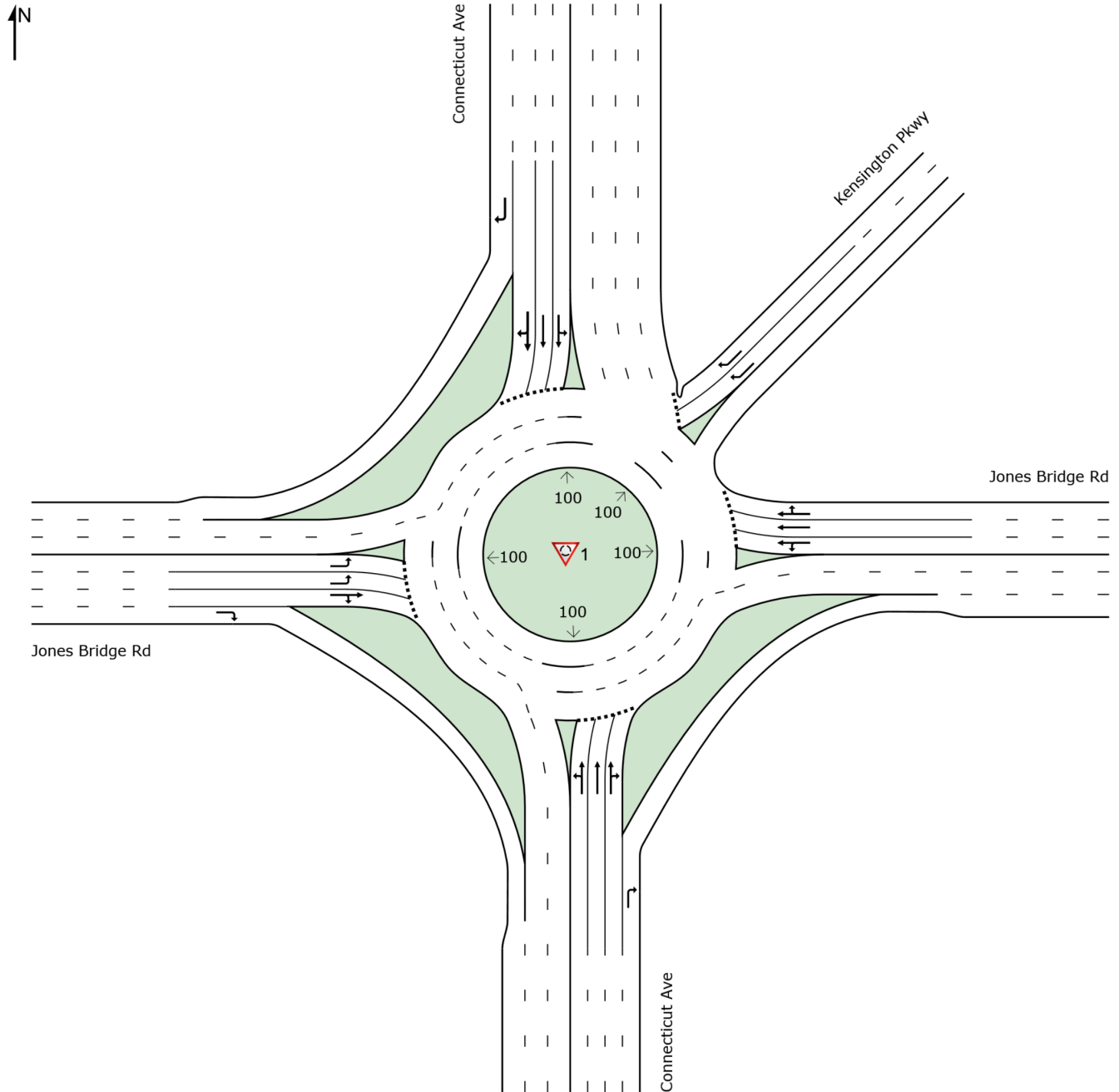
# SITE LAYOUT

Site: 1 [Connecticut Ave at Jones Bridge Rd (Site Folder: General)]

Roundabout with 5 legs, and 2-lane approaches and circulating road

Site Category: (None)  
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



# LANE SUMMARY

Site: 1 [Connecticut Ave at Jones Bridge Rd (Site Folder: General)]

Roundabout with 5 legs, and 2-lane approaches and circulating road

Site Category: (None)  
Roundabout

Lane Use and Performance													
	DEMAND FLOWS		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
	[ Total veh/h	HV %						[ Veh	Dist ] ft				
South: Connecticut Ave													
Lane 1	694	2.0	388	1.790	100	389.7	LOS F	108.3	2749.8	Full	1600	0.0	24.4
Lane 2	694	2.0	388	1.790	100	389.7	LOS F	108.3	2749.8	Full	1600	0.0	24.4
Lane 3 <sup>d</sup>	812	2.0	454	1.790	100	385.6	LOS F	125.3	3183.6	Full	1600	0.0	32.0
Lane 4	52	2.0	1579	0.033	2 <sup>5</sup>	0.0	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	2253	2.0		1.790		379.2	LOS F	125.3	3183.6				
East: Jones Bridge Rd													
Lane 1	59	2.0	246	0.241	46 <sup>5</sup>	20.4	LOS C	0.9	23.7	Full	1600	0.0	0.0
Lane 2	59	2.0	246	0.241	46 <sup>5</sup>	20.4	LOS C	0.9	23.7	Full	1600	0.0	0.0
Lane 3 <sup>d</sup>	228	2.0	437	0.522	100	19.5	LOS B	3.1	77.6	Full	1600	0.0	0.0
Approach	347	2.0		0.522		19.8	LOS B	3.1	77.6				
NorthEast: Kensington Pkwy													
Lane 1	34	2.0	233	0.145	100	18.6	LOS B	0.5	13.8	Full	450	0.0	0.0
Lane 2 <sup>d</sup>	42	2.0	290	0.145	100	15.1	LOS B	0.6	14.6	Full	450	0.0	0.0
Approach	76	2.0		0.145		16.7	LOS B	0.6	14.6				
North: Connecticut Ave													
Lane 1	638	2.0	1153	0.554	100	9.7	LOS A	3.5	89.8	Full	1600	0.0	0.0
Lane 2	638	2.0	1153	0.554	100	9.7	LOS A	3.5	89.8	Full	1600	0.0	0.0
Lane 3 <sup>d</sup>	657	2.0	1187	0.554	100	9.5	LOS A	3.6	90.2	Full	1600	0.0	0.0
Lane 4	430	2.0	1642	0.262	47 <sup>5</sup>	0.1	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	2364	2.0		0.554		7.9	LOS A	3.6	90.2				
West: Jones Bridge Rd													
Lane 1	526	2.0	388	1.357	100	204.7	LOS F	53.2	1350.1	Full	1600	0.0	0.2
Lane 2	526	2.0	388	1.357	100	204.7	LOS F	53.2	1350.1	Full	1600	0.0	0.2
Lane 3 <sup>d</sup>	587	2.0	506	1.161	100	119.1	LOS F	37.7	957.9	Full	1600	0.0	0.0
Lane 4	157	2.0	1579	0.099	9 <sup>5</sup>	0.0	LOS A	0.0	0.0	Full	1600	0.0	0.0
Approach	1796	2.0		1.357		158.9	LOS F	53.2	1350.1				
Intersection	6836	2.0		1.790		170.7	LOS F	125.3	3183.6				

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: SIDRA Standard.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

- 5 Lane under-utilisation found by the program
- d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)										
South: Connecticut Ave										
Mov.	L2	T1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From S						veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	W	N	E				v/c	%	%	No.
Lane 1	1	693	-	694	2.0	388	1.790	100	NA	NA
Lane 2	-	694	-	694	2.0	388	1.790	100	NA	NA
Lane 3	-	812	-	812	2.0	454	1.790	100	NA	NA
Lane 4	-	-	52	52	2.0	1579	0.033	2 <sup>5</sup>	NA	NA
Approach	1	2200	52	2253	2.0		1.790			
East: Jones Bridge Rd										
Mov.	L2	T1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From E						veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	S	W	N				v/c	%	%	No.
Lane 1	1	58	-	59	2.0	246	0.241	46 <sup>5</sup>	NA	NA
Lane 2	-	59	-	59	2.0	246	0.241	46 <sup>5</sup>	NA	NA
Lane 3	-	-	228	228	2.0	437	0.522	100	NA	NA
Approach	1	117	228	347	2.0		0.522			
NorthEast: Kensington Pkwy										
Mov.	R1	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.		
From NE				veh/h	Satn	Util.	SL Ov.	Lane		
To Exit:	W				v/c	%	%	No.		
Lane 1	34	34	2.0	233	0.145	100	NA	NA		
Lane 2	42	42	2.0	290	0.145	100	NA	NA		
Approach	76	76	2.0		0.145					
North: Connecticut Ave										
Mov.	L2	T1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From N						veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	E	S	W				v/c	%	%	No.
Lane 1	57	582	-	638	2.0	1153	0.554	100	NA	NA
Lane 2	-	638	-	638	2.0	1153	0.554	100	NA	NA
Lane 3	-	657	-	657	2.0	1187	0.554	100	NA	NA
Lane 4	-	-	430	430	2.0	1642	0.262	47 <sup>5</sup>	NA	NA
Approach	57	1877	430	2364	2.0		0.554			
West: Jones Bridge Rd										
Mov.	L2	T1	R2	Total	%HV	Cap.	Deg.	Lane	Prob.	Ov.
From W						veh/h	Satn	Util.	SL Ov.	Lane
To Exit:	N	E	S				v/c	%	%	No.
Lane 1	526	-	-	526	2.0	388	1.357	100	NA	NA
Lane 2	526	-	-	526	2.0	388	1.357	100	NA	NA
Lane 3	-	587	-	587	2.0	506	1.161	100	NA	NA
Lane 4	-	-	157	157	2.0	1579	0.099	9 <sup>5</sup>	NA	NA
Approach	1052	587	157	1796	2.0		1.357			
Total %HV Deg.Satn (v/c)										
Intersection	6836	2.0		1.790						

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

5 Lane under-utilisation found by the program

<b>Merge Analysis</b>												
	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h		Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Connecticut Ave Merge Type: <b>Not Applied</b>												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
East Exit: Jones Bridge Rd Merge Type: <b>Not Applied</b>												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
NorthEast Exit: Kensington Pkwy Merge Type: <b>Not Applied</b>												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Connecticut Ave Merge Type: <b>Not Applied</b>												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										
Full Length Lane	4	Merge Analysis not applied.										
West Exit: Jones Bridge Rd Merge Type: <b>Not Applied</b>												
Full Length Lane	1	Merge Analysis not applied.										
Full Length Lane	2	Merge Analysis not applied.										
Full Length Lane	3	Merge Analysis not applied.										

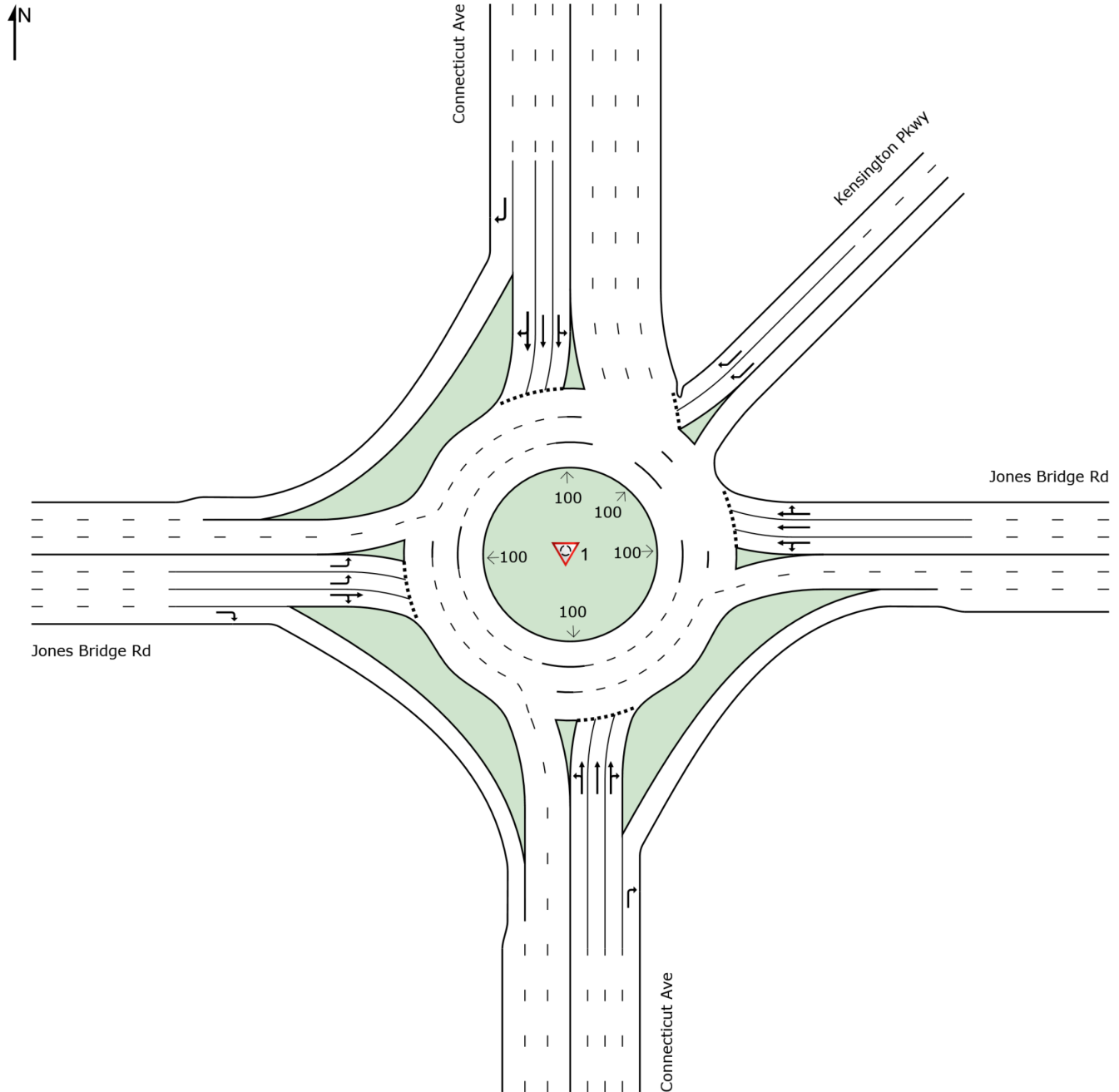
# SITE LAYOUT

Site: 1 [Connecticut Ave at Jones Bridge Rd (Site Folder: General)]

Roundabout with 5 legs, and 2-lane approaches and circulating road

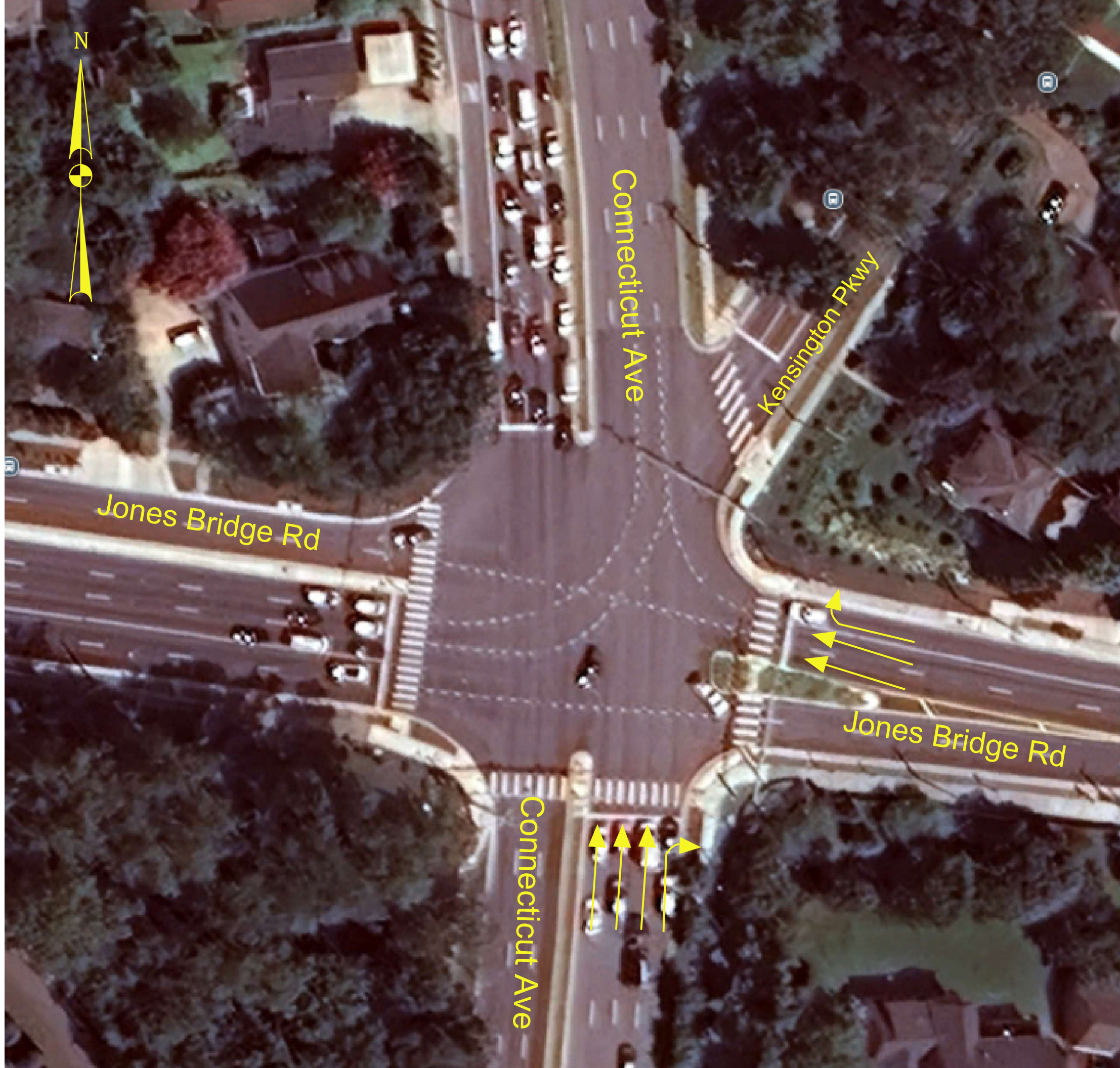
Site Category: (None)  
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.

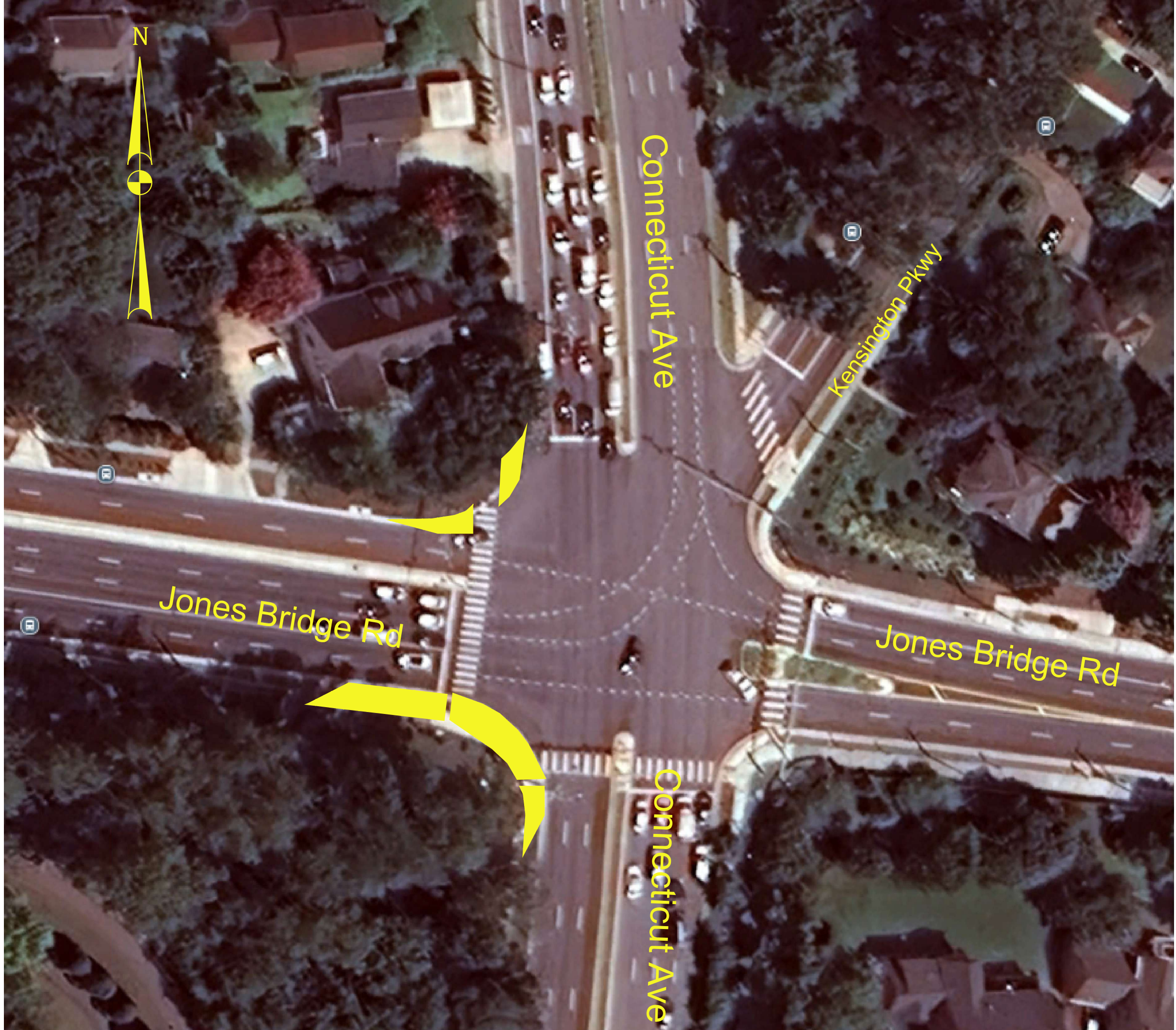


Appendix D: Concept Plans

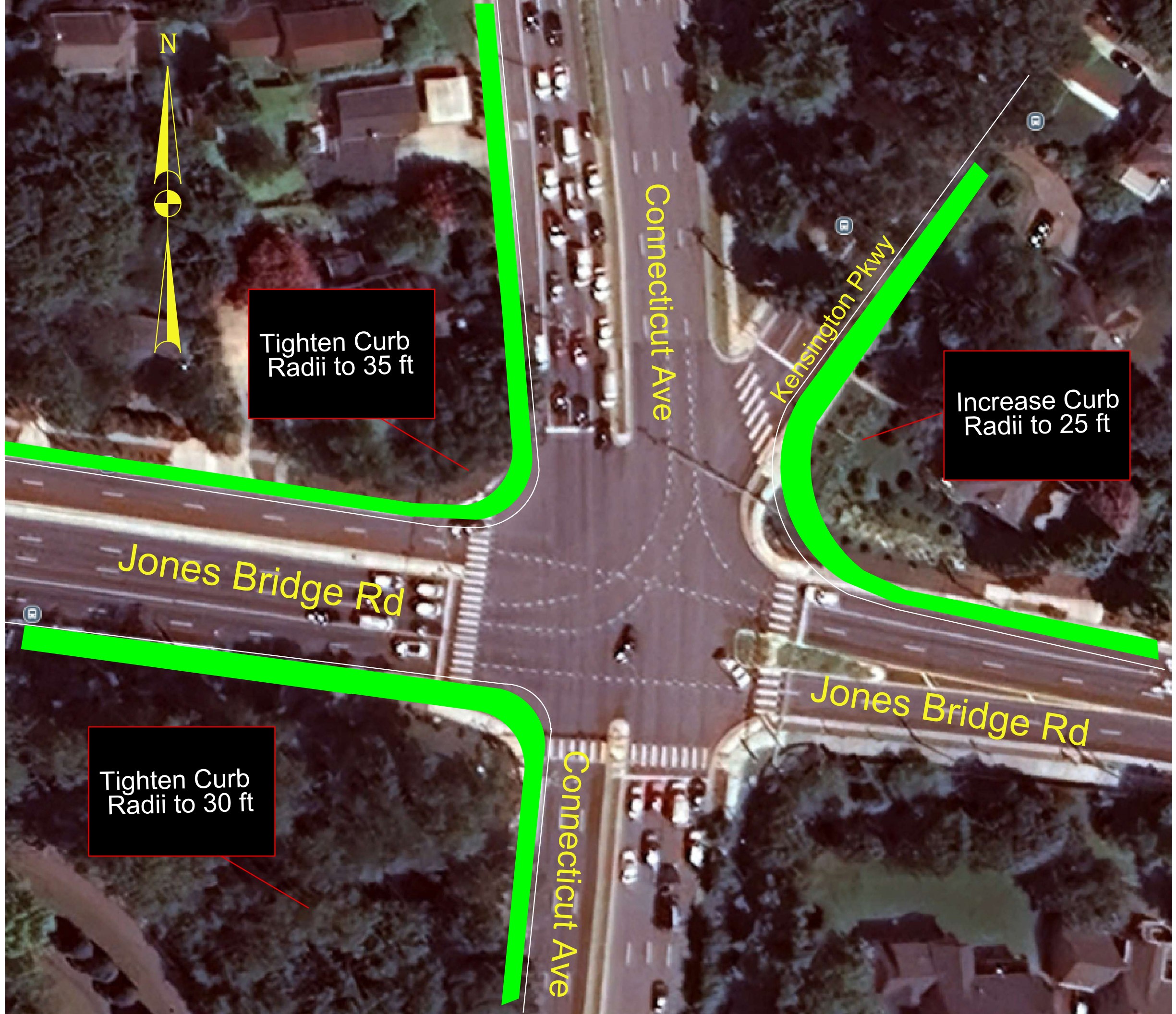
Alternative 2



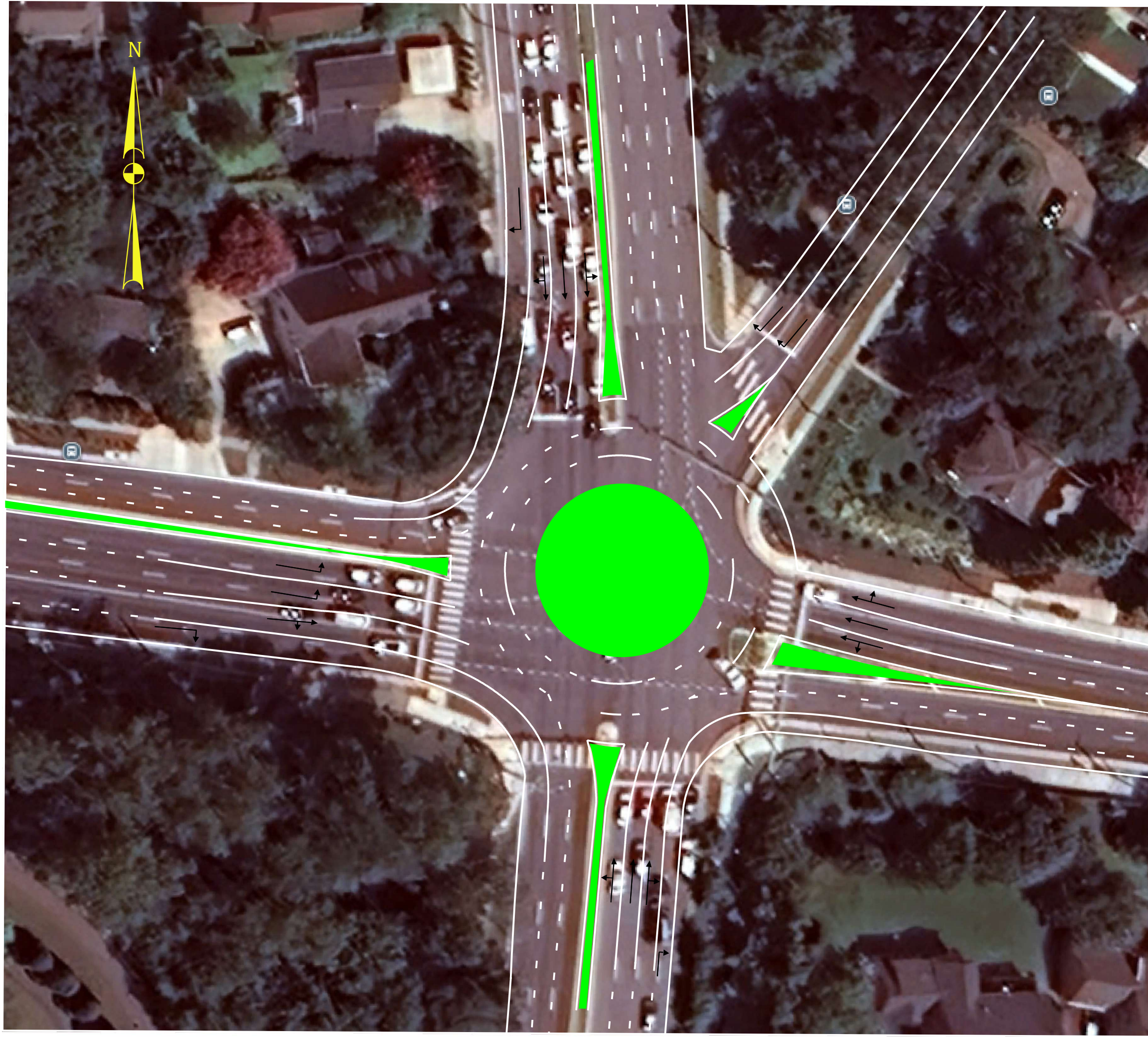
Alternative 3



Alternative 4



Alternative 5



Alternative 6

