

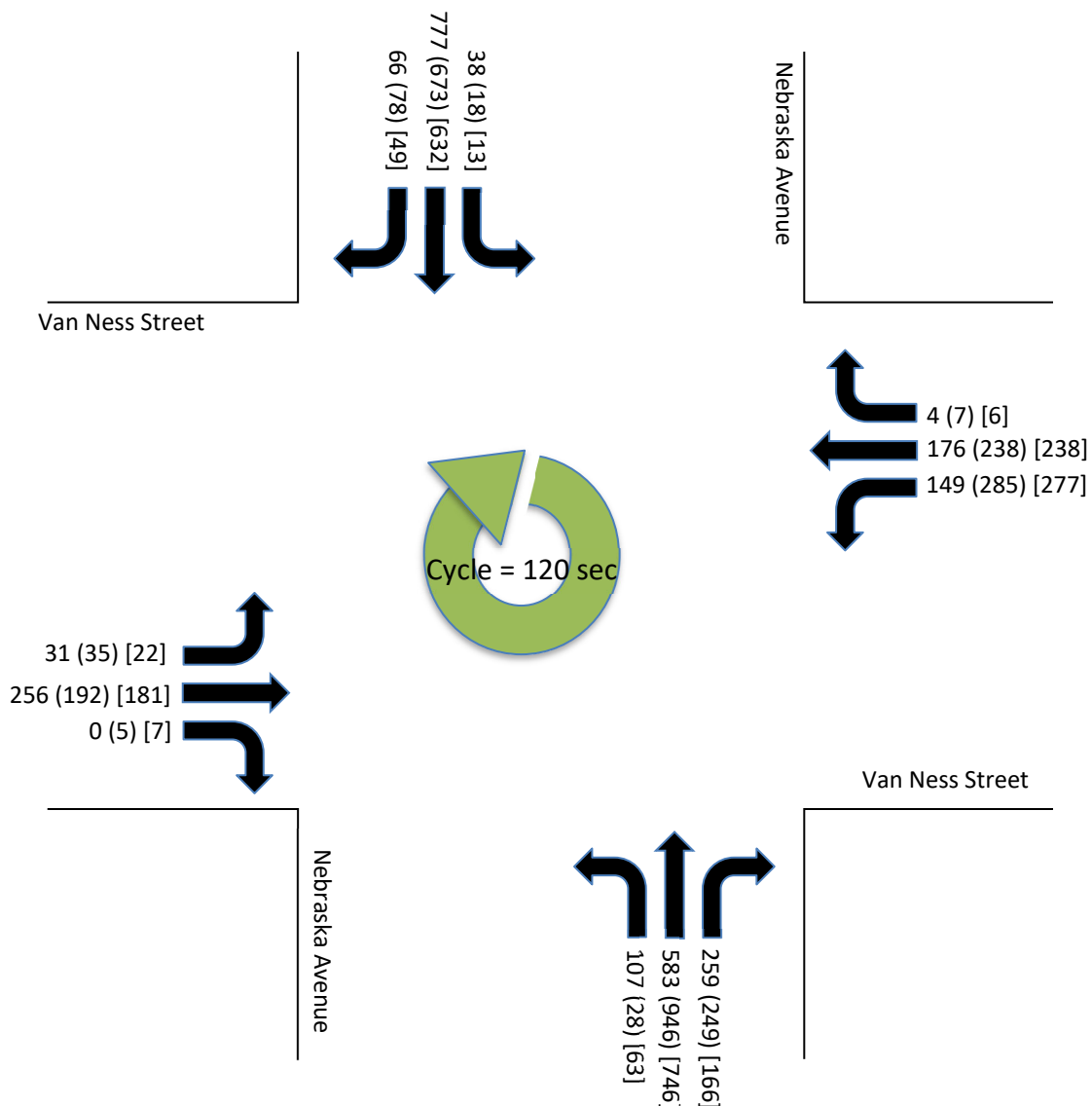


POTENTIAL IMPROVEMENTS AT NEBRASKA AVENUE/VAN NESS STREET

Assessment of Feasibility of Eastbound Left Turn Lane on Van Ness Street

- Installation would require elimination of curb extensions on Van Ness Street at 42nd Street. Curb extensions are viewed by DDOT as pedestrian safety measures and traffic calming devices. They slow traffic down, make pedestrians crossing the street more visible, and they reduce the crossing width for pedestrians.
- As a general rule, exclusive left turn lanes should be considered when volumes reach 100 veh/hr. As shown on the diagram below, the projected eastbound left turn volume at the intersection is well below that threshold.
 - o By contrast, the projected westbound left turn volume at the intersection is five times higher during the AM peak hour, seven times higher during the PM School peak hour, and nearly 12 times higher during the PM Commuter peak hour.

2026 Total Future Traffic Forecasts with River School

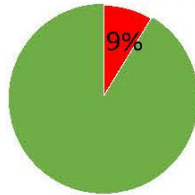


Assessment of Feasibility of Providing Left turn Phases on Each Approach of the Nebraska Avenue/Van Ness Street Intersection

- DDOT's Design and Engineering Manual (January 2019) established criteria for the justification of left turn phasing at signalized intersections. The criteria include sight distance, crash history, volume of left turns, and volume of opposing through traffic.
 - o From a volume perspective, the number of left turns per cycle must equal two or more during the peak hour, and the conflict factor (which is defined as the product of the left turn volume and opposing volume) must exceed 50,000 for one opposing lane or 100,000 for two opposing lanes. Based on projected 2026 forecasts for the intersection, only the westbound approach would meet the criteria for number of left turns per intersection, and only the westbound approach would meet the conflict factor criteria.
 - o From a crash history perspective, left turn phasing should be considered if the number of crashes involving a left turning vehicle is at least four for one year, six for two years, or seven for three years. A total of 11 crashes occurred at the intersection over a four-year period (2016-2019). Specific details that indicate the direction of travel of vehicles involved in the crashes are not provided by DDOT, so a definitive determination could not be made as to whether the crash history would meet DDOT's criteria. However, it is unlikely that with a total of 11 crashes over a four-year period, that the criteria for a single left turn movement would be met.
- Implementation of unwarranted left turn phases can have a detrimental effect on the overall operation of the intersection.
 - o The more phases at an intersection, the more lost time is incurred at the intersection. Lost time is defined as the amount of time in a signal cycle devoted to clearance intervals (i.e. the yellow and red intervals) plus the amount of time it takes for vehicles queued at the signal to react and accelerate minus the portion of yellow time that drivers use to proceed through the intersection. As shown on the charts below, the percentage of lost time increases with each additional phase added to the signal operation, which results in less efficient operation.

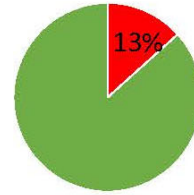
Lost Time per Cycle

2 Phases (Existing)



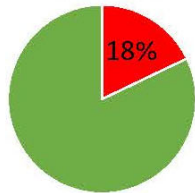
■ Lost time per cycle ■ Usable green time

3 Phases (Proposed)



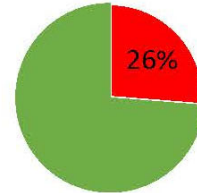
■ Lost time per cycle ■ Usable green time

3 Phases



■ Lost time per cycle ■ Usable green time

4 Phases



■ Lost time per cycle ■ Usable green time