600 Unicorn Park Drive σ Woburn, MA 01801
Phone: 781-932-3201 σ Fax: 781-932-3413

MEMORANDUM

TO: David Hale
FROM: Kenneth P. Cram, P.E.
CC:
DATE: March 10, 2020
RE: Proposed Cedar Crossing and Cedar Edge Residential Development
Summer Street, Walpole, MA

This memorandum has been prepared to supplement the Traffic Impact and Access Study prepared for the proposed Cedar Crossing and Cedar Edge residential development to be located on Summer Street in Walpole, MA. Specifically, this memorandum assesses the pedestrian volumes and associated impacts at the key study area intersections between the project site on Summer Street and the Boyden School on Washington Street, MA. This assessment has reviewed available pedestrian volume data and prepared a preliminary assessment of the potential pedestrian impacts at the intersection of South Street and Neponset Street, Neponset Street, Water Street and Washington Street and Summer Street and Washington Street. Based on the analysis, the existing sidewalk system has the capacity to handle the additional pedestrian traffic that could be generated by the proposed Cedar Crossing and Cedar Edge residential development.

PROJECT DESCRIPTION

The project will consist of the development of 300 residential units, of which 192 will be apartments units, 48 will be townhouse units and 60 will be single-family homes. Parking for a total of 677 (includes garage and surface parking) vehicles will be provided at the site. Access to the site will be provided by way of a driveway to Summer Street. Figure 1 shows the pedestrian study area in relation to the surrounding roadway network.

EXISTING CONDITIONS

Summer Street, Neponset Street, Washington Street and Water Street

These unsignalized intersections are under the jurisdiction of the Town of Walpole. There are three intersections that form this triangle intersection.

Summer Street and Neponset Street This northwest intersection consists of Summer Street as the east and west legs and Neponset Street as the north and south legs. All approaches to the intersection consist of a single lane and are under STOP sign control. Sidewalks are present on the south side of the Summer Street eastbound approach, the Neponset Street departure leg (west side) and the north side of the Summer Street westbound approach. There is a

crosswalk diagonally across in the center of the intersection. There is a sidewalk along the south side of Summer Street approaching Neponset Street and a sidewalk along the east side of Neponset Street (south of the intersection). Land use at the intersection is primarily residential.

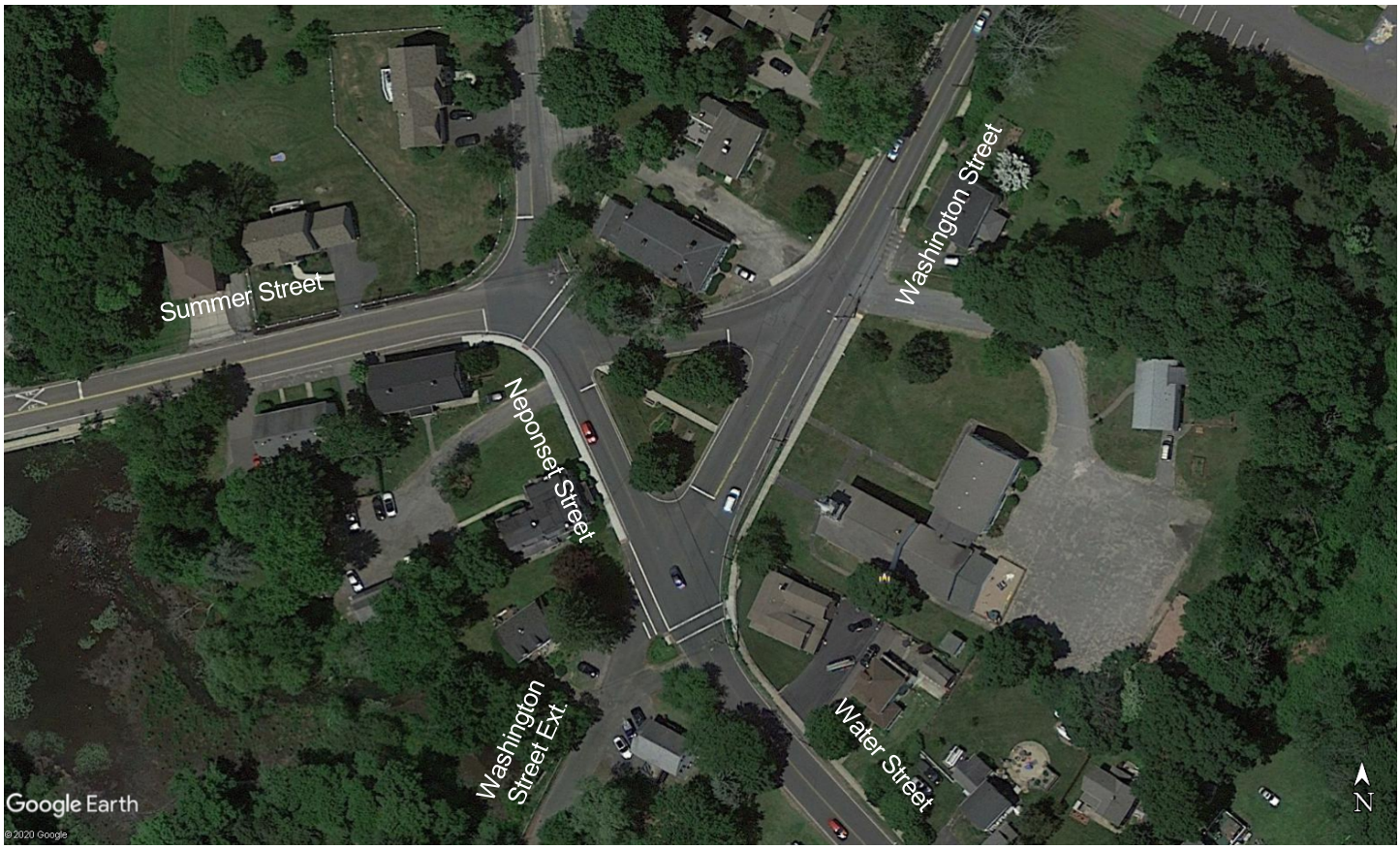


Figure 1
Site Location Map

Washington Street and Summer Street This northeast intersection consists of Washington Street as the north and south legs, Summer Street as the west leg and a driveway as the east leg. All approaches to the intersection consist of a single lane permitting all movements. The Summer Street approach is under STOP sign control. Sidewalks are present on the east side of Washington Street, along the north side of Summer Street and the west side of Washington Street (north of the intersection). Land use at the intersection is primarily residential along with a church.

Washington Street, Washington Street Extension, Neponset Street and Water Street This southern intersection consists of Washington Street as the northeast leg, Washington Street Extension as the southwest leg, Neponset Street as the northwest leg and Water Street as the southeast leg. The Washington Street approaches are under STOP sign control. All approaches consist of a single lane permitting all legal movements. Sidewalks are present on the west side of Neponset Street, the north side of Water Street and the east side of Washington Street. Crosswalks exist across

the northbound Washington Street Extension approach and across the Water Street approach. Land use at the intersection is primarily residential along with a church.

Pedestrian Traffic Volumes

To establish base traffic conditions within the study area, manual turning movement and vehicle classification counts were originally obtained in September 2019. Peak-period turning movement counts were conducted on Wednesday, September 11, 2019 during the weekday morning and evening peak periods (7:00 to 9:00 AM and 4:00 to 6:30 PM). A second set of counts were performed on Wednesday November 6, 2019[1]. These counts were found to be comparable to the September turning movement counts. As part of the traffic count effort, pedestrian and bicycle data was also recorded. The recorded pedestrian data is summarized graphically on Figures 2 through 4.

As shown on the figures, there is very little pedestrian activity through the three intersections. The largest pedestrian crossing volume observed was seven (7) pedestrians crossing Water Street in a northerly direction (toward the Boyden School) between 8:00 AM and 9:00 AM.

FUTURE CONDITIONS

As indicated, the project is expected to consist of a mix of apartment, townhouse and single-family home dwelling units. A total of 300 dwelling units are anticipated.

Within the 300 residential dwelling units, a total of 86 school students are anticipated, of which 46 would be elementary school age and attend the Boyden School on Washington Street. These projections were based on the findings of a March 2016 study prepared by the Public Policy Center at UMASS Dartmouth entitled *The Costs and Hidden Benefits of New Housing Development in Massachusetts*.

Based on data provided by the Walpole School Department, enrollment at the Boyden School is 354 students. Of this total, 221 students use the bus to get to and from school. Of the 221 students, 67 (approximately 18.9% of the total student body) were reported as living within a two mile radius of the school. Of the remaining 133 students, the School Department could not provide data on how many of these students live within the two (2) mile radius of the Boyden School.

Therefore, it can be assumed that of the 46 new students, nine (9) would use the bus and the remaining thirty-seven (37) students would either walk or be driven in their own personal vehicle. Anecdotal data provided by the project proponent, based on their meetings with the School Department indicate that most of these would most likely be driven in their own personal vehicles.

To be conservative, Bayside assumed all thirty-seven (37) students would walk to school with one (1) parent/guardian and adding these volumes to the highest existing observed pedestrian value (seven (7) pedestrians, an analysis was performed in accordance with the parameters established in the 2010 Highway Capacity Manual (HCM) published by

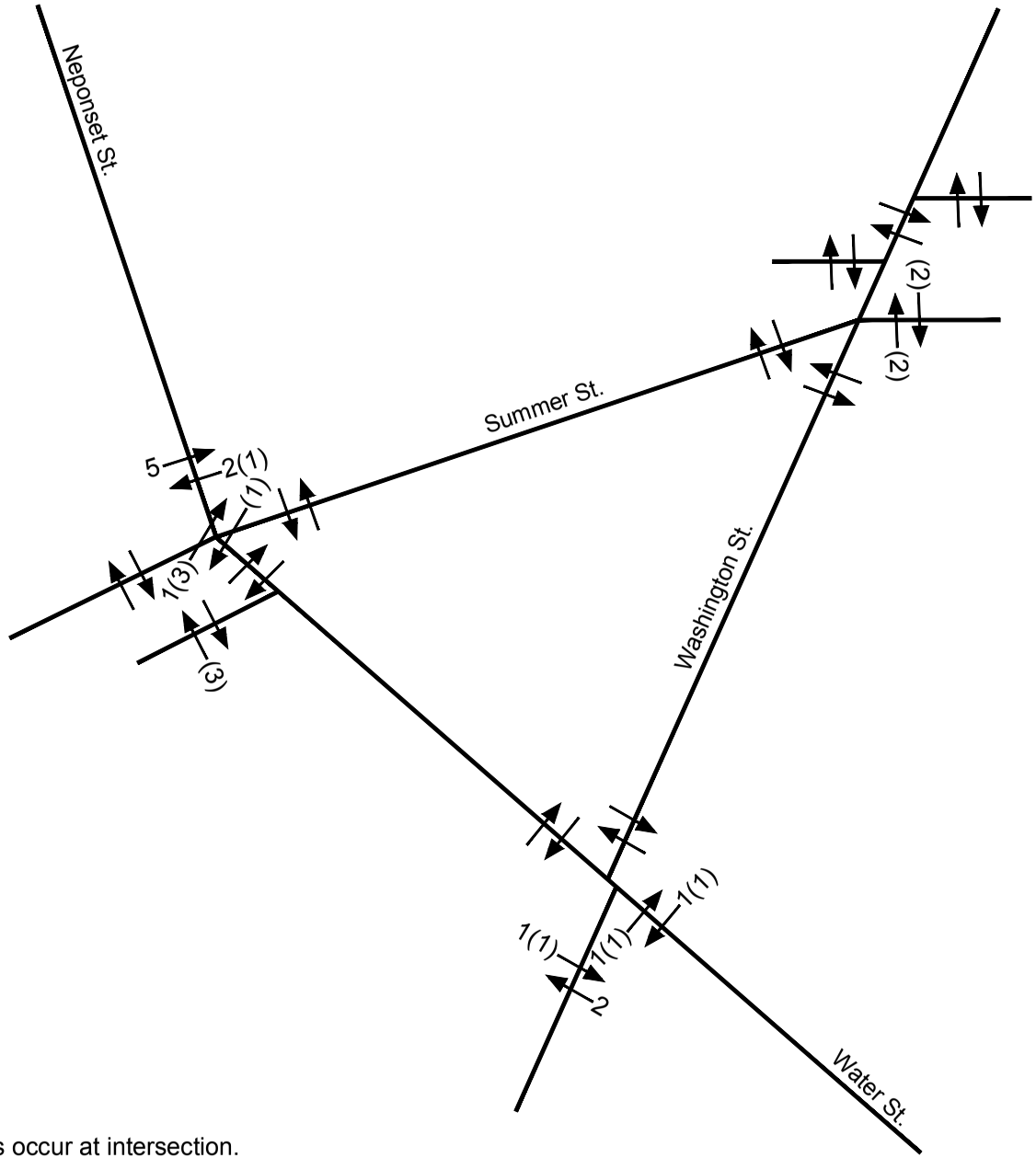
[1] The second set of traffic counts was performed to video record existing intersection operations to calibrate the capacity analysis methodology.

the Transportation Research Board. This analysis indicates that the existing sidewalks have adequate capacity to handle the additional pedestrians. The analysis indicates the sidewalk would be at level-of-service (LOS) A.

CONCLUSION AND RECOMMENDATIONS

Bayside has examined the potential pedestrian impacts associated with the proposed development on Summer Street on the study area sidewalks between the site and the Boyden School. Based on the analysis, the existing sidewalk system has the capacity to handle the additional pedestrian traffic that could be generated by the proposed Cedar Crossing and Cedar Edge residential development.

Weekday AM Commuter Peak Hour 7:00-8:00
Weekday PM Commuter Peak Hour 5:00-6:00



XX = Weekday AM
(XX) = Weekday PM
Note: All movements occur at intersection.

Not To Scale

BAYSIDE ENGINEERING
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Phone: 781.932.3201 ▲ Fax: 781.932.3413
www.baysideengineering.com

Proposed Residential Development
Walpole, MA

Figure 2

September 2019
Observed Weekday Commuter Peak Hour Pedestrian Volumes

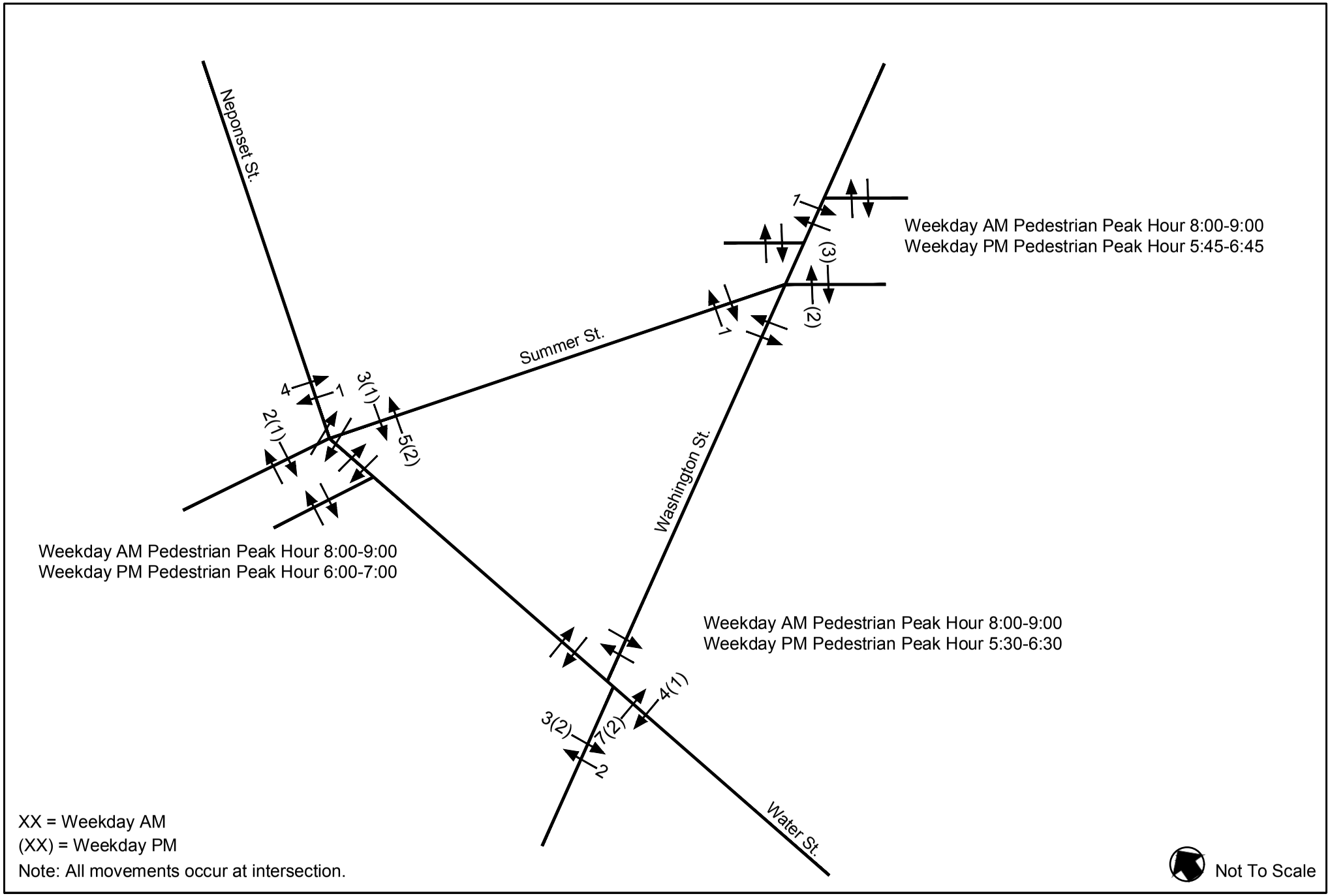

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Figure 3

September 2019
Observed Weekday
Pedestrian Peak Hour Volumes

Weekday AM Commuter Peak Hour 7:00-8:00
Weekday PM Commuter Peak Hour 4:30-5:30

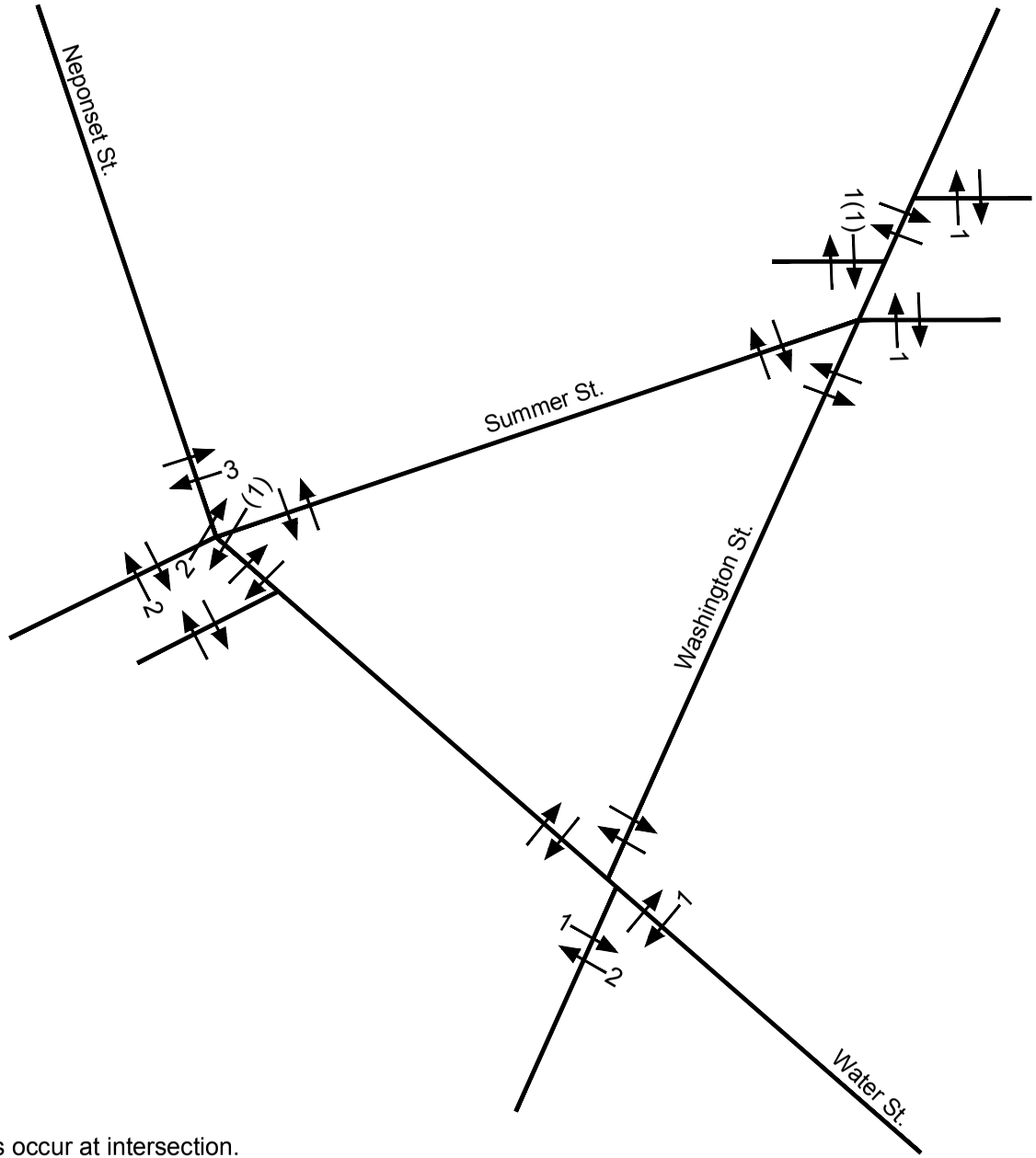

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Figure 4

November 2019
Observed Weekday Commuter Peak Hour Pedestrian Volumes

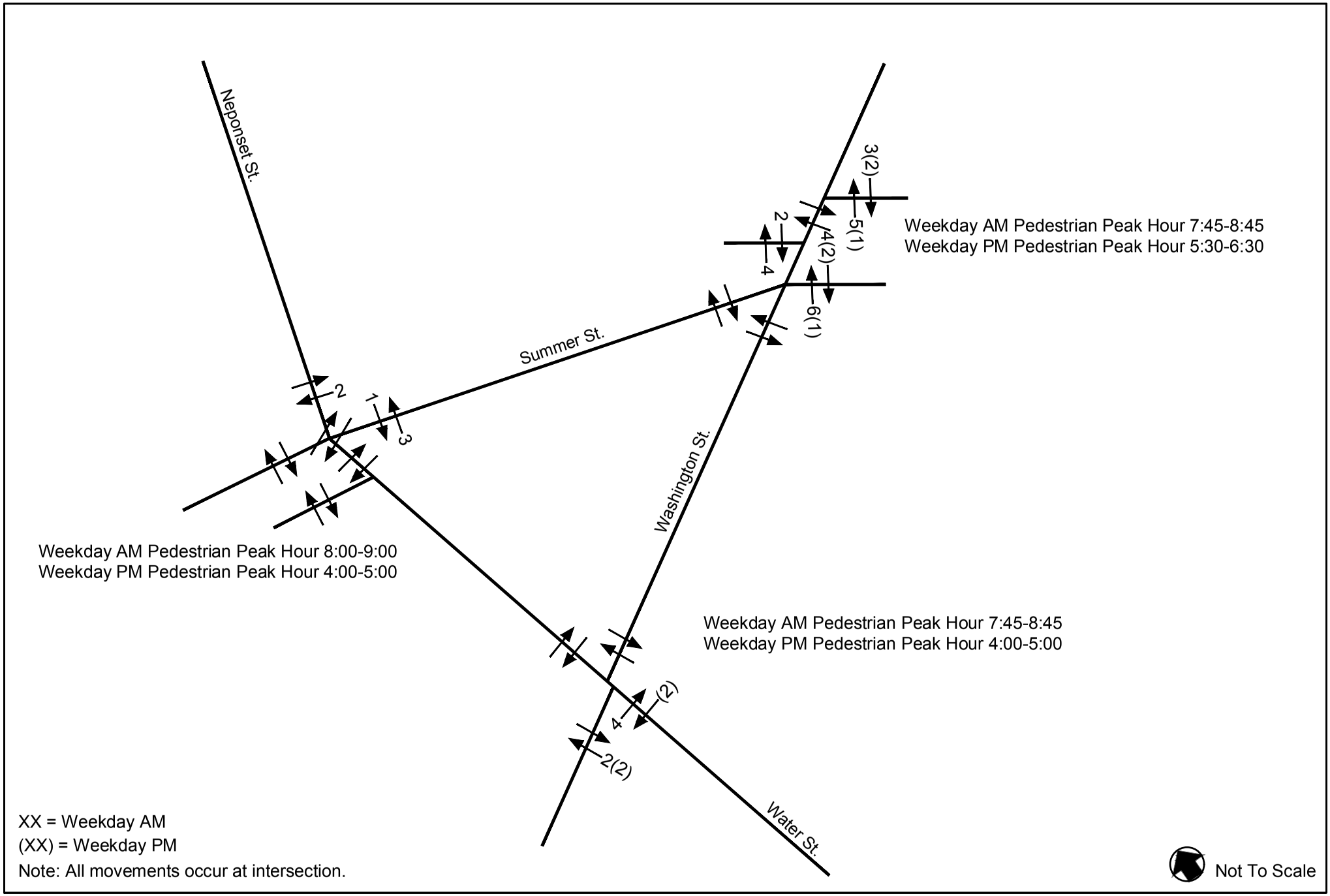

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Figure 5

November 2019
Observed Weekday
Pedestrian Peak Hour Volumes