

**MEMORANDUM**

**TO:** Anne McClung, Director, Planning and Building Department  
**FROM:** Randy Formica, Director, Engineering and GIS Department  
**DATE:** September 5, 2018  
**SUBJECT:** Old Blacksburg Middle School Site – Revision to Traffic Study

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The Traffic Study for the Old Blacksburg Middle School Rezoning was revised by the consultant to correct "Figure 9-2025 Build Out PM Traffic Volumes" located on Page 17 of the report. This figure is an exhibit that represents the projected traffic movements at each intersection studied at build out of the proposed development. The revision was necessary as it was observed that the exhibit did not show the correct traffic volumes for the Clay Street and New Church Street intersection. The correct volumes were used in the actual modeling simulations that are provided in Appendix D of the report "Synchro Capacity Analysis Results". The information in Figure 9 is taken from the results sheet labeled "HCM Unsignalized Intersection Capacity Analysis, 3:OBMS # 1 & Clay Street", with the footnote "OBMS Traffic Impact Analysis 4:45 PM 05/02/2017 2025 Build-Revised". This revision has no effect on the results of the traffic simulation nor is there any change to the recommendations in the report as a result of this revision.

## Engineering Study

Locality: Town of Blacksburg

Location: Intersection of Clay Street at future New Church Street

Date: September 4, 2018

Origin and Nature of Request:

The Town of Blacksburg requested Whitman, Requardt & Associates (WRA) to perform a traffic control engineering study for the intersection of Clay Street at future New Church Street, in association with the redevelopment of the OBMS site. The purpose of the study was to determine potential traffic control options for the proposed T intersection along Clay Street.

Study Results and Recommendation:

Clay Street is an east-west two-way, two-lane roadway located in downtown Blacksburg. New Church Street will be a north-south two-way roadway also located in downtown, providing access to the OBMS development. Clay Street is classified as an Urban Local Road, with a posted speed limit of 25 MPH. The intersection is proposed to be a T intersection with New Church Street having stop control.

Traffic control for the intersection was evaluated, to determine if volume warrants for an all-way stop were satisfied. Intersection turning movement counts were collected at the intersection of Clay Street at Church Street on May 2, 2017. Traffic volumes for the proposed New Church Street intersection were developed as a part of the OBMS Traffic Impact Analysis, and volume figures for the intersection are contained in the attachments.

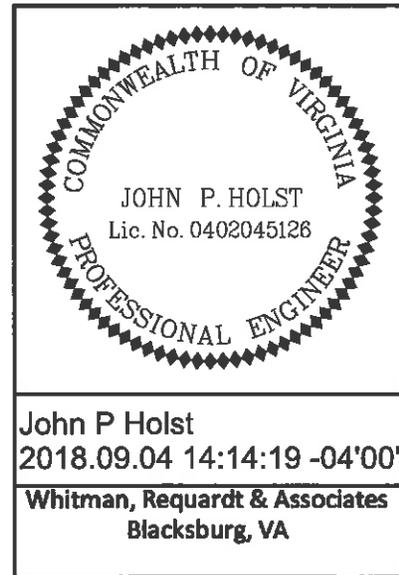
Traffic count data was reviewed against the Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition, to determine if AWSC warrants were satisfied by intersection conditions. Based on projected future traffic volumes, the warrants for all-way stop control will not be satisfied since even peak hour traffic volumes are projected to fall well below minimum vehicular volume requirements. Further, introducing stop control along Clay Street may have the negative unintended consequence of backing traffic into South Main Street, impeding traffic operations within the downtown signalized system. Simulated traffic queues from Synchro/SimTraffic are contained in the attachments.

As a result of WRA's engineering study for the proposed intersection of New Church Street at Clay Street, the following recommendations are proposed:

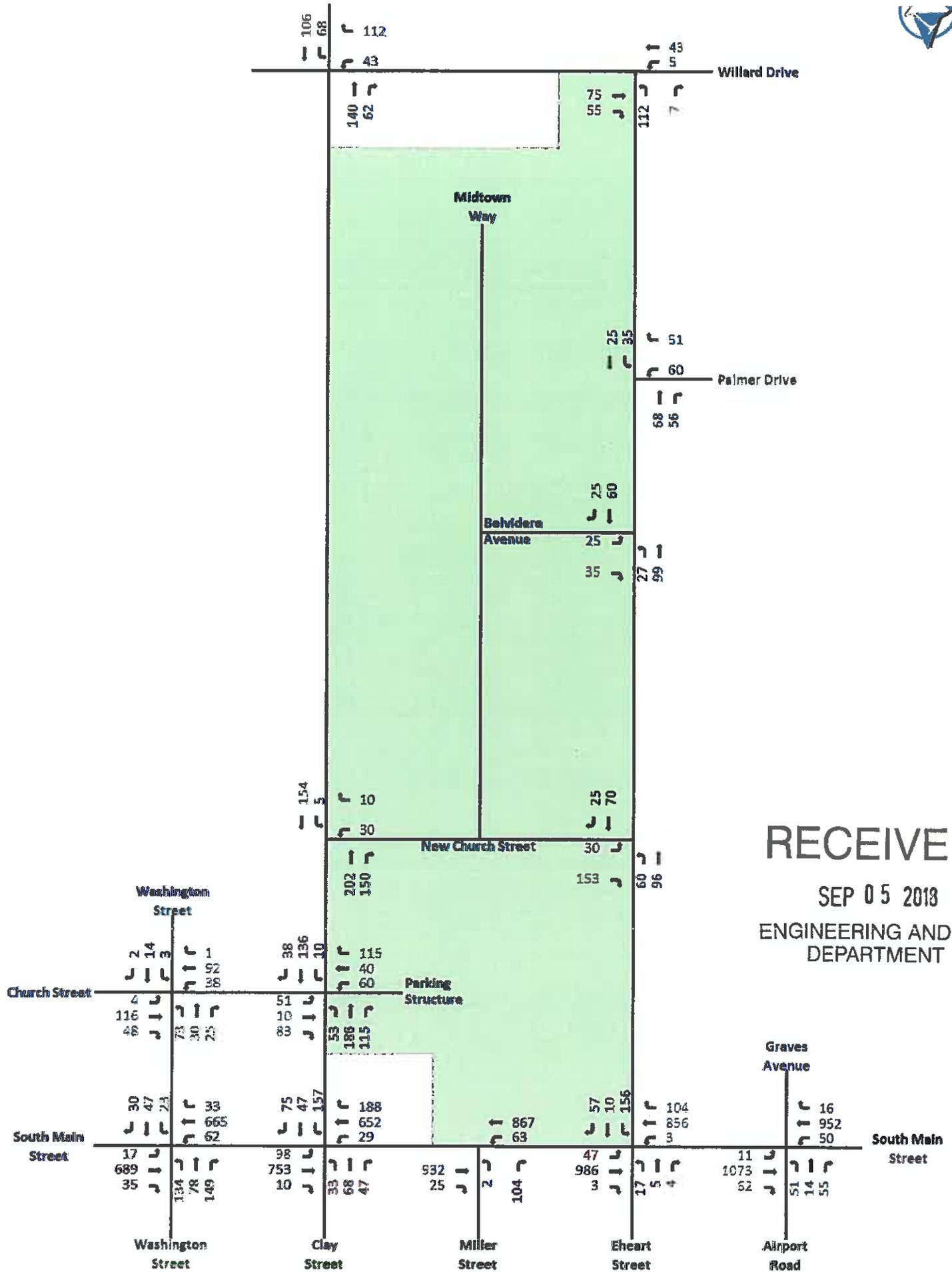
1. Utilize stop control for the northbound leg of New Church Street at Clay Street
2. Consider "Don't Block the Box" signage along Clay Street at the intersection with New Church Street to help prevent vehicles backing into South Main Street
3. Consider "Don't Block the Box" pavement markings along Clay Street at the intersection with New Church Street if intersection blocking is a problem even with posted signage

List of Attachments:

Traffic Count Data  
Future Traffic Queues



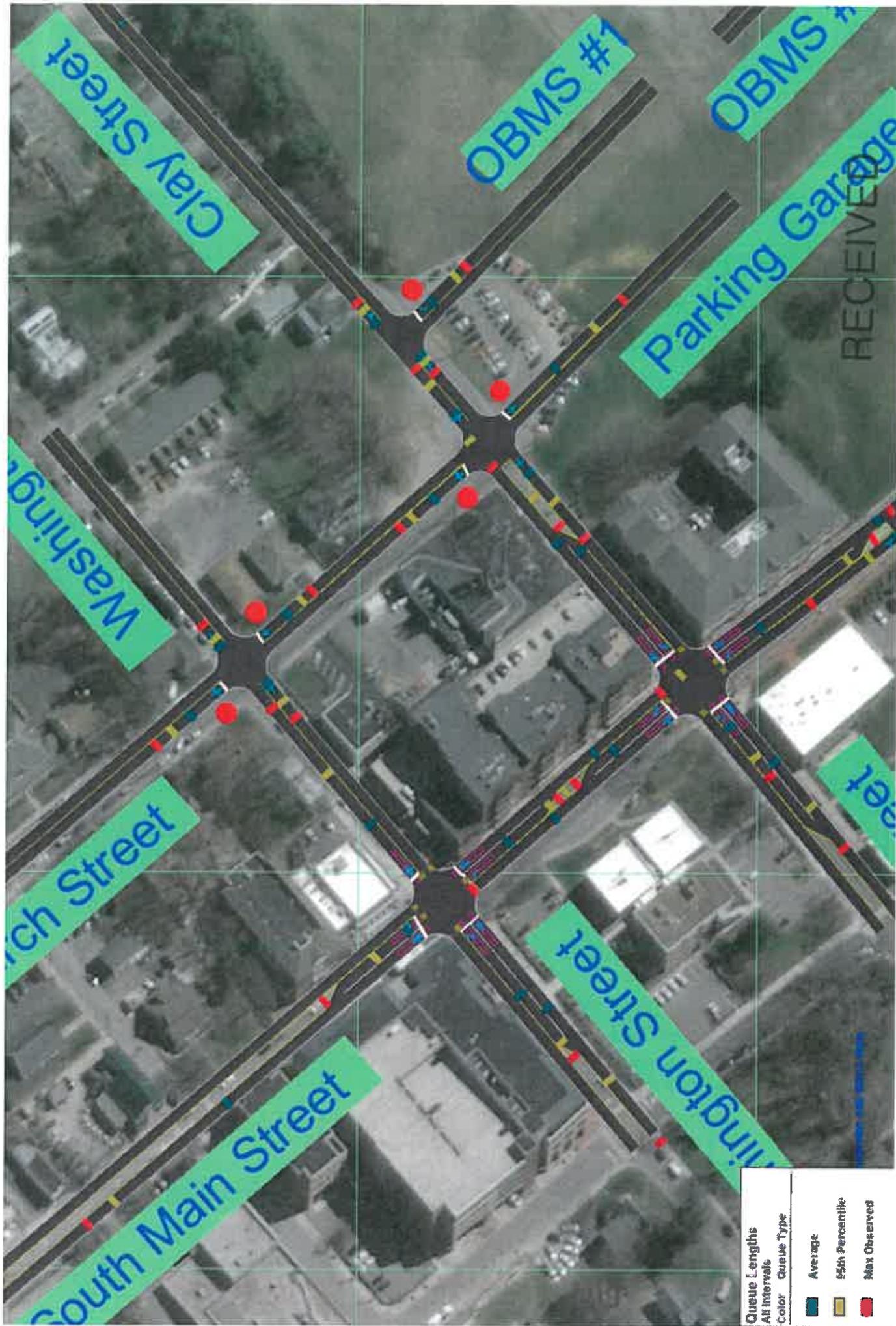
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