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Technical Memorandum: Crosswalks near the Moab Charter School

Overview:

The analysis in this report is based on requirements and guidance found in the Utah Manual on Uniform Traffic Control Devices (MUTCD), which is the state's authoritative manual for crosswalks, and all other things traffic control related. From the manual:

To assure uniform design and application of all types of traffic control devices, Utah Code Annotated (UCA) Section 41-6a-301, requires the Utah Department of Transportation to create a rule establishing a manual and specifications for a uniform system of traffic control devices. The State of Utah adopts its manual by administrative rule (Utah Administrative Code R920-1-1), which is the Utah Manual on Uniform Traffic Control Devices (MUTCD). In addition, UCA Section 41-6a-301(2), requires the Utah Department of Transportation to create a rule establishing a manual and specifications for a uniform system of traffic control devices, school crossing guards, and child access routing plans (referred to herein as a "Student Neighborhood Access Program" or SNAP plans) for School Zones. This Manual satisfies that requirement.

In order to gather data for this report, engineering staff conducted eight one-hour-long pedestrian crossing counts, drew on previously collected vehicle traffic data (from 2016 onward), and made various other site observations at two previously identified student crossing locations near Moab Charter School (Figure 1). These locations include the existing pedestrian crossing on 400 East at Locust Lane (red), and the area of 300 South adjacent to the Charter School east to the existing crosswalk on 300 South at 400 East (blue). Figure 2 shows the different striping patterns for various crosswalk types addressed in the MUTCD, including the pedestrian and school crosswalks being discussed.

In consideration of existing site conditions and collected data, staff have concluded that the 300 South location warrants conversion to a school crosswalk, but that the location on 400 East does not, per the MUTCD warrant. A midblock crossing on 300 South in front of the Charter School was not considered due to the additional warning signs and parking prohibitions which would be required in order to be compliant with the MUTCD at this location.



Figure 1

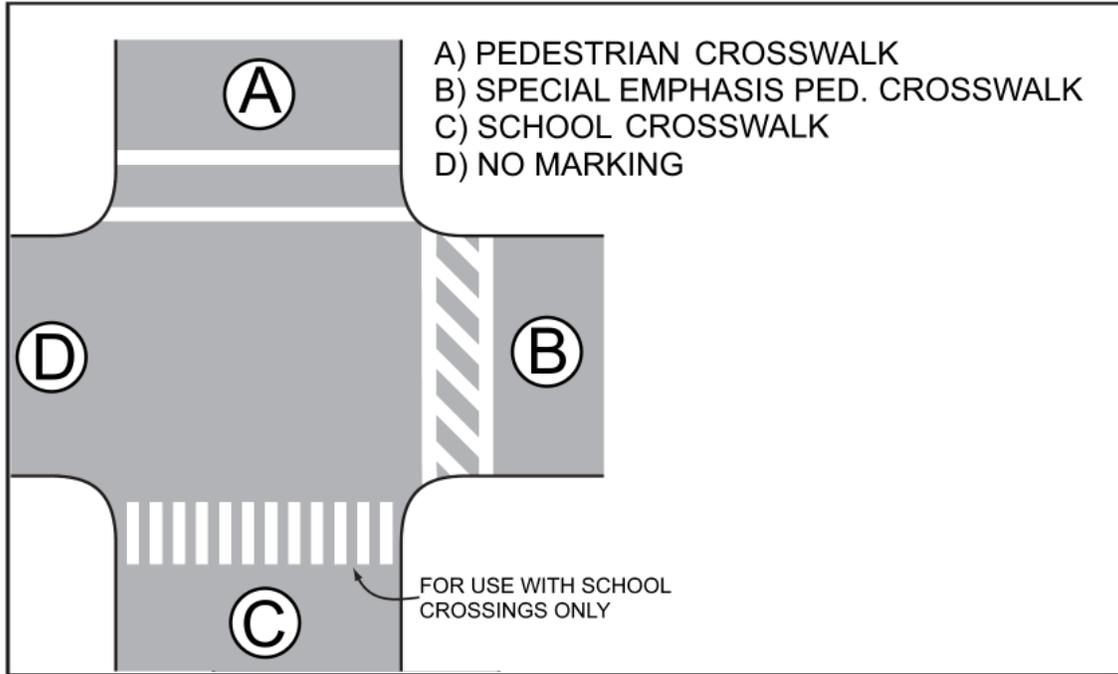


Figure 2

Regulatory Criteria:

MUTCD Appendix B1 provides clear prerequisites for establishment of a school crosswalk zone as a flowchart (Figure 4). The 400 East location did not meet the student crossing count threshold, and was not considered any further (see Figure 3 for student crossing counts at both locations). Following the top row of the flow chart, it can be seen that the 300 South location warrants a school crossing by positively satisfying the following criteria:

- Student crossings narrowly exceeded the threshold of ten crossings during the counts.
- Average Daily Traffic (ADT) on 300 South has been measured as being between 3,000 and 5,000 vehicles per day, thereby exceeding the minimum threshold of 500 vehicles per day.
- There are no other marked crosswalks on 300 South within 600 feet.
- The existing crosswalk is located at the extreme eastern end of the corner radii, putting it immediately adjacent to 400 East. This results in an unobstructed view afforded drivers on 400 East. It is assumed that the proposed school crosswalk will be on this same alignment; therefore stopping sight distance will be adequate.

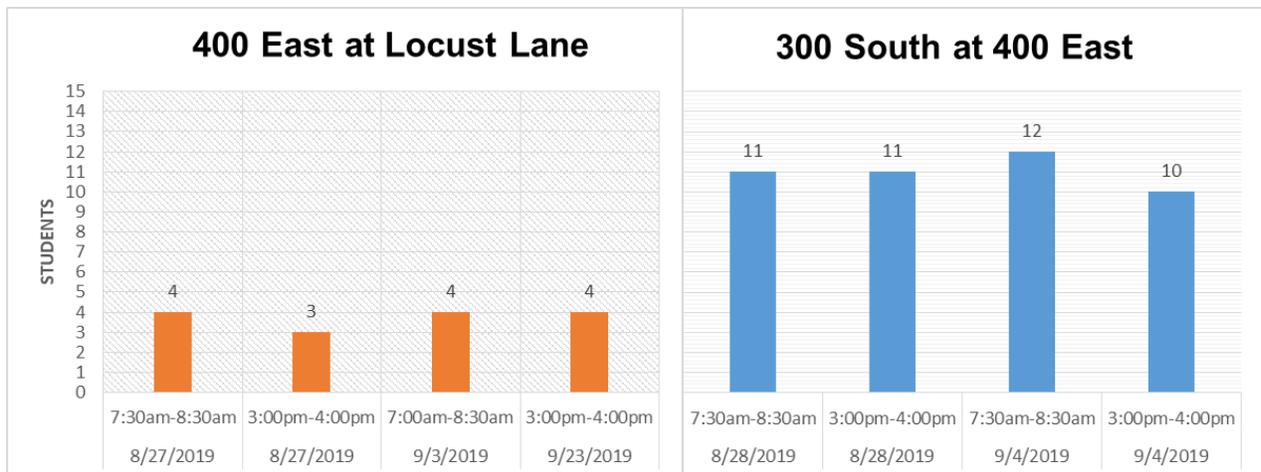


Figure 3

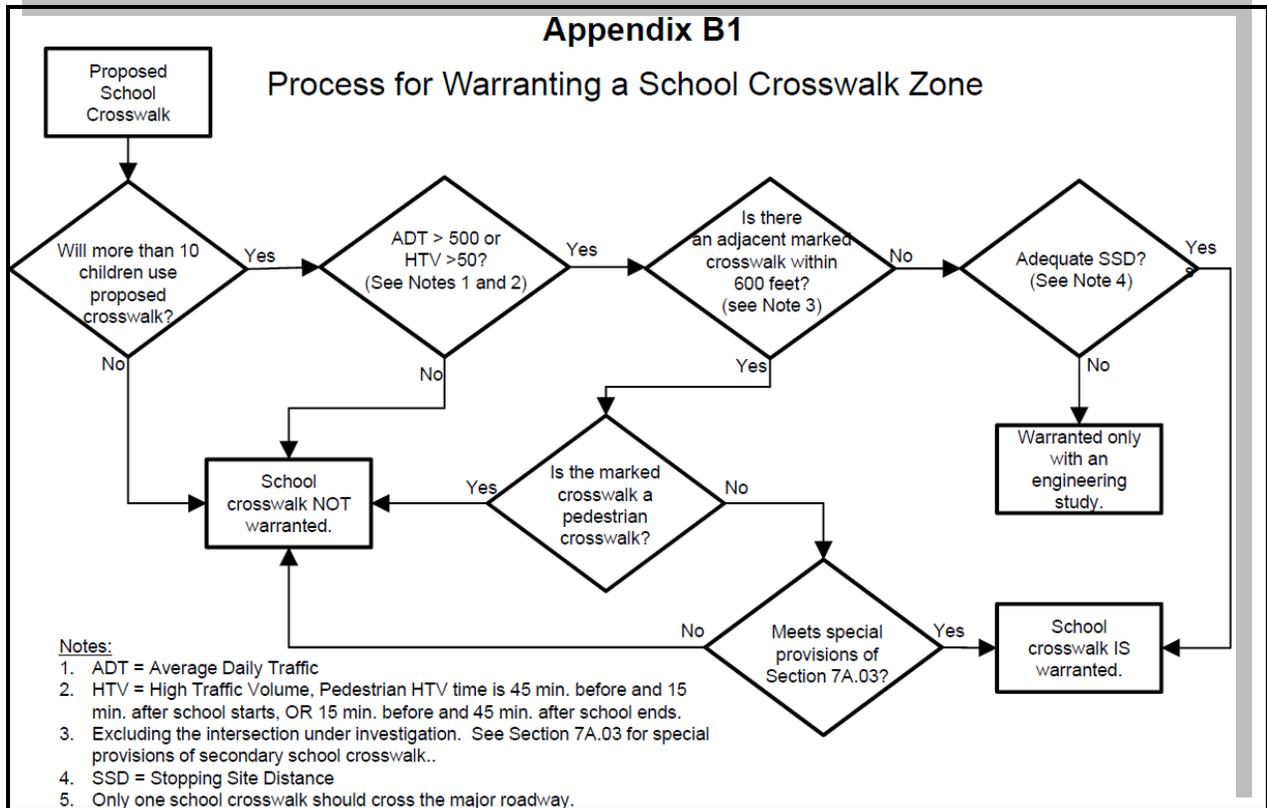


Figure 4

Other Considerations:

MUTCD requires that school crossings be located along walking routes identified on the school's "Safe Routes Utah" map (formerly SNAP). Before a school crosswalk is installed on 300 South, this will need to be verified with the Charter School's administration. Additionally, school crosswalks must be supplemented with signage as specified by MUTCD. The new school crosswalk and accompanying signs will constitute a new school crossing zone, and must be designated on the Safe Routes Utah map. It should also be noted that none of the students counted crossing 300 South used the existing crosswalk, with all students crossing in the midblock area along the Charter School frontage. Additional measures will likely be necessary to promote compliance. In other words, if the school crosswalk is installed at 300 South the children need to quit crossing the street mid-block and use the new crosswalk.

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