

Proposed Solutions	Description	Advantages	Drawbacks	Construction	Cost
Alternative A: Narrowing of NW 54 th Ave ("Baseline")	Reduce the width of the road by removing the westbound right turn lane at the intersection of Foxboro Rd. This alternative would also replace the 4 feet wide painted median with double yellow centerline.	<ul style="list-style-type: none"> - Shorten the pedestrian crossing distance - Shortens pedestrian crossing times for school cross guard - Increase buffer between the road and the sidewalk located on the north side - Additional space for snow storage; not on the sidewalk 	<ul style="list-style-type: none"> - Foxboro Rd right turning traffic would minimally interrupt westbound through traffic due to the removal of the right turn lane 	<ul style="list-style-type: none"> - Requires reconstruction of curb and gutter north side, and possibly the sidewalk on NW 54th Ave between Foxboro Rd and the Lew Clarkson/Timber Ridge School access 	\$275,000 - \$375,000 (opt. related to new HMA overlay)
Alternative B: Pedestrian Crossing Island at Foxboro Rd ("Pedestrian Refuge")	Include the baseline road narrowing, Alternative A, with the addition of the construction of a raised island at the intersection of Foxboro Rd and NW 54 th Ave. This raised island is proposed to be placed in the middle lane of the east intersection leg.	<ul style="list-style-type: none"> - Provide an additional pedestrian connection across NW 54th Ave - Allows pedestrians to cross one lane of traffic at a time - Proven to reduce pedestrian crash potential - Opportunity for landscaping improvements/enhancements - Possible speed reduction impact 	<ul style="list-style-type: none"> - Allows pedestrian and school children to cross at a location where cross-guards are not present - Snow removal obstruction 	<ul style="list-style-type: none"> - Construction of a 40' by 10' raised median - Construction of pedestrian ramp to connect existing crosswalk on the south 	\$282,000 - \$382,000
Alternative C: Pedestrian Island at School driveway ("Pedestrian Refuge")	Include the baseline road narrowing, Alternative A, with the addition of the pedestrian island at the Timber Ridge School access. This pedestrian island is intended to channelize the eastbound right turn lane.	<ul style="list-style-type: none"> - Provides school children a break after crossing three lanes of traffic when coming to school - Two stage crossing before crossing the right turn lane (carries the majority of the school traffic) - Improve visibility of fold up STOP sign placed in island vs. side of road 	<ul style="list-style-type: none"> - Increases overall pedestrian crossing distance - Might be a problem with crossing guard since it technically becomes a two stage crossing - Crossing guards would have longer distances/time to cover - Larger turning radius might encourage higher speeds while entering the school driveway 	<ul style="list-style-type: none"> - Reconstruction of the school corner radius to accommodate school buses - Construction of a pedestrian island 	\$282,000 - \$382,000
Alternative D: Two Lane Reduction	This alternative would involve the removal of all designated turn lanes on NW 54 th Ave. with the exception of the eastbound right turn lane located at the Timber Ridge School access.	<ul style="list-style-type: none"> - Greater reduction of pedestrian crossing distance. - Narrow lane configurations lead to lower travelling speeds, thus increasing pedestrian safety. - Typical weekday peak hour traffic minimally impacted by turn lane elimination 	<ul style="list-style-type: none"> - Increases read end crash potential at both intersections - Potential delays for left turning traffic on NW 54th Ave. - peak events for Lew Clarkson park or school may experience greater delays w/o turn lanes 	<ul style="list-style-type: none"> - Requires reconstruction of curb and gutter, and possibly the sidewalk on the north side of NW 54th Ave between NW 72nd St and NW 78th Ct. 	\$600,000 - \$740,000

<p>Alternative C – Optional Addition: Construction of Pedestrian Speed Table – see examples below</p>	<p>Include the baseline road narrowing, Alternative A and C with the addition of the construction of a speed table between the raised island and the edge of curve of the school access.</p>	<ul style="list-style-type: none"> - Given the reconstruction of the curve would make the radius wider, a 3” tall speed table would effectively make drivers slow down while turning - Given the fact that it is a raised structure, it highlight the presence of school children for the driver’s field of vision 	<ul style="list-style-type: none"> - Slower right turn maneuvering for bus drivers 	<ul style="list-style-type: none"> - Construction of a single-lane speed table on the channelized right turn lane - Drainage considerations 	<p>+\$5,000</p>
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Pedestrian Treatment	Description	Advantages	Drawbacks	Construction	Cost
Rectangular Rapid Flashing Beacon (RRFB)	The RRFB is a flashing beacon (a flashing yellow light above the sign) or rectangular rapid flashing beacon (RRFB, beneath the S1-1 sign) can be incorporated with a S1-1 school crossing sign.	<ul style="list-style-type: none"> - Increases the visibility of the S1-1 school crossing sign along a busy street - RRFB catches driver attention by bright, irregular flashing - The main advantage of these additional lights is that they are only activated when a pedestrian is present and pushes a button, or is activated by a “presence” type detection which senses a pedestrian - Proven to improve vehicle yield to pedestrians 	- Per MUTCD interim approval of this device: “Except for crosswalks across the approach to or egress from a roundabout, an RRFB <u>shall not be used for crosswalks across approaches controlled by YIELD signs, STOP signs, traffic control signals, or pedestrian hybrid beacons.</u> ” (conflicts with current STOP sign at school intersection)	- Installation of these devices include use and maintenance of battery or solar power back-up for the lights.	Approx \$20,000 - \$25,000



<p>High Intensity Activated Crosswalk (HAWK)</p>	<p>A HAWK beacon is a traffic control device used to stop road traffic and allow pedestrians to cross safely. The main feature of a HAWK beacon is to allow protected pedestrian crossings, stopping road traffic only as needed. (implemented in DSM & Ankeny)</p>	<p>- The HAWK display is “dark” (not illuminated with a green indication as a standard signal would be) until a pedestrian activates the signal. It then shows flashing yellow, steady yellow, solid red and flashing red indications to motorists. This increases the conspicuity of the pedestrian crossing by indicating in a highly visible manner and only doing so when a pedestrian is present.</p>	<p>- These devices are designed to help pedestrians safely cross busy or higher-speed roadways at <u>midblock crossings and uncontrolled intersections.</u></p>	<p>- Installation of these devices include continued maintenance costs.</p>	<p>Approx \$100,000 - \$125,000</p>
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