



MEMORANDUM

TO: Mayor and City Council
FROM: Howard S. Lazarus, City Administrator
DATE: March 4, 2019
SUBJECT: Response to Council Resolution R-18-472 – Resolution Regarding Next Steps for Pedestrian Safety Improvements at Fuller Road Crosswalk

This memorandum is provided in response to approved Council Resolution [R-18-472](#) – Resolution Regarding Next Steps for Pedestrian Safety Improvements at Fuller Road Crosswalk, which directed the City Administrator to evaluate pedestrian safety improvements at the existing Fuller crosswalk:

RESOLVED, The City Council directs the City Administrator to conduct a comprehensive evaluation of all of the possible pedestrian safety improvements at the existing Fuller crosswalk (additional gateway treatments, widening the road and installing a refuge island, raised crossing, road re-design etc.) vis-a-vis re-locating the crosswalk including the pros/cons and likely cost of each, the projected benefit and necessary behavioral changes (if any) required to achieve the desired outcomes. Deliver to Council within 180 days a report of the results of the evaluation and recommendations including timing, cost, and funding source.

The following is an evaluation of possible improvements relative to the actions identified in Resolution R-18-472:

Crosswalk Options

Two primary crosswalk improvement options were evaluated at the current location, as well as the option to relocate the crosswalk. Each option is sketched out in the attached drawings. Below is a summary of each option:

Option 1

Remove the existing paved shoulder and curb and gutter along the south side of Fuller Road. Install new curb and gutter along the edge of the eastbound travel lane (white painted line) and tie in to the existing curb and gutter at the Gallup Park entrance approach. Remove and replace sidewalk ramps to be fully ADA compliant, extending the south ramp up to the new curb. Relocate the RRFB and street light on the south side closer to the road.

Option 2

Widen the road to allow for the installation of a pedestrian refuge island at the existing crossing location, shifting the eastbound lane approximately 8 feet south to create the space for the island. Remove and replace sidewalk ramps to be fully ADA compliant.

Option 3

Relocate the pedestrian crossing approximately 410 feet west of the current location. Remove existing ramps and curb openings, and replace with full height curb. Extend sidewalk along south side of Fuller Road to the new crossing location, and install ADA compliant sidewalk ramps. Install pedestrian refuge island at the new crosswalk location. Relocate the existing RRFBs and street lights to the new crossing location. Place a barrier (type to be determined) at the existing crosswalk location to discourage crossing at this location.

Evaluation of Alternatives

Details on the costs, scheduling considerations, and pros/cons of each option are on the attached table. Below is a summary of the evaluation of each option.

Option 1 is lowest cost. However, it does not provide for a pedestrian refuge island, and provides only a marginal safety improvement over the existing conditions. Staff does not recommend this option for implementation.

Option 2 includes a pedestrian refuge island, and eliminates some pedestrian-vehicle conflicts that currently exist where the existing vehicular lanes diverge at the crosswalk. This option is viable, and construction could potentially proceed in the summer of 2019 provided funding is available. However, the Highway Safety Improvements Program (HSIP) Grant would not be able to be used for this option, therefore this option has the highest cost to the City.

Option 3 provides a pedestrian refuge island, moves the crosswalk further from eastbound traffic queuing, and has the fewest pedestrian-vehicle conflict points. As this option is able to be funded by the Safety Grant, Option 3 has the lower City share cost (as compared to Option 2). Staff recommends this option, as it provides the greatest benefit at a lower cost to the City. However, based on the MDOT plan and bidding schedule, the project would likely not be able to be constructed until the summer of 2020.

Additional Treatments

Various additional measures to enhance driver awareness and pedestrian safety could be implemented along with any of the above described crosswalk options. These additional treatments are also described in detail on the attached table and are summarized below.

Speed Table

Speed tables are midblock devices that raise the vehicle to reduce its traffic speed. Speed tables extend the width of the road, with a height less than four inches and a length of twenty feet. The crosswalk would be located in the center of the speed table. Speed tables are considered traffic calming devices, and as such, City policy currently prohibits their installation on major streets.

Rumble Strips

Rumble strips are milled grooves in the pavement placed perpendicular to the direction of travel ahead of the crosswalk. As the tires of an approaching vehicle contact the grooves, they produce sound and vibration. The noise and vibration produced by rumble strips is intended to give a driver advance notice of a change in the roadway ahead. Rumble strips are not consistent with the City's current crosswalk design guidelines, and also produce continuous noise that may be undesirable to

adjacent property owners and/or park users. Staff does not recommend pursuing this treatment at this location.

Optical Speed Bars

Optical speed bars are pavement markings at the outside lane edges spaced at gradually decreasing distances. The rationale for using them is to increase drivers' perception of speed and cause them to reduce their speed. As spacing between bars gradually narrows, drivers sense they have increased speed and will slow down to keep the same time between each set of bars. However, long term effectiveness may be reduced in areas frequented mainly by local drivers, and thus are not considered ideal for locations such as this one (i.e. school zones). Despite this, staff recommends installing this option at this location and then monitoring its effectiveness over time.

Behavioral Changes

All crosswalk changes require some level of behavioral changes by pedestrians and drivers. Option 1, which provides the least benefit, also imposes the least change in behavior required from drivers and pedestrians. While providing a greater level of protection, refuge islands (Options 2 and 3) still require pedestrians to verify that the far traffic lane is stopped or clear before proceeding. The relocated crosswalk (Option 3) requires both pedestrians and drivers to adjust their behavior to the new crossing location. The additional treatments are all intended to change driver behavior to be more attentive to the pedestrian crossing.

Conclusion

Staff recommends Option 3, as it minimizes pedestrian-vehicle conflict points, moves pedestrians away from queuing traffic stopped at Huron Parkway, and has the lower cost to the City. In addition, turning down the Safety grant (which was based on Option 3) will also result in the City being penalized in the scoring for future grant awards for a period of two years. The penalty would be sufficient enough that it is unlikely that the City would qualify for any Safety grants during that time period.

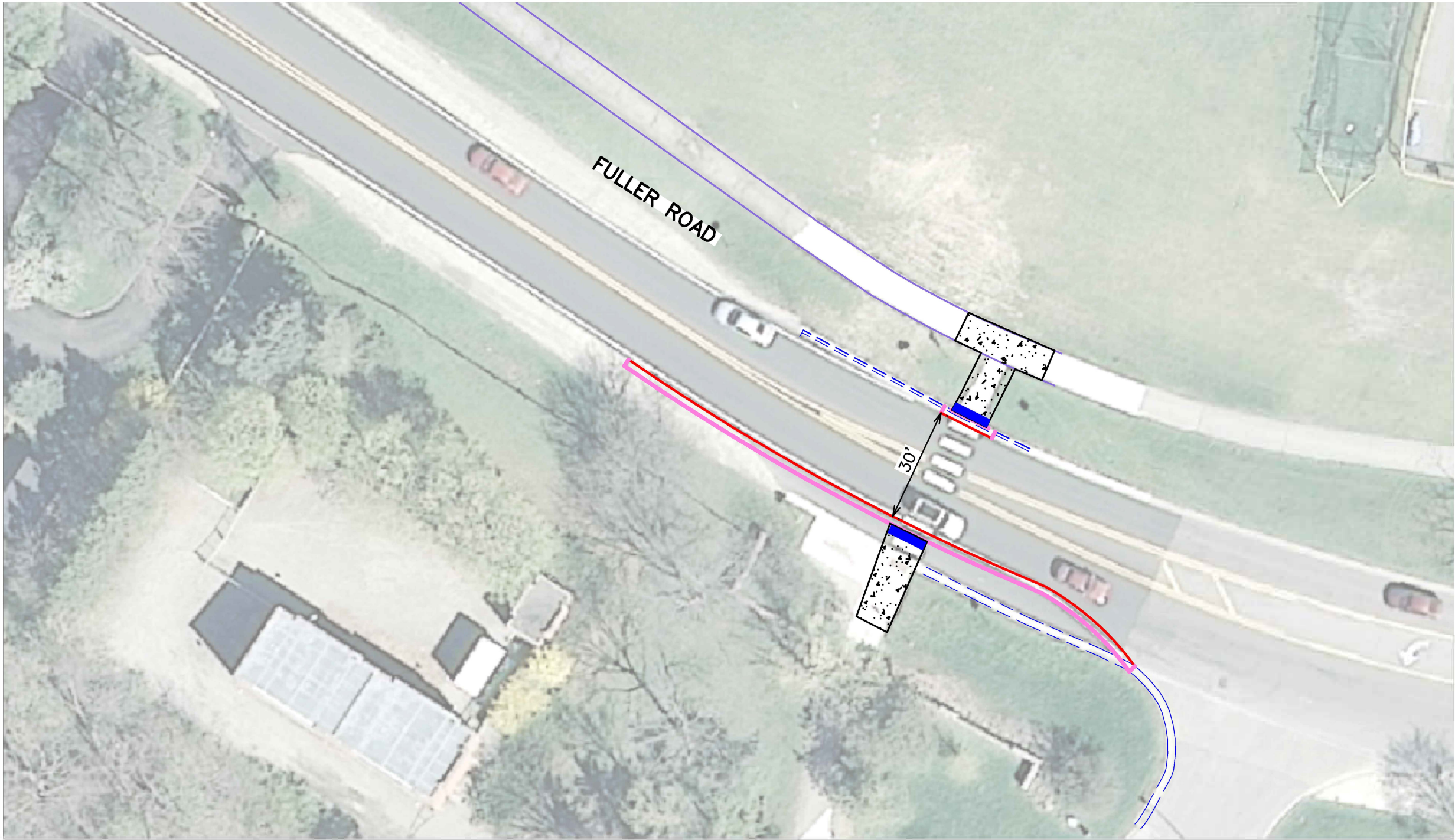
Staff considers Option 2 viable but less desirable than Option 3 because it has more conflict points, does not resolve traffic queuing over the crosswalk throughout the day, and would result in forfeiture of the HSIP grant and penalties on future grant applications. The idea that Option 2 is the less desirable option is supported by an e-mail communication from the administrator of the HSIP program at MDOT, in which it was verified that Option 2 would not qualify for the HSIP grant because it does not adequately address safety concerns.

Staff does not recommend Option 1 because it does not achieve the desirable degree of safety improvements over the existing condition.

Attachments: Drawings of Options
Comparison Tables

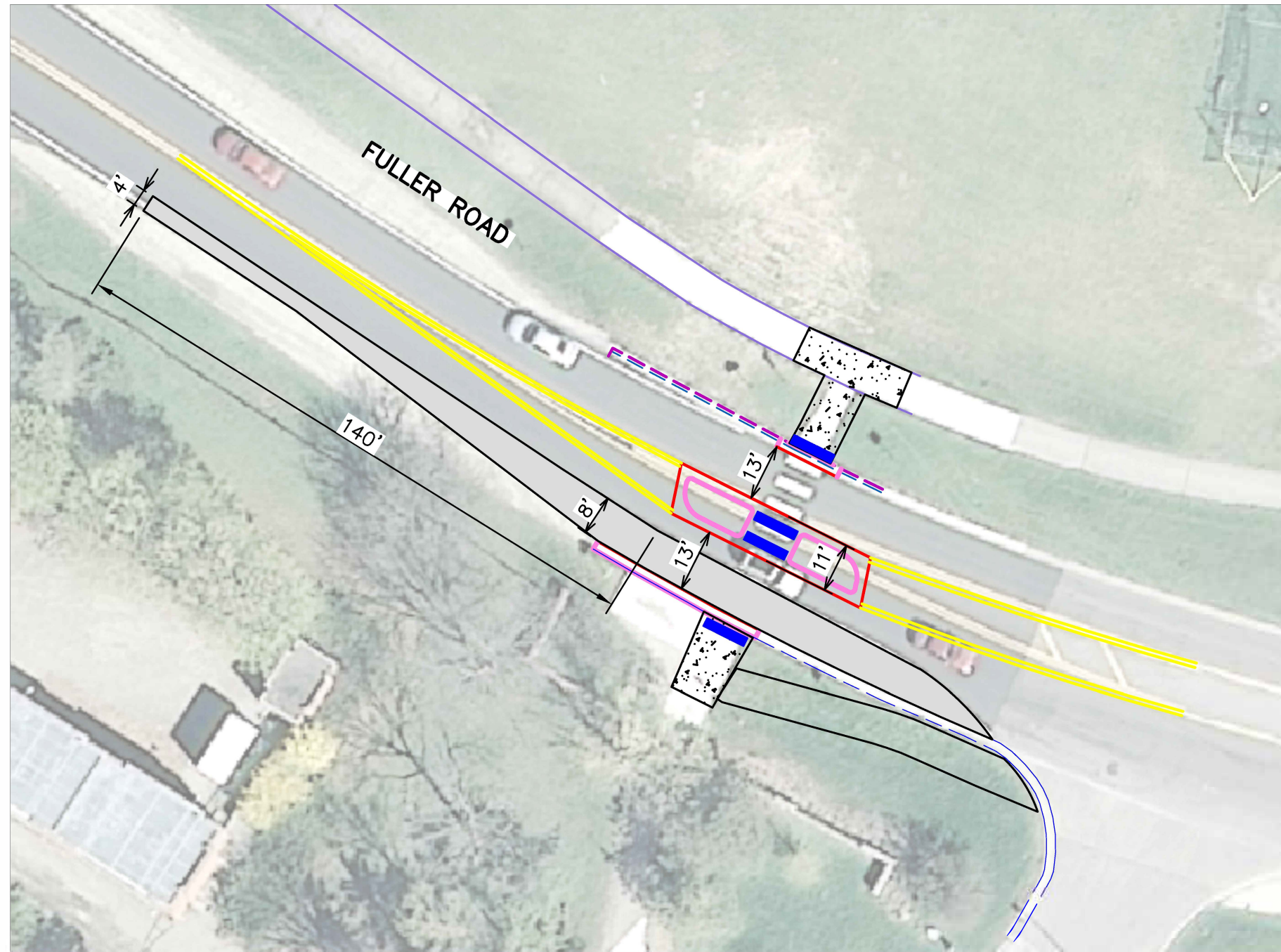
cc: John Fournier, Assistant City Administrator
Raymond Hess, Transportation Manager
Craig Hupy, Public Services Area Administrator
Nicholas Hutchinson, City Engineer
Cynthia Redinger, Transportation Engineer
Brian Slizewski, Project Manager

OPTION 1



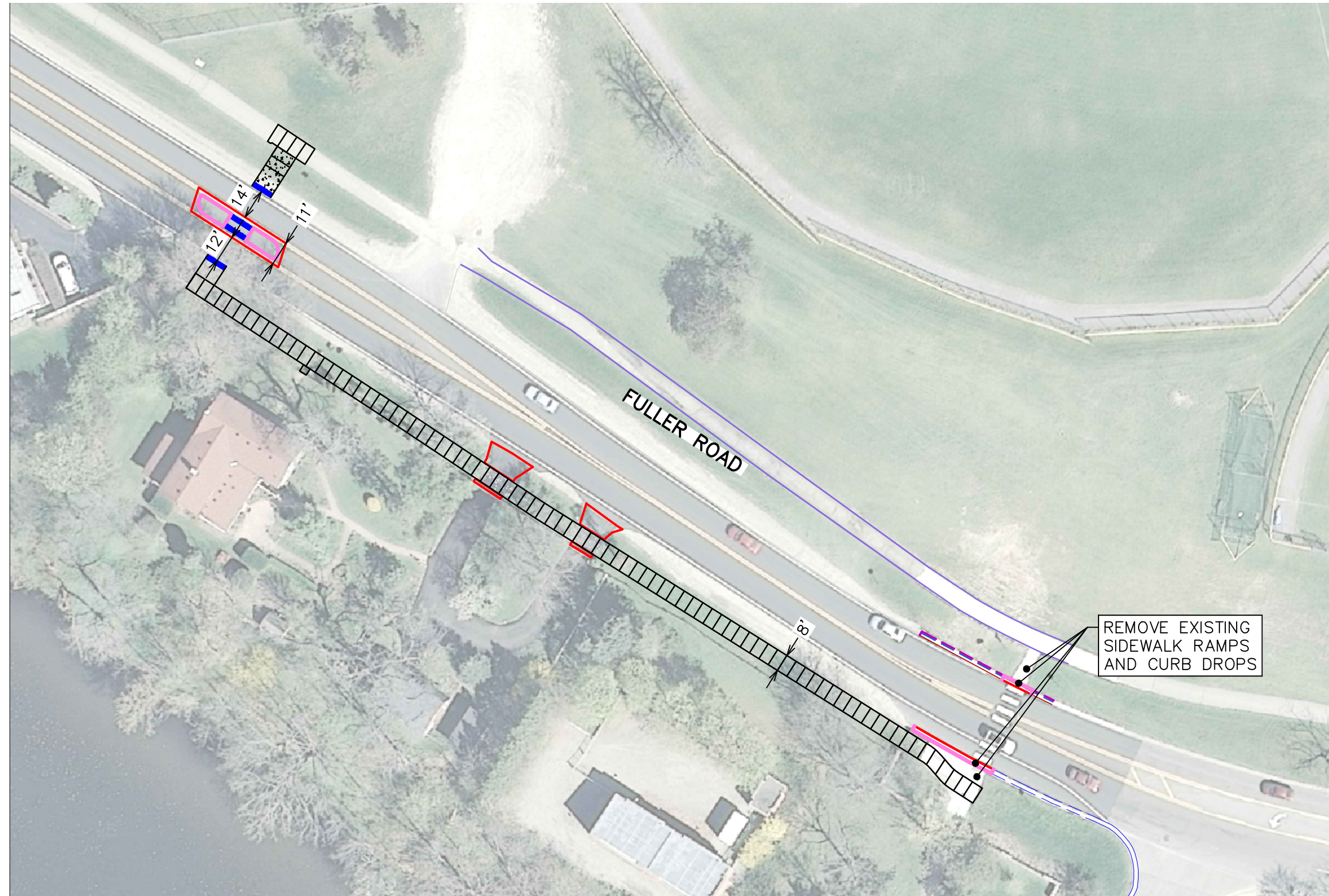
FULLER ROAD PEDESTRIAN CROSSING EVALUATION
EXISTING CROSSING LOCATION
REMOVAL OF PAVED SHOULDER AND INSTALLATION OF CURB AND GUTTER
02/01/2019

OPTION 2



FULLER ROAD PEDESTRIAN CROSSING EVALUATION
ROAD WIDENING FOR INSTALLATION OF PEDESTRIAN ISLAND
02/01/2019

OPTION 3



FULLER ROAD PEDESTRIAN CROSSING EVALUATION
RELOCATION OF PEDESTRIAN CROSSING AND INSTALLATION OF PEDESTRIAN ISLAND
01/15/2019

Fuller Road Pedestrian Crosswalk Evaluation

Description – Primary Options	Estimated Project Cost	Schedule	Pros	Cons
<p>Option 1 - Existing Crosswalk Location</p> <ul style="list-style-type: none"> • Move south curb to edge of travel lane • Remove/replace ramps for ADA compliance • Move south RRFB and streetlight to new curb line 	<p>\$114,000 HSIP Grant \$0 City cost \$114,000</p>	<p>City funded project could be constructed in Summer 2019</p>	<ul style="list-style-type: none"> • Paved road width is narrowed • Low cost • Prevents vehicles from using shoulder to bypass queued traffic 	<ul style="list-style-type: none"> • No Pedestrian Island; does not prevent vehicles from moving into the left turn lane prematurely • Does not resolve traffic queuing over crosswalk throughout the day (EB traffic stopped at Huron Pkwy) • Total number of conflict points: 4 • Forfeiture HSIP Grant and penalized on future applications
<p>Option 2 -Existing Crosswalk Location</p> <ul style="list-style-type: none"> • Install Pedestrian Island • Widen pavement to install taper • Remove/replace ramps for ADA compliance • Reconstruct shoulder to support traffic 	<p>\$140,000 HSIP Grant \$0 City cost \$140,000</p>	<p>City funded project could be constructed in Summer 2019</p>	<ul style="list-style-type: none"> • Pedestrian Refuge Island • Prevents vehicles from moving into the left turn lane prematurely • Prevents vehicles from using shoulder to bypass queued traffic 	<ul style="list-style-type: none"> • Does not resolve traffic queuing over crosswalk throughout the day (EB traffic stopped at Huron Pkwy) • Total number of conflict points: 3 • Forfeiture HSIP Grant and penalized on future applications
<p>Option 3 – Relocate Crosswalk to West</p> <ul style="list-style-type: none"> • Extend sidewalk on south side • Install Pedestrian Island at new crosswalk location • Remove existing crosswalk and ramps Relocate street lights and RRFBs to new crosswalk • Design elements to discourage using old crosswalk location 	<p>\$245,000 HSIP Grant \$129,000 City Cost \$116,000</p>	<p>Federal funded project. Additional time required for MDOT submittals, reviews, City-State Agreement, and MDOT construction bids. Project could be constructed in Summer 2020 (to avoid construction during the school year).</p>	<ul style="list-style-type: none"> • Pedestrian Refuge Island • Move Crossing away from vehicles queued for Huron Parkway signal. • Least number of conflict points • HSIP Grant lowers overall cost 	<ul style="list-style-type: none"> • Potential queuing across crosswalk in the morning (WB traffic turning into Huron HS) • Highest total project cost • Total number of conflict points: 2

Fuller Road Pedestrian Crosswalk Evaluation

Description – Additional Treatments	Conceptual Project Cost	Implementation Factors	Pros	Cons
<p>Speed Table</p> <ul style="list-style-type: none"> • Raised section of roadway at the crosswalk 	<p>City cost \$50,000</p>	<p>Not recommended - City policy prohibits traffic calming devices on major streets.</p>	<ul style="list-style-type: none"> • Effective means of consistently slowing traffic 	<ul style="list-style-type: none"> • Road closure required to install and cure concrete. • Impact travel of emergency vehicles. • Requires detailed design to determine if additional road drainage improvements would also be needed
<p>Rumble Strips</p> <ul style="list-style-type: none"> • Grooves milled into the road ahead of the crosswalk 	<p>City cost \$6,000</p>	<p>Inconsistent with current crosswalk design guidelines. Recommended for consideration under future evaluation of guidelines for a major street traffic calming program.</p>	<ul style="list-style-type: none"> • Effective means of consistently slowing traffic 	<ul style="list-style-type: none"> • The noise created when vehicle tires contact a rumble strip are noticeable and undesirable to nearby residences and park users.
<p>Optical Speed Bars</p> <ul style="list-style-type: none"> • Paint markings at the edges of lanes ahead of the crosswalk 	<p>City Cost \$5,000</p>	<p>Can be installed with routine pavement marking work. Recommended for installation and observation to measure effectiveness.</p>	<ul style="list-style-type: none"> • Straightforward installation and maintenance. 	<ul style="list-style-type: none"> • Effectiveness reduced over time as the markings become familiar to local drivers.