



Fuller Road at Gallup Park Road, Pedestrian RSA

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Project Management

## Project Information

Location:	Fuller Road at Gallup Park Entrance pedestrian crossing
RSA Type:	Operational
Date:	December 19, 2016
Materials provided:	Map/GIS Google Street View Dark Conditions Video Sign Inventory Crash History
Facilitator:	Cynthia Redinger, PE, PTOE
Team Members:	Luke Liu, PE, PTOE – Traffic Engineer Jennifer Nelson, PE – RSA trained project manager Jane Allen, PE – Design Engineer Christopher Carson, PE – Design Engineer Adam Ajam – Transportation C.E.S.

## General Observations

### Road Users:

- Drivers: Impatient commuters, high school drivers, park users, unfamiliar drivers (patients, etc.)
- Bicyclists
- Pedestrians: Predominant users are school students (daylight or dark conditions, self-absorbed walkers), culture of “it is the driver’s responsibility”, distracted walking

### Environment:

- Rural style corridor: limited non-motorized facilities, paved/unpaved shoulders, limited number of access points
- Gallup Park: destination trip attractor for motorized and non-motorized trips, park is very busy during certain periods
- Huron High School: Morning arrival commute coincides with higher traffic volumes for the hospitals and downtown, afternoon dismissal commute does not align with an adjacent street peak, students leaving from after-school activities may have trips that coincide with adjacent street peak traffic, many students are arriving by personal vehicle as self-drivers or shared trips with parents, the school site does not include a direct connection from the crosswalk location to a building entrance

## Identified Issues

The Road Safety Audit (RSA) review considered crashes that would involve vehicle-pedestrian conflict at the crosswalk. The risk associated with these crashes was evaluated using FHWA’s risk matrix. Crash Frequency and Crash Severity were evaluated according to the following tables.

Pedestrian crashes are a rare event with extreme severity. Crashes of this nature have a risk rating of F.

All of the crash potential reviewed in this RSA involves pedestrian crashes. Therefore, all safety concerns are equally ranked.

*Table 1 - Determination of Crash Frequency*

Estimated		Expected Crash Frequency (per audit item)	Frequency Rating
Exposure	Probability		
High	High	10 or more crashes per year	Frequent
Medium	High		
High	Medium	1 to 9 crashes per year	Occasional
Medium	Medium		
Low	High		
High	Low	Less than 1 crash per year, but more than 1 crash every 5 years	Infrequent
Low	Medium		
Medium	Low	Less than 1 crash every 5 years	Rare
Low	Low		

*Table 2 - Determination of Crash Severity*

Typical Crashes Expected (per audit item)	Expected Crash Severity	Severity Rating
Crashes involving high speeds or heavy vehicles, pedestrians, or bicycles	Probable fatality or incapacitating injury	Extreme
Crashes involving medium to high speed; head-on, crossing, or off-road crashes	Moderate to severe injury	High
Crashes involving medium to low speeds; left-turn and right-turn crashes	Minor to moderate injury	Moderate
Crashes involving low to medium speeds; rear-end or sideswipe crashes	Property damage only or minor injury	Low

Table 3 - Determination of Crash Risk

Frequency Rating	Severity Rating			
	Low	Moderate	High	Extreme
Frequent	C	D	E	F
Occasional	B	C	D	E
Infrequent	A	B	C	D
Rare	A	A	B	C

Crash Risk Rankings -     A: Minimal                     D: Significant  
                                       B: Low                                     E: High  
                                       C: Moderate                     F: Extreme

## Safety Concerns

### Too Many Conflict Points:

- The crossing is located adjacent to a “T” intersection with a taper for a left turn lane. The location creates more conflict points than the crossing would experience in another location.
- The high number of conflict points creates a situation that requires a to make many observations and many decisions to make in a short space. The density of these decisions may distract a motorist from the presence of pedestrians.

### Alignment

- The crosswalk is located within a horizontal curve. The nature of the horizontal alignment at this location can lead to obstruction of sight distance for westbound motorists approaching the crosswalk. Frequent occurrence of eastbound vehicle queues extending past the crosswalk worsen the sight distance limitations created by the horizontal alignment.

### Horizontal Sight Distance Obstruction

- The RSA team identified a source of possible sight distance obstruction. The obstruction is caused by a single walnut tree located on the north side of the street. The tree’s location on the inside of the horizontal curve places it within the clear vision area for a motorist.

### Speed

- The speed limit Fuller Road is 40 mph. The area does not have a reduced speed zone.

## Suggested Modifications

This section documents suggestions the team developed for implementation at the RSA location. The suggestions developed by the team are listed in groupings based on projected horizon years for possible completion. The groupings are Near Term, Mid Term, and Long Term.

Time Frame	Suggestion
Near Term	Remove walnut tree from north side of road
	Install SCHOOL legends
	Install pedestrian crossing legends
	Install gateway treatment at existing crossing
	Install school speed zone w/ flashers
	Install street lights
Mid Term	Install rumble strips to alert motorists to a change in circumstances
	Install raised crossing
Mid to Long term	Install RRFB if gateway proves ineffective
Long Term	Install sidewalk on south side of the road and move the crossing to a point west of its current location
	During reconstruction consider redesigning the road to narrow the amount of pavement and narrow the crossing distance
	Work with the school district to develop education tools to change pedestrian culture around crosswalks