

NEVADA DEPARTMENT OF TRANSPORTATION

PROCESS FOR THE EVALUATION OF UNCONTROLLED CROSSWALK LOCATIONS

Current as of 8/14/14

ASSUMPTION: This process should be used to evaluate existing or proposed uncontrolled crosswalk locations.

1. **Preliminary Field Review** – the field review is needed to become familiar with the existing geometry, traffic control devices and land use at the subject crosswalk site. Location of nearby schools is especially critical to this process, although this process does not apply to school crossings. A nighttime review of the site should also be conducted.
2. **Data Collection** – the following data elements should be considered prior to any decision on treatments for the subject crosswalk.
 - **Crash Data** – review crash data from NDOT Safety Engineering. Consider a crash data request for the subject crosswalk location including appropriate approach distances to the crosswalk as indicated by operational features, i.e. intersections, driveways, pedestrian/bicycle trails, etc.
 - **Vehicular Volume** – use current Average Daily Traffic (ADT) if available or conduct vehicle counts.
 - **Posted Speed Limit** – a speed study may be needed if it is determined that vehicle speeds are not in compliance with the posted speed limit.
 - **Number of Lanes** – record the total number of lanes that a pedestrian must cross including through travel lanes, two-way left turn (TWLTL) lane for mid-block crosswalk locations, paved shoulders, and right turn and left turn lanes at intersection crosswalk locations.
 - **Median** – record existence of any median including raised median, painted median, or unpaved median.
 - **Street Lighting** – record luminaire type and wattage, number of luminaires and layout of street lighting at the subject crosswalk location.
 - **Nearest Traffic Signal Control** – if less than 600 feet, record distance to nearest traffic signal control for mid-block crosswalk locations.
 - **Traffic Control Devices for Subject Crosswalk** – record all existing signing, pavement markings, and other traffic control devices relative to the subject crosswalk.
 - **Sight Distance** – determine if adequate sight distance exists for pedestrians and drivers.

- **Alternative Crosswalk Sites** – record any alternative crosswalk sites considered and the reasoning for not choosing those sites.
- 3. Crosswalk Decision Matrix** – The Uncontrolled Crosswalk Decision Matrix is available to aid in the decision process to determine the need for the subject crosswalk and the potential treatments to be considered. The followings guidelines should be considered when using the Uncontrolled Crosswalk Decision Matrix:
- The Uncontrolled Crosswalk Decision Matrix includes intersection and midblock locations with no traffic signals or stop signs on the approach to the crossing location.
 - A two-way left turn (TWLTL) lane is considered a travel lane and not considered to serve as a median for purposes of this process.
 - Additional safety design features and/or traffic control devices must be included in any plans for proposed crosswalk locations that could present an increased safety risk to pedestrians, such as where there is inadequate sight distance, complex or confusing designs, a substantial volume of heavy trucks, or other high risk elements.
 - Adding crosswalks alone will not make crossings safer, nor will they necessarily result in more vehicles stopping for pedestrians.
 - Based on the evaluation of location traffic data and the matrix guidelines, other pedestrian facility enhancements (e.g. raised median, traffic signal, pedestrian hybrid beacon, flashing beacons, roadway narrowing, enhanced overhead lighting, traffic-calming measures, curb extensions, etc.) , may be needed to improve the safety of the crossing.
 - Where the speed limit exceeds 40 mph, marked crosswalks alone should not be used at unsignalized locations.
 - If utilized at a crosswalk location for pedestrian refuge, a raised median should be 4 ft. wide and 6 ft. long in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) and American Association of State Highway and Transportation Officials (AASHTO) guidelines.
 - All new and modified existing crosswalk locations must be compliant with the requirements of the American Disabilities Act.

These are general guidelines; engineering judgment should be used to evaluate individual cases and to determine the treatment to be used.

- 4. Engineering Judgment** – The information contained in the Uncontrolled Crosswalk Decision Matrix is not a substitute for engineering judgment. Many other factors beyond those mentioned in this process description may need to be considered.

5. Stakeholder Outreach – following the selection of a treatment, outreach to appropriate stakeholders is recommended:

- NDOT District Staff (Traffic Engineer, Maintenance Engineer, District Engineer)
- NDOT Chief Safety Engineer
- NDOT Chief Traffic Operations Engineer
- Local agency
- NHP and local law enforcement agency, as appropriate

If needed, a meeting/conference call with the above mentioned staff can be held to discuss the crosswalk treatment decision.

6. Documentation – it is important to document the process for each crosswalk location that is evaluated. This includes all dates and times for field reviews, collected data and a written record of all decisions made and actions taken or not taken.

7. Implementation – if a decision is made to implement a decision for a crosswalk location, it may be accomplished in a number of ways, i.e. included as part of an upcoming roadway project; done as a District contract; or as a safety project.

UNCONTROLLED CROSSWALK DECISION MATRIX
 (Treatments to be applied only if evaluations of conditions indicates that the treatment will provide a significant safety benefit)

Roadway Type (Number of Travel Lanes and Median Type)	Vehicle ADT ≤ 9,000			Vehicle ADT >9,000 to 12,000			Vehicle ADT >12,000 to 15,000			Vehicle ADT >15,000		
	Posted Speed Limit											
	≤30 mph	35 mph	40 mph	≤30 mph	35 mph	40 mph	≤30 mph	35 mph	40 mph	≤30 mph	35 mph	40 mph
Two lanes	C/1	C/1	P/2	C/1	C/1	P/2	P/2	P/3	P/3	P/2	P/3	P/3
Three lanes	C/1	C/1	P/2	C/1	P/2	P/2	P/2	P/2	P/3	P/2	P/3	P/3
Multilane (four or more lanes with raised median)	C/1	C/2	P/2	C/2	P/2	P/3	P/2	P/2	P/3	P/3	P/3	P/3
Multilane (four or more lanes without raised median)	C/1	P/2	P/3	P/2	P/2	P/3	P/3	P/3	P/3	P/3	P/3	P/3

C - Candidate sites for marked crosswalks*. An engineering study is required to determine whether a marked crosswalk will provide a significant safety benefit. A site review may be sufficient at some locations, while a more indepth study of vehicle speeds, sight distance, vehicle mix, and other factors may be needed at other sites. It is recommended that a minimum utilization of 20 pedestrian crossings per peak hour (or 15 or more elderly and/or child pedestrians) be confirmed at a location before placing a high priority on the installation of a crosswalk treatment. See Crossing Treatment Type Number 1.

P - Possible increase in pedestrian crash risk if crosswalks alone are added without other pedestrian facility enhancements. If the evaluation determines that a crosswalk would provide a significant safety benefit, then crosswalk locations should be enhanced with other pedestrian crossing improvements such as those shown in Crossing Treatment Types Number 2 or 3.

Minimum crosswalk treatments at uncontrolled locations should follow the requirements of the Manual on Uniform Traffic Control Devices (most current version).

Crossing Treatment Types:

- 1** - High visibility Crosswalk Striping is recommended, and consideration of additional treatments such as a Pedestrian Refuge Island and/or Advanced Yield Lines and street lighting.
- 2** - Crossing treatments such as a Pedestrian Refuge Island, Overhead Pedestrian Crossing Signs, Flashing Beacons, Yield Lines, parking removal between crosswalk and Yield Lines and street lighting should be considered. Additional information is available in the NDOT Flashing Beacon policy.
- 3** - Crossing treatments such as a Pedestrian Hybrid Beacon, Pedestrian Signal, or Two-Stage Crossing, Stop or Yield Lines, parking removal between crosswalk and Yield Lines and street lighting should be considered. Installation of traffic signals cannot be considered unless traffic conditions meet warrant criteria specified in the Manual on Uniform Traffic Control Devices.

***NRS 484A.065 "Crosswalk Defined"** Crosswalk means: 1. That part of a highway at an intersection within the connections of the lateral lines of the sidewalks on opposite sides of the highway measured from the curbs or, in the absence of curbs, from the edges of the traveled portions of highways; or 2. Any portion of a highway at an intersection or elsewhere distinctly indicated for pedestrian crossing by lines or other markings on the surface.