

MEMORANDUM

DATE: May 27, 2026
TO: Dale Kaemingk, Mayor, City of Brier
FROM: John Forba, PE
SUBJECT: Brier Road-Crosswalk Analysis

BACKGROUND

The City of Brier has asked PACE Engineers to analyze the traffic conditions on Brier Road specifically if the current conditions/regulations warrant pavement markings for a crosswalk across Brier Road at the Brier Public Library located on Brier Road between 232nd Street SW and 236th Street SW.

Brier Road runs North-South through the City from the southern City limits with the City of Lake Forest Park north approximately 1.75 miles to the intersection of Old Poplar Way where the two roads combine and transition to Poplar Way which continues north approximately 0.60 miles to the northern City limits. Per the City's 2024 Comprehensive Plan, roadways within the City are classified as "Collector Arterials", "Non-Arterials", "Neighborhood Streets" and "Local Neighborhood Streets". Brier Road/Poplar Way is classified as a Collector Arterial which has traffic counts that are greater than 3,000 vehicles a day.

See Figure 1 - Project Site Map.

Washington State RCW 46.04.160 defines a crosswalk as "the portion of the roadway between the intersection area and a prolongation or connection of the farthest sidewalk line or in the event that there are no sidewalks then between the intersection area and a line ten feet therefrom, except as modified by a marked crosswalk". RCW 46.61.235 states that the operator of an approaching vehicle shall stop and remain stopped to allow a pedestrian, bicycle, or personal delivery device to cross the roadway within an unmarked or marked crosswalk when the pedestrian, bicycle, or personal delivery device is upon or within one lane of the half of the roadway upon which the vehicle is traveling or onto which it is turning. It is important to note that all intersections are legal crossings for pedestrians whether they are marked with crosswalk markings or not. Crosswalks are marked to encourage pedestrians to use a crossing. However, due to some site constraints/traffic the public is not always encouraged to cross at all intersections and therefore the area is left unmarked.



Figure 1 - Project Site Map



Figure 2 - Image of Crosswalk Looking North

Multiple elements must be analyzed when determining the viability of a marked crosswalk in a roadway system, including roadway geometry, crosswalk location, and connections to sidewalks/pedestrian access routes.

Roadway Geometry

The first consideration for providing a crosswalk is Stopping Sight Distances (SSD). SSD is the distance that it takes to stop a moving vehicle if necessary, based on the line-of-sight the driver, at a height of 3.5-feet, has with an obstacle or foreign object or obstacle in the roadway that would necessitate stopping the vehicle such as a pedestrian in a crosswalk. It is based on the posted speed limit of the road as well as the geometry of the roadway including vertical and horizontal curvature. The Washington State Department of Transportation (WSDOT) Design Manual provides the standards on roadway geometry design including SSD. Based on the posted speed limit of 30 MPH and the fact that the proposed crosswalk location is not on a major vertical curve, the SSD is 200-feet. The grade of a roadway does influence SSD, as the SSD is increased on downgrades and decreased on upgrades. With an approximate 3 percent grade present on Brier Road in this area this results in a SSD of 205-feet for southbound traffic and 190-feet for northbound traffic. The WSDOT SSD Table can be found below in Table 1.

Design Speed (mph)	Stopping Sight Distance (ft)					
	Downgrade			Upgrade		
	-3%	-6%	-9%	3%	6%	9%
25	158	165	173	147	143	140
30	205	215	227	190	184	179
35	257	271	287	237	229	222
40	315	333	354	289	278	269
45	378	400	427	344	331	320
50	446	474	507	405	388	375
55	520	553	593	469	450	433
60	598	638	686	538	515	495
65	682	728	785	612	584	561
70	771	825	891	690	658	631
75	866	927	1,003	772	736	704
80	965	1,035	1,121	859	817	782

Table 1-Stopping Site Distances

Upon a sight visit, it was determined that both ends of the crosswalk have enough stopping site distance for cars traveling in both the north and southbound directions. Therefore, the site does meet the roadway geometry requirements for a crosswalk.

Crosswalk Location

The existing crosswalk on Brier Road is located approximately 450 feet south of the Brier Road/232nd Street SW intersection, constituting a “mid-block” crossing (i.e., not located at an intersection). While mid-block crossings can enhance pedestrian safety in certain contexts, they typically require supplemental treatments such as curb extensions (bulb-outs), pedestrian refuge islands, or pedestrian-activated Rectangular Rapid-Flashing Beacons (RRFBs).

Absent these enhancements, mid-block crossings can reduce safety. Drivers may not anticipate pedestrian activity at mid-block locations, increasing the potential for conflicts. Additionally, marked crossings without supporting treatments can create a false sense of security for

pedestrians, potentially leading to reduced situational awareness compared to unmarked crossings.

Connections to Sidewalks/Pedestrian Access Routes

The Manual on Uniform Traffic Control Devices (MUTCD) governs traffic control devices (markings, signs etc.) and regulates the design for marking and signing crosswalk locations. In regard to the MUTCD, a crosswalk may be installed where engineering judgement supports, regardless of the connection to pedestrian facilities. Put simply, the markings/signage simply define a crossing location.

The Public Right-of-Way Accessibility Guidelines (PROWAG) establish requirements within the public right-of-way, including sidewalks, crosswalks, curb ramps, pedestrian signals, and on-street parking. Under PROWAG (36 CFR Part 1190), where a pedestrian crossing is provided, it must connect to a Pedestrian Access Route (PAR) at each end to the extent practicable. A PAR is not limited to formal sidewalks; however, it must be continuous, accessible and connected to destinations where pedestrian travel is anticipated. At a minimum, the PAR must comply with ADA requirements for width, running slope, surface conditions, and allowable changes in level. Accordingly, both the crossing and its termini must meet applicable accessibility criteria. This typically necessitates installation of compliant curb ramps where a curb is present to ensure a continuous and accessible connection between the crossing and the PAR.

Recommendations

Because the City's crosswalk functions as a mid-block crossing and does not connect to an ADA-compliant Pedestrian Access Route (PAR) at either end—due to the absence of compliant curb ramps—it is our opinion that this location should not be maintained as a marked crosswalk.