

Carey Certo

From: Madeline Coulter
Sent: Thursday, April 10, 2025 4:28 PM
To: Carey Certo
Subject: Camas Woods/Everett Drive Turn Lane Considerations
Attachments: Evertt Drive Access Southbound Left Turn Preliminary Turn Lane Evaluation.pdf; Everett Drive Access 2030 LT Review AM Peak.pdf; Everett Drive Access 2030 LT Review School PM Peak.pdf; Everett Drive Access 2030 LT Review PM Peak.pdf

From: Chris Brehmer <CBREHMER@kittelson.com>
Sent: Thursday, April 10, 2025 12:00 PM
To: Curleigh (Jim) Carothers <jcarothers@cityofcamas.us>
Cc: Anita Ashton <AAshon@cityofcamas.us>
Subject: Camas Woods/Everett Drive Turn Lane Considerations

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Hi Curleigh –

Thanks for your phone call earlier today. I reviewed the potential need for a southbound left-turn lane on Everett Drive at the proposed site access with buildout of the Camas Woods project under 2030 total traffic volumes.

The WSDOT left-turn evaluation criteria does not indicate the need for a separate left-turn lane during the AM, school PM, or PM peaks.

I also reviewed alternative left-turn lane criteria that we have used on other projects outside state facilities for a second perspective (Harmelink procedure). This alternative methodology (which considers posted speed, number of through lanes, left-turn and advancing volume as well as opposing volume) also does not identify the need for a separate left-turn lane.

Worksheets for all of the above are attached.

Note that the forecast volumes shown in the attachments are reduced if and when Camas Woods Phase 2 advances and the Camas Woods site gains secondary access to SR 500 via 8th Street to the north. At that point, the southbound left-turn demand into the Everett Drive access is expected to be reduced.

I'm happy to further discuss if you have questions or if you have additional documentation needs.

Thank you,
Chris

Christopher L. Brehmer, PE*
Senior Principal Engineer
*Licensed in OR, WA, MO and NV

Kittelson & Associates, Inc.

Transportation Engineering / Planning

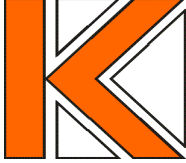
851 SW 6th Avenue, Suite 600

Portland, OR 97204

503.228.5230

503.535.7433 (direct)

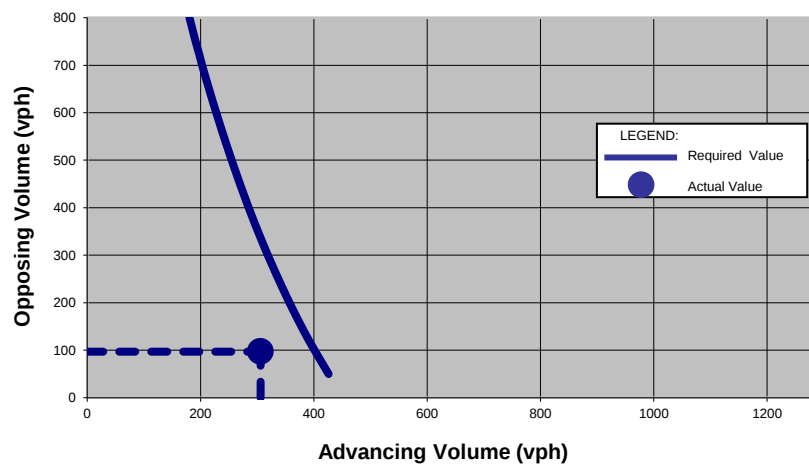
Preliminary Left-Turn Lane Needs Analysis

Project #:	30088	 KITTELSON & ASSOCIATES, INC. 851 SW 6th Avenue, Suite 600 Portland, Oregon 97204 (503) 228-5230
Project Name:	Camas Woods	
Analyst:	CLB	
Intersection:	Everett Drive Access	
Scenario:	2030 Total Traffic, AM Peak	
Date:	4/10/2025	
File:	K:\H_Projects\30\30088 - Camas Woods\analysis\[Everett Drive Access 2030 LT Review AM Peak.xls]Main	

Input Data:

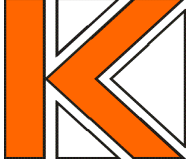
Advancing Volume (vph) =	306
Left-turning Vehicles (vph) =	55
Opposing Volume (vph) =	97
Speed (mph) =	25
Number of Approach Lanes =	1 (not applicable for two lanes)
% Left-Turning Vehicles	18%
Critical Gap (sec) =	5
Maneuver Time (sec) =	3
Exit Time (sec) =	1.9
Utilization Factor =	0.02

Left-Turn Lane Needs Analysis Results



* Based on *Volume Warrants for Left-Turn Storage Lanes at Unsignalized Grade Intersections* (D. Harmelink)

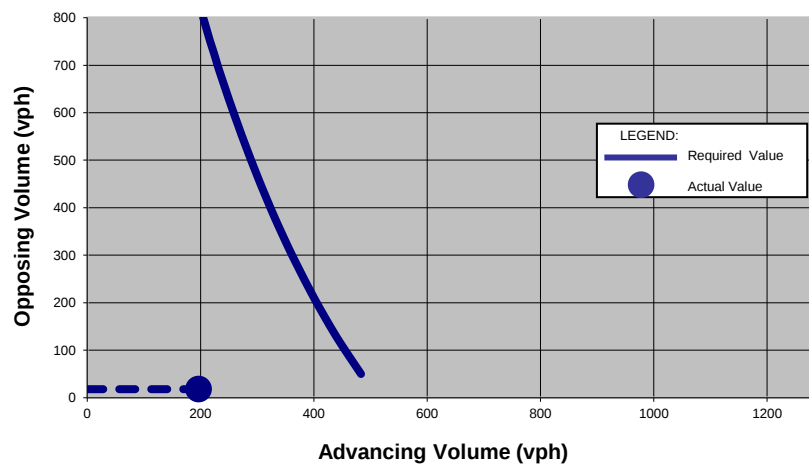
Preliminary Left-Turn Lane Needs Analysis

Project #:	30088	 KITTELSON & ASSOCIATES, INC. 851 SW 6th Avenue, Suite 600 Portland, Oregon 97204 (503) 228-5230
Project Name:	Camas Woods	
Analyst:	CLB	
Intersection:	Everett Drive Access	
Scenario:	2030 Total Traffic, PM Peak	
Date:	4/10/2025	
File:	K:\H_Projects\30\30088 - Camas Woods\analysis\[Everett Drive Access 2030 LT Review PM Peak.xls]Main	

Input Data:

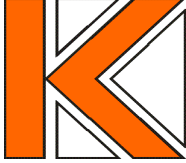
Advancing Volume (vph) =	197
Left-turning Vehicles (vph) =	171
Opposing Volume (vph) =	18
Speed (mph) =	25
Number of Approach Lanes =	1 (not applicable for two lanes)
% Left-Turning Vehicles	87%
Critical Gap (sec) =	5
Maneuver Time (sec) =	3
Exit Time (sec) =	1.9
Utilization Factor =	0.02

Left-Turn Lane Needs Analysis Results



* Based on *Volume Warrants for Left-Turn Storage Lanes at Unsignalized Grade Intersections* (D. Harmelink)

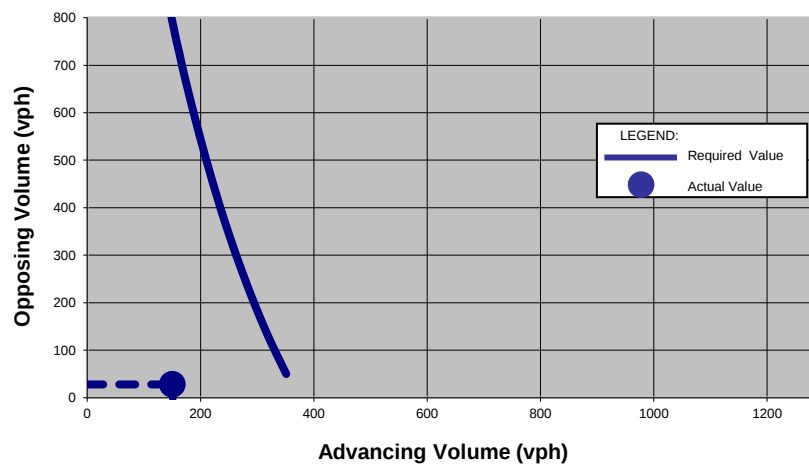
Preliminary Left-Turn Lane Needs Analysis

Project #:	30088		KITTELSON & ASSOCIATES, INC.
Project Name:	Camas Woods		851 SW 6th Avenue, Suite 600
Analyst:	CLB		Portland, Oregon 97204
Intersection:	Everett Drive Access		(503) 228-5230
Scenario:	2030 Total Traffic, School PM Peak		
Date:	4/10/2025		
File:	K:\H_Projects\30\30088 - Camas Woods\analysis\[Everett Drive Access 2030 LT Review School PM Peak.xls]Main		

Input Data:

Advancing Volume (vph) =	151
Left-turning Vehicles (vph) =	103
Opposing Volume (vph) =	28
Speed (mph) =	25
Number of Approach Lanes =	1 (not applicable for two lanes)
% Left-Turning Vehicles	68%
Critical Gap (sec) =	5
Maneuver Time (sec) =	3
Exit Time (sec) =	1.9
Utilization Factor =	0.02

Left-Turn Lane Needs Analysis Results



* Based on *Volume Warrants for Left-Turn Storage Lanes at Unsignalized Grade Intersections* (D. Harmelink)

Exhibit 1310-9 Left-Turn Storage Guidelines: Two-Lane, Unsignalized

