



# Oregon

Kate Brown, Governor

## Department of Transportation Region 1 Traffic Section

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To: Michael Kimlinger, P.E.  
State Traffic-Roadway Engineer

From: Kathleen Freitag, P.E.  
Region 1 Traffic Engineer Region 1 Traffic Engineer

Subject: Speed Zone Investigation #13499  
Glen Oak Road  
Cascade Highway (OR-213) to Beavercreek Road  
City of Oregon City

A speed zone investigation has been completed at the subject location and reports thereof are attached for your review and approval. This investigation was conducted in response to a request for an investigation from Dayna Webb, City Engineer, City of Oregon City. Dayna cites; "The posted speed limit on Glen Oak Road between Hwy 213 and Beavercreek Road is 35 mph. It does not appear that there is an issued speed zone order for this roadway authorizing a 35 mph speed limit. With the changes and growth this corridor has experienced over the past 20 years, the number of side street & driveways along the corridor, the recent addition of a city park and Oregon City High School athletic field properties along the corridor, a request for ODOT to review the speed zoning seems appropriate".

Section A, from Cascade Highway (OR-213) to Beavercreek Road, is 0.97 mile in length. Context is suburban residential with heavy residential development. The roadway functional classification is urban major collector.

There are twelve intersecting streets in this section. Twelve are paved and eleven are controlled by a STOP sign.

Horizontal alignment contains four curves. Vertical alignment is mildly undulating with two crest and two sag curves.

The spot speed data for this section yields a 50<sup>th</sup> percentile speed of 32 MPH / 85<sup>th</sup> percentile speed of 36 MPH with 17% exceeding the existing 35 MPH (unestablished) zoning. The 2018-2020 crash rate is 0.24 with an ADT of 4,000 vehicles.

This office recommends establishing a 30 MPH speed zoning in this section. The recommendation was determined from OAR 734-020-0015 (2)(c)(B)(iii). The segment is contiguous to a residence district.

OREGON DEPARTMENT OF TRANSPORTATION  
Report of Speed Zone Investigation  
**Glen Oak Road**  
Cascade Highway (OR 213) to Beavercreek Road  
City of Oregon City  
July 3rd, 2022

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Approved by  
State Traffic-Roadway Engineer

**Recommendation:** Establishing the following Speed Zoning:

<b><u>Section:</u></b>	<b><u>Existing</u></b>	<b><u>Recommended</u></b>
<b>A</b> <u>From:</u> Cascade Highway (OR 213) <u>To:</u> Beavercreek Road	55 MPH (Statutory) 35 MPH (unestablished)	30 MPH <u>1/</u>
<u>1/</u> City of Oregon City - Road authority		

**Historical Background:**

Investigation Requested by: Dayna Webb, City Engineer, City of Oregon City  
Requested Speed:     30 MPH  
Previous Action:     None

<b><u>Investigation:</u></b>	Investigated <b><u>Section A</u></b>
Section Length	0.97 miles
50% Speed	32 MPH
85% Speed	36 MPH
2018-2020 Crash Rate*	0.24
2019 Average Daily Traffic	4,000
Context	Suburban Residential
Culture Type and Density	Heavy Residential
Horizontal Alignment	4 Curves
Vertical Alignment	Mildly undulating (2 crest and 2 sag Curves)
Curve Signs & Speed Riders	In Place
Existing Posted Speed	35 MPH (unestablished)
Recommended Speed	30 MPH

\*Crashes per Million Vehicle Miles

**Roadway Data:**

Surface	AC
Width	36-43 ft. (CB to FL) for 0.06 miles 34-60 ft. (CB to CB) for 0.91 miles
Lanes	2-3 with 6-9 ft. bike lanes both sides for entire section
Parking	Not prohibited
Shoulders	6-9 ft. Paved (bike lanes)
Intersecting Streets	12
Paved	12
Stopped	11
Signalized and Other	0
Pedestrian Activity	High
Bicycle Activity	High
Bicycle Lanes	100%

**Section A****Roadway Data:** (continued)

Sidewalk	55%
Marked Crosswalks	1
Enhanced Crosswalks	0
Transit	No

**Crash Data:**

Study Period	1/1/18 - 12/31/20
2018-2020 Total Crashes	1
2018-2020 Fatal K Crashes	0
2018-2020 Serious Injury A Crashes	0
2018-2020 Injury B and C Crashes	1
2018-2020 No Injury O Crashes	0
2018-2020 Section Crash Rate (R)	0.24
2018-2020 Comparable Crash Rate ( r ) <u>1/</u>	1.54
Deviation (R-r)	— — —

**Spot Speed Data:**

50% Speed	32 MPH
85% Speed	36 MPH
Pace Limits <u>2/</u>	26-35 MPH
% in Pace	75%
Maximum Speed	43 MPH
Posted Speed	35 MPH (unestablished)
% Exceeding Posted Speed	17%
Computed 85th Speed <u>3/</u>	36 MPH
Recommended Speed	30 MPH

1/ Urban Major Collector

2/ Ten mile-per-hour range containing the largest number of sample vehicles.

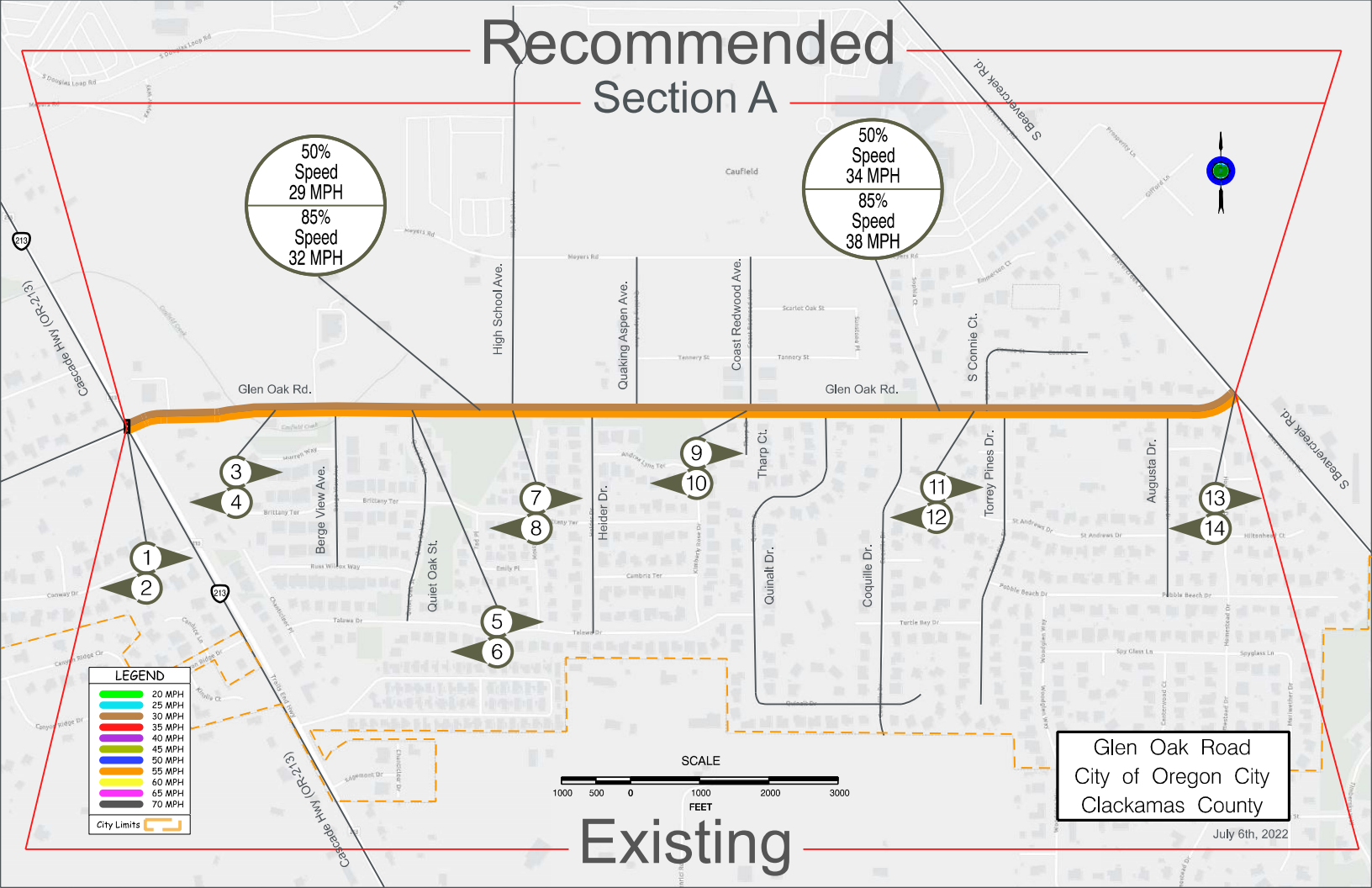
3/ 85% speed minus deviation (if deviation is zero or negative, list 85% speed)

**Factors Influencing Recommendation:****Section: A**

- 1) Fiftieth percentile
- 2) Pace limits
- 3) Percentage in pace
- 5) City / County request and concerns
- 6) OAR 734-020-0015 (2)(c)(B)(iii)

# Recommended

## Section A





Typical Views  
Glen Oak Road  
Cascade Hwy (OR 213) to S Beavercreek Rd  
City of Oregon City  
6/6/2022



**(1) Looking east from 50 ft east of Cascade Hwy (OR 213).**



**(2) Looking west from 50 ft east of Cascade Hwy (OR 213).**



Typical Views  
Glen Oak Road  
Cascade Hwy (OR 213) to S Beavercreek Rd  
City of Oregon City  
6/6/2022



**(3) Looking east from 0.13 mi east of Cascade Hwy (OR 213).**



**(4) Looking west from 0.13 mi east of Cascade Hwy (OR 213).**



Typical Views  
Glen Oak Road  
Cascade Hwy (OR 213) to S Beaver Creek Rd  
City of Oregon City  
6/6/2022



**(5) Looking east from 25 ft west of Quiet Oak St.**



**(6) Looking west from 25 ft west of Quiet Oak St.**



Typical Views  
Glen Oak Road  
Cascade Hwy (OR 213) to S Beavercreek Rd  
City of Oregon City  
6/6/2022



**(7)** Looking east from 25 ft west of High School Ave.



**(8)** Looking west from 25 ft west of High School Ave.



Typical Views  
Glen Oak Road  
Cascade Hwy (OR 213) to S Beaver Creek Rd  
City of Oregon City  
6/6/2022



**(9)** Looking east from 50 ft east of Tharp Ct.



**(10)** Looking west from 50 ft east of Tharp Ct.



Typical Views  
Glen Oak Road  
Cascade Hwy (OR 213) to S Beavercreek Rd  
City of Oregon City  
6/6/2022



**(11)** Looking east from 50 ft west of Connie Ct.



**(12)** Looking west from 50 ft west of Connie Ct.



Typical Views  
Glen Oak Road  
Cascade Hwy (OR 213) to S Beavercreek Rd  
City of Oregon City  
6/6/2022



**(13)** Looking east from 75 ft west of S Beavercreek Rd.



**(14)** Looking west from 75 ft west of S Beavercreek Rd.

## CRASH LISTING

Roadway: <u>Glen Oak Road</u>		Collision Type													All Crashes*	Classification			
City: <u>Oregon City</u>		Angle	Head-on	Rear-end	Sideswipe Meeting	Sideswipe Overtaking	Turning Movements	Parking Maneuver	Non-Collision	Fixed-Other Object	Pedestrian	Backing	Other	Bicycle Crashes*		Fatal K	Serious Injury A	Injury B and C	No Injury O
County: <u>Clackamas</u>																			
From: <u>Cascade Highway (OR 213)</u>		Year																	
To: <u>Beavercreek Road</u>																			
Study Period: <u>1/1/18 to 12/31/20</u>		Year																	
Section A		2018		1											1			1	
From:		2019																	
To:		2020																	
Total				1											1		1		
Section B		2019																	
From:		2018																	
To:		2017																	
Total																			
Section C		2019																	
From:		2018																	
To:		2017																	
Total																			
Section D		2019																	
From:		2018																	
To:		2017																	
Total																			
Section E		2019																	
From:		2018																	
To:		2017																	
Total																			
Section F		2019																	
From:		2018																	
To:		2017																	
Total																			
Section G		2019																	
From:		2018																	
To:		2017																	
Total																			

\*Bicycle Crashes are included within the other collision types and are not added twice.

Compiled By: Lisa Nguyen

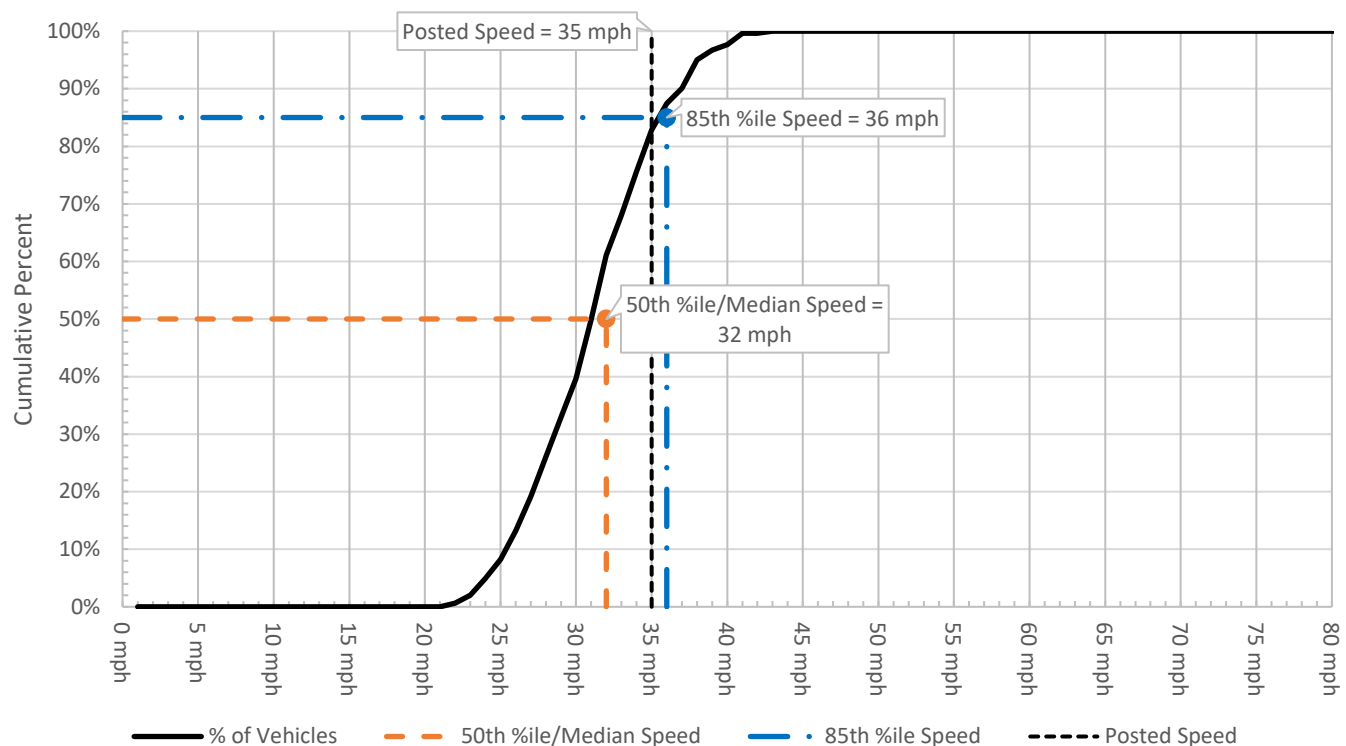
Date: July 3rd, 2022



## Spot Speed Measurement Report

<b>Roadway</b>	Glen Oak Road	<b>Date</b>	June 06, 2022
<b>City</b>	Oregon City	<b>Time</b>	01:47 PM - 05:26 PM
<b>County</b>	Clackamas	<b>Weather</b>	Overcast; Slightly sunny
<b>Location</b>	See Individual graphs for specific location.	<b>Investigator</b>	Lisa Nguyen
<b>Direction of Travel</b>	Westbound & Eastbound	<b>Agency/Company</b>	ODOT

### Combined Direction Speed Profile



### Summary Statistics

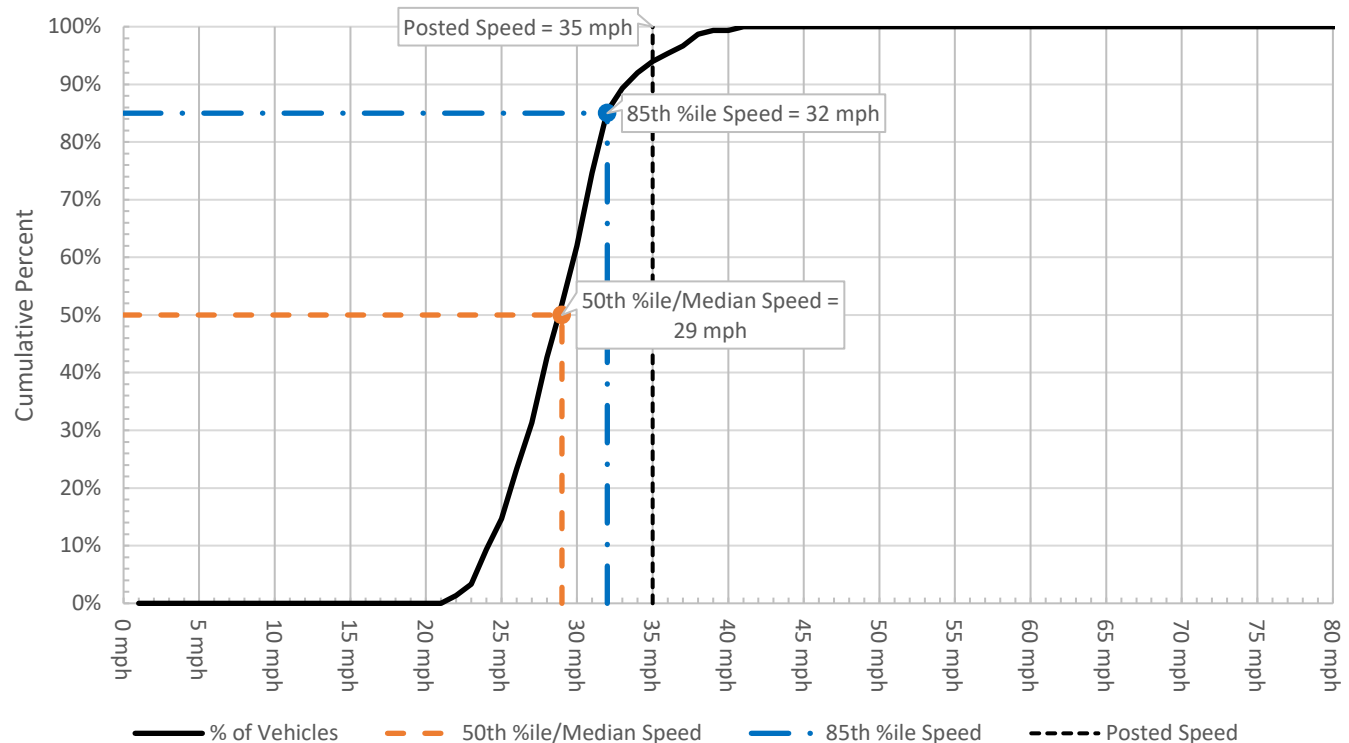
Direction	Westbound	Combined	Eastbound
Total # of Vehicles	153 vehicles	303 vehicles	150 vehicles
50th %ile/Median Speed	31 mph	32 mph	32 mph
85th %ile Speed	35 mph	36 mph	37 mph
Mean Speed	31 mph	31 mph	32 mph
Standard Deviation	4.3 mph	4.3 mph	4.1 mph
Pace Limits*	25 mph - 34 mph	26 mph - 35 mph	26 mph - 35 mph
% In Pace	74%	75%	76%
Max Speed	43 mph	43 mph	41 mph
Posted Speed	35 mph	35 mph	35 mph
% Exceeding Posted Speed	14%	17%	20%

\*10 mph range containing the largest number of sampled vehicles.

# Spot Speed Measurement Report

<b>Roadway</b>	Glen Oak Road	<b>Date</b>	June 06, 2022
<b>City</b>	Oregon City	<b>Time</b>	01:47 PM - 03:50 PM
<b>County</b>	Clackamas	<b>Weather</b>	Overcast; Slightly sunny
<b>Location</b>	150 ft West of High School Ave	<b>Investigator</b>	Lisa Nguyen
<b>Direction of Travel</b>	Westbound & Eastbound	<b>Agency/Company</b>	ODOT

## Combined Direction Speed Profile



## Summary Statistics

Direction	Westbound	Combined	Eastbound
Total # of Vehicles	75 vehicles	150 vehicles	75 vehicles
50th %ile/Median Speed	29 mph	29 mph	30 mph
85th %ile Speed	31 mph	32 mph	35 mph
Mean Speed	28 mph	29 mph	30 mph
Standard Deviation	3 mph	4 mph	4 mph
Pace Limits*	24 mph - 33 mph	24 mph - 33 mph	25 mph - 34 mph
% In Pace	96%	86%	80%
Max Speed	33 mph	41 mph	41 mph
Posted Speed	35 mph	35 mph	35 mph
% Exceeding Posted Speed	0%	6%	12%

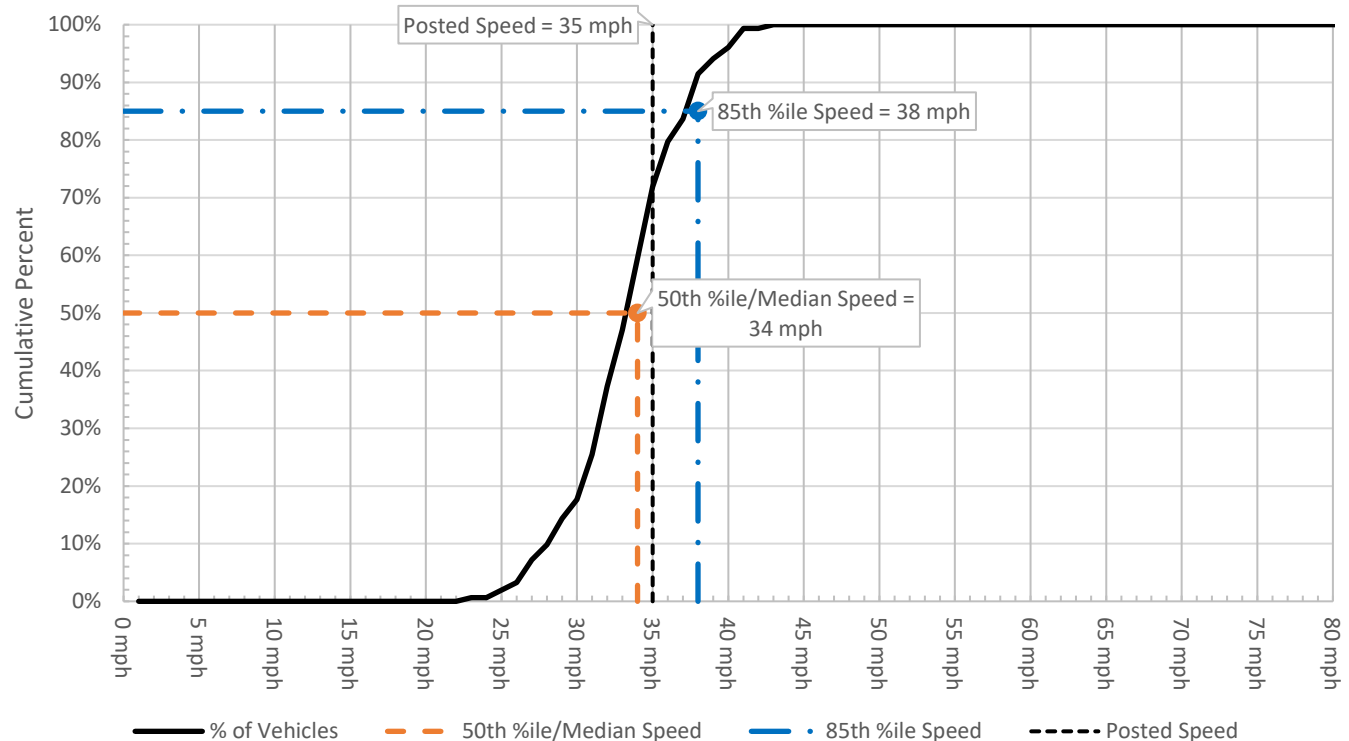
\*10 mph range containing the largest number of sampled vehicles.



# Spot Speed Measurement Report

<b>Roadway</b>	Glen Oak Road	<b>Date</b>	June 06, 2022
<b>City</b>	Oregon City	<b>Time</b>	03:57 PM - 05:26 PM
<b>County</b>	Clackamas	<b>Weather</b>	Overcast; Slightly sunny
<b>Location</b>	175 ft East of Coquille Dr	<b>Investigator</b>	Lisa Nguyen
<b>Direction of Travel</b>	Westbound & Eastbound	<b>Agency/Company</b>	ODOT

## Combined Direction Speed Profile



## Summary Statistics

Direction	Westbound	Combined	Eastbound
Total # of Vehicles	78 vehicles	153 vehicles	75 vehicles
50th %ile/Median Speed	34 mph	34 mph	34 mph
85th %ile Speed	38 mph	38 mph	37 mph
Mean Speed	33 mph	34 mph	34 mph
Standard Deviation	4 mph	4 mph	3 mph
Pace Limits*	29 mph - 38 mph	29 mph - 38 mph	29 mph - 38 mph
% In Pace	79%	82%	84%
Max Speed	43 mph	43 mph	41 mph
Posted Speed	35 mph	35 mph	35 mph
% Exceeding Posted Speed	28%	28%	28%

\*10 mph range containing the largest number of sampled vehicles.