



Oregon

Kate Brown, Governor

**Department of Transportation
Region 1 Traffic Section**

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Date: January 23, 2018

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

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

Subject: Speed Zone Investigation #8182
S Maplelane Road
S Beavercreek Road to S Ferguson Road
City of Oregon City \ Clackamas County

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 Troy Johnson / Traffic Engineering Technician, Clackamas County. Troy cites; the speed recommended from the county is due to the road characteristics which include curves at east end, narrow pavement width with minimal shoulders and sight distance restrictions due to the roadway geometry. Also has high crash rate along segment with resident speed & safety concerns.

Section A, from S Beavercreek Road to S Ferguson Road, is 2.67 mile in length. It is rural in character with light residential development.

There are ten intersecting streets in this section. Nine are paved and all are controlled by STOP sign.

Horizontal alignment contains twenty one curves. Vertical alignment is mostly level for the first half then undulating for the second half.

The spot speed data for this section yields an 85th percentile speed of 45 MPH with 16% exceeding the existing 45 MPH zoning. The 2015 crash rate is 1.68 with an ADT of 6,700 vehicles.

This office recommends rescinding the existing 45 MPH zoning and establishing 40 MPH zoning in this section.

OREGON DEPARTMENT OF TRANSPORTATION

Report of Speed Zone Investigation

S Maplelane Road

S Beaver Creek Road to S Ferguson Road

City of Oregon City \ Clackamas County

November 21, 2017

State Traffic-Roadway Engr.

Approved:

2/26/18

Recommendation: Rescind SZ Order J7464 dated May 26, 2004 and establish the following speed zoning as listed below:

Section:

Investigated

Existing**Recommended**

A	<u>From:</u> S Beaver Creek Road	45 MPH	40 MPH	<u>1/</u>
	<u>To:</u> S Maplelane Court			
	<u>From:</u> S Maplelane Court	45 MPH	40 MPH	<u>1/ 2/</u>
	<u>To:</u> 400 feet northeast of S Maplelane Court			
	<u>From:</u> 400 feet northeast of S Maplelane Court	45 MPH	40 MPH	<u>3/</u>
	<u>To:</u> 400 feet southwest of Clearwater Place			
	<u>From:</u> 400 feet southwest of Clearwater Place	45 MPH	40 MPH	<u>1/ 2/</u>
	<u>To:</u> 200 feet southwest of Clearwater Place			
	<u>From:</u> 200 feet southwest of Clearwater Place	45 MPH	40 MPH	<u>3/</u>
	<u>To:</u> 50 feet southwest of Clearwater Place			
	<u>From:</u> 50 feet southwest of Clearwater Place	45 MPH	40 MPH	<u>1/ 2/</u>
	<u>To:</u> 50 feet northeast of Clearwater Place			
	<u>From:</u> 50 feet northeast of Clearwater Place	45 MPH	40 MPH	<u>3/</u>
	<u>To:</u> 150 feet southwest of S Holly Lane			
	<u>From:</u> 150 feet southwest of S Holly Lane	45 MPH	40 MPH	<u>1/ 2/</u>
	<u>To:</u> S Nancy Marie Lane			
	<u>From:</u> S Nancy Marie Lane	45 MPH	40 MPH	<u>3/</u>
	<u>To:</u> S Ferguson Road			

- 1/ City of Oregon City - Road Authority
2/ Clackamas County - Interested Jurisdiction
3/ Clackamas County - Road Authority

Historical Background:

Investigation Requested by: Troy Johnson / Traffic Engineering Technician, Clackamas County

Requested Speed: 35 MPH from S Beaver Creek Road to County Village Drive (city request)

40 MPH from County Village Drive to S Ferguson Road (county request)

Previous Action: Established SZ Order J7464 dated May 26, 2004

Investigation:

Section Length	2.67 mile
85th Percentile Speed	45 MPH
2015 Crash Rate*	1.68
2015 Average Daily Traffic	6,700
Culture Density & Type	Rural; Light Residential
Horizontal Alignment	21 curves
Vertical Alignment	Mostly level (1st half) Undulating (2nd half)
Curve Signs & Speed Riders	In Place
Existing Posted Speed	45 MPH
Recommended Speed	40 MPH

* Crashes per million vehicle miles

Roadway Data:

Surface	AC
Width	51-61 ft. (pavement edge to pavement edge/curb) 1st 0.20 mile 20-31 ft. (fog line to fog line) remaining section length
Lanes	2-4 (bike lanes, turn lanes, parking area) 1st 0.20 mile 2-3 ft. (one left turn pocket) remaining section length
Parking	Partially Prohibited
Shoulders	1-2 ft. paved, 1-6 ft. graveled (majority of section)
Intersecting Streets	10
Paved	9
Stopped	10
Signalized	0
Bikes	1
Pedestrians	2

Crash Data:

Study Period	1/1/13 - 12/31/15
Total Crashes	23
Injuries	42
Fatalities	0
2015 Crashes	11
2015 Crash Rate (R)	1.68
2015 State Rate (r) $\frac{1}{}$	---
Deviation (R-r)	---

Spot Speed Data:

85th percentile speed	45 MPH
Pace Limits $\frac{2}{}$	35-44 MPH
% in Pace	78%
Maximum Speed	57 MPH
Posted Speed	45 MPH
% Exceeding Posted Speed	16%
Computed Speed $\frac{3}{}$	45 MPH
Recommended Speed	40 MPH

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- 1/ No comparable state rate available
 - 2/ Ten mile-per-hour range containing the largest number of sample vehicles.
 - 3/ 85% speed minus deviation.

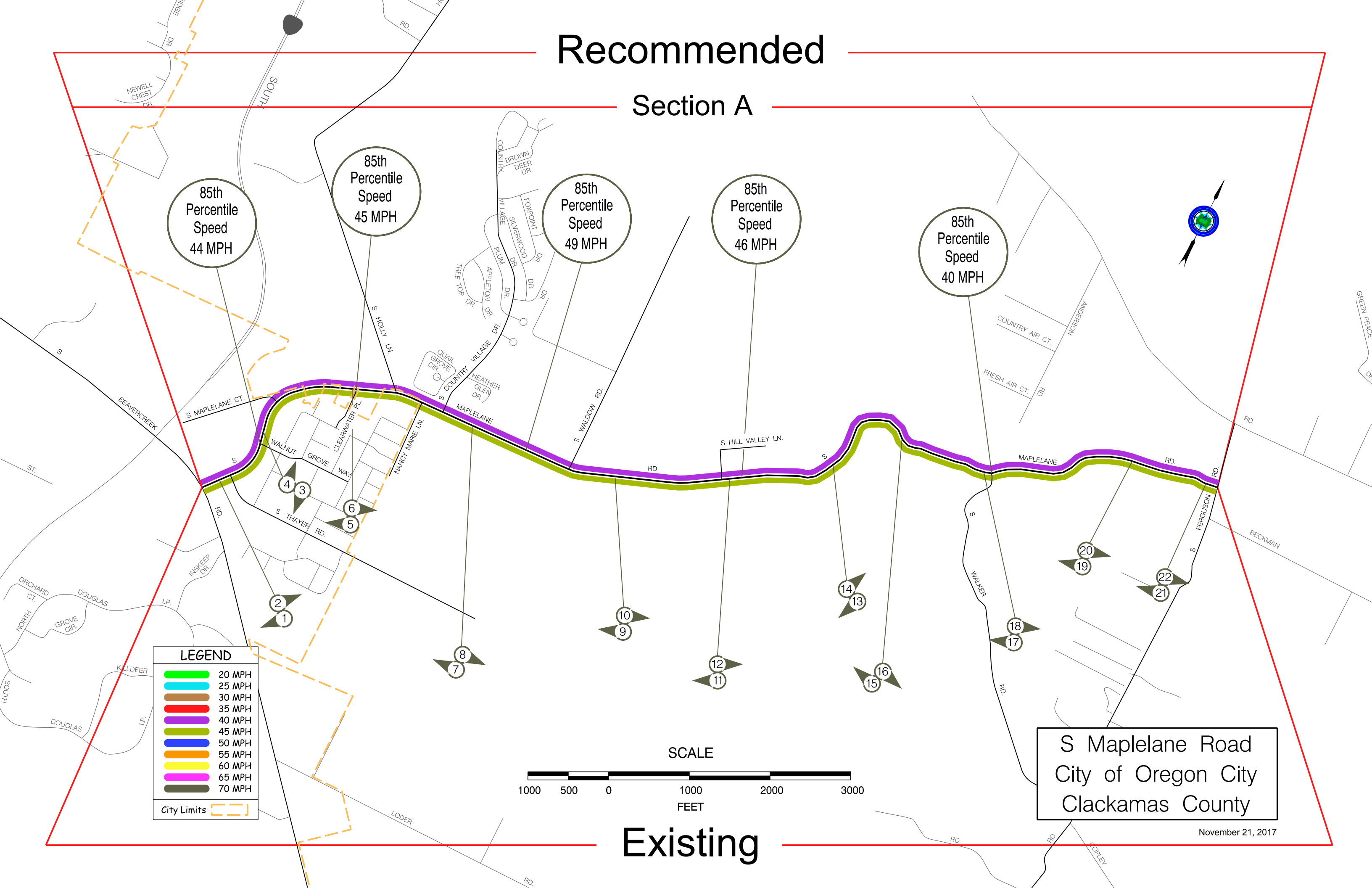
Factors Influencing Recommendation:

Section: A

- 1) Eighty fifth percentile
- 2) Pace limits
- 3) Percentage in pace
- 4) Percentage exceeding posted speed

Recommended

Section A



Existing

November 21, 2017

Typical Views
S Maplelane Road
S Beavercreek Road to S Ferguson Road
City of Oregon City \ Clackamas County
10-27-17



(1) Looking SW from 150 feet SW of S Thayer Rd.



(2) Looking NE from 150 feet SW of S Thayer Rd.

Typical Views
S Maplelane Road
S Beaver Creek Road to S Ferguson Road
City of Oregon City \ Clackamas County
10-27-17



(3) Looking south from 150 feet north of Walnut Grove Way.



(4) Looking north from 150 feet north of Walnut Grove Way.

Typical Views
S Maplelane Road
S Beavercreek Road to S Ferguson Road
City of Oregon City \ Clackamas County
10-27-17



(5) Looking SW from 50 feet SW of Clearwater Place.



(6) Looking NE from 50 feet SW of Clearwater Place.

Typical Views
S Maplelane Road
S Beavercreek Road to S Ferguson Road
City of Oregon City \ Clackamas County
10-27-17



(7) Looking west from 400 feet east of S Country Village Drive.



(8) Looking east from 400 feet east of S Country Village Drive.

Typical Views
S Maplelane Road
S Beavercreek Road to S Ferguson Road
City of Oregon City \ Clackamas County
10-27-17



(9) Looking west from 0.11 mile east of S Waldo Road.



(10) Looking east from 0.11 mile east of S Waldo Road.

Typical Views
S Maplelane Road
S Beaver Creek Road to S Ferguson Road
City of Oregon City \ Clackamas County
10-27-17



(11) Looking SW from 100 feet NE of S Hill Valley Lane.



(12) Looking NE from 100 feet NE of S Hill Valley Lane.

Typical Views
S Maplelane Road
S Beavercreek Road to S Ferguson Road
City of Oregon City \ Clackamas County
10-27-17



(13) Looking south from 0.27 mile NE of S Hill Valley Lane.



(14) Looking north from 0.27 mile NE of S Hill Valley Lane.

Typical Views
S Maplelane Road
S Beavercreek Road to S Ferguson Road
City of Oregon City \ Clackamas County
10-27-17



(15) Looking NW from 0.23 mile west of S Walker Road.



(16) Looking east from 0.23 mile west of S Walker Road.

Typical Views
S Maplelane Road
S Beaver Creek Road to S Ferguson Road
City of Oregon City \ Clackamas County
10-27-17



(17) Looking west from 100 feet SW of S Walker Road.



(18) Looking NE from 100 feet SW of S Walker Road.

Typical Views
S Maplelane Road
S Beaver Creek Road to S Ferguson Road
City of Oregon City \ Clackamas County
10-27-17



(19) Looking west from 0.21 mile west of S Ferguson Road.



(20) Looking east from 0.21 mile west of S Ferguson Road.

Typical Views
S Maplelane Road
S Beaver Creek Road to S Ferguson Road
City of Oregon City \ Clackamas County
10-27-17



(21) Looking west from 150 feet west of S Ferguson Road.



(22) Looking east from 150 feet west of S Ferguson Road.

MOTOR VEHICLE CRASH LISTING

[illegible]

Compiled By: Mike Birch

Date: November 21, 2017

Oregon Department of Transportation

Roadway: S Maplelane Road

Date: 10/26/2017

City: Oregon City

Time: 1:28 pm to 1:59 pm

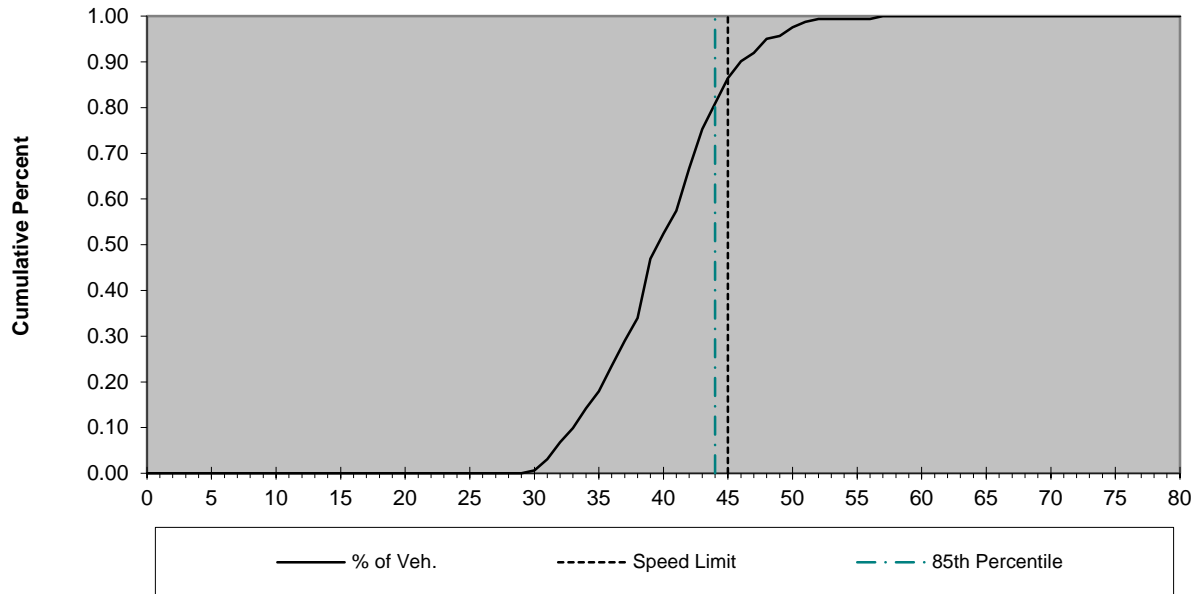
County: Clackamas

Location: Walnut Grove Way

Weather: Sunny

1

Direction of Travel: West & East



	MPH <u>Westbound</u>	<u>Averaged</u>	MPH <u>Eastbound</u>
# of Vehicles	85	162	77
85th % Speed	47	44	41
Pace Limits	39 - 48	35 - 44	31 - 40
% In Pace	87%	84%	82%
Mean Speed	43.00	40.15	37.30
Median Speed	43	40	37
Std. Dev.	3.99	5.00	4.25
Max Speed	57	57	51
Posted Speed	45	45	45
% Exceeding Posted	21%	13%	5%

Oregon Department of Transportation

Roadway: S Maplelane Road

Date: 10/26/2017

City: Oregon City

Time: 2:08 pm to 2:37 pm

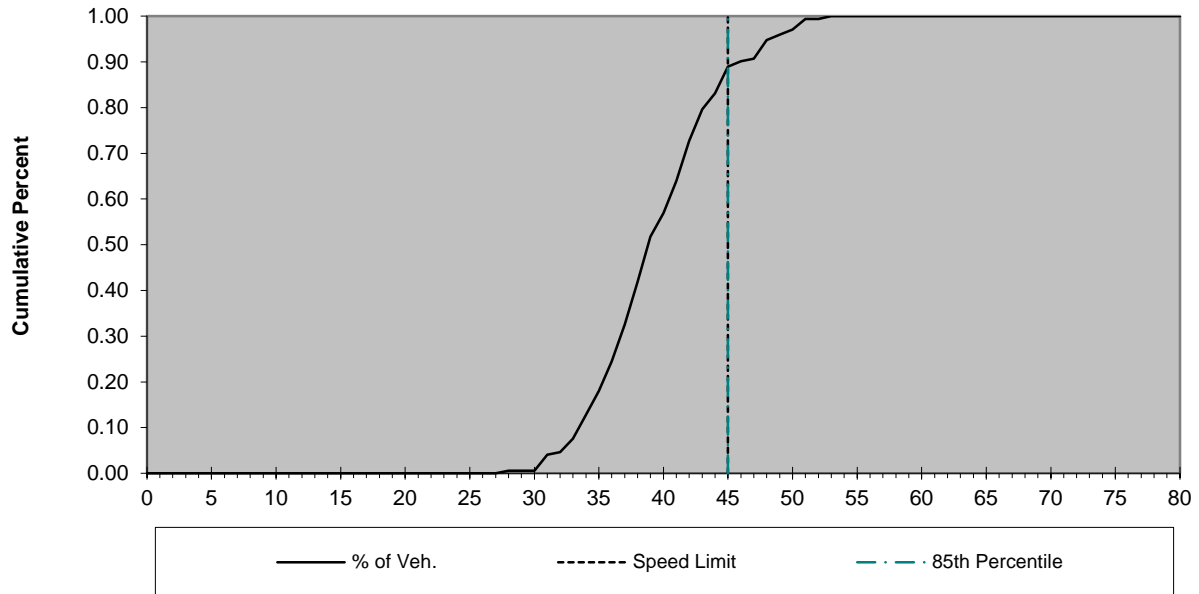
County: Clackamas

Location: Clearwater Place

Weather: Sunny

2

Direction of Travel: West & East



	MPH Westbound	Averaged	MPH Eastbound
# of Vehicles	89	172	83
85th % Speed	46	45	44
Pace Limits	34 - 43	34 - 43	34 - 43
% In Pace	67%	72%	77%
Mean Speed	40.34	39.86	39.39
Median Speed	40	39.5	39
Std. Dev.	5.32	4.82	4.20
Max Speed	53	53	50
Posted Speed	45	45	45
% Exceeding Posted	16%	11%	6%

Oregon Department of Transportation

Roadway: S Maplelane Road

Date: 10/26/2017

City: Oregon City

Time: 2:44 pm to 3:46 pm

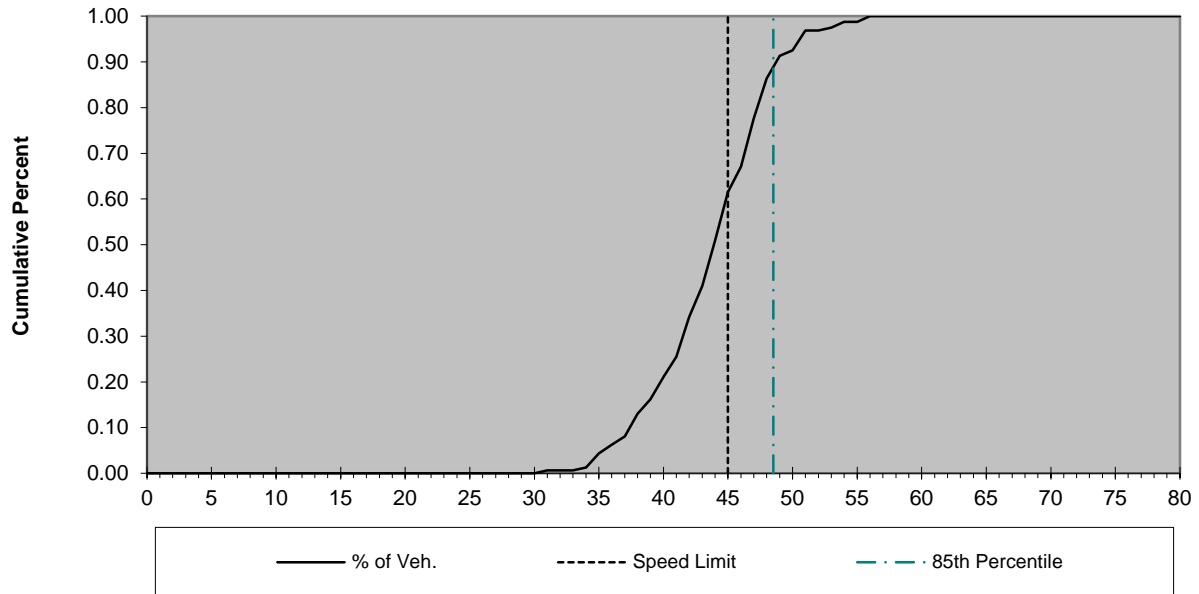
County: Clackamas

Location: 0.11 mile west of S Waldow Rd.

Weather: Sunny

3

Direction of Travel: West & East



	MPH <u>Westbound</u>	<u>Averaged</u>	MPH <u>Eastbound</u>
# of Vehicles	75	161	86
85th % Speed	49	49	48
Pace Limits	40 - 49	40 - 49	39 - 48
% In Pace	79%	75%	72%
Mean Speed	44.73	44.15	43.57
Median Speed	45	44.5	44
Std. Dev.	4.60	4.54	4.44
Max Speed	56	56	54
Posted Speed	45	45	45
% Exceeding Posted	44%	39%	34%

Oregon Department of Transportation

Roadway: S Maplelane Road

Date: 10/26/2017

City: Oregon City

Time: 4:31 pm to 5:07 pm

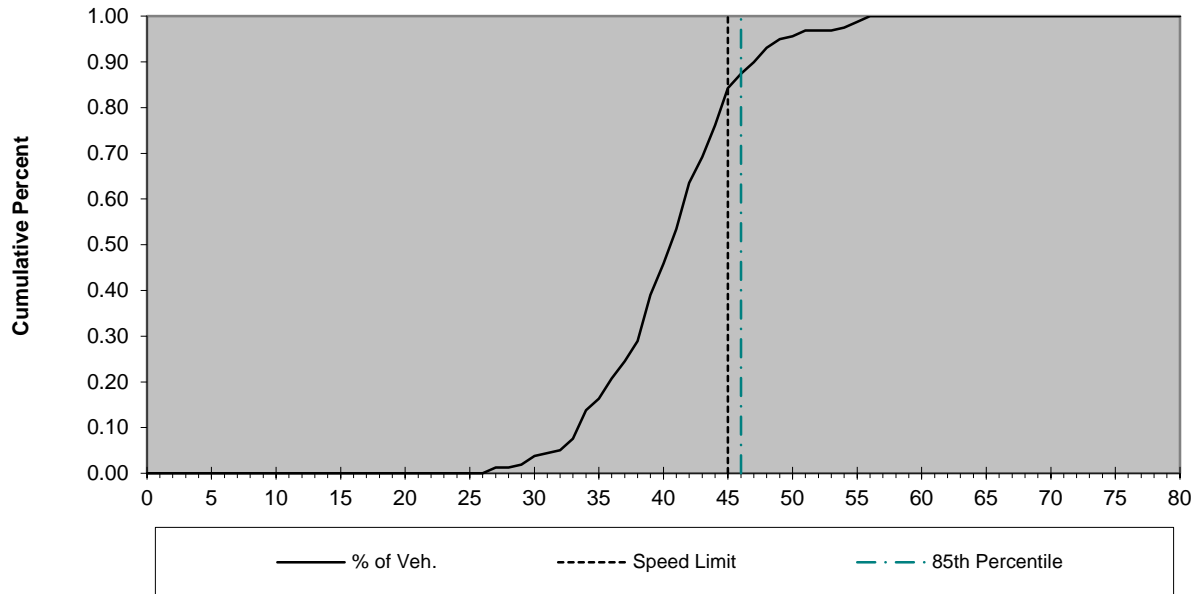
County: Clackamas

Location: 250 feet NE of Hill Valley Ln.

Weather: Sunny

4

Direction of Travel: West & East



	MPH <u>Westbound</u>	<u>Averaged</u>	MPH <u>Eastbound</u>
# of Vehicles	76	159	83
85th % Speed	44	46	48
Pace Limits	34 - 43	36 - 45	38 - 47
% In Pace	67%	73%	78%
Mean Speed	38.26	40.80	43.34
Median Speed	38	40	42
Std. Dev.	5.00	5.47	4.73
Max Speed	49	56	56
Posted Speed	45	45	45
% Exceeding Posted	4%	15%	27%

Oregon Department of Transportation

Roadway: S Maplelane Road

Date: 10/27/2017

City: Oregon City

Time: 8:19 am to 9:25 am

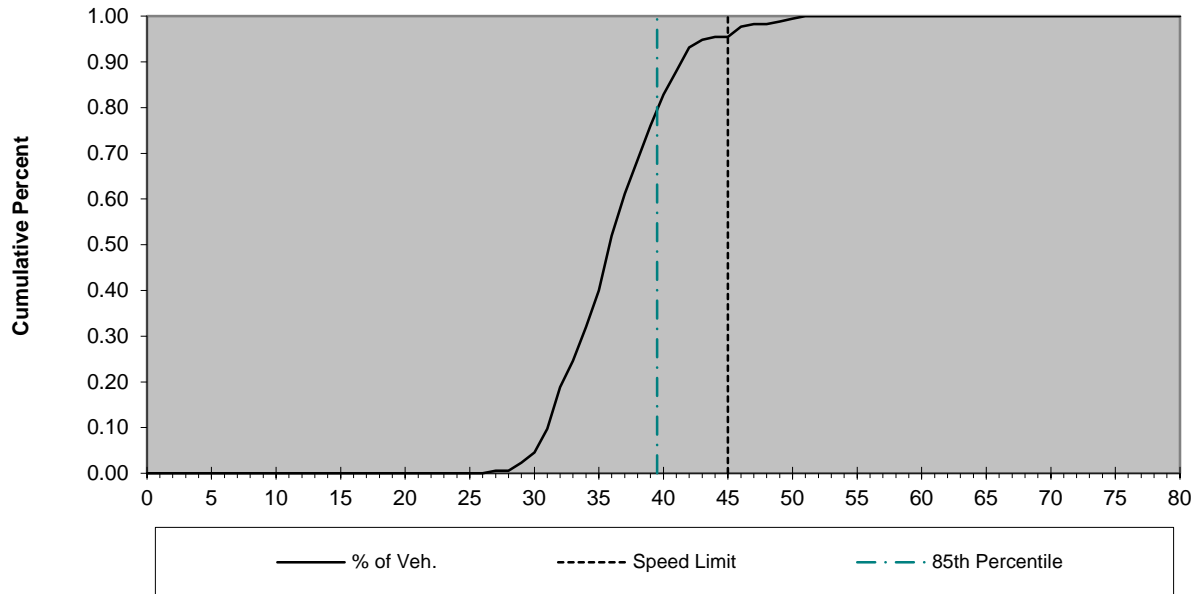
County: Clackamas

Location: S Walker Road

Weather: Clear

5

Direction of Travel: West & East



	MPH <u>Westbound</u>	<u>Averaged</u>	MPH <u>Eastbound</u>
# of Vehicles	100	175	75
85th % Speed	42	40	37
Pace Limits	34 - 43	32 - 41	29 - 38
% In Pace	82%	87%	92%
Mean Speed	38.72	36.33	33.93
Median Speed	38	36	34
Std. Dev.	4.03	4.27	2.83
Max Speed	51	51	41
Posted Speed	45	45	45
% Exceeding Posted	8%	4%	0%