OREGON CITY

Public Works

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MEMORANDUM

TO: Transportation Advisory Committee

FROM: Dayna Webb, P.E., City Engineer

DATE: June 8, 2021

SUBJECT: Glen Oak Road Corridor Analysis

Background

The City has received feedback from residents related to the speed and safety along the Glen Oak Road corridor.

Glen Oak Road is classified as a Collector. 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. This means that although the roadway is posted as 35 mph, it technically falls under statutory designation. The corridor qualifies as a residence district, which means that we can post the corridor as a statutory 25 mph without requesting ODOT do a speed study, based on the following:

> ORS 801.430 Residence district. Residence district means territory not comprising a business district that is contiguous to a highway that:
>
> (1) Has access to property occupied primarily by multifamily dwellings; or
>
> (2) Has an average of 150 feet or less between accesses or approaches to:
>
> > (a) Dwellings, churches, public parks within cities or other residential service facilities; or
> >
> > (b) Dwellings and buildings used for business.

The Oregon City Transportation System Plan states Collector Roadways often connect the neighborhoods to the minor arterial roadways. These roadways serve as major neighborhood routes and generally provide more direct property access or driveways than arterial roadways. Posted speeds on collector roadways typically range between 25 and 35 miles per hour.

What happens when a speed zone review is requested?

The Oregon Department of Transportation has the responsibility to investigate most public roads at the request of the road authority. When a city or county asks the

Department to review a speed zone, an engineering study is started. The road is surveyed for the following:

- Context: Features such as roadside development (business, residential, rural, etc.) should be properly categorized, including type and density of adjacent land use.
- Federal Functional Class: The federal functional class of the roadway identifies the particular role the roadway plays in moving vehicles through the network of highways (i.e., Urban Arterial, Rural Collector, etc.).
- Speed Characteristics: Spot speed studies are used to determine the speed distributions of traffic at a specific location. The 50th and 85th percentile speeds are determined as well as the pace limits (the ten mile per hour range that contains the most vehicles), percent of total vehicles within the pace limits and maximum speed.
- Crash History: A crash analysis should be conducted as a routine part of speed zone investigations. The analysis should identify high crash characteristics and problem locations.
- Non-motorized Users (i.e., pedestrians and bicyclists): When determining the appropriate speed, pedestrians and bicyclists should be taken in to consideration. The type of facilities for non-motor traffic, such as sidewalks and separated cycling paths versus shoulder use, should be considered.
- Geometric Features: Geometric features include vertical and horizontal alignments, lane and shoulder widths and available sight distance. The appropriate warning sign with speed advisory plaques should be used rather than lower speed limits to indicate appropriate speeds for curves and hills.
- Enforcement: Signing alone is of little benefit accomplishing a change in travel speeds. Even if most drivers believe the limits are reasonable and comply with them, enforcement is essential to ensure conformity of the remaining drivers. Setting speed zones too low makes enforcement difficult and expensive. The deterrence effects of enforcement are temporary and must be reinforced often.
- Public Testimony: The road authority may consider public testimony before establishing a speed zone. Extenuating circumstances or other issues may be revealed beyond the speed zone investigation.
- Traffic Volumes: Traffic volumes are a key factor affecting drivers' choice of speeds and the determination of appropriate speed limits. On two lane rural highways, which have limited capacity and restricted geometric design features, travel speeds tend to deteriorate more rapidly with increasing traffic volumes.
- Accesses: Numerous accesses (i.e., driveways) which are typically found in urban or community settings can increase the potential of vehicle conflicts. The presence and spacing of driveways is known to affect the safety of roadways.

Previously speeds limits were set recognizing that most motorists are generally safe, the speed at or below which 85 percent of the driver's travel was one nationally recognized factor proven by repeated studies as a fair and objective indication of safe and reasonable speeds. More recent studies suggest that posting speeds near the 85th

percentile is more applicable to rural areas and that the 50th percentile speed may be more appropriate for areas where there is development (urban areas) and to address the context (roadside development) of urban areas. This helps to balance what is perceived as reasonable and safe by drivers with what the community perceives as reasonable and safe.

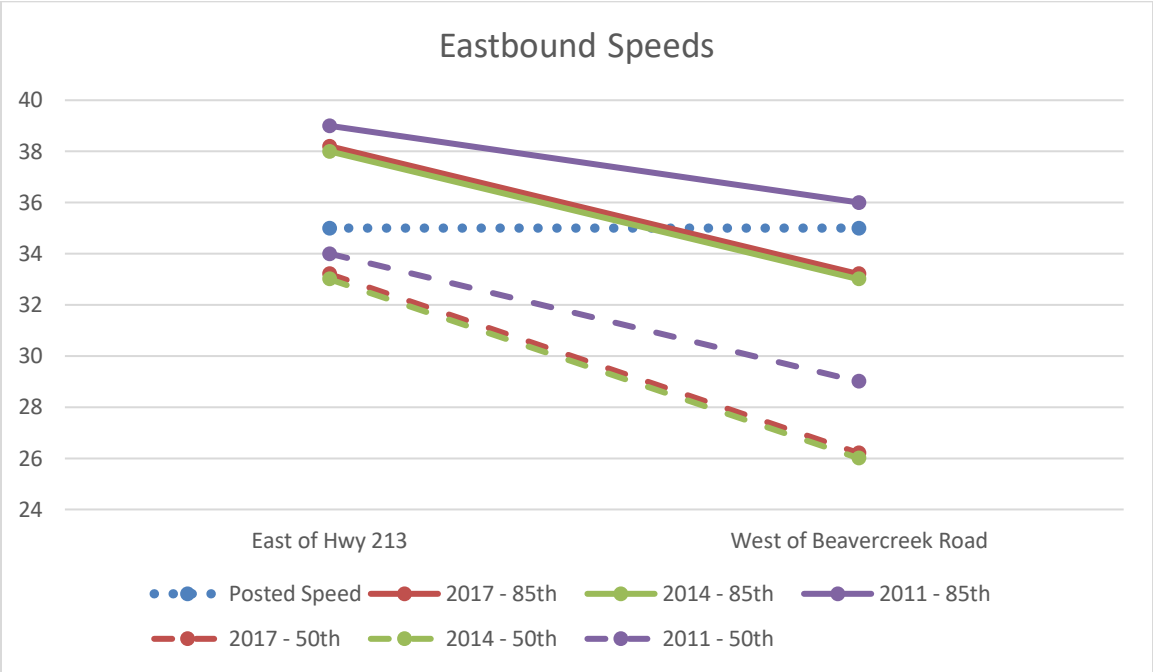
When the investigation is completed, a report is prepared. All of the above considerations are evaluated in deciding whether to propose a change or retain the existing posted speed. The report is then sent to the agency with road authority for review.

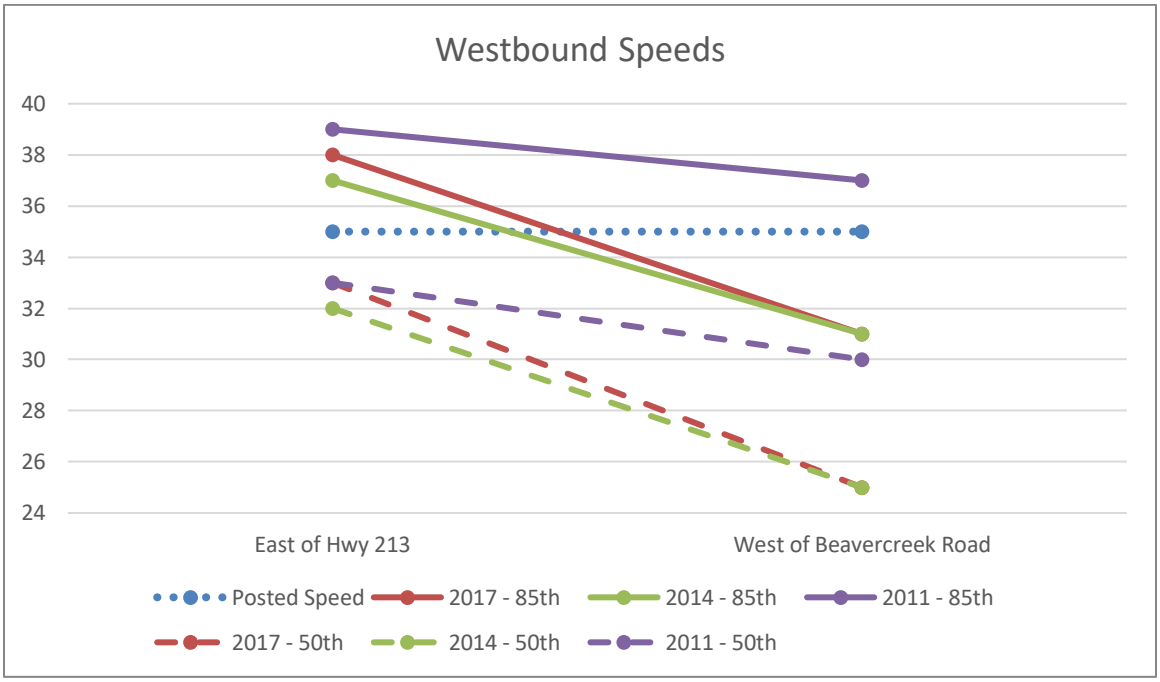
Speed & Volume Analysis

In May 2020, Oregon Department of Transportation updated the Oregon Speed Zone Manual. Updates to the manual allow looking at the context of the adjacent area, 50th percentile speeds inside city limits, and safety.

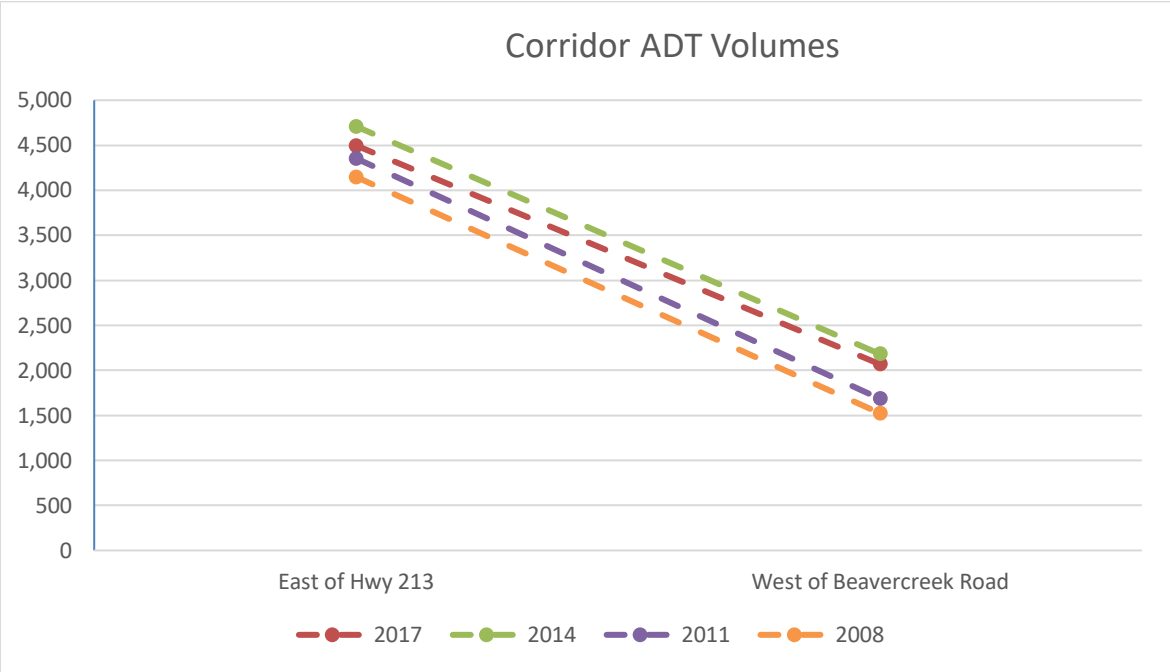
In the past the 85th percentile speed was typically used as justification to set the posted road speeds based on the concept that the large majority of drivers are reasonable and prudent, do not want to have a crash, and desire to reach their destination in the shortest possible time. The 85th percentile is a statistically supported speed at or below which 85 percent of people drive, at any given location under good weather and visibility conditions and may be considered as the maximum safe speed for that location.

The City collects traffic data every three years, most recently in 2017. In 2020 we were scheduled to collect citywide traffic data, but due to the COVID-19 pandemic we opted not to collect data. Oregon City High School and Clackamas Community College were not holding in-person classes and many people were still working from home. Additionally, we have historic traffic counts in this corridor from 2014, and 2011. The following visuals show the posted speed limit, 85th percentile, and 50th percentile speeds along the corridor for both eastbound and westbound traffic. As is shown below, the posted speed of 35 mph (blue dotted line) would be appropriate for a speed limit based on 85th percentile speeds. When looking at the context of the corridor as residential zones ranging from low density to multi-family, a nearby park, proximity to the high school and it's associated uses, and on-street parking, this corridor is well suited for a 30 mph speed limit based on the 50th percentile speeds (dashed lines).





Another metric used by ODOT is Average Daily Traffic (ADT). The following visual shows the ADT at each end of the corridor. As can be seen the volumes are higher at the west end of the corridor, this is likely due to Meyers Road not connecting to Highway 213 and traffic on Meyers Road travelling eastbound, then using High School Avenue and then Glen Oak Road to get to Hwy 213. I suspect we will see the traffic volumes on the west end of Glen Oak Road decrease when the next traffic counts are completed now that the Meyers Road Extension is open.



Roadway Characteristics

The corridor is generally straight with a slight curves as it reaches both Highway 213 and Beavercreek Road to create safe intersections. The corridor has a gentle slope, dropping in election approximately 100 feet along the nearly mile long corridor. Marked lane widths through the corridor are generally consistent, and contain one eastbound and one westbound lane, no center turn lanes exist except at each end as you approach Hwy 213 and Beavercreek Road. The corridor has sporadic sidewalks throughout. A marked bike lane exists from Hwy 213 to Beavercreek Road.

There are no stop signs along the Glen Oak Road corridor, the only traffic control is the signalized intersection with Hwy 213 on the west end and a stop sign at Beavercreek Road to the east.

Glen Oak Road functions as a collector, it is intended to serve local traffic traveling to and from major arterial roadways. These roadways provide greater accessibility to neighborhoods, often connecting to major activity generators and provide efficient through movement for local traffic. As noted in the traffic volumes, which increase as you proceed west, Glen Oak Road indeed functions as a collector, collecting traffic from over 13 side streets and 55 driveways.

The corridor has been transitioning from rural under-developed to urban developed neighborhoods for the past 20 years and has a continuously changing roadside nature as development continues. As shown in Exhibit 1 the area has seen a large change between 1999 & 2020, with new housing developments going in regularly.

Crash History

Crash data along Glen Oak Road from Highway 213 to Beavercreek Road was reviewed. Using data obtained from the ODOT's TransGIS, a review of the most recent available five years of crash data (January of 2014 through December of 2018) along the segment of Glen Oak Road within Oregon City was performed. There was a total of 8 reported crashes within the corridor during this time period. The most prominent crash type was rear end, likely due to driver inattention. With most of the crashes being property damage only. The majority of the crashes occurred during daylight conditions and when the roadway was dry. There were no fatalities within the corridor during this period. The corridor does not experience a higher than average number of crashes for a corridor of this type. A summary of the reported crashes is below:

Date & Time	Cross Street	Crash Severity	Crash Type	Conditions Report Crash Cause
3/5/2015 3-4pm	East of Hwy 213	Injury	Rear End	Clear, Dry & Daylight Failed to avoid vehicle ahead
4/22/2014 11-12pm	East of Hwy 213	Property Damage Only	Rear End	Rain, Wet, Dry & Twilight Followed too closely
1/18/2017 3-4am	East of Berge View	Property Damage Only	Fixed Object (Parked Car)	Rain, Wet & Darkness Hit Parked Car
8/30/2017 3-4pm	East of Berge View	Property Damage Only	Fixed Object (Mailbox)	Clear, Dry & Daylight Improper Driving
10/15/2018 2-3pm	Quiet Oak Street	Possible Injury	Rear End	Clear, Dry & Daylight Failed to avoid vehicle ahead
4/17/2015 3-4pm	High School Lane	Property Damage Only	Rear End	Clear, Dry & Daylight Failed to avoid vehicle ahead
08/08/2017 4-5pm	East of Heider Drive	Possible Injury	Rear End	Clear, Dry & Daylight Failed to avoid vehicle ahead
4/29/2015 4-5pm	West of Beavercreek Road	Property Damage Only	Entering at Angle	Clear, Dry & Daylight Did not yield right-of-way

Neighborhood Feedback

Staff created a Webform on the city webpage and accepted submissions from March 18, 2019 to May 6, 2021. The Webform asked for the following:

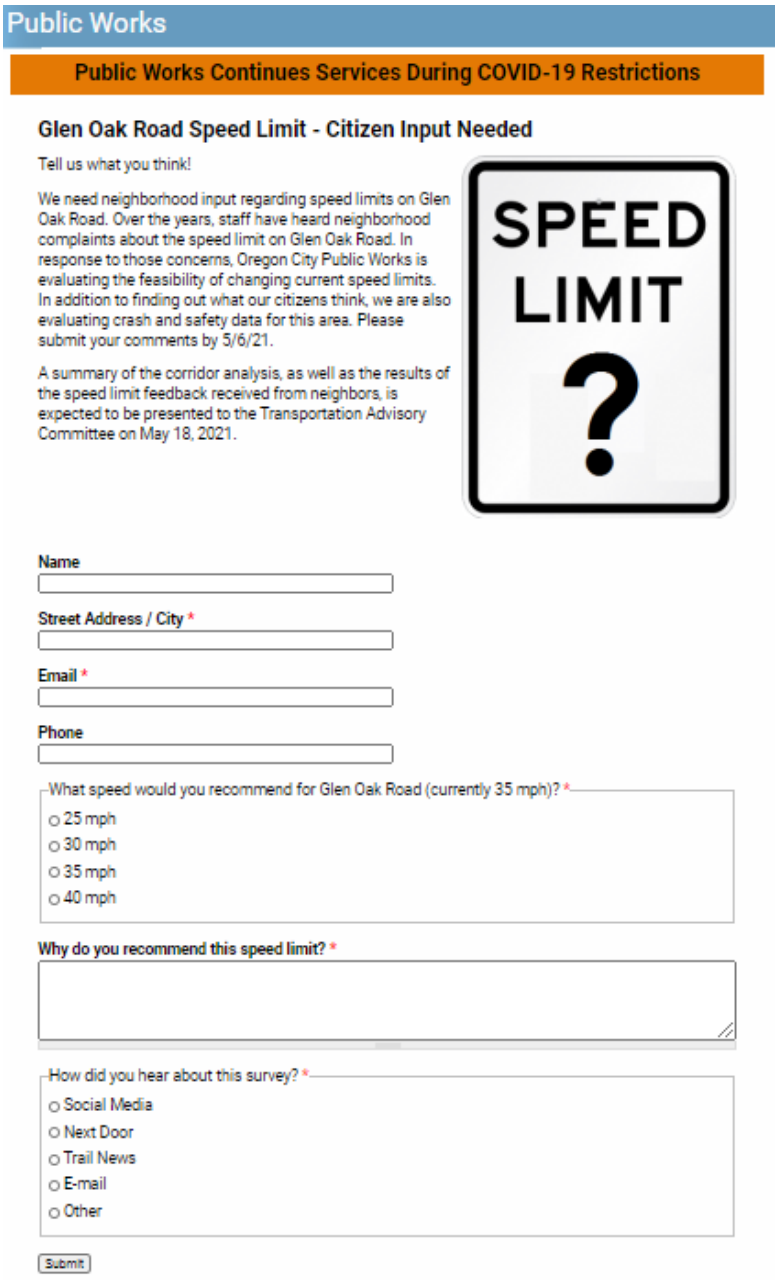
- Name
- Address
- Email

- Recommendation for speed limit (25 mph, 30 mph, 35 mph, or 40 mph)
- Why do you recommend this speed limit?
- How did you hear about this survey? (Social Media, Next Door, Trail News, Email, Other)

The Webform was advertised in various forms:

- Email to TAC Members, CIC Officers, City Commission, and Caufield Neighborhood Association Leadership, with request to share with their networks: March 18, 2021
- City Webpage News: March 18, 2021
- Weekly Subscription Email: March 18 to Park Place Neighborhood
- City Next Door Monthly Update: April 1, 2021 & May 1, 2021
- Monthly Trail E-News: April 1. 2021& May 1, 2021
- Social Media (Facebook & Twitter):
    - City Hall: March 20, April 3, April 22 & May 1, 2021
    - Oregon City Chit Chat: March 24, April 2 and April 21, 2021 (shared via various members)

Following is a screenshot of the survey webform.



Public Works

Public Works Continues Services During COVID-19 Restrictions

Glen Oak Road Speed Limit - Citizen Input Needed

Tell us what you think!

We need neighborhood input regarding speed limits on Glen Oak Road. Over the years, staff have heard neighborhood complaints about the speed limit on Glen Oak Road. In response to those concerns, Oregon City Public Works is evaluating the feasibility of changing current speed limits. In addition to finding out what our citizens think, we are also evaluating crash and safety data for this area. Please submit your comments by 5/6/21.

A summary of the corridor analysis, as well as the results of the speed limit feedback received from neighbors, is expected to be presented to the Transportation Advisory Committee on May 18, 2021.

Name

Street Address / City *

Email *

Phone

What speed would you recommend for Glen Oak Road (currently 35 mph)? *

- 25 mph
- 30 mph
- 35 mph
- 40 mph

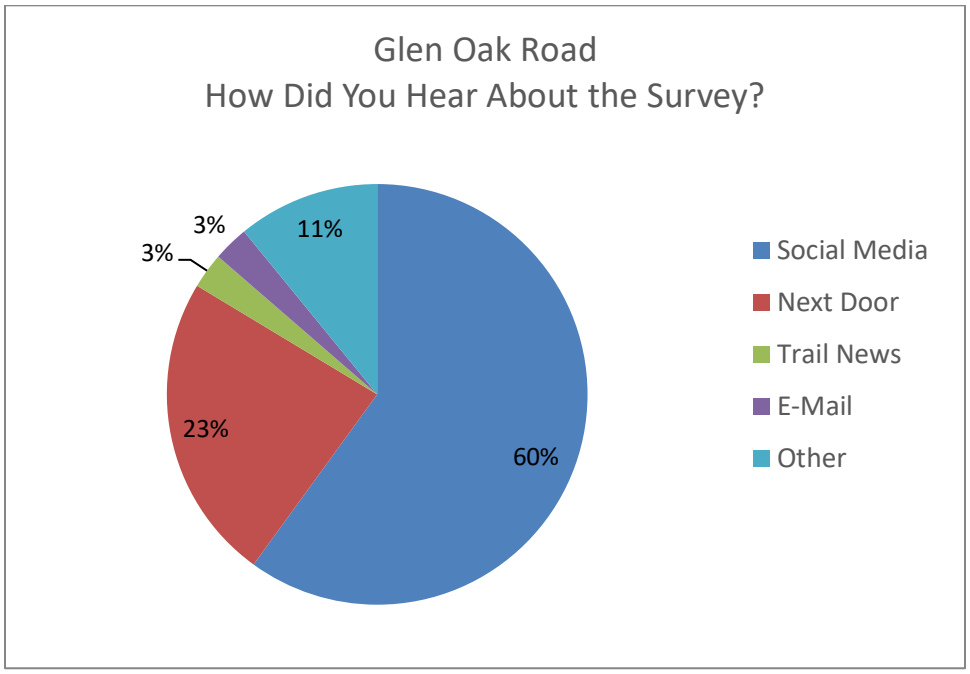
Why do you recommend this speed limit? *

How did you hear about this survey? *

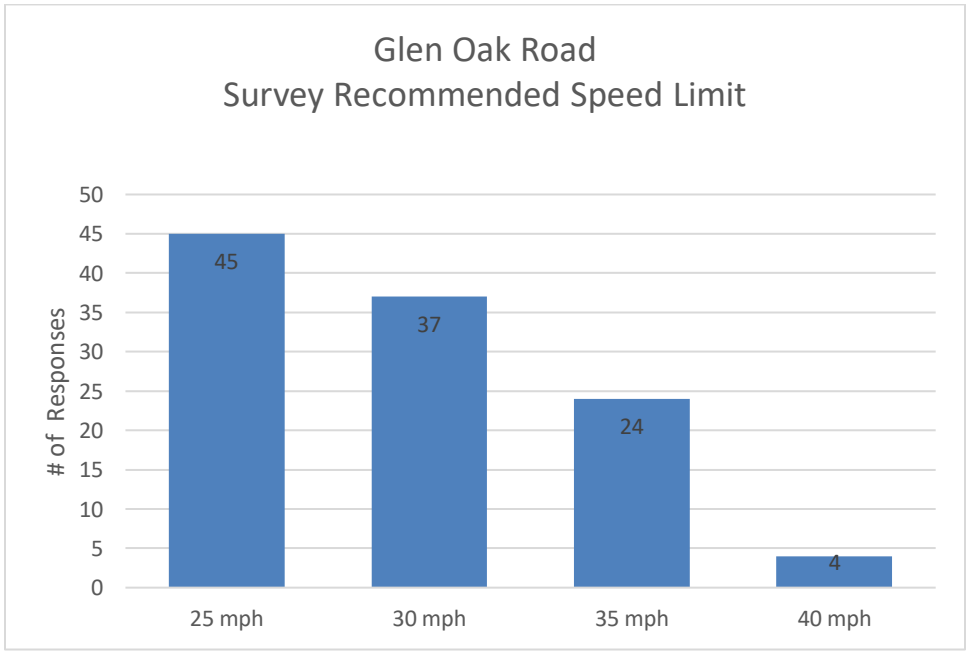
- Social Media
- Next Door
- Trail News
- E-mail
- Other

Submit

We received 110 unique submissions. The majority of the feedback was received from citizens that heard about the survey on Next Door & Social Media.



The details of the responses received are shown below, 41% respondents recommend the speed limit of the corridor be lowered to 25 mph, with 33% recommending 30 mph. Based on the results of the survey 74% of the responders would prefer the speed limit be lowered from the existing 35 mph.



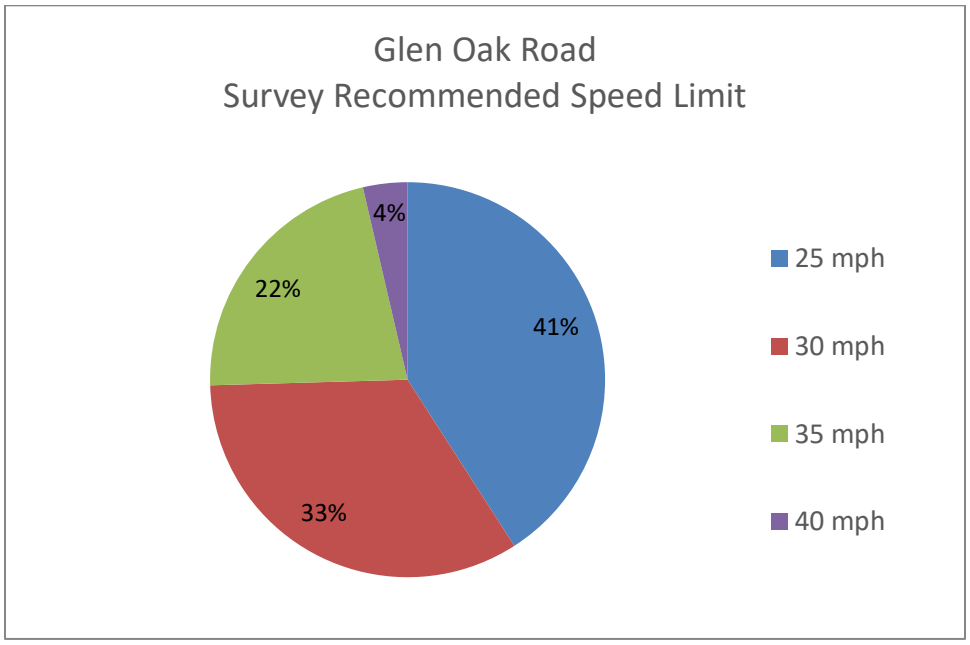


Exhibit 2 includes a map of the recommended speeds submitted through the webform, based on address provided by the respondent. Based on the mapped Webform speed study results in Exhibit 2, it can be seen that the majority of the responses were from community members along the Glen Oak Road corridor, and that they prefer a lower speed limit then the currently posted 35mph.

Following is a summary of the reasons provided in the 'Why do you recommend this speed limit?' section of the Webform:

- With the new park going in, there will be more kids and people walking this road to get to the park. Especially with there being parts of the road with no sidewalk, I think it would be a big safety precaution.
- We walk that road from 213 to the High school and don't feel that it's safe at the current speed with no sidewalk from the medical office to the park.
- The current speed is a bit fast for the area.
- 25 seems a little slow and the current 35 is a bit too fast.
- Safety of children and residents should be of upmost importance.
- If we want our area to be more child, bike and pedestrian friendly, cars need to be going slower.
- It's a residential area with all the apartments along it, plus houses. Never have understood why the speed limit was so high.
- Glen Oak Rd has transitioned from a rural road to a neighborhood collector over the decades. There are many residences fronting Glen Oak so 30 mph seems appropriate.
- There is a great deal of traffic in this area, even when there is no school. Too many cars are parked on the side of the road making it difficult to see when turning out of side streets. Foot traffic is heavy and will be increased when the new park is opened especially since it has a dog park.

Conclusions

The May 2020 Speed Zone Manual acknowledges the need to involve a range of considerations, more conflicts, a wider variety of users and significant distractions in urban areas. Current national research supports lower speeds than the 85th percentile in urban areas. The 50th percentile speeds are more appropriate speeds given the types of collisions and the vulnerable users.

50th percentile speed is the target speed in urban areas. The study found that the 50th percentile speed within the Glen Oak Road Corridor was between 25 mph and 34 mph. At the west end near Hwy 213, likely due to the traffic signal, we see 50th percentile speeds near 32-34 mph. At the east end near Beavercreek Road, we see lower speeds, likely due to the stop-controlled intersection, with 50th percentile speeds ranging between 25-30 mph.

When looking at the context of the corridor as residential zones ranging from low density to multi-family, a nearby park, proximity to the high school and its associated uses, and on-street parking, this corridor is well suited for a 30 mph speed limit based on the 50th percentile speeds (dashed lines). Additionally, 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 filed properties along the corridor, a request for ODOT to review the speed zoning seems appropriate.

Next Steps

At this time the Transportation Advisory Committee has two options:

- Option 1: Request staff move forward with a statutory speed limit designation on Glen Oak Road of 25 mph.
- Option 2: Request staff complete an Engineering Study and prepare a submittal of a Speed Zone Request to the State. This will initiate a Speed Zone Investigation by ODOT personnel. Depending on ODOT workload, it can take 4-6 months to hear the results. TAC would provide a formal recommendation on the requested speed limit for the Glen Oak Road Corridor, on behalf of the local residents as part of the request to the state.

Attachments (2)

Exhibit 1: Aerial Photos of Glen Oak Road Corridor
Exhibit 2: Webform Recommended Speed Results Map

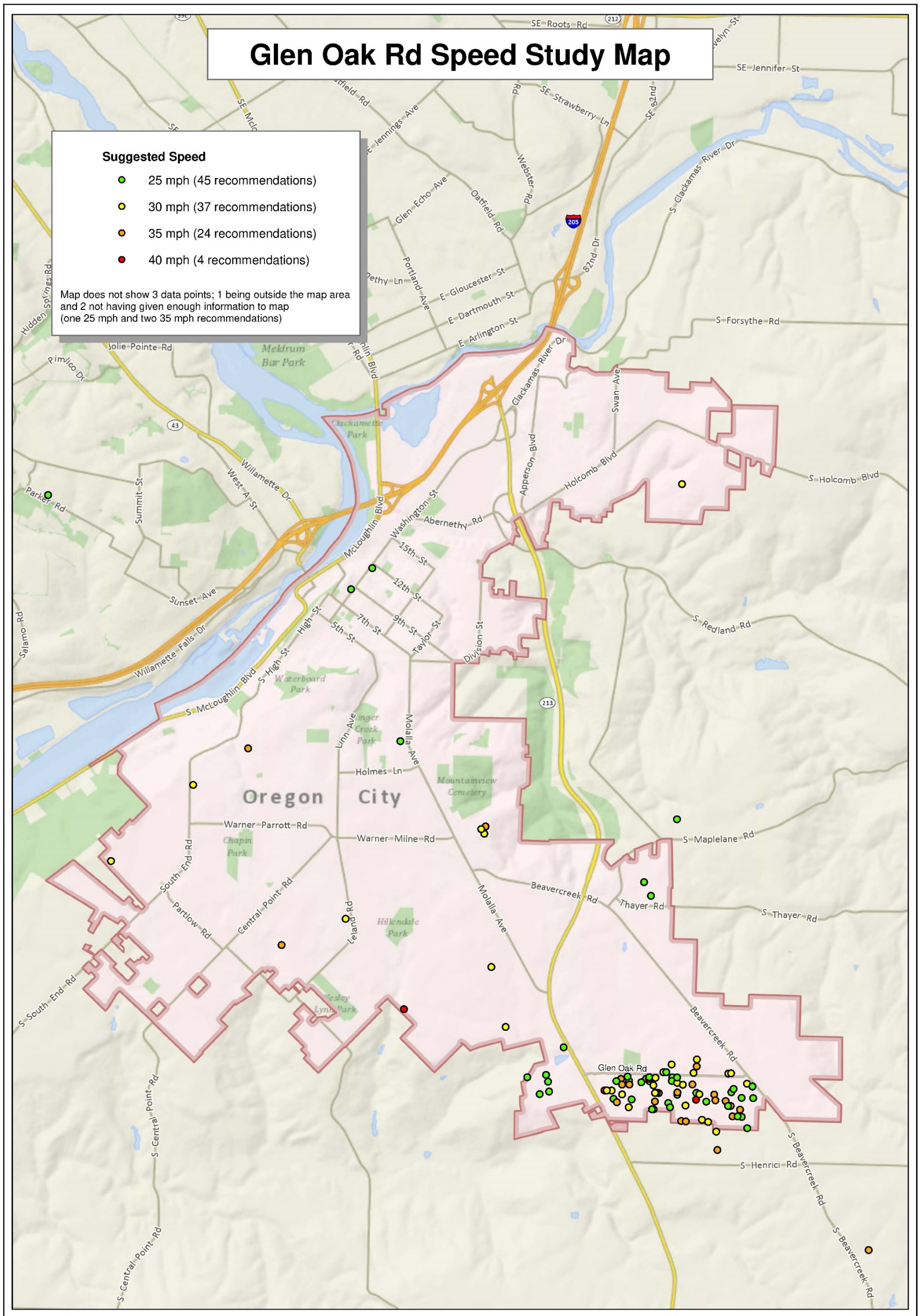
Exhibit 1: Aerial Photos of Glen Oak Road Corridor

1999 Aerial Photo

2010 Aerial Photo

2020 Aerial Photo

Exhibit 2: Webform Reccommended Speed Results Map



The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, or surveying purposes. Notification of any errors is appreciated.

N W E S

0 0.5 1 2 Miles

0 5,000 10,000 Feet

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Please recycle with colored office grade paper.

Plot date: May 21, 2021
Plot name: Glen Oak Rd Speed Study Map - 11x17P - 20210521.pdf
Map name: Glen Oak Rd Speed Study Map - 11x17P.mxd