

## RESOLUTION NO. 23-1910

### A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LAKE FOREST PARK, WASHINGTON, DIRECTING THE ADMINISTRATION TO PREPARE A LETTER TO THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION AND SOUND TRANSIT REGARDING REDUCING THE SPEED LIMITS ON STATE ROUTE 522 AND STATE ROUTE 104 WITHIN THE CITY LIMITS

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**WHEREAS**, consistency of speed limits on the State Routes is essential for the safety of all users, whether vehicular, pedestrian, or multi-modal; and

**WHEREAS**, evidence shows that a slight reduction in speed results in significant safety gains; and

**WHEREAS**, lowering speed limits is statistically proven to save lives in vehicle on vehicle crashes; and

**WHEREAS**, lowering speed limits is also proven to save lives when a pedestrian or multi-modal user is struck by a vehicle; and

**WHEREAS**, The Highway Safety Manual shows that even a 1MPH reduction in operating speeds can result in a 17% decrease in fatal crashes; and

**WHEREAS**, the speed limit has been lowered to a uniform 35MPH on SR 522 in the Cities of Bothell and Kenmore; and

**WHEREAS**, the speed limit has been lowered to 35MPH on SR523 (145th Street) in the City of Seattle; and

**WHEREAS**, the speed limit has been lowered to 35MPH on SR522 from 130th Street NE in the City of Seattle; and

**WHEREAS**, a pedestrian struck by a vehicle at 40MPH has a 10% chance of survival; and

**WHEREAS**, a pedestrian struck by a vehicle at 30MPH has a 50% chance of survival;

**NOW, THEREFORE, BE IT RESOLVED**, by the City Council of the City of Lake Forest Park, as follows:

Section 1. DIRECTING THE ADMINISTRATION. The City Council of Lake Forest Park, Washington, directs the Administration to inform The Washington State Department of Transportation and Sound Transit of the City of Lake Forest Park's intention to formally make an application to reduce the speed limits on State Route 522 (Bothell Highway) and State Route 104 (Ballinger Way).

- This intent must be communicated by the Administration by written correspondence with two weeks of this Resolution taking effect, and application made within sixty days of this Resolution.
- The following changes will be requested and make an application for: State Route 522 (Bothell Highway) between Milepost 4.23 and Milepost 6.21, where the maximum speed limit shall be 35MPH and with an investigation of 30MPH for vehicles over a Gross Vehicle Weight of 10,000 pounds.
- State Route 104 (Ballinger Way) 25MPH for its entire length in the City of Lake Forest Park .

Section 2. CORRECTIONS. The City Clerk is authorized to make necessary corrections to this resolution, including, but not limited to, the correction of scrivener's/clerical errors, references, ordinance numbering, section/subsection numbers, and any references thereto.

**PASSED BY A MAJORITY VOTE** of the members of the Lake Forest Park City Council this 10th day of August 2023.

APPROVED:



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Jeff Johnson  
Mayor

ATTEST/AUTHENTICATED:



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Matthew McLean  
City Clerk

FILED WITH THE CITY CLERK: August 10, 2023

PASSED BY THE CITY COUNCIL: August 10, 2023  
RESOLUTION NO.: 23-1910

## Supporting Technical Data

Following are some data points and references to WSDOT policies and guidance documents, as well as from prior email correspondence and research, regarding speed limits and retaining wall engineering.

While retaining wall design is primarily driven by engineering, there is an opportunity to influence its design through alternate engineering methods and by reducing the speed on State Highway 522.

Reducing the speed can allow 10' wide through traffic lanes. With 4 through traffic lanes, the overall road width can be reduced by 4'. If this reduction is taken solely on the west side the retaining wall will need to hold back the hill at a lower elevation.

Specific data points from the 90% documents:

- a. Wall 20146 – S64: narrow by 4'-0" = ~3.5' lower wall
- b. Wall 20146 – S129: narrow by 4' = ~5.75' lower wall
- c. Average wall height reduction appears to be about 3'

Retaining walls have been shown to provide both acoustic benefits and acoustic challenges to the neighboring homes. While the data is limited to show how reflected noise, being concentrated by a concave wall that is constructed of thick, hard materials, will adversely impact the neighboring homes, it is possible and no data has been shown that rules out this specific scenario. If an acoustic nuisance is a result of the current design, there is little to nothing that can be done to mitigate the nuisance after it is constructed.

Alternate construction methods to reflect sound upward over the homes to the east:

- a. Lower wall may be able to be constructed using an alternate structural method that allows a tilted wall to provide some acoustic benefit by directing the sound upward, rather than reflecting back to the homes on the east side of the highway
- b. A soil nail retaining wall at an angle will tilt the concrete panels to assist in directing reflected noise
- c. A sloped concrete block retaining wall is possible, preferably one with planting pockets, that will both diffract sound and provide some absorptive elements as well

The Council has asked for a reduced speed limit. This reduction is supported by WSDOT policies as follows:

- a. Per 1231-1 of the WSDOT Design Manual M 22-01.21
  - i. Low Speed Highways may have a lane width of 10'-12'
  - ii. "Narrower lanes may be used as part of a speed reduction strategy"
  - iii. "On multilane facilities with width constraints, utilizing narrower inside lanes may permit wider outside lanes for bicycles, freight, and transit."
  - iv. "Reduced lane widths allow more lanes to be provided in areas with constraints and allow shorter pedestrian crossing times because of reduced crossing distances."

- v. “Lane widths of 10 ft may be appropriate in constrained areas with low truck and bus volume in pedestrian oriented sections, 10 ft lanes can be beneficial in minimizing crossing distance”

Portions of the highway are bounded by the Lake and a hillside which are fully populated by single family homes. This requires acquisitions to configure the lanes at the 11’ width. Additionally, Sound Transit is building several Stride bus stops along this stretch of 522 which will increase pedestrian crossings. Both the physical constraints and increased pedestrian crossings support a lane width reduction based on the WSDOT policies highlighted above.

It is clear that the stretch of 522 through LFP would benefit from narrower lanes to reduce speeds today, as the 2022/23 speed study showed vehicles traveling over 44 at the 85<sup>th</sup> percentile at all study sites. 15% of vehicles were tracked traveling over 49MPH at study site 5.20. This is far from the intended speed of the highway and far from safe.

That speed study evaluated this stretch of 522 as-is to determine no change was warranted. What was not considered is that 522 in LFP will have a configuration similar to that in Kenmore when the Sound Transit project is complete. It is possible that WSDOT would reduce the speed to 35MPH to match that of Kenmore once the project is complete. In the meantime, a temporary speed reduction will be needed to ensure the site is safe during the construction phase which would allow users to adjust to a lower speed as soon as constructions start.

A major difference from the Kenmore stretch of 522 is that LFP has 19 single family residential homes that back dangerously into or out of their driveways onto 522 along a sweeping curve. This is unsafe and is not consistent with LFP’s goals as a King County Target Zero Task Force partner.

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