

# EXECUTIVE SUMMARY

## Purpose

The NE 132nd Street corridor considered in this report lies between 100th Avenue NE and 132nd Avenue NE. The purpose of the NE 132nd Street Roadway Master Plan Study is to identify a standard roadway cross section that meets the current and future needs of the corridor (through 2030); provide for all travel modes (including bicycle, pedestrian, transit and auto); identify how the proposed half-interchange at I-405 will affect the operation of the corridor; and provide a guide for how to best improve the NE 132nd Street roadway to meet the overall community needs while continuing to serve the adjacent neighborhoods. Through this study the consultant and City team developed a list of projects to address the NE 132nd Street corridor's needs for today and the future. The traffic projections, analysis, and proposed layouts have been reviewed and approved by the City's Transportation Commission.

## Background

The NE 132nd Street corridor is currently under King County ownership and is primarily a residential corridor. The City of Kirkland prepared this study to assist with their annexation analysis of the North Kirkland area. West of I-405 NE 132nd Street is a two lane roadway with narrow bike lanes. East of I-405 it is a two lane roadway with wide bike lanes and turn lanes at major intersections. Juanita High School and Fire Station # 27 are adjacent to NE 132nd Street west of I-405. East of I-405 there are several large subdivisions that outlet to NE 132nd Street. Ten metro bus routes run along NE 132nd Street. The speed limit along NE 132nd Street is 35 mph and the average weekday traffic ranges from approximately 12,000 to 20,000 vehicles per day. There are sidewalks along both sides of NE 132nd Street the length of the corridor and planter strips in most places.

Existing traffic counts and projections show a heavy southeast to northwest commuting pattern that crosses the study area along NE 116th Street, NE 124th Street and NE 132nd Street. Modeling for the year 2030 indicates that capacity will need to be added to the east-west corridors in order to reduce congestion and intersection delays.

## Recommendations

One of the primary outcomes of this study is that the new half diamond interchange at I-405 will not require a major reconstruction or widening of NE 132nd Street.

The study did develop the following recommendations for the NE 132nd Street.

- Maintain a three-lane cross section for NE 132nd Street. (see a typical cross section in Appendix A).
- Implement the following intersection and roadway improvement projects along NE 132nd Street (see plan layouts and cost estimates in Appendix A):
  - 100th Avenue NE intersection – Extend the westbound left and right turn lanes to 500 feet. Approximate cost \$1 million.

- Juanita High School intersection – Add a 250-foot eastbound right turn lane. Approximate cost \$750,000.
- 108th Avenue NE intersection – Add a 250-foot westbound right turn lane. Approximate cost \$500,000.
- Modify the signal at the fire station to include a pedestrian actuated option. Approximate cost \$300,000.
- West Segment: Overlay and restripe roadway, add landscaped center medians and perform sidewalk repairs between the east end of the 100th Avenue NE intersection project and the west end of the I-405 project. Approximate cost \$1.2 million.
- Revise the WSDOT half-interchange design at 116th Way NE as follows: restripe northbound approach for one left turn lane and one left + right turn lane, modify the southbound off-ramp to remove the traffic island and stripe for one left turn lane, one through + left lane and one through + right lane. Assume that these changes are part of the WSDOT project with no cost to the City.
- Central Segment: Overlay and restripe roadway, add landscaped center medians and perform sidewalk repairs between the east end of the I-405 project and the west end of the 124th Avenue NE project. Approximate cost \$300,000.
- 124th Avenue NE Intersection – Continue to monitor this intersection to verify the traffic model conclusions of this study. If the eastbound to northbound left turn volumes remain as high as the model is anticipating then the City will need to extend the existing eastbound left turn lane to 500 feet and add a second 500-foot eastbound left turn lane. Widen and restripe east leg at the intersection to match west leg. Widen and restripe north leg for 1000 feet to provide two northbound through lanes, one southbound left turn lane and one southbound through + right turn lane. Restripe south leg at the intersection to match north leg. Approximate cost \$4.5 million.
- East Segment: Overlay and restripe roadway, add landscaped center medians and perform sidewalk repairs between the east end of the 124th Avenue NE project and the west end of the 132nd Avenue NE project . Approximate cost \$1 million.
- 132nd Avenue NE Intersection – Extend eastbound left and right turn lanes to 500 feet. Approximate cost \$700,000.
- Integrate components of the Kirkland ITS Plan into the NE 132nd Street corridor as part of either Overlay or Intersection projects.
  - Upgrade the traffic signal controllers and consider video detection for the intersections
  - Install interconnect system from 100th Avenue NE to 132nd Avenue NE
  - Install CCTV cameras to monitor and manage traffic congestion and queues. Locations could include 100th Avenue NE, Totem Lake Boulevard and 124th Avenue NE intersections to provide visibility throughout the two-mile corridor.

- Implement transit signal priority in the corridor to assist transit passage through the congested intersections. In particular, passage through the interchange area near I-405 will be critical for transit to maintain its schedule.
- Work with King County Metro to consolidate transit stops with improved pedestrian crossing treatments in conjunction with overlay project segments and construction of landscaped medians through the corridor.
- Explore pedestrian-level lighting for the corridor, in conjunction with sidewalk and transit stop enhancements.

### ***Priorities for Implementation***

There are many changes underway in the Totem Lake area that will influence travel patterns and traffic demand on NE 132nd Street. This corridor analysis reflects the expected traffic growth assigned to the corridor based on current traffic volumes and patterns.

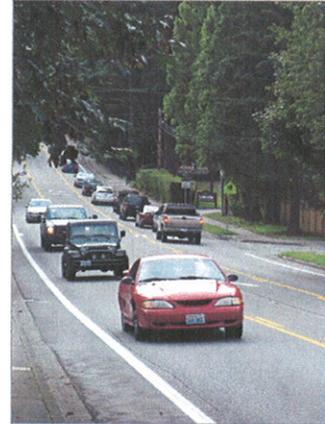
Changes in circulation are expected with the new NE 128th Street arterial connection across I-405 that provides HOV direct access to I-405. WSDOT plans to construct a half-interchange at NE 132nd Street and this will likely result in additional shifts in traffic and circulation.

The intersection LOS analysis indicates that the 100th Avenue NE and 124th Avenue NE intersection projects should be the first ones to be constructed, due to the high level of congestion. The project at 100th Avenue NE is likely warranted regardless of the circulation changes near I-405. A project to improve access at the Juanita High School signal would also be justified near-term.

We recommend that the City monitor traffic volumes on NE 132nd Street, especially east of I-405 to affirm the sequence of the intersection projects in the proposed Master Plan for NE 132nd Street Roadway. The restriping, crosswalk and sidewalk enhancements and center medians could be incorporated into the arterial overlay program or could be stand alone projects.

## INTRODUCTION

NE 132nd Street provides an important east-west connection from the growing residential areas of north Kirkland and unincorporated King County to the Totem Lake urban center. NE 132nd Street also provides the connection to major facilities including Juanita High School, Kirkland Fire Station 27, the Kingsgate Park and Ride, the Evergreen Hospital campus and the 132nd Street Square Park. Currently, the street is the boundary between the City of Kirkland and unincorporated King County. The area to the north of NE 132nd Street is included as part of Kirkland's potential annexation area (PAA).



In the near future, several projects along Interstate 405 (I-405) will have an impact on this corridor. Currently, the Washington State Department of Transportation (WSDOT) and Sound Transit are constructing the new Totem Lake Freeway Station. This project is near completion and will provide direct access ramps for buses, carpools and vanpools from the I-405 high occupancy vehicle (HOV) lanes to and from the new NE 128th Street overpass. Another project that will impact NE 132nd Street is the I-405/NE 132nd Street Interchange Improvement Project. WSDOT will construct a new half interchange to and from the north at NE 132nd Street.



In the Totem Lake urban center, the Evergreen Hospital Medical Center recently expanded their Emergency Department and added a new Inpatient Facility. In addition to these buildings, Sound Transit has partnered with Evergreen Health Care to build the new Totem Lake Transit Center on their medical center campus. This six-bay transit center will include sheltered passenger waiting area and bus layover space. Just to the south, Developer Diversified Reality has plans for a major redevelopment of the Totem Lake Mall. The redevelopment includes street reconfigurations,

new housing and denser commercial development.

This report documents the analysis of the current and future needs and conditions for all modes of travel along NE 132nd Street. The focus for the study is a 2-mile section of NE 132nd Street between 100th Avenue NE and 132nd Avenue NE.