

FUTURE BASELINE CONDITIONS

The half interchange to be constructed by WSDOT at I-405 and NE 132nd Street will connect with I-405 to and from the north. The project is scheduled to be completed by 2013, prior to this study's forecast year of 2030. The 2030 baseline and mid-year conditions in 2014 for this study include the half interchange but no other improvements to the Totem Lake east-west corridor.

Traffic volume forecasts for NE 132nd Street were developed using the BKR model for year 2030 with the planned half-interchange to I-405. WSDOT is in the process of designing the new ramps, providing a southbound off-ramp and a northbound on-ramp to and from NE 132nd Street. The two intersections adjacent to I-405 will both be modified by adding lanes and changing the signal operations to incorporate the freeway access. Currently, the north leg of the 116th Way NE intersection is a primary access for a multi-family development. This will be relocated to the west, with a separate driveway intersection on NE 132nd Street. No additional improvements are assumed for 2030. See **Figure 18** for the proposed WSDOT layout of the new interchange and the modifications to NE 132nd Street which are part of the project.

Figure 19 shows the 2030 PM peak hour turning volumes for the baseline condition, rounded to the nearest 5 trips. Mirai developed these numbers by validating the model results, adjusting for the volume balancing and comparing to the existing traffic patterns.

Using Synchro software, Mirai conducted traffic operation analysis and traffic simulations of the corridor to assess the expected operation under the future baseline conditions. For future conditions, signals were optimized for cycle lengths and offsets. The maximum cycle length considered for optimization was 120 seconds. Existing coordinated signals were included under the baseline conditions analysis. Additional signal coordination was only considered for tested scenarios.

Figure 20 provides an overview for the expected 2030 PM peak hour intersection operations, the average intersection delays and V/C ratios for the eight signals along the corridor. Based on the observations of the simulation, the corridor will continue to experience some peak period congestion and queuing, specifically on both 116th Way NE and Totem Lake Boulevard northbound approaching NE 132nd Street intersections, and on NE 132nd Street approaching 100th Avenue NE, 124th Avenue NE and 132nd Avenue NE.

Figure 21 provides the PM peak hour turning volumes under the baseline conditions in year 2014. Mirai developed a forecast for this interim year, to give an indication of near term operations in the corridor. **Figure 22** provides an overview of 2014 roadway operations along NE 132nd Street. Even with the planned WSDOT interchange and associated intersection improvements, the congestion and backups will remain along NE 132nd Street, especially at 100th Avenue NE.

Figure 18. WSDOT Proposed I-405 Half Interchange at NE 132nd Street

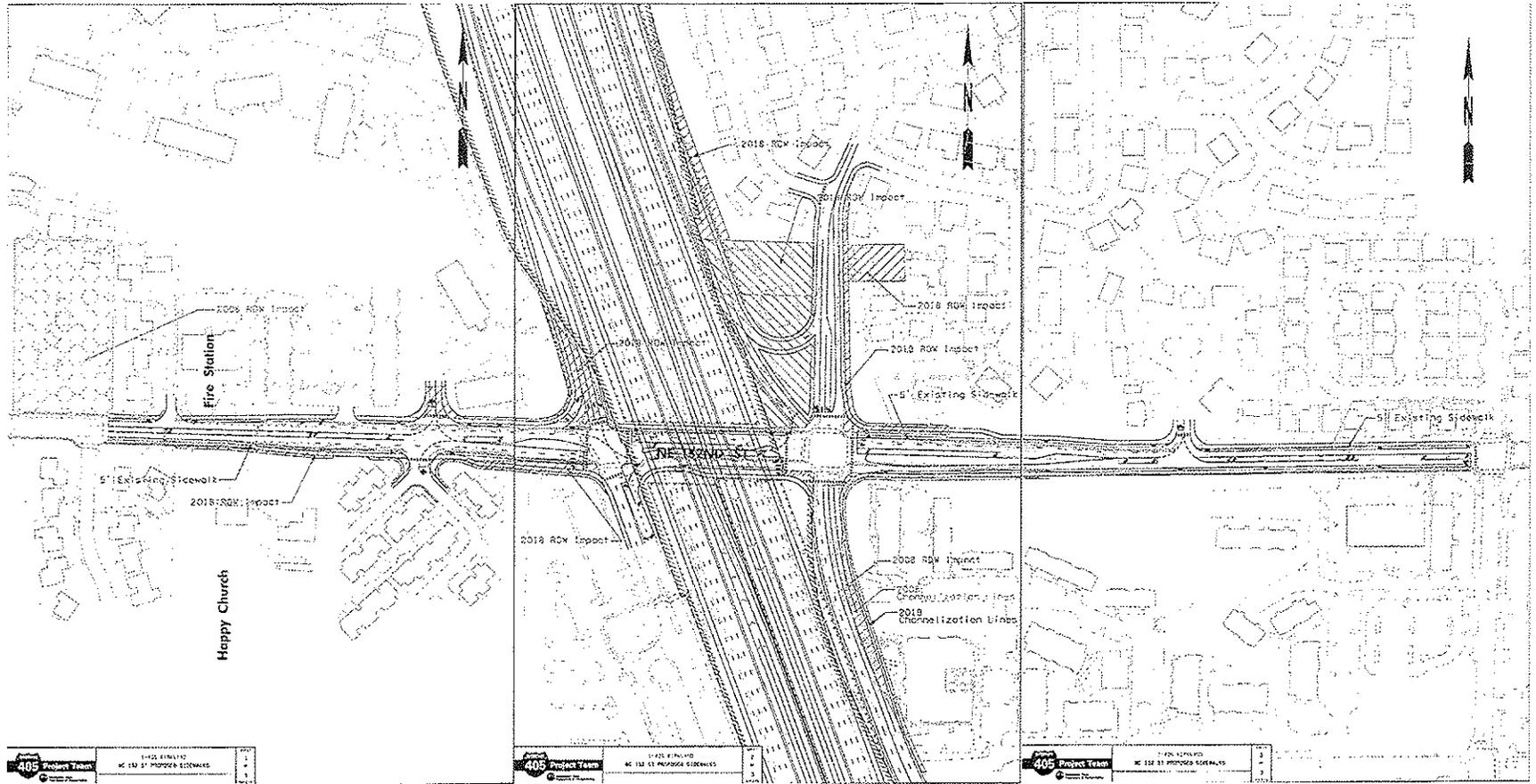


Figure 19. 2030 PM Peak Hour Turning Movement Volumes – Baseline Conditions

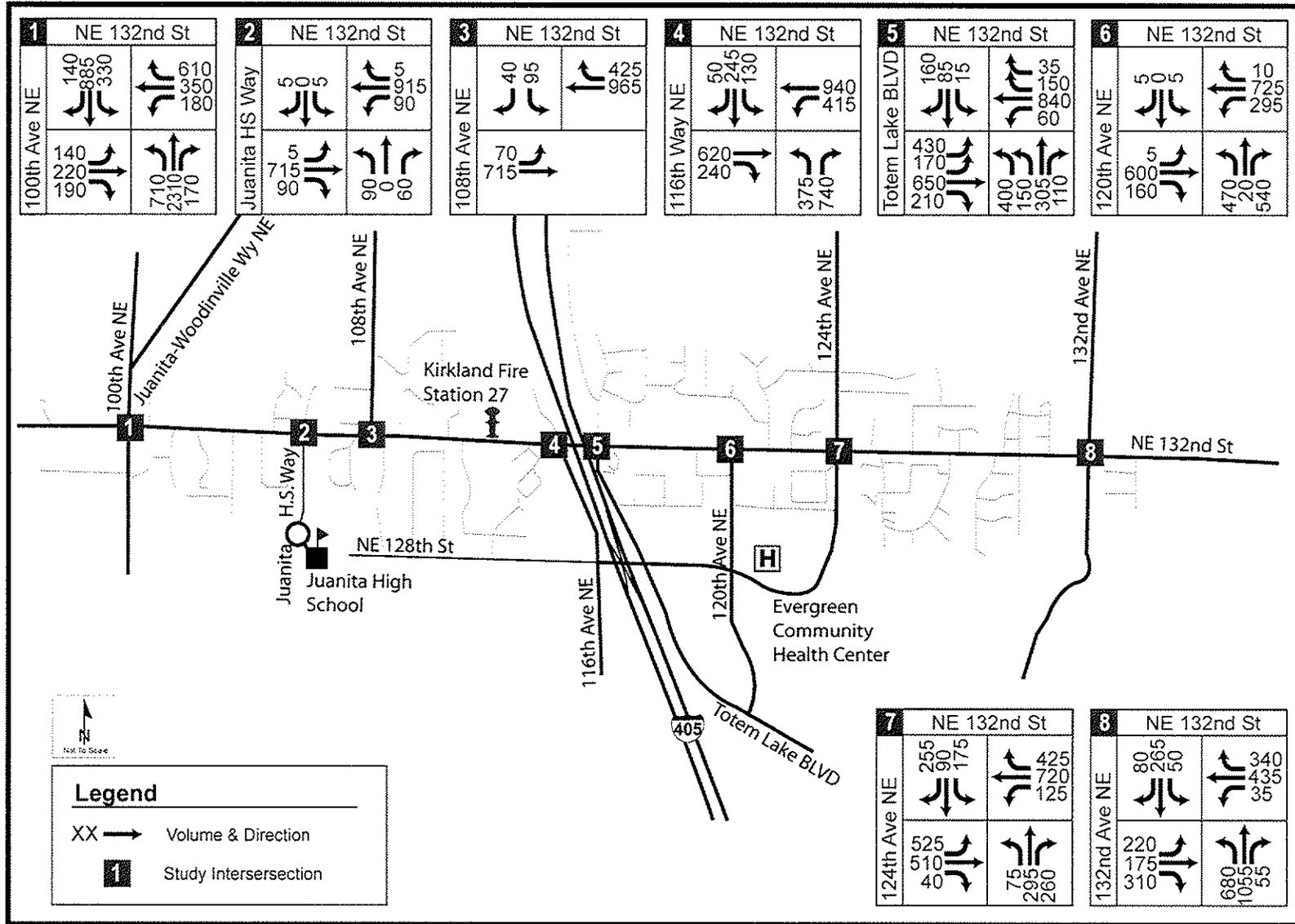


Figure 20. 2030 PM Peak Hour Operations – Baseline Conditions

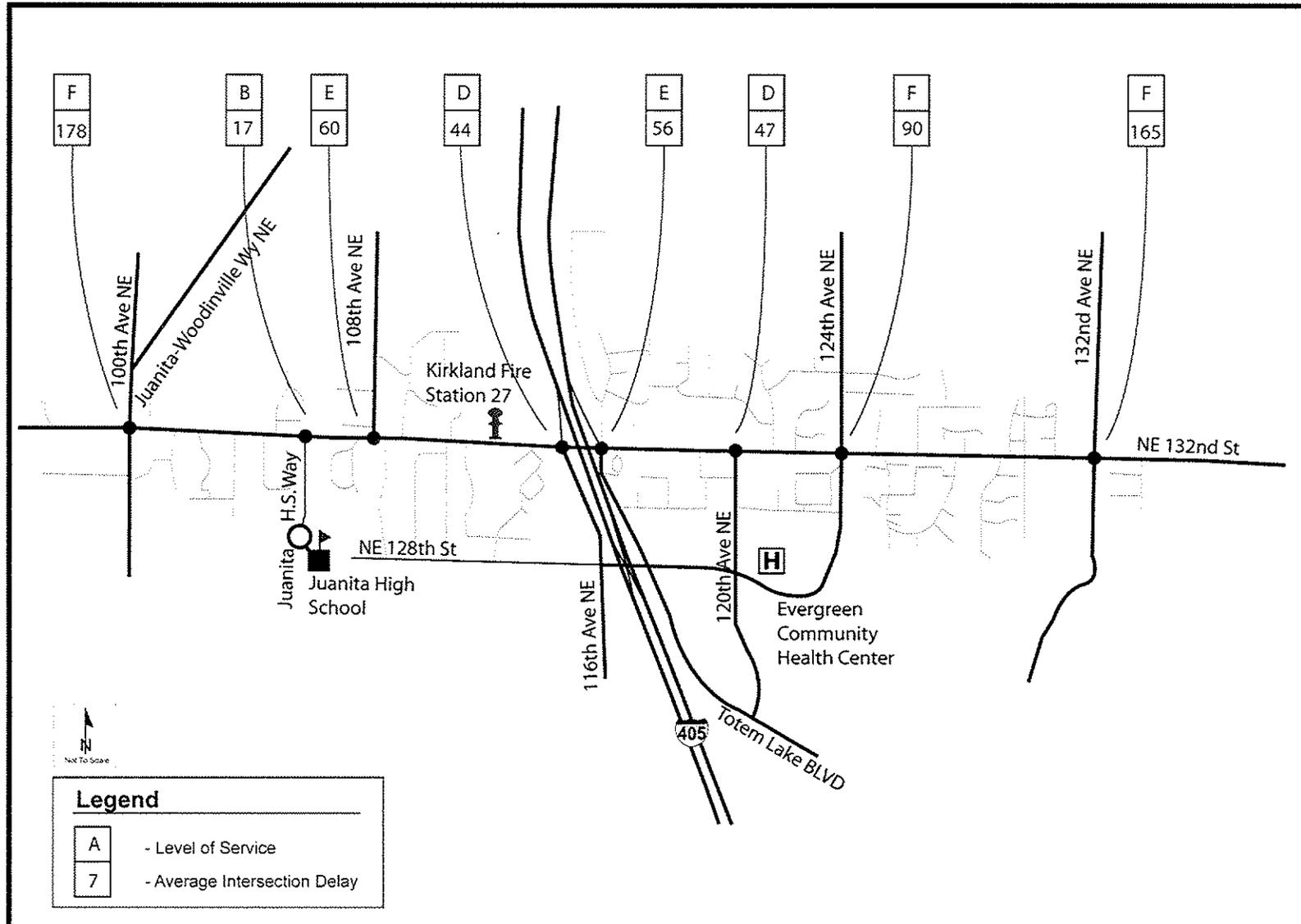


Figure 21. 2014 PM Peak Hour Turning Movement Volumes – Baseline Conditions

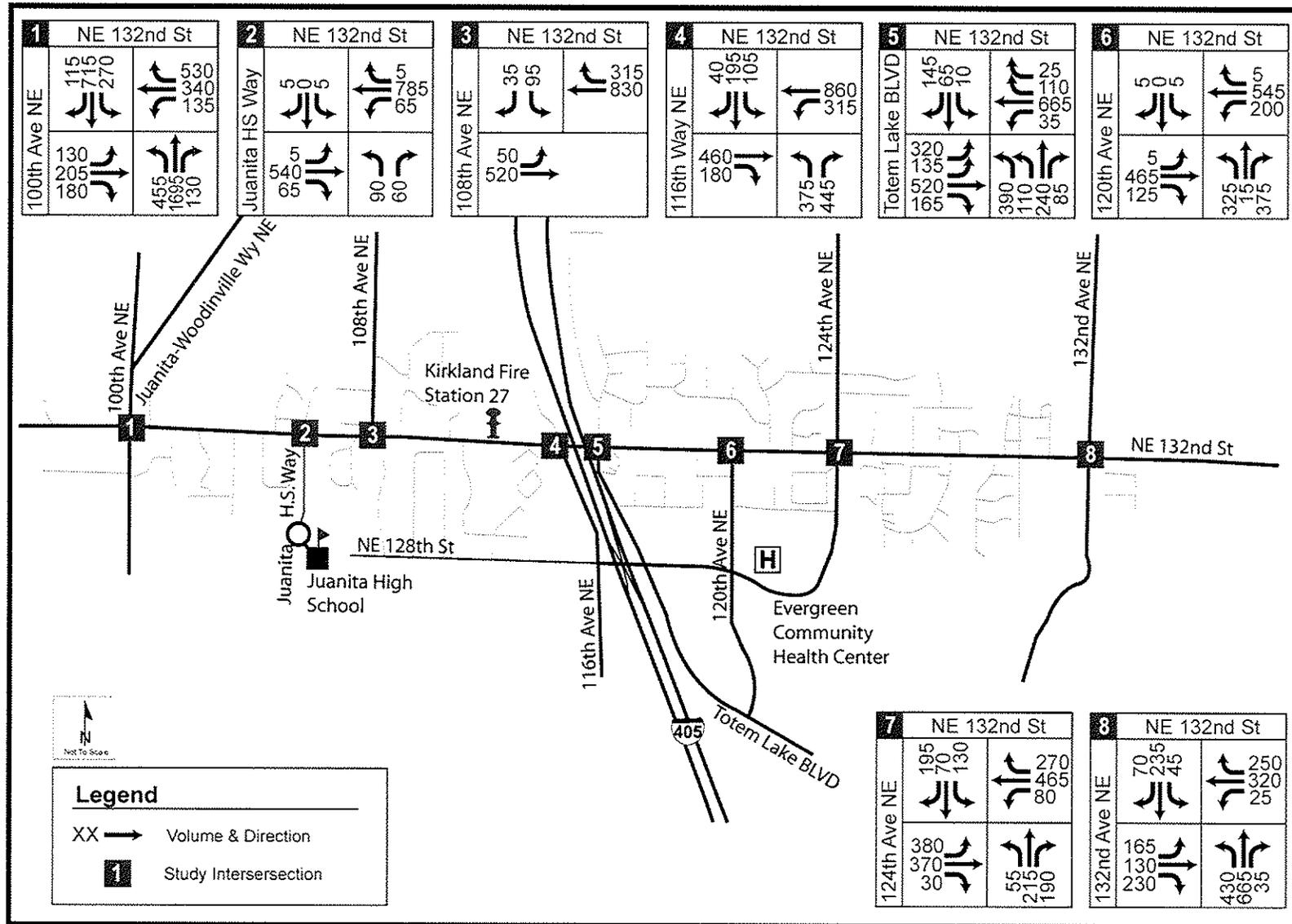


Figure 22. 2014 PM Peak Hour Operations – Baseline Conditions

