VOLUME & CAPACITY

What data was collected

Counts were conducted of hourly vehicles in both directions at 26 locations across the 10 Project corridors, and combined with existing available recent data.

What was learned

Comparing volumes to the estimated capacity of each street to understand how efficiently the capacity is used, and how many hours of the day, if any, the traffic volumes utilize all of the available capacity. On corridors that connect directly to a freeway (1-94 or US -23), volumes get higher further away from downtown and closer to the freeways.

In many locations, the peak hour volumes appear to be well below the estimated capacity at the major intersections.

Why is this important

- There are important factors that determine roadway capacity that may be counter-intuitive. This includes a “diminishing return” when capacity is added in the form of additional travel lanes.
- This stems from several aspects of how people drive. When there are two travel lanes in the same direction, drivers almost never divide themselves evenly among the two lanes.
- Additionally, intersections are larger with more lanes, and require additional time for people to pass through and exit the intersection before a signal changes indications to the other direction.
- This is called “clearance time”, and more clearance time is needed as intersections get larger.
- This means there is more time when no one is moving through the intersections.

What about roundabouts?

Ann Arbor has a number of roundabouts, though they are mostly on less heavily traveled corridors than those in this Project. Roundabouts have advantages in handling heavy traffic volumes because they can continually allow vehicles to move at a slow speed. And slow speeds can more efficiently handle peak hour traffic, because drivers are comfortable (and safe) following the vehicle in front of them at a shorter distance.

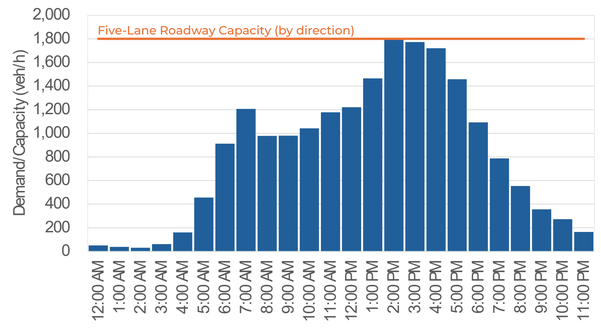
EXCESS CAPACITY = HIGHER SPEEDS



THE MORE TRAVEL LANES,
THE LONGER THE WAIT TIMES FOR ALL MODES

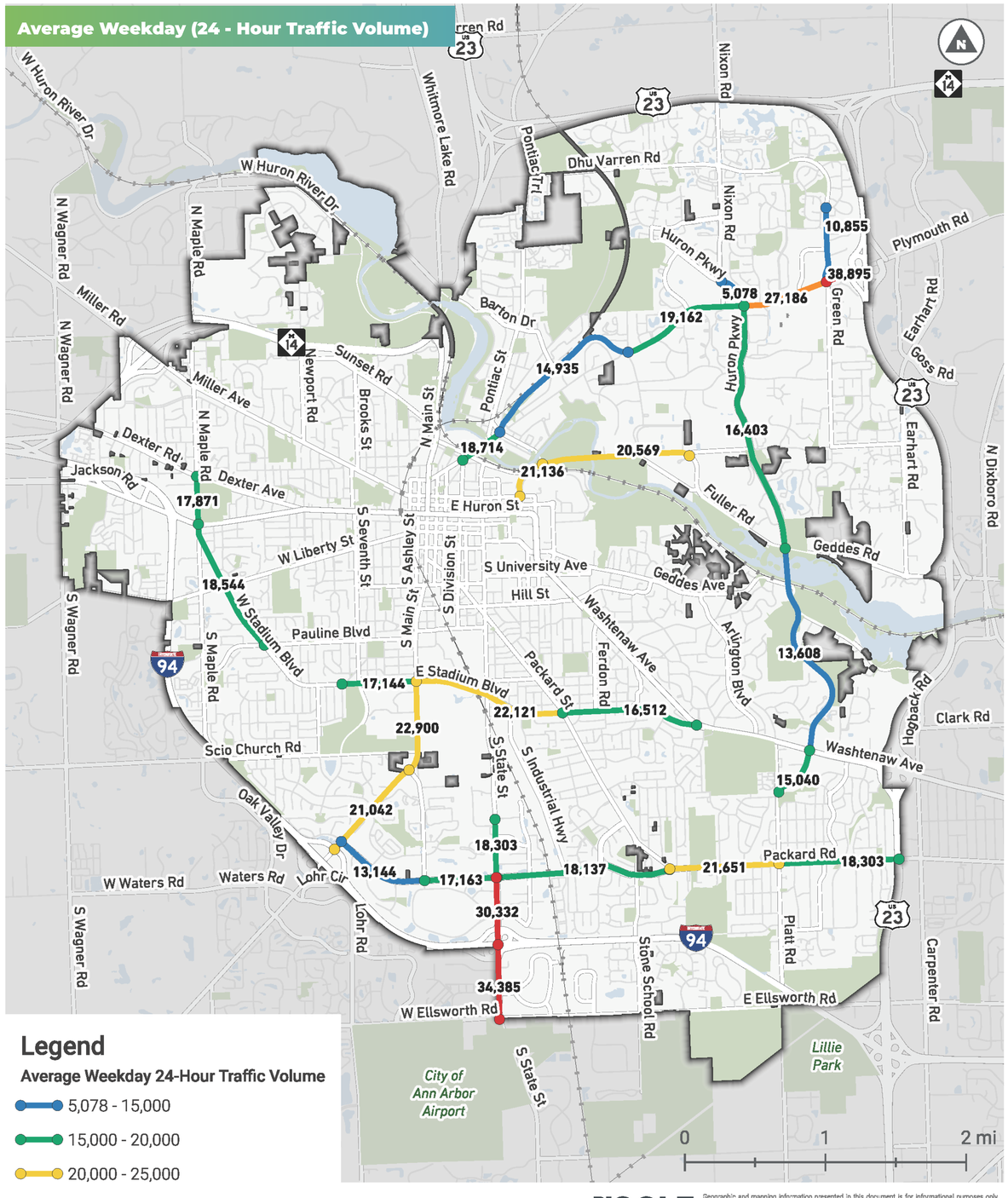
This is the highest volume segment in our project area, and it is at or below capacity all day long:

Average Hourly Weekday Eastbound Traffic on Plymouth Rd between Green and US23



Most A2R2 Streets have excess capacity 24/7

Average Weekday (24 - Hour Traffic Volume)



Legend

Average Weekday 24-Hour Traffic Volume

- 5,078 - 15,000
- 15,000 - 20,000
- 20,000 - 25,000
- 25,000 - 30,000
- 30,000 - 38,895

TOOLE DESIGN

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24.10.2025 | H:\H0000\04CMH.00384.00_P_Ann Arbor Road Reconfiguration\PRODUCTION\GIS\QGIS\A2 Road Reconfiguration Basemap.qgz | A2 R2 Average Weekday 24-Hour Traffic Volume