

---

---

To: Board of Public Works, Village of Elm Grove

---

From: Kenneth H. Voigt, P.E., Transportation Engineer

---

Date: April 8, 2021 Project No.: 49-0118.00

---

Re: Response to March 10, 2021 TADI Review of SSND-Supplement No. 2 Traffic Study

---

---

In general, Ayres Associates concurs with the overall recommended revisions to our January 11, 2021 technical analysis of Year 2028 traffic impacts from trips generated by the Mandel Residential development plan for the School Sisters of Notre Dame (SSND) property. Due to traffic concerns expressed by Village residents the intent of the Ayres analysis was to error on the high side by overstating some of the small intersection traffic movement volumes assigned to specific intersections by rounding low volume traffic movements to the highest 5. This small number rounding approach was used to provide a conservative estimate of any potential impacts on future intersection operation, as opposed to the standard practice of rounding to the nearest 5, which in many cases would slightly reduce the intersection volume assignment.

**Traffic Review Conclusions:** Overall, it is important to note that, as concluded in the March 10, 2021 TADI analysis, the technical review confirms the findings of the Ayres analysis, that new trips generated by the Mandel residential plan for the SSND property will not significantly impact Watertown Plank Road intersection operation with all traffic movements operating at acceptable conditions during peak hours without any necessary changes to intersection geometrics or traffic control.

**Pedestrian Safety Conclusions:** TADI agrees that the Mandel residential development traffic is not expected to impact safety for the St. Mary's School pedestrians.

**Train Crossing Survey Conclusions:** TADI agrees that the Mandel residential development traffic is not expected to significantly impact queues or intersection operation on Watertown Plank Road.

Specific Ayres Associates responses are summarized below to detailed topics critiqued in TADI Traffic Review comments:

Year 2028 Traffic Analysis Review:

More Specifically, the TADI Technical Review Memorandum agrees that the Ayres Year 2028 background traffic growth projection is conservatively on the high side since historic growth on Watertown Plank Road has shown a slight declining trend since 2006.

We concur with the minor TADI adjustment of 5 to 10 vehicles for the southbound left turn and westbound right turn along with the addition of 25 vehicles to the eastbound through movement during the evening peak hour related to volumes at the N. 124<sup>th</sup> Street intersection with Watertown Plank Road.

We concur with subtracting trips currently using the eastern SSND driveway on Stephen Place from traffic on Watertown Plank Road when Mandel residential trips impacts are analyzed.

We concur with reducing from 25 trips to 10 trips the Watertown Plank Road westbound left turn and through movement volumes at N. 124<sup>th</sup> Street.

We also agree that the changes made to signal timing at the Legion Drive intersection with Watertown Plank Road are appropriate with the subsequent improvement in intersection level of service operation. The result of these signal related changes reported by TADI actually increases intersection capacity.

With the diagonal segment of Watertown Plank Road between Juneau Boulevard to Legion Drive, the Synchro intersection operation computer model directional roadway naming orientation changes seem fine. Increasing the gas station driveway speed from 10 mph to 25 mph at its intersection with Legion Drive for operation modelling purposes is acceptable in this analysis.

#### Pedestrian Safety Review

We concur that with TADI that pedestrian crossings of Watertown Plank Road are relatively low during the 6:00 to 9:00 AM and 3:00 to 6:00 PM time periods. It is our professional opinion that upgraded pedestrian crosswalk markings and upgraded pedestrian activated flashing beacons will enhance pedestrian safety along the Watertown Plank Road corridor.

A review of the 5-year crash history along Watertown Plank Road indicates a variance between 7 to 14 total crashes per year. Even though there were 12 crashes reported in 2016 and 14 crashes reported, most recently, in 2019, other years varied between 7 to 9 crashes per year. We do not concur with the statement in the TADI review that there is an increasing crash trend on Watertown Plank Road, but rather Ayres concluded that the crash trend ranges between 7 to 14 crashes per year without any true predictable trend at this time.

#### Train Crossing Review

We concur with the conclusions of the special train crossing survey findings, conducted by TADI, that the average train crossing activity is 2 trains during the AM peak and ranged between 1 to 3 trains during the PM peak. The TADI train survey indicated that train crossing queues dissipate quickly after the crossing gates are raised. TADI noted that much less frequent 7-8 minute duration trains occasionally cross Watertown Plank Road. TADI states that, though impactful to traffic operation, these longer trains are expected to be infrequent occurrences during peak traffic hours.

We concur with the TADI statement that SSND trips, as reported in the Ayres traffic study, are not expected to significantly impact train crossing queue lengths on Watertown Plank Road.