

Traffic Study Highlights

With proposed land use projects such as a new gravel pit, traffic studies (also known as transportation impact studies) are typically required to determine existing traffic conditions, conditions five years in the future – with and without additional traffic from the new land use – and any improvements that might be needed to accommodate the additional traffic.

The study conducted for the proposed Shantz Station Pit determined that the proposed pit operations will result in minimal traffic impacts on the road system.

If aggregate is extracted at the maximum amount requested (500,000 tonnes annually), it's estimated that an average of 59 trucks would enter and leave the pit operation each day, or 4.6 trucks per hour. During peak morning and afternoon traffic hours, the average number of truck trips would be 9.2.

However, Capital expects the average amount of sand and gravel extracted would be 250,000 tonnes per year, so the average number of trucks entering and leaving the pit each day during peak hours would also be half the amount, or fewer than 30 trucks per day (2.3 per hour). The number of truck trips during peak morning and afternoon traffic hours would be 4.6.

Plans are for trucks to travel north and south along Shantz Station Road to and from the pit, and then east or west along Highway #7.

The traffic Level of Service (LOS) at the nearest intersection to the proposed pit entrance, Shantz Station Road and Foerster Road, will remain at either an A or B during peak traffic hours – the same as it is now. A rating of LOS A indicates that traffic flows freely at or above the posted speed limit with the average spacing of vehicles being at least 27 car lengths. It also means that, on average, there is only a delay of 10 seconds or less to make a turn from one road to another.

A rating of LOS B indicates that traffic flows reasonably freely, with speeds maintained and a spacing between vehicles of at least 16 car lengths. The turn delay for LOS B is between 10 and 15 seconds at an unsignalled intersection.

Traffic flow at the intersection of Shantz Station Road and Highway #7 will be at an LOS rating of E during morning

and afternoon peak traffic hours in 2023, regardless of whether the proposed pit goes ahead or not. This level of service is considered unacceptable, and plans are to construct a new, controlled-access Highway #7 with an interchange at Shantz Station Road.

Region of Waterloo standards require deceleration lanes and/or acceleration lanes to be constructed as a safety measure at gravel pit entrances. Capital will provide a deceleration lane (an acceleration lane is not required at this location) if the proposed pit application is approved.

The lane would include a 130-meter long and 3.5-metre wide paved shoulder leading to the pit entrance along Shantz Station Road, north of Foerster Road. The deceleration lane will also address potential sightline problems for northbound vehicles due to the vertical curve on Shantz Station Road, just south of the proposed pit entrance.

Study Area and Proposed Subject (Pit) Development Location

