

## **Traffic Impact Assessment**

Each Sunday: Average of 355 vehicles with 2.4 people per vehicle. Totaling an average of 852 attendees.

We already have plans in place with the driveway realignment and a second entrance/exit to help mitigate potential traffic congestion.

Following historical traffic data - the average growth rate for Hwy 627:04 from 1989-2022 (33 years) is 1.54%

## **Capacity Analysis**

The capacity analysis was performed for the intersection for the 100th highest hour for the AM peak and PM peak for years 2044.

The results indicate that a level of service of "A" is maintained for eastbound traffic on highway 627:04 for the next 20 years. This confirms that left turns into Rge. Rd. 262 does not impact through traffic going eastbound on highway 627:04. For left turns out of Rge. Rd. 262, the level of service drops only to D and E in 2044. This is where the intersection may be approaching the requirement for traffic signals and should be reviewed at that time.

Since the development is not projected to add any traffic during the peak hours of traffic, improvements to the intersection are not recommended for the approval of this project and the development does not add any additional traffic during the peak hours of traffic flow to make the level of service worsen any quicker.

## **Roadway Standards - Range Rd. 262**

The local road that the development will use is within Parkland County.

Most of the local roads in Alberta were built many years ago and likely followed a lower set of standards than used today. Therefore, there must be some engineering judgment used in regards to which parameters of the standards can be allowed some flexibility when applying them to these existing roads. Alberta Transportation provides allowances for rehabilitation of existing roadways with some flexibility towards the roadway standards. These standards are known as the 3R/4R Geometric Design Guidelines. The purpose of these guidelines is “to extend the service life of existing paved highways and enhance highway safety on a network. To accomplish this objective, the standards focus on the most safety-cost effective improvements and also encourage the use of low-cost opportunities to improve safety where major reconstruction is not cost-effective”.

Parkland County provides a section for Roadway Systems in their “Engineering Design Standards” dated/amended June 2014. These standards are noted to be used for roadways for new subdivision development within Parkland County.

Range Road 262 is classified as a “local road” as they contain a low volume of traffic. The County’s standards define the function of a local road “to provide access to adjacent properties carrying traffic from higher order roads to individual land parcels. Local roads are typically low speed and low volume roadways. They connect to other local roadways or collectors”

## **Site Inspection**

A detailed inspection of the roadway was conducted in October 2023.

- Range Road 262 contains a paved surface and is approx. 7.5-8.0m wide
- The side slopes seem to be 4:1 or better throughout
- There is no existing illumination along this roadway
- Road ban limits exist likely in the spring, so large heavy trucks do not use this route often
- Road vertical profile is relatively flat with no issues with sag or crest curves

Overall, this local roadway appears to be adequate as a local road in providing access to the proposed development.

## **Traffic Impact Assessment Conclusion**

The proposed development comprises of an expansion to the existing church site with the addition of a Sanctuary building and Education Centre. The expansion includes a larger parking lot and stormwater management pond. Access to the site would be made utilizing two new access roads.

Overall the increase in traffic for this site could be summarized to add 80 trips per day on average. On Wednesdays the traffic volume peaks at approximately 140 trips in and out for the whole day and on Mondays and every second Friday and Saturday, there may be no additional trips.

It is important to note that none of the increased activities and additional traffic generation will occur during weekday peak hours.

The turn capacity for West Bound to South Bound traffic is sufficient for the next 20 years during the off-peak hours and evening hours when the addition to the church site is to be mainly used.

The proposed development does not impact the existing transportation infrastructure at highway 672 and Range road 262 intersections from 2024 to 2044.

### 3.3 Site Observations

The details of the intersection site are as follows:

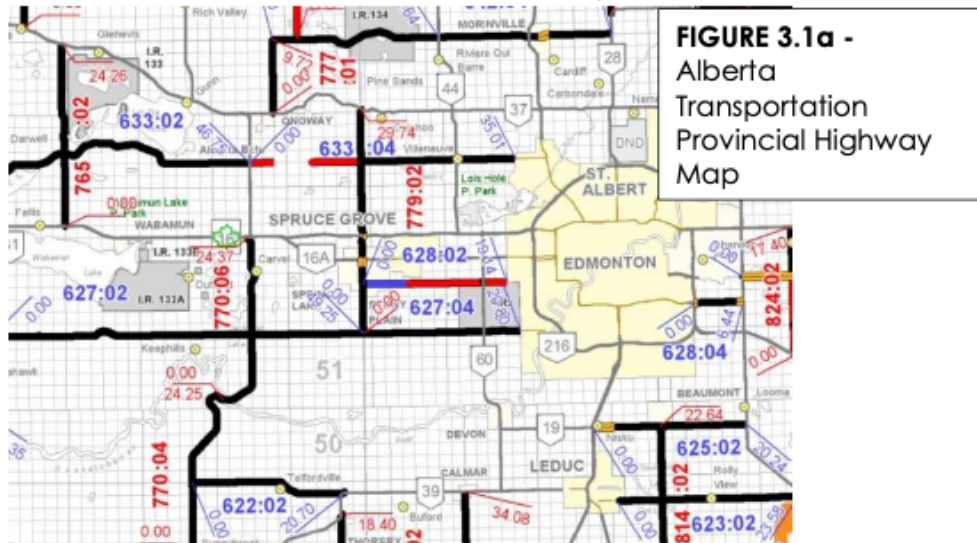
- Highway 627:04 is a two-laned roadway and is paved.
- The intersection has an existing treatment as follows:
  - EBL's
    - An approximate 87.5m taper and 75m right turn deceleration lane exists for EB to SB turns.
    - An approximate 77m right turn acceleration lane and 91m taper exists for NB to EB turns.
  - WBL's
    - An approximate 120m taper and 190m left turn deceleration lane exists for WB to SB left turns. A by-pass lane is to the north.
    - An approximate 60m right turn acceleration lane and 200m taper exists for NB to WB turns.
    - Overall, the existing treatment is near a Type IVb intersection treatment with just some differences between taper and lane lengths however the total being within or exceeding requirements.
- Vehicles on Highway 627 appeared to be traveling at the posted speed limit of 100 km/hr.
- The side slopes seem to be 4:1 or better throughout.
- There is no existing illumination at this location.
- Intersection sight distance from Rge. Rd. 262 onto Hwy. 627:04 is greater than 450m in both east and west directions.



### 3. EXISTING CONDITIONS

#### 3.1 Physical Properties

Highway 627:04 traverses between the Junction of Highway 779 and the City of Edmonton.



Hwy. 627:04 is classified as a Level 3 roadway in accordance with Alberta Transportation's "Provincial Highway Service Classification System". Level 3 roadways typically carry traffic from major generators such as communities and/or resource and developments but with overall shorter travel distances. These roadways provide the connection between Level 4 and Level 2 roadways, and generally serve traffic of an intra regional or inter county nature.





Overall, this local roadway appears to be adequate as a local road in providing access to the proposed development.

In review of the roadway widths during this assessment, various roadway widths were measured on the roads inspected. Local roads in Alberta can vary in widths from 5 to 10m. It is important to determine when roadway widths are sufficient to support the proposed traffic and when there may be concerns. The County Road Standards, tend to relate to new roads that are to be constructed by do not address the numerous existing roads that were built many years ago with lesser levels of service.

