
DRAFT - Summary

Wedgewoods Development – High Level Transportation Review

Introduction:

This is a summary of the high level transportation review for the expansion of the Wedgewoods Development. Howes Technical Advantage Ltd. is providing this review at the request of 28165 Yukon as part of the discussions for a rezoning application¹. Further work will be required as part of the submission to and approval process of the Squamish Lillooet Regional District (SLRD) and the BC Ministry of Transportation and Infrastructure (BC MoTI).

Scope of work:

The current development application has two parts, namely:

- **Part 1:** The expansion of the current development east of Highway 99 with 12 single family housing units.
- **Part 2:** A new area for non-market housing on the west side of Highway 99, consisting of 25 townhouses and 35 apartments. This includes a new private road connecting to make a 4-legged intersection at Riverside Dr and Highway 99.

Assumptions:

The analysis was based on the following assumptions:

- **Reference:** The Wedgemount Subdivision Traffic Assessment by Bunt & Associates, December 2004; 10th edition of the Institute of Transportation Engineers (ITE) Trip Generation Handbook
- **Trip Generation:** Trip generation rates - latest version of the ITE Trip Generation Manual.
- **Development:** 12 single family residences; 25 townhouses; 35 apartments.
- **Alternative modes:** For peak hour movements, all traffic movements will be vehicular.
- **Data:** Referenced BC MoTI permanent count stations on Highway 99. No new data collection due to construction.
- **Time horizons:** 2019 Existing; 2024 Future build out.

Existing Traffic:

The BC MoTI permanent counter south of the site was referenced to develop the Average Annual Daily Traffic (AADT). The 2019 AADT was calculated as 5,680 vehicles per day for Highway 99. The split for northbound and southbound movements is 49% and 51% respectively (referenced from the historical data). The peak hour volumes were calculated assuming a 10% of peak hour traffic and referencing the data in the 2004 Bunt report. The resulting existing traffic volumes are shown in **Figure 1**.

Site Traffic:

Trip Generation: The 10th edition of the Institute of Transportation Engineers (ITE) Trip Generation Handbook was used with the general urban suburban rate for all categories. [This represents a more conservative approach as this is the highest rate for this category]. The site trips for the AM and PM peak hour were developed by applying the trip generation rates to the number of units per area. Using these rates, the trips generated are summarized in **Table 1**.

¹ Disclaimer: This Summary Review has been prepared by Howes Technical Advantage Ltd. for 28165 Yukon to be used for information only by the homeowners in Wedgewoods, Whistler, BC. During the rezoning process, a more detailed review will be provided for use by the Squamish Lillooet Regional District (SLRD) and the British Columbia Ministry of Transportation and Infrastructure (BC MoTI) as part of the approval process. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Decisions made or actions taken as a result of our work shall be the responsibility of the parties directly involved in the decisions or actions.

Table 1: Summary of Site Trips

| DESCRIPTION | AM PEAK HOUR | | | PM PEAK HOUR | | | |
|---|--------------|----------|-----------|--------------|----------|-----------|-------|
| | UNITS | TRIPS IN | TRIPS OUT | TRIPS | TRIPS IN | TRIPS OUT | TRIPS |
| APPROVED SITE - EAST SIDE | | | | | | | |
| Single family | 108 | 20 | 60 | 80 | 67 | 40 | 107 |
| NEW TRIPS - EAST SIDE - Part 1 | | | | | | | |
| Single family | 12 | 2 | 7 | 9 | 8 | 4 | 12 |
| NEW TRIPS - WEST SIDE - Part 2 | | | | | | | |
| Multifamily Housing (Low Rise) | 60 | 7 | 21 | 28 | 21 | 13 | 34 |
| NEW TRIPS - TOTAL Part 1+ Part 2 | | | | | | | |
| Single family | 12 | 2 | 7 | 9 | 8 | 4 | 12 |
| Multifamily Housing (Low Rise) | 60 | 7 | 21 | 28 | 21 | 13 | 34 |
| | 72 | 9 | 28 | 37 | 29 | 17 | 46 |

The estimated new site two-way trips are **37** in the AM peak hour and **46** in the PM peak hour.

Trip Distribution: It was assumed that 70% of the trips will be travelling to and from the south with 30% travelling to and from the north. The approved site traffic trips are shown in **Figure 2**; the new site traffic trips for Part 1 (East side) are shown in **Figure 3** and the new site traffic trips for Part 2 (West side) are shown in **Figure 4**.

Future Background Traffic:

The Background traffic for 2024 was developed using a 4% growth rate on the existing traffic from 2019 to 2024. This is conservative as this growth rate is marginally higher than the 3% growth rate experienced over the last two years. The total increase is 20% over the five year period. In addition, the approved site traffic that is part of the existing Wedgewood development was added to the Background traffic. The resulting Future Background traffic volumes are shown in **Figure 5**.

Future Total Traffic (2024):

The Future Total Traffic for Part 1 (East side) was developed using the Future Background total traffic for 2024 and adding the new site trips for Part 1 (East side) only. The resulting Future Total traffic volumes for Part 1 are shown in **Figure 6**. The Total Future traffic volumes for 2024 (Part 1 and Part 2) were developed by using the Future Background total traffic for 2024 and adding the total new site trips. The resulting Future Total traffic volumes are shown in **Figure 7**.

Future Total Conditions (2024):

The future intersection conceptual layout is shown in **Attachment 1**. The future total traffic operation for the intersection of Highway 99 and Riverside Drive was analyzed using the worst case scenario - the PM Peak hour. The intersection operates well as an unsignalized intersection with some minor delays to the side streets. All movements are Level of Service C or better².

It is likely with the redevelopment, transit access and trail connections in the area, there will be a future demand for signals for pedestrians crossing Highway 99. A full signal was analyzed as well. While this does increase delay to the through traffic, the intersection operates well. All movements were Level of Service B or better. Based on the intersection location and proposed land use, it may be appropriate to consider full signalization of the intersection. This will provide a more robust solution for the longer term. A full signal will require advance warning flashers based on the highway geometry and the isolated location of the intersection.

It is proposed that further discussion on the proposed traffic control be undertaken with the BC MoTI and SLRD as part of the rezoning process.

² Operations of roadway facilities are described in terms of Level of Service (LOS). LOS is a qualitative description of traffic flow based on factors such as speed, travel time, delay, and freedom to manoeuvre. Six service levels are defined ranging from LOS A, the best operating conditions, to LOS F, the worst operating conditions.

Figure 1: Existing Traffic Volumes (Calculated for 2019)

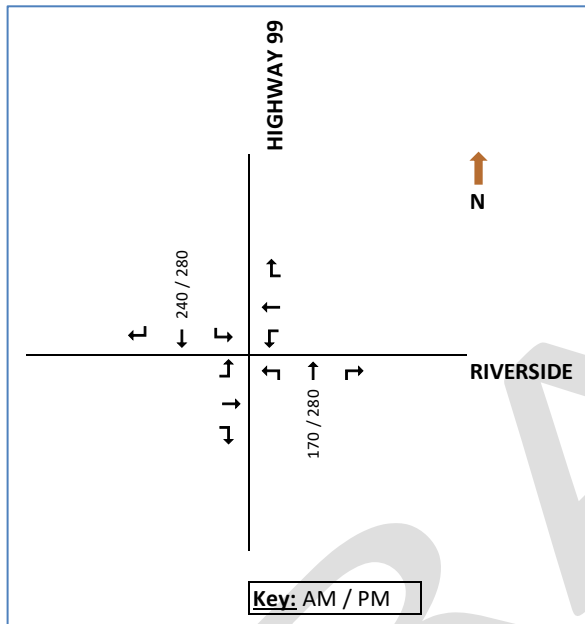


Figure 3: New Site Traffic Volumes - Part 1 (East side)

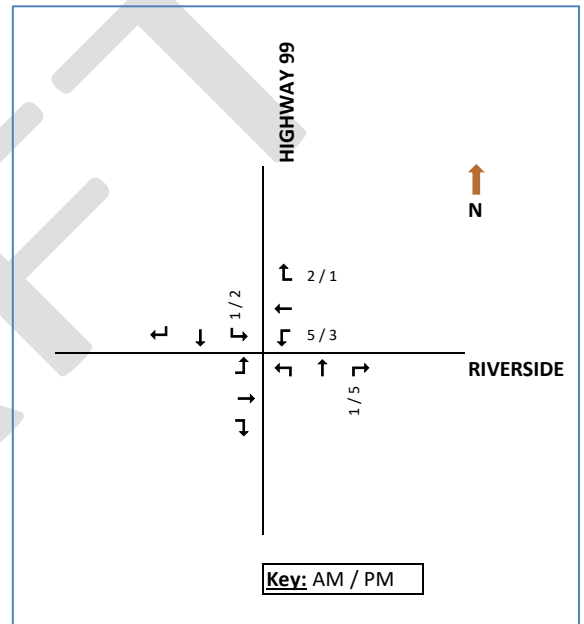


Figure 2: Approved Site Traffic Volumes

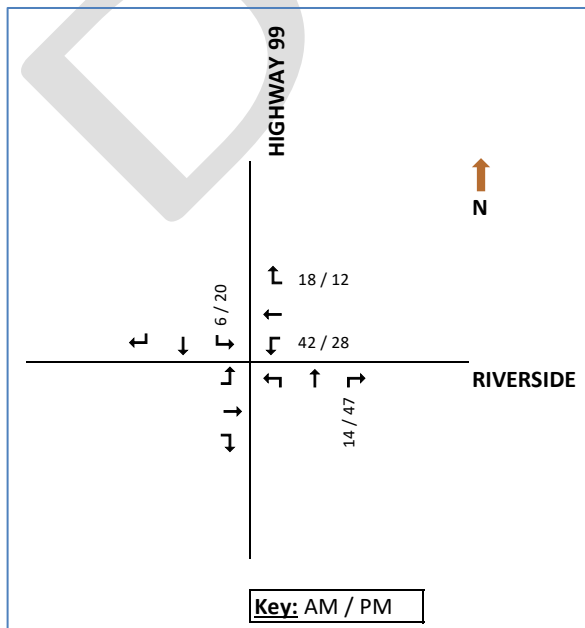


Figure 4: New Site Traffic Volumes - Part 2 (West side)

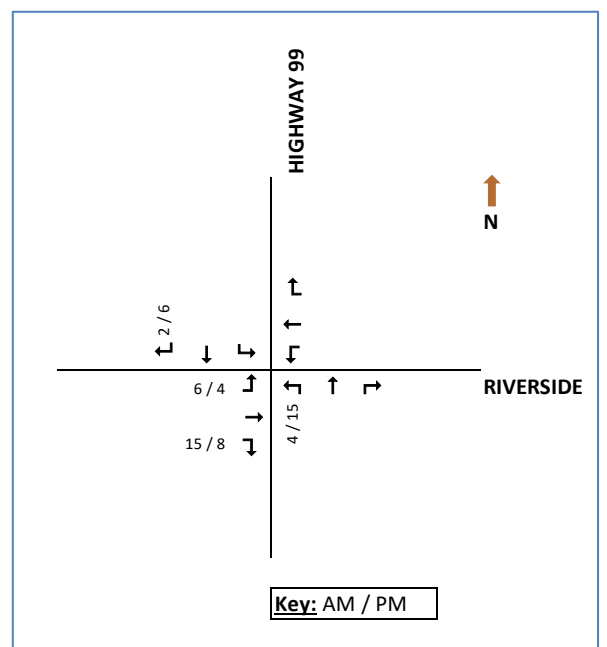


Figure 5: Future Background Traffic (2024)

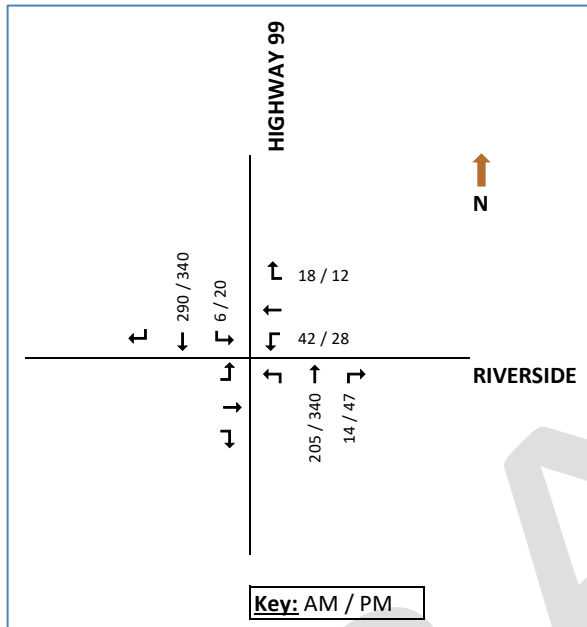


Figure 7: Future Total Traffic (2024)

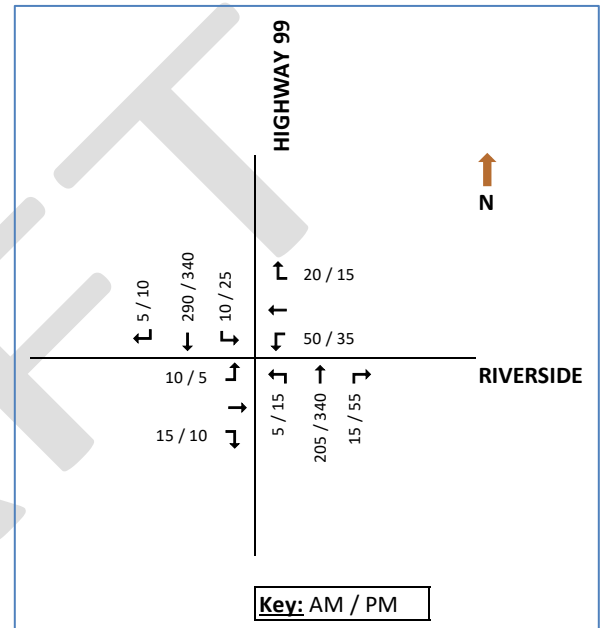
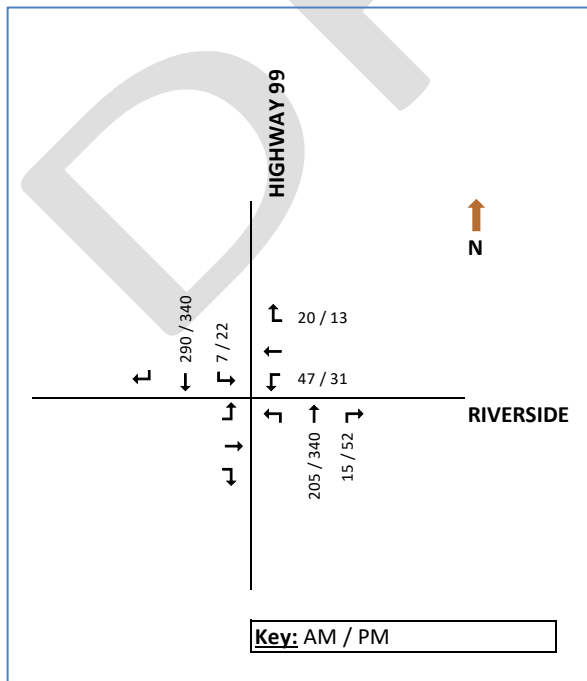
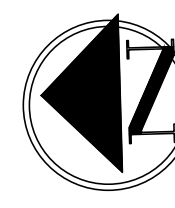


Figure 6: Future Total Traffic (2024) - Part 1 (East side)



ATTACHMENT 1
Future Intersection Conceptual Layout

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SL 8
9028

SL 5
9001

REFERENCE PLAN

RIVERSIDE DR.

HIGHWAY 99

REFERENCE PLAN 4247

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Wedgewoods

Intersection & Highway Bus Bays

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