# 729-753 Ridgewood Ave

## Transportation Impact Assessment Report

## January 2024

Prepared for:

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## TIA Plan Reports

On 14 June 2017, the Council of the City of Ottawa adopted new Transportation Impact Assessment (TIA) Guidelines. In adopting the guidelines, Council established a requirement for those preparing and delivering transportation impact assessments and reports to sign a letter of certification.

Individuals submitting TIA reports will be responsible for all aspects of development-related transportation assessment and reporting, and undertaking such work, in accordance and compliance with the City of Ottawa's Official Plan, the Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines.

By submitting the attached TIA report (and any associated documents) and signing this document, the individual acknowledges that s/he meets the four criteria listed below.

**CERTIFICATION**

1. I have reviewed and have a sound understanding of the objectives, needs and requirements of the City of Ottawa's Official Plan, Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines;
2. I have a sound knowledge of industry standard practice with respect to the preparation of transportation impact assessment reports, including multi modal level of service review;
3. I have substantial experience (more than 5 years) in undertaking and delivering transportation impact studies (analysis, reporting and geometric design) with strong background knowledge in transportation planning, engineering or traffic operations; and
4. I am either a licensed[1] or registered[2] professional in good standing, whose field of expertise [check √ appropriate field(s)] is either transportation engineering ☑ or transportation planning ☐.

[1,2] **License of registration body that oversees the profession is required to have a code of conduct and ethics guidelines that will ensure appropriate conduct and representation for transportation planning and/or transportation engineering works.**

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Signature of Individual certifier that s/he meets the above four criteria

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# DOCUMENT CONTROL PAGE

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# TIA REPORT

Parsons has been retained by Brigil Construction to prepare a TIA in support of a Site Plan Application (SPA) for a residential development located at 729-753 Ridgewood Ave. This document follows the new TIA process, as outlined in the City Transportation Impact Assessment (TIA) Guidelines (2017). The following report represents Step 5 – TIA Report, which addresses City comments and an updated Site Plan.

## 1. Screening Form

The screening form confirmed the need for a TIA Report based on the Trip Generation trigger and the Safety trigger. Trip Generation module is triggered given that the proposed development is anticipated to generate more than 60 person trips. Safety module is triggered given that the proposed development access is located less than 150 meters from the signalized intersection of Riverside/Ridgewood. The Location module was not triggered. The Screening Form has been provided in **Appendix A** along with responses to City comments.

## 2. Scoping Report

### 2.1. Existing and Planned Conditions

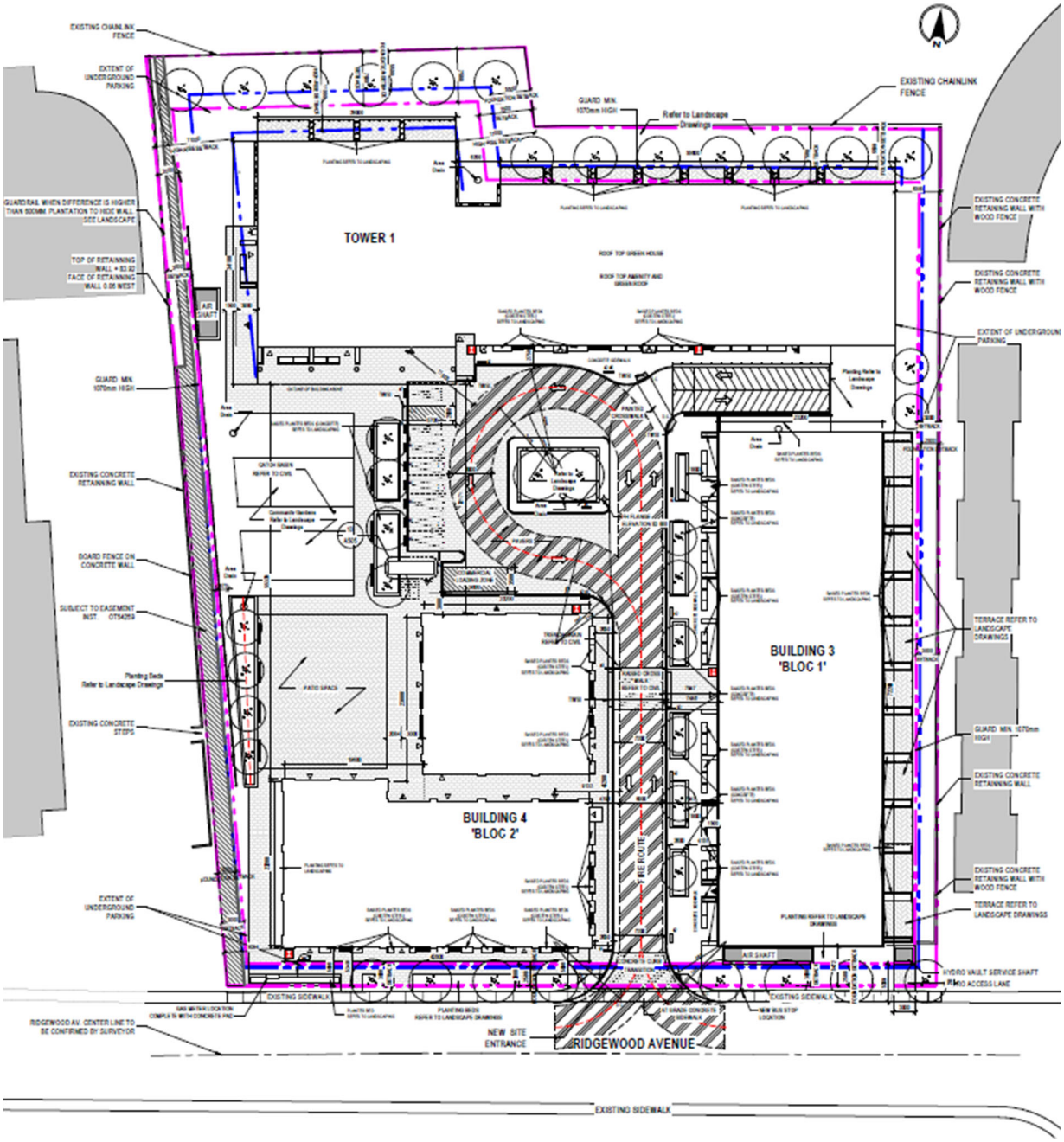
#### 2.1.1. PROPOSED DEVELOPMENT

The proposed site is located at the combined addresses of 729 & 753 Ridgewood Ave and will be composed of five apartment buildings that are 4 to 20-storeys high and consist of 443 residential units and 587 m$^2$ (6,823 ft$^2$) of commercial space, which will be constructed in a single phase by the horizon year 2026. The site is currently occupied by a small shopping center containing a pharmacy, a grocer, and insurance brokers. The site proposes a single driveway access connection to Ridgewood Ave, located near the midpoint of the site frontage. Additionally, the total number of parking spaces proposed are approximately 539 vehicle parking spaces and 226 bicycle parking spaces. The two properties are currently zoned as GM1[2904] S 482, General Mixed-Use Zone. The local context of the site is displayed in **Figure 1** and the proposed Site Plan is shown in **Figure 2**.

Figure 1: Local Context

The proposed development is located within Schedule B3 “Outer Urban Transect” where Riverside Dr is identified as a “Corridor – Mainstreet” and the area surrounding both Riverside Dr and Brookfield Dr are considered as evolving neighbourhoods. The transect is subject to the relevant policies as outlined in Section 5 of the New Official Plan.

Figure 2: Site Plan (Oct 2023)



### 2.1.2. EXISTING CONDITIONS

**Area Road Network**

***Riverside Dr*** is a municipal arterial roadway in Ottawa, that extends from its north terminus at Tremblay Rd and the Hwy 417 EB Off Ramps, to its south terminus at Limebank Rd, where it continues as River Rd until the City's limits. Riverside Dr provides a four-lane cross-section, with auxiliary turn lanes at major intersections. The posted speed limit is 60 km/h.

***Brookfield Rd*** is a municipal major collector roadway in Ottawa, that runs from Bronson Ave in the east to Riverside Dr in the west, where it continues as Hog's Back Rd. The roadway provides a four-lane cross-section. The posted speed limit is 50 km/h.

***Ridgewood Ave*** is a municipal collector roadway in Ottawa, that runs from Springland Dr in the east to Riverside Dr in the west. The roadway provides a two-lane cross-section with space for on-street parking. The posted speed limit is 40 km/h.

***Springland Dr*** is a municipal collector roadway in Ottawa, that runs from Walkley Rd in the south to the VIA Rail tracks in the northeast, where it reaches a dead end. The roadway provides a two-lane cross-section. The posted speed limit is 40 km/h.

***Flannery Dr*** is a municipal collector roadway in Ottawa, that runs from Springland Dr in the south to Brookfield Rd in the north. The roadway provides a two-lane cross-section. The posted speed limit is 50 km/h.

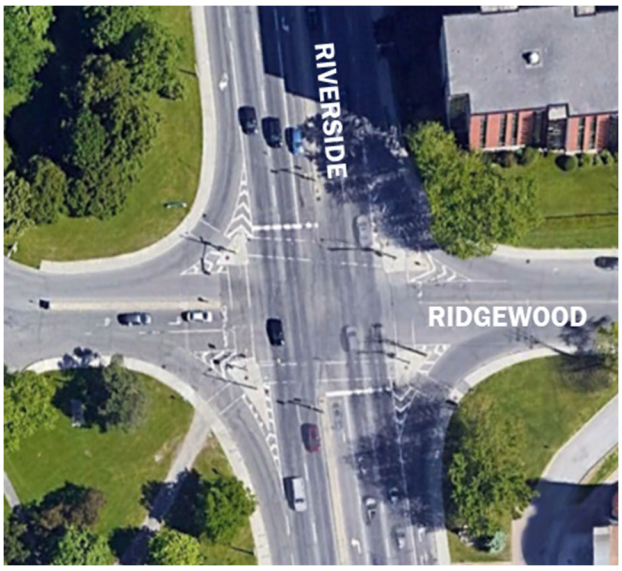
**Existing Study Area Intersections**

Riverside/Brookfield

The Riverside/Brookfield intersection is a four-legged signalized intersection. The northbound and southbound approaches consist of a left-turn lane, a channelized right-turn and three through-lanes. The eastbound and westbound approaches consist of a left-turn lane, a channelized right-turn, and a single through-lane. All movements are permitted at this intersection.

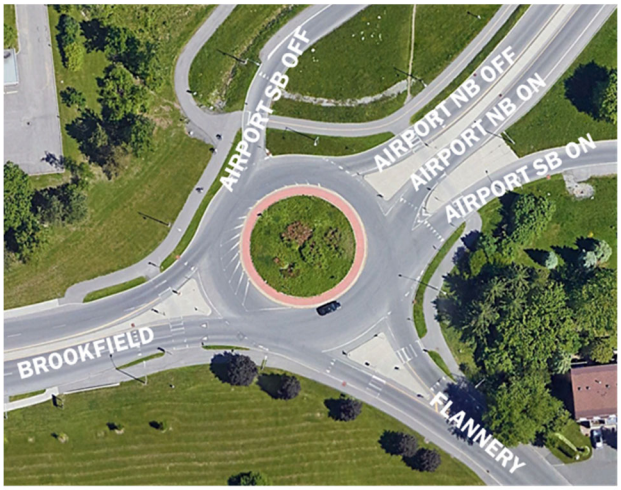
### Riverside/Ridgewood

The Riverside/Ridgewood intersection is a four-legged signalized intersection. The north and south legs of the intersection provide a left-turn lane, a channelized right turn lane and two through lanes. The eastbound approach provides a left-turn lane, a channelized right-turn and one through-lane. The westbound approach provides a shared left/through lane and a channelized right-turn. All movements are permitted at this location.




### Brookfield/Flannery

The Brookfield/Flannery intersection is a roundabout intersection with two conventional legs and two sets of on-off ramps from Airport Pkwy. The west leg consists of two entry lanes and one exit lane that widens to two lanes. The south leg consists of a single in and out lane. The north and east legs consist of two on and two off single lane ramps that connect to Airport Pkwy.




### Springland/Flannery

The Springland/Flannery intersection is a four-legged all-way stop controlled intersection. All of the approaches consist of a single all movement lane. All movements are permitted at this location.


### Springland/Ridgewood

The Springland/Ridgewood intersection is a three-legged all-way stop controlled intersection. The northbound, southbound and eastbound approaches each consist of a single all movement lane. There is an access on the east leg of the intersection for a driveway loop used for pick-up/drop-off at a residential building. All movements are permitted at this location.

## Existing Driveways to Adjacent Developments

As shown highlighted red in **Figure 3**, there are several adjacent driveways within 200 m of the proposed sites driveways.

Figure 3: Adjacent Driveways


- Ridgewood Avenue North Side
  - 2951 Riverside Dr: a full access driveway for a residential building is located approximately 70 meters west of the proposed site access.
  - 757A Ridgewood Ave: full access to a residential building's underground parking garage is located approximately 70 meters east of the proposed site access.
- Ridgewood Avenue South Side
  - 2975 Riverside Dr: three full access driveways to the St. Elias Cathedral parking are located approximately 6, 65 and 100 meters west of the proposed site access.
  - 770 Ridgewood Ave: full access driveway to a single private residency driveway is located approximately 100 meters east of the proposed site access.
  - 778 Ridgewood Ave: full access driveway to a single private residency driveway is located approximately 120 meters east of the proposed site access.

## Existing Area Traffic Management Measures

Below are the existing area traffic management measures within the study area, which have been identified using Google Earth and street view:

- Channelized right-turns at all Riverside Dr intersections;
- On-street parking on Ridgewood Ave and Springland Dr;
- "MAX 40 km/h" pavement markings along Springland Dr;
- Chicane and flashing pedestrian signs provided at some of the Brookfield/Flannery roundabout legs.

## Pedestrian/Cycling Network

Pedestrian sidewalk facilities are provided on both sides of the roadways throughout the study area, except for an approximate 250 m segment along Springland Dr between Hobson Rd and Flannery Dr where only a south sidewalk is provided.

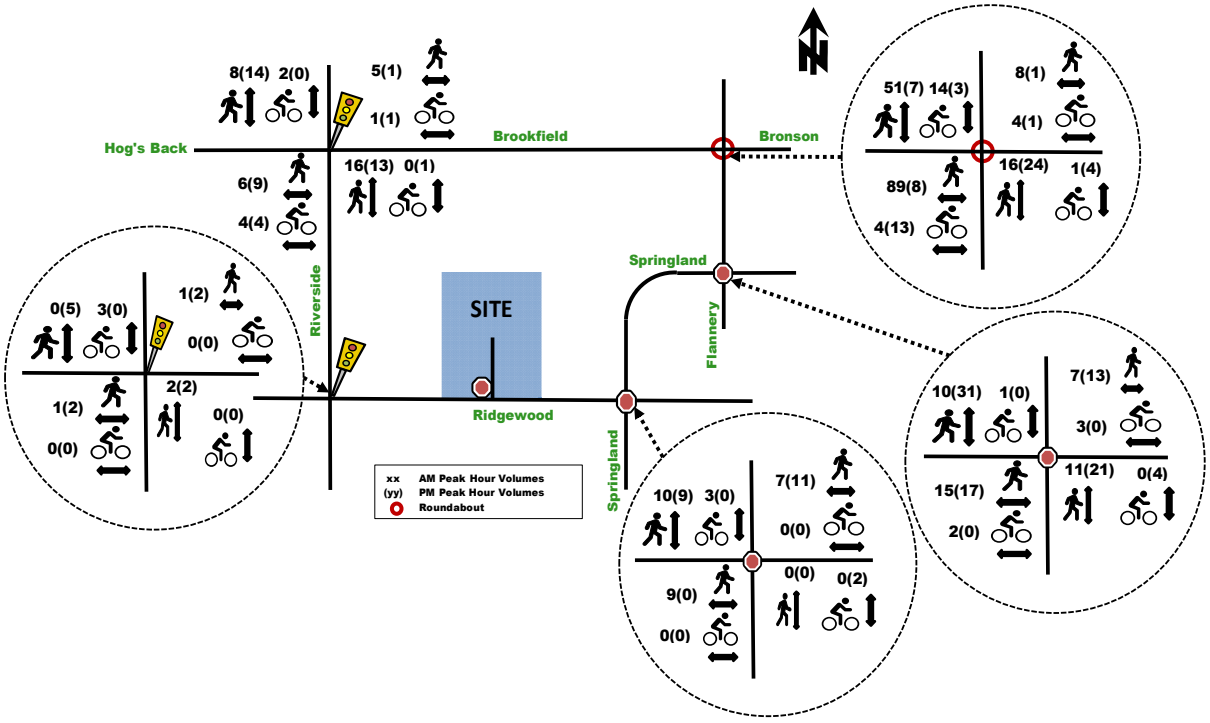
With regards to cycling, the Transportation Master Plan update (2023) designates Riverside Dr as a Crosstown Bikeway from Bank St, through the study area to Uplands Dr. A pathway on the south side of Brookfield Rd was converted to a Multi-Use Pathway (MUP) in 2020, which extends to the existing MUP on the south side of Hog's Back Rd and connects to the NCC's Rideau River Eastern Pathway system. Existing pathways west of Ridgewood throughout Mooney's Bay Park and Beach also provides another connection point to the Rideau River Eastern Pathway system.

A network of cycle-tracks and pathways can be accessed from the Brookfield/Flannery roundabout which include the Brookfield Pathway which extends east providing connection to Junction Ave and Brookfield Rd E, Sawmill Creek Pathway which extends southeast along the airport parkway and future LRT south extension line, and unidirectional curbside bike lanes on both sides of Airport Pkwy north of the roundabout. Curbside bike lanes are also provided for small sections on the north side of Brookfield Rd and along both sides of Riverside Dr.

**Figure 4** illustrates the existing pedestrian and cycling facilities in the surrounding road network and **Figure 5** shows the existing active transportation volumes at study area intersections.

Figure 4: Existing Pedestrian and Cycling Facilities

Figure 5: Existing Active Transportation




## Transit Network

The transit network for the study area is illustrated in **Figure 6**, with nearby bus stops illustrated in **Figure 7**. The transit route maps are provided in **Appendix B**. The following OC Transpo routes currently operate within the study area:

- **Route #90 (Greenboro <-> Hurdman)**: identified by OC Transpo as a "Frequent Route", this route operates at a high frequency along major roads and provides connectivity to Trillium Line 2 LRT and Confederation Line 1 LRT. Route #90 operates 7 days a week, at an average rate of every 15 minutes or less during weekday peak hours. Bus stops for this route are available on both sides of Ridgewood Ave, at the frontage of the site.
- **Route #190 (Mooney's Bay <-> Hurdman)**: identified by OC Transpo as a "Local Route", this route operates on customized routing and schedules, to serve local destinations. Route #190 operates twice a day. The nearest bus stop for this route is available along the site frontage.
- **Route #290 (McCarthy <-> Hurdman)**: identified by OC Transpo as a "Connexion Route", this route operates on customized routing and schedules, to provide convenient connections to and from the LRT. Route #290 operates during weekday peak hours only. Bus stops for this route are available on both sides of Springland Dr less than 250 meters east of the site.
- **Route #640 (Brookfield <-> South Keys)**: identified by OC Transpo as a "school Route", this route operates on customized routing and schedules, to provide convenient connections to and from the Brookfield High School. Route #640 operates during weekday school peak hours only. Bus stops for this route are available on both sides of Springland Dr less than 115 meters east of the site.

The two bus stops along the north and south side of Ridgewood Dr illustrated in **Figure 7** have since been relocated approximately 90 m east directly in front of the site. The north side bus stop will be located on the east side of the site access and consists of a flag post bus stop sign while the south side stop consists of a bus shelter and bus stop sign.

Figure 6: Area Transit Network

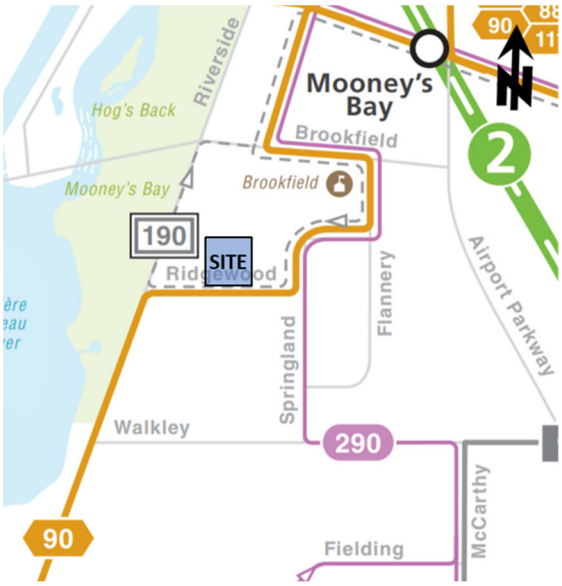
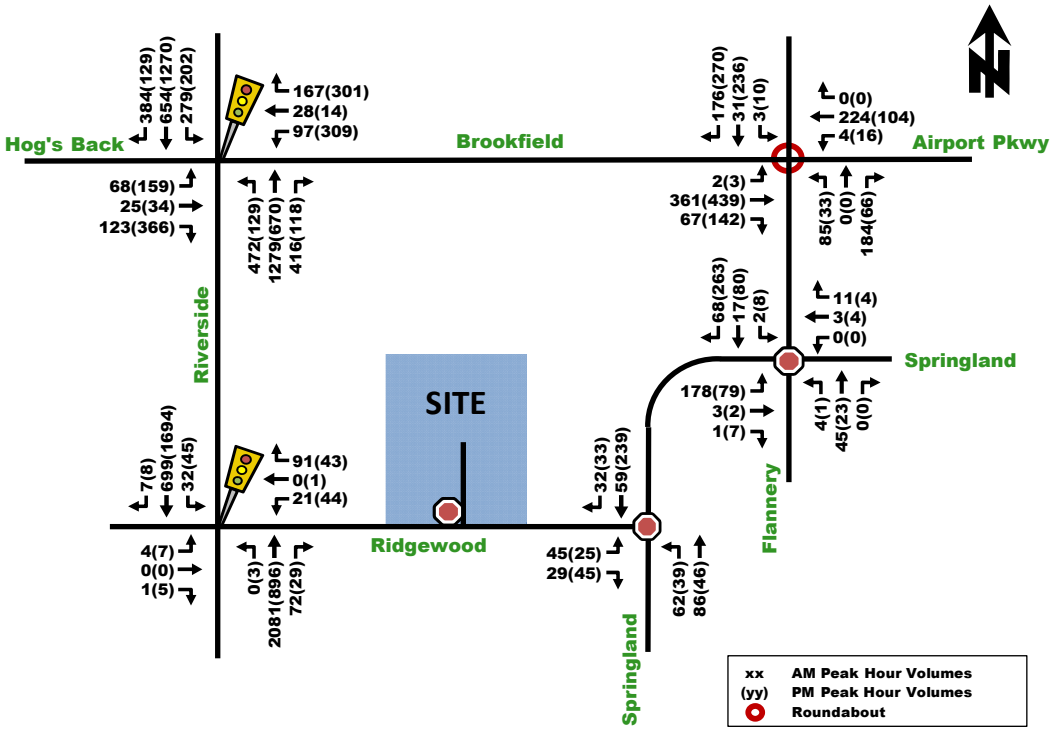



Figure 7: Bus Stop Locations


## Peak Hour Travel Demands

The existing peak hour traffic volumes within the study area, as illustrated in **Figure 8,** were obtained from the City of Ottawa. The peak hour traffic volume count data has been provided in **Appendix C**.

Figure 8: Existing Peak Hour Traffic Volumes




## Existing Road Safety Conditions

A five-year collision history data (2015-2019, inclusive) was requested and obtained from the City of Ottawa for all intersections and road segments within the study area. Upon analyzing the collision data, the total number of collisions observed within the study area was determined to be 120 collisions within the five-year period. Of the

total collisions, 96 (80%) resulted in property damage only, while the remaining collisions resulted in a non-fatal injury. Furthermore, the type of impacts that resulted in 120 collisions were broken down into the following: 82 (68%) rear end, 18 (15%) sideswipes, 14 (12%) turning movement, 4 (3%) angled, and 2 (2%) other.

As per the City of Ottawa TIA Guidelines, a collision pattern exists at a given location when more than 6 collisions occur for any one type of impact, maneuver, or driver action. Within the study area, the quantity of collisions and length of mid-block segments at each location are as follows:

- Riverside/Brookfield: 68
- Riverside/Ridgewood: 17
- Riverside/Mooney's Bay: 13
- Mid-block Riverside Dr, Hog's Back Rd to Ridgewood Ave: 16, (310 m)
- Mid-block Riverside Dr, Bayport Priv to Mooney's Bay Pl: 2, (90 m)
- Mid-Block Ridgewood Ave, Dupont St to Riverside Dr: 2 (110 m)
- Mid-block Riverside Dr, Ridgewood Ave to Bayport Priv: 2, (125 m)

Of the total collisions within the study area, the following notable patterns were observed:

- At the intersection of Riverside/Mooney's Bay, 7 of the collisions were a result of rear ends in the north direction. While there are greater than 6 collisions, there are no indications of major safety concerns at the intersection and may just be the result of high volume of traffic along Riverside Dr.
- At Riverside/Ridgewood, 9 of the collisions were a result of rear ends in the north direction. While there are greater than 6 collisions, there are no indications of major safety concerns at the intersection and may just be the result of high volume of traffic along Riverside Dr.
- At the intersection of Riverside/Brookfield, 16, 13 and 10 rear end collisions occurred in the north, south and east directions respectively, along with 8 turning movement collisions between the eastbound left-turns and westbound through. The rear end collisions may be a reflection of the relatively high traffic volumes on all approaches of the intersection. In the eastbound direction, there may be some sudden braking resulting from the curving of Hog's back Rd prior to reaching the intersection. The turning movement collisions may be the result of the long distance of approximately 35m for EBL vehicles to clear the intersection, causing EBL vehicles to stay longer in the intersection and increasing the likelihood of collisions.

Other collisions within the study area include:

- 22 collisions in mid-block sections, with 16 of them occurring between Brookfield Rd and Ridgewood Ave on Riverside Dr.
- There was one collision in 2019 that involved a pedestrian. The collision occurred on Ridgewood Ave, between Riverside Dr and Dupont St, which resulted in property damage only.
- 3 collisions involving cyclists, 2 occurring at Riverside/Brookfield intersection and 1 at Riverside/Ridgewood. All collisions resulted in non-fatal injury.

In addition to the previous analysis, the 2020-2021 collision history data was also reviewed. The total number of collisions that occurred was determined to be 30 collisions within the two-year period. Of the total collisions, 22 (73%) resulted in property damage only while the other 8 (27%) resulted in non-fatal injuries. Furthermore, the types of impacts of the 30 collisions resulted from 14 (46%) rear ends, 8 (27%) sideswipes, 3 (10%) turning movements, 3 (10%) SMV other, and 2 (7%) angled collisions. The collisions occurred at the following locations:

- Riverside/Brookfield: 15
- Riverside/Ridgewood: 3
- Riverside/Mooney's Bay: 5
- Mid-block Riverside Dr, Hog's Back Rd to Ridgewood Ave: 4, (310 m)
- Mid-block Riverside Dr, Bayport Priv to Mooney's Bay Pl: 1, (90 m)
- Mid-Block Ridgewood Ave, Dupont St to Riverside Dr: 2 (110 m)

Of the collisions that occurred during the 2020-2021 time period, there were no identifiable patterns based on the aforementioned occurrence rate of 6 collisions.

The source collision data as provided by the City of Ottawa and related analysis is provided as **Appendix D**.

### 2.1.3. PLANNED CONDITIONS

#### Planned Study Area Transportation Network Changes

The City of Ottawa Transportation Master Plan (TMP) does not indicate any future changes to the surrounding transit or active transportation network with regards to the 2031 affordable network plan. However, the Transit Network - Ultimate plan illustrates Riverside Dr as a transit priority corridor with isolated measures between Hunt Club Rd and Heron Rd.

Additionally, while outside of the study area of this project, the Stage 2 LRT is currently underway and will include a south extension that will extend the Trillium line LRT corridor to Limebank and is expected to be completed in 2024. The existing Mooney's Bay Station along the transitway will be converted to an LRT Station and is located within 1km radius of the development site.

#### Other Area Developments

The following section outlines adjacent developments in the surrounding area that were considered in the TIA. Using the City of Ottawa's Development Application Search tool, the following development applications have been identified in the study area.

**740 SPRINGLAND DR**

Norberry Residences is proposing an extension to the existing residential complex. The extension would comprise of three 4.5-storey buildings with a total of 231 new units. A TIA prepared by Castleglenn Consultants projects two-way vehicle trips of approximately 85 and 93 veh/h during the AM and PM peak hours respectively. This development is anticipated to be fully constructed prior to the construction of the 729 Ridgewood Ave development.

**770 BROOKFIELD RD**

Hobin Architecture is proposing a mixed-use development consisting of 13,600 $ft^2$ of commercial retail and 808 apartment units. A TIA prepared by Parsons projects two-way vehicle trips of approximately 95 to 120 veh/h during the AM and PM peak hours respectively. This development is anticipated to be fully constructed prior to the construction of the 729 Ridgewood Ave development.

**3071 RIVERSIDE DR**

Canoe Bay Development Inc is proposing a senior's home development, with two 3-storey mixed-use building, a 6-storey retirement complex, townhouses and low-rise apartment dwellings. The development will consist of 110 residential units, 513 senior/retirement units and 21,795 $ft^2$ of retail space. This development is anticipated to be fully constructed prior the construction of the 729 Ridgewood Ave development.

## 2.2. Study Area and Time Periods

The proposed site is a residential development that is planned to be constructed by 2026. As such, the horizon years being analyzed in this report are the 2026 and 2031 (five-years after full buildout) horizon years, using the weekday morning and afternoon peak hour time periods. Proposed study area intersections and boundary roads are outlined below and highlighted in Figure 9.

- Riverside/Brookfield/Hog's Back intersection;
- Riverside/Ridgewood intersection;
- Brookfield/Flannery intersection;
- Springfield/Flannery intersection;
- Springfield/Ridgewood intersection;
- Along Ridgewood Drive adjacent to the site;

Figure 9: Study Area


## 2.3. Exemption Review

The following modules/elements of the TIA process are recommended to be exempt in the subsequent steps of the TIA process, based on the City's TIA guidelines and the subject site:

Table 1: Exemptions Review Summary

| Module | Element | Exemption Consideration |
|---|---|---|
| 4.1 Development Design | 4.1.3 New Street Networks | Only required for Plans of Subdivision. |
| 4.8 Network Concept | All elements | Only required if proposed development is anticipated to generate more than 200 person-trips over the permitted zoning. |

# 3. Forecasting Report

## 3.1. Development Generated Travel Demand

### 3.1.1. TRIP GENERATION AND MODE SHARES

**Existing Development Trips**

As mentioned previously, the site is currently occupied by a strip mall consisting of a grocery store, a pharmacy and insurance brokers, which generate trips for the site in existing conditions. These trips are accounted for as they reduce the number of 'new' trips that would be generated by the proposed development at this site. Note that, using google maps street view, it was determined that the grocery store has been closed since at least 2019. Most counts used for this study (provided in **Appendix C**) are dated 2019 and 2020, as such, they are assumed to already exclude any would be trips of the grocery store. For the remainder of the strip mall, the ITE Trip Generation Manual (11th edition) can be used to obtain trip rates.

The "Shopping Centre" land use from the ITE Manual has been assumed to encompass the remaining land uses of the strip mall. However, this would result in an overly conservative estimate of trips, as the strip mall is relatively old and consists of specialty stores that would not generate a large number of trips at once. For this reason, the shopping centre trip rates have been reduced by 50% as shown in **Table 2**.

Table 2: Existing Strip Mall Trip Rate Adjustment

| Land Use | Data Source | Trip Rates | |
|---|---|---|---|
| | | AM Peak Hour | PM Peak Hour |
| Shopping Centre | ITE 820 | T = 0.94(x); | T = 3.81(x); |
| Shopping Centre 50% | | T = 0.47(x); | T = 1.90(x); |
| *Notes:* *T = Average Vehicle Trip Ends* *x = Gross Floor Area (GFA) (1000 ft²)* | | | |

The gross floor area used for the strip mall was determined using the GeoOttawa measuring tool, as shown in **Figure 10**, which indicates a total area of approximately 15,500 ft².

Figure 10: Existing Strip Mall Gross Floor Area


Using the total gross floor area and the readjusted shopping centre trip rates, the person trips generated by the existing strip mall can be calculated. Note that the trip rates are multiplied by a factor of 1.28, as per TIA standards, to account for typical North American auto occupancy values of approximately 1.15 and combined transit and non-motorized modal shares of less than 10%. The resulting total person trips/hour for the existing strip mall are provided in **Table 3**. The inbound and outbound percentages were also obtained from the ITE Manual.

Table 3: Existing Strip Mall Person Trips

| Land Use | Area (ft²) | AM Peak (Person Trips/h) | | | PM Peak (Person Trips/h) | | |
|---|---|---|---|---|---|---|---|
| | | In (62%) | Out (38%) | Total | In (48%) | Out (52%) | Total |
| Shopping Centre | 15,500 | 5 | 4 | 9 | 18 | 20 | 38 |

As such, the strip mall is assumed to generate a total of 9 and 38 person trips during the morning and afternoon peak hours respectively.

## Proposed Development Trips

The proposed development will consist of 443 residential units within 4 to 20-storey high apartment buildings, as well as 587 m² (6,323 ft²) of commercial space.

## Commercial Trips Generated

Appropriate Trip Generation rates for the commercial land use were obtained from the ITE Trip Generation Manual (11th edition), assuming "Shopping Centre" land use. The trip rates for the commercial land use are summarized in **Table 4**.

Table 4: Commercial Trip Generation Trip Rates

| Land Use | Data Source | Trip Rates | |
|---|---|---|---|
| | | AM Peak Hour | PM Peak Hour |
| Shopping Centre (commercial space) | ITE 820 | T = 0.94(x); | T = 3.81(x); |
| *Notes:* *T = Average Vehicle Trip Ends* *x = Gross Floor Area (GFA) (1000 ft²)* | | | |

Person trips per hour for the commercial land use are calculated directly using the trip rates shown in **Table 4** and multiplied by a factor of 1.28, as per TIA standards, to account for typical North American auto occupancy values of approximately 1.15 and combined transit and non-motorized modal shares of less than 10%. The resulting total person trips/hour for the commercial space of the proposed development are provided in **Table 5.** The inbound and outbound percentages were also obtained from the ITE Manual.

Table 5: Commercial Space Peak Hour Person Trip Generation

| Land Use | Area (ft²) | AM Peak (Person Trips/h) | | | PM Peak (Person Trips/h) | | |
|---|---|---|---|---|---|---|---|
| | | In (62%) | Out (38%) | Total | In (48%) | Out (52%) | Total |
| Shopping Centre (commercial space) | 6,323 | 4 | 4 | 8 | 14 | 17 | 31 |

For simplicity, the assumed existing strip mall person trips in **Table 3** can be subtracted from the projected person trips of the commercial land use, resulting in a 'net' number of trips generated by the "Shopping Centre" of the proposed development, as shown in **Table 6**.

Table 6: Net New Person Trips of Shopping Centre (Commercial Space)

| Land Use | AM Peak (Person Trips/h) | | | PM Peak (Person Trips/h) | | |
|---|---|---|---|---|---|---|
| | In (62%) | Out (38%) | Total | In (48%) | Out (52%) | Total |
| Shopping Centre (commercial space) | -1 | 0 | -1 | -4 | -3 | -7 |

The net change in estimated commercial trips was found to be negative, as a result of significantly less commercial floor area. For the purpose of this report, it was assumed that the commercial trips will neither add to nor reduce the total number of trips expected to be generated by the development at full buildout.

## Residential Trips Generated

The appropriate trip generation rates for a high-rise apartment land use were obtained from the 2020 TRANS Trip Generation Manual. Table 3 in the Manual provides person-trip rates during the peak AM and PM periods (7am-9:30am and 3:30PM-6PM). The trip rates are summarized in **Table 7** below.

Table 7: Residential Trip Generation Trip Rates

| Land Use | Data Source | Trip Rates | |
|---|---|---|---|
| | | AM Peak Period (7-9:30am) | PM Peak Period (3:30-6pm) |
| High-Rise Apartment Buildings | TRANS 2020 | T = 0.8(du); | T = 0.9(du); |
| *Notes:* *T = Average Vehicle Trip Ends* *du = Dwelling unit* | | | |

Using the trip rates provided in **Table 7**, the total number of person trips generated during the morning and afternoon peak periods can be found in **Table 8**.

Table 8: Apartment Units Peak Period Person Trip Generation

| Land Use | Dwelling Units | AM Peak Period Person Trips | PM Peak Period Person Trips |
|---|---|---|---|
| High-Rise Apartment Buildings | 443 | 354 | 399 |

The proposed development is anticipated to generate 354 and 399 person trips during the morning and afternoon peak periods, respectively. The total peak period person trips in **Table 8** are then divided into different travel modes, as shown in **Table 9**, using mode share percentages obtained from the 2020 TRANS Manual, which is aggregated for the Alta Visa zone.

Table 9: Peak Period Trips Mode Shares Breakdown

| Travel Mode | Mode Share | AM Peak Period Person Trip | Mode Share | PM Peak Period Person Trips |
|---|---|---|---|---|
| Auto Driver | 38% | 134 | 45% | 180 |
| Auto Passenger | 12% | 42 | 16% | 62 |
| Transit | 41% | 148 | 28% | 112 |
| Cycling | 2% | 7 | 2% | 8 |
| Walking | 7% | 23 | 9% | 37 |
| **Total Person Trips** | **100%** | **354** | **100%** | **399** |

Standard traffic analysis is usually conducted using the morning and afternoon peak hour trips as they represent a worst-case scenario. In the 2020 TRANS Manual, Table 4 provides conversions rates from peak period to peak hours for different mode shares. The conversion rates are provided in **Table 10** below.

Table 10: Peak Period to Peak Hour Conversion Factors (2020 TRANS Manual)

| Travel Mode | Peak Period to Peak Hour Conversion Factors | |
|---|---|---|
| | AM | PM |
| Auto Driver and Passenger | 0.48 | 0.44 |
| Transit | 0.55 | 0.47 |
| Cycling | 0.58 | 0.48 |
| Walk | 0.58 | 0.52 |

Using the conversion rates in **Table 10** and the peak period person trips for different travel modes in **Table 9**, the peak hour trips for different travel modes can be calculated as shown in **Table 11**.

Table 11: Peak Hour Trips Mode Share Breakdown

| Travel Mode | AM Peak Hour Trips | PM Peak Hour Trips |
|---|---|---|
| Auto Driver | 64 | 79 |
| Auto Passenger | 20 | 27 |
| Transit | 81 | 53 |
| Cycling | 4 | 4 |
| Walking | 13 | 19 |
| **Total Person Trips** | **183** | **182** |

As shown in **Table 11**, the proposed development is anticipated to generate a total of 183 and 182 person trips during the morning and afternoon peak hours. However, the TRANS mode share assumptions were adjusted to reflect the local context more appropriately, as shown in **Table 12**. It was assumed that the same mode share distribution would occur in the morning and afternoon peak hours.

The transit and walk mode shares were lowered based on the suburban context, and the lack of rapid transit adjacent to the site. The auto-driver mode share was increased accordingly, while the passenger mode share was adjusted to maintain an auto-occupancy factor of approximately 1.20, closer to the city-wide average. Cycling mode share was increased to account for the proximity of major pathways at Mooney's Bay following the Rideau River.

Table 12: Adjusted Mode Share Percentages and Peak Hour Trips

| Travel Mode | Mode Share | AM Peak Hour Trips | PM Peak Hour Trips |
|---|---|---|---|
| Auto Driver | 60% | 109 | 109 |
| Auto Passenger | 12% | 22 | 22 |
| Transit | 20% | 37 | 37 |
| Cycling | 5% | 9 | 9 |
| Walking | 3% | 6 | 5 |
| **Total Person Trips** | **100%** | **183** | **182** |

Inbound and outbound percentages were obtained from Table 9 of the 2020 TRANS Manual and applied to each travel mode in **Table 12** as shown in **Table 13**.

Table 13: Inbound/Outbound Morning and Afternoon Person Trips

| Travel Mode | Mode Shares | AM Peak (Person Trips/h) | | | PM Peak (Person Trips/h) | | |
|---|---|---|---|---|---|---|---|
| | | In (31%) | Out (69%) | Total | In (58%) | Out (42%) | Total |
| Auto Driver | 60% | 34 | 75 | 109 | 63 | 46 | 109 |
| Passenger | 12% | 7 | 15 | 22 | 13 | 9 | 22 |
| Transit | 20% | 11 | 26 | 37 | 22 | 15 | 37 |
| Cycling | 5% | 3 | 6 | 9 | 5 | 4 | 9 |
| Walking | 3% | 2 | 4 | 6 | 3 | 2 | 5 |
| **Total Person Trips** | **100%** | **57** | **126** | **183** | **106** | **76** | **182** |

As shown in **Table 13**, approximately 109 new vehicular trips, 22 auto-passenger trips, 37 new transit trips, 9 new cycling trips, and up to 6 new walking trips are expected for both the morning and afternoon peak hours from the proposed development.

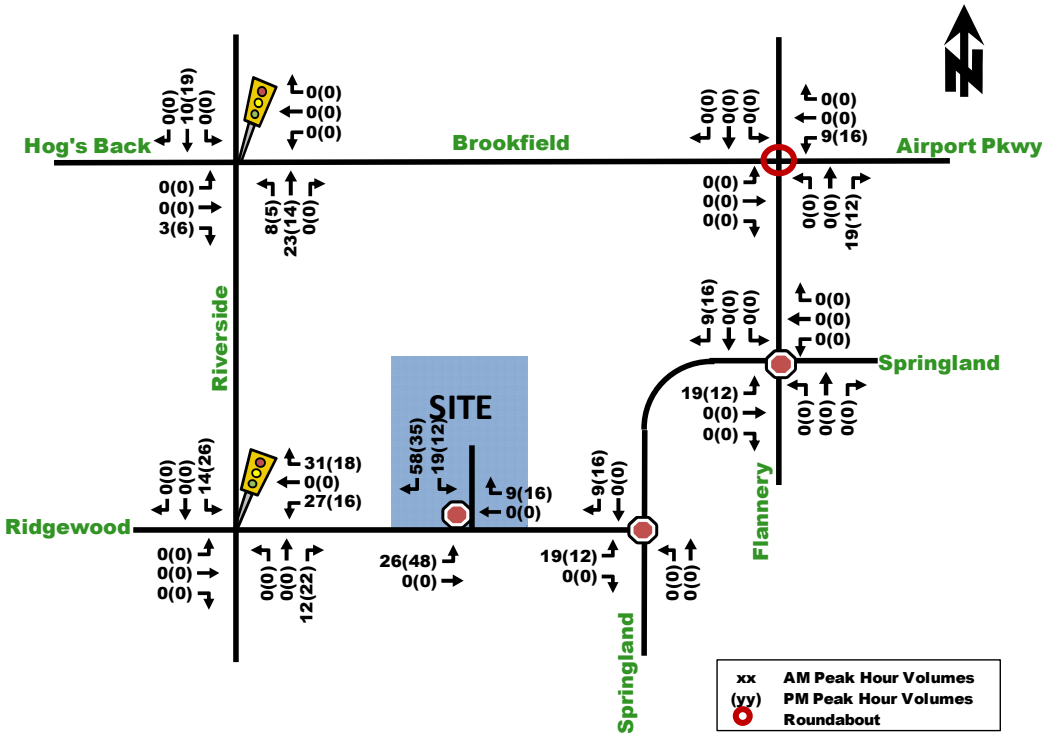
### 3.1.2. TRIP DISTRIBUTION AND ASSIGNMENT

Based on the 2011 OD Survey (Alta Vista district) and the location of adjacent arterial roadways and neighbourhoods, the distribution of site-generated traffic volumes is illustrated in **Figure 11** and was estimated as follows:

Figure 11: Trip Distribution Directional Percentages

The anticipated site-generated auto trips for the proposed development from **Table 13** were then assigned to the road networks as shown in **Figure 12**.

Figure 12: Proposed Development Site-Generated Traffic




## 3.2. Background Network Traffic

### 3.2.1. TRANSPORTATION NETWORK PLANS

Refer to Section 2.1.3: Planned Study Area Transportation Network Changes.

### 3.2.2. BACKGROUND GROWTH

Given that the proposed development will be located in the inner suburbs of the City of Ottawa, traffic along study area roadways is not anticipated to increase drastically within the future horizon years. Nonetheless, a 1% background growth has been applied to Riverside Dr, Hog's Back Rd and Brookfield Rd to account for future traffic increases along these roadways. This is consistent with the approved TIA report for the future 740 Springland Drive development, which also applied a 1% background growth to Riverside Dr. **Figure 13** provides the 2026 future background traffic and **Figure 14** provides the 2031 future background traffic.

Figure 13: Future Background 2026 Traffic Volumes

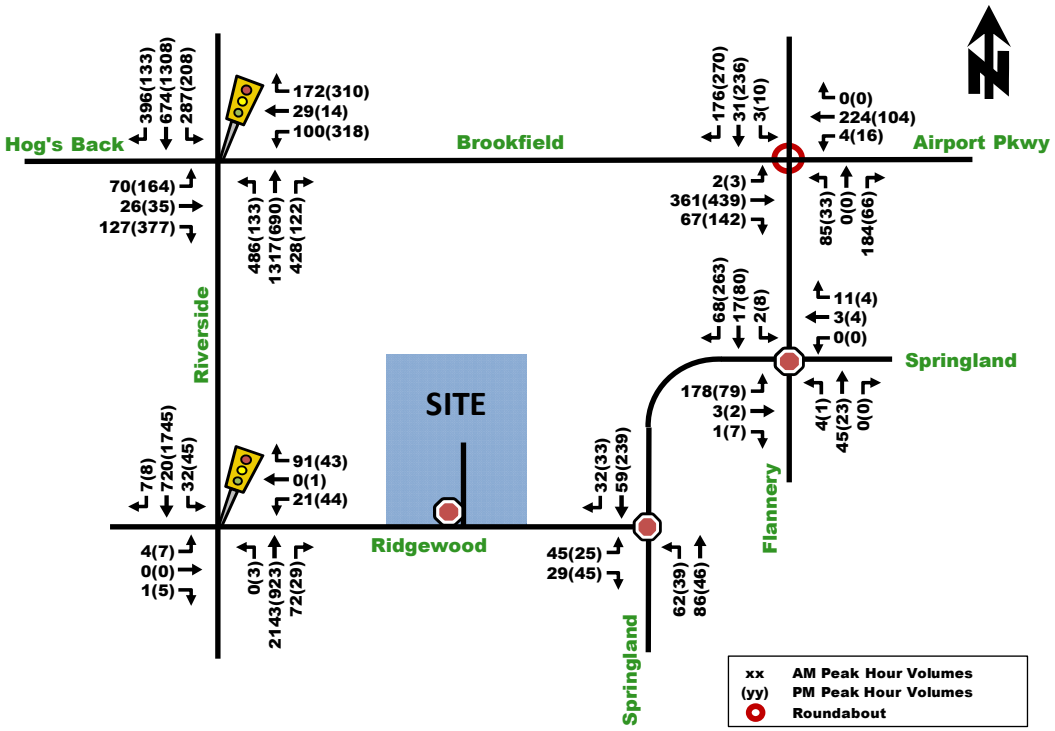
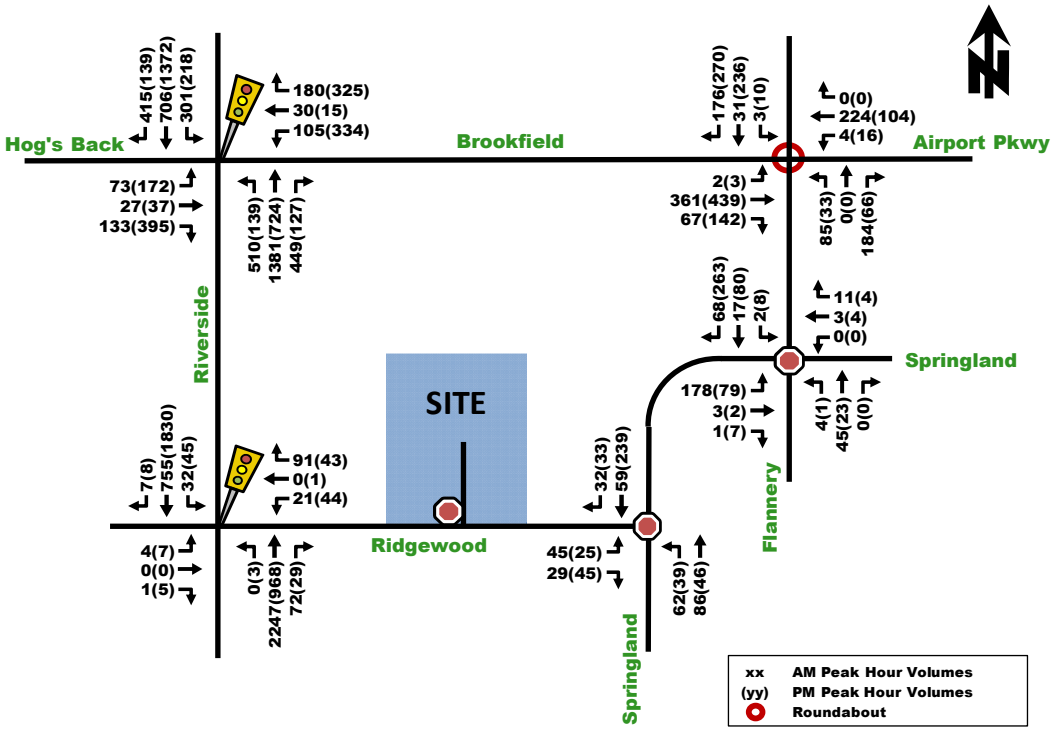


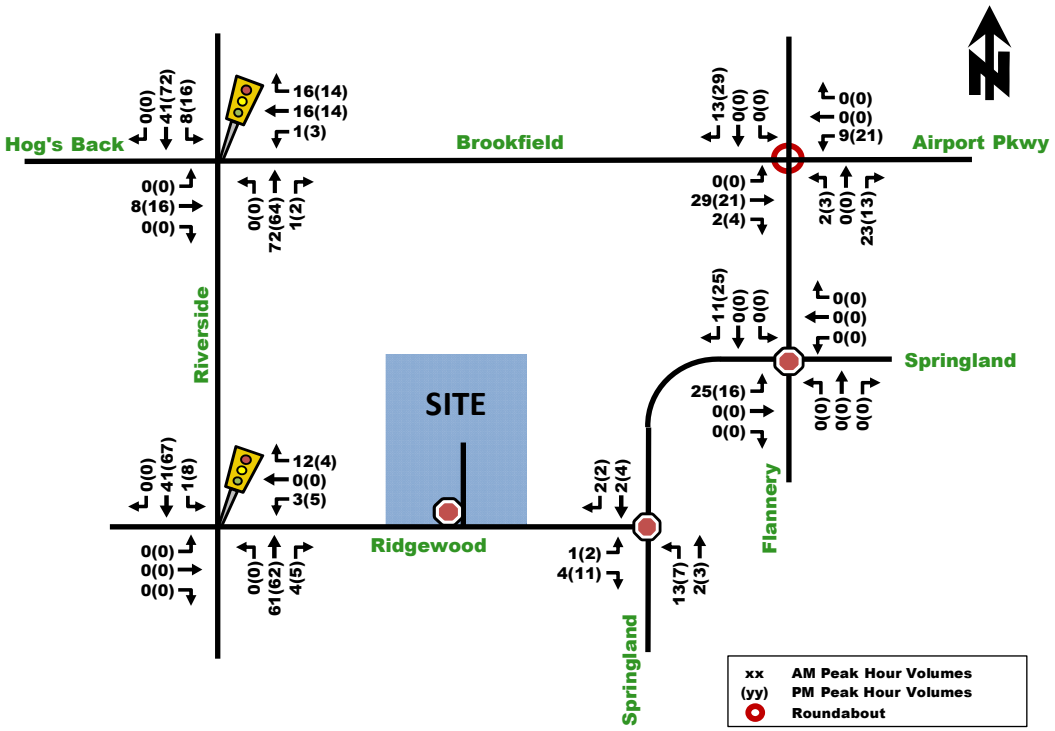

Figure 14: Future Background 2031 Traffic Volumes




### 3.2.3. OTHER DEVELOPMENTS

Description of other area developments taking place within the study area was provided in Section 2.1.3: Other Area Developments. Traffic volumes generated by all three identified future adjacent developments will be considered in the TIA. The total traffic volumes anticipated to be generated by the future adjacent development in the study area are illustrated in **Figure 15**.

Figure 15: Future Adjacent Developments Total Site-Generated Traffic Volumes




The anticipated buildout year of the future adjacent development is anticipated to be prior to the buildout date of the proposed 729 Ridgewood development. As such, their traffic volumes will be included in both the total projected 2026 and 2031 traffic volumes. The volumes in **Figure 15** can be added to the future background volumes in **Figure 13** and **Figure 14** to create total future background 2026 and 2031 traffic volumes illustrated in **Figure 16** and **Figure 17**.

Figure 16: Total Future Background 2026 Traffic Volumes

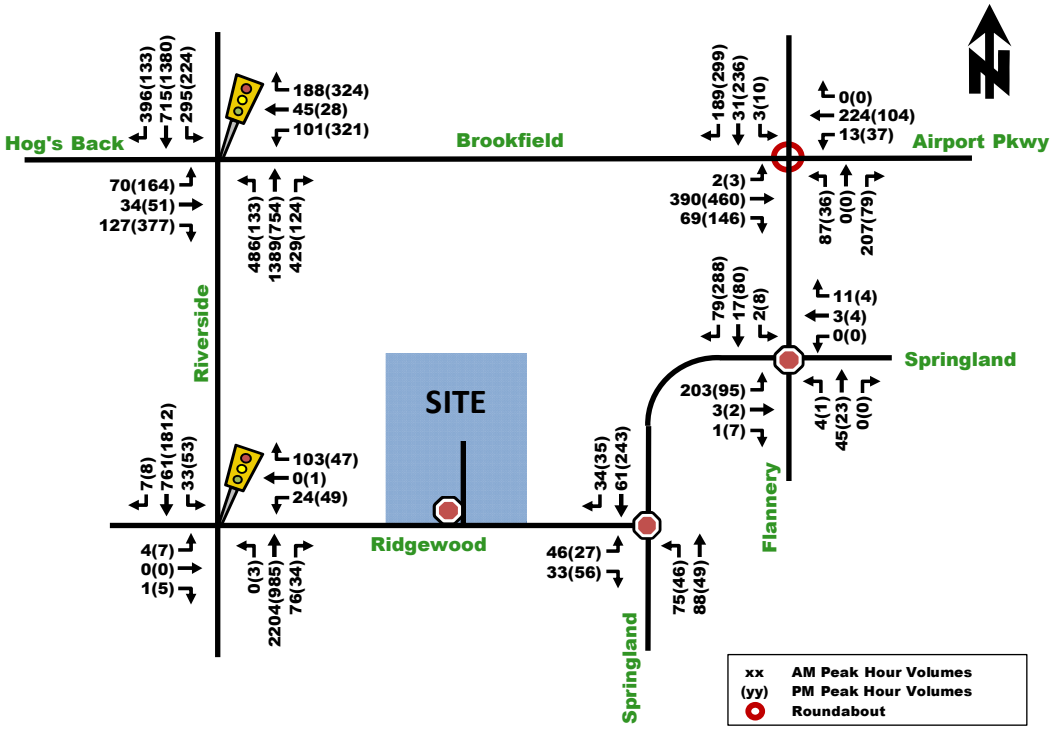
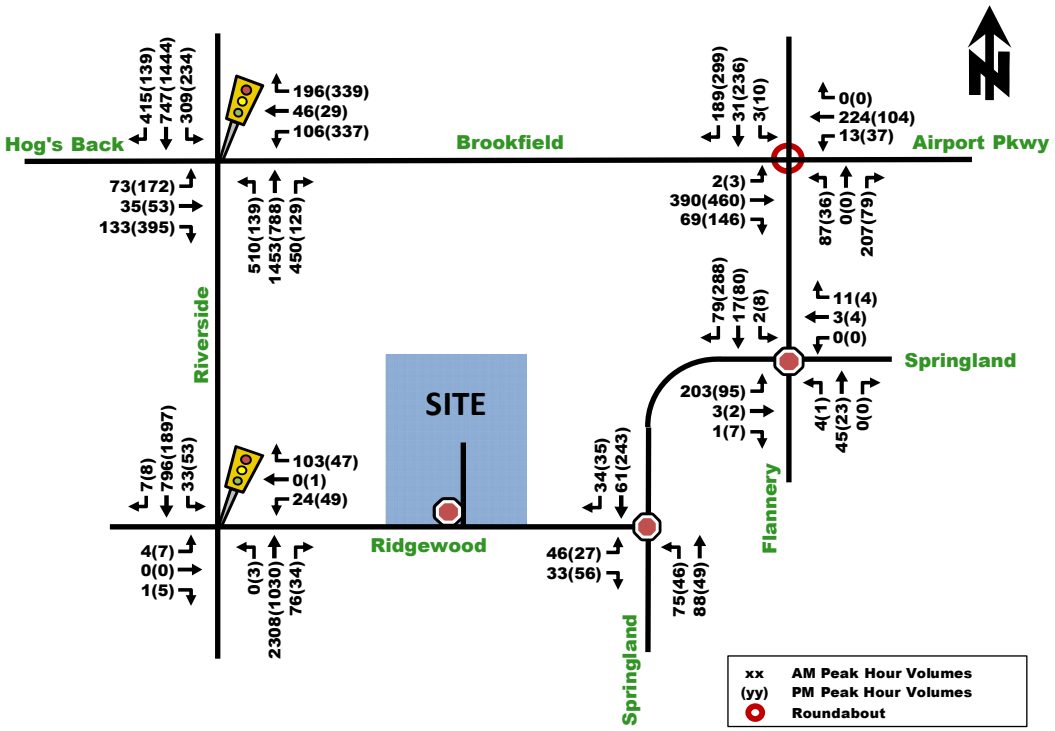


Figure 17: Total Future Background 2031 Traffic Volumes




## 3.3. Demand Rationalization

The total projected future traffic volumes can be determined by superimposing the site-generated traffic volumes in **Figure 12**, onto the total future background traffic volumes in **Figure 16** and **Figure 17**, resulting in the total projected traffic volumes 2026 and 2031 illustrated in **Figure 18** and **Figure 19**. The proposed development is anticipated to have little impact on the vehicle operations along the study area intersections. Further analysis of study area intersections is provided as part of **Section 4.9.2**.

As mentioned in Section 2.1.3: Planned Study Area Transportation Network Changes, Riverside Dr will ultimately provide isolated transit priority measures to improve transit operations. Additionally, the LRT Stage 2 south extension is underway and expected to be completed in 2024. The nearest LRT Station will be Mooney's Bay Station located within 1km radius of the development site. While the development site remains in a suburban context outside of the ideal range of major transit nodes, the improvement of transit in the area should result in increased transit usage and decreased auto usage. However, it may be some time before the future transit improvements show substantial effect on reduced auto usage. The available cycling and pedestrian facilities in the area are expected to contribute effectively to the usage of alternative travel modes and connectivity to the future transit facilities.

Figure 18: Total Projected 2026 Traffic Volumes

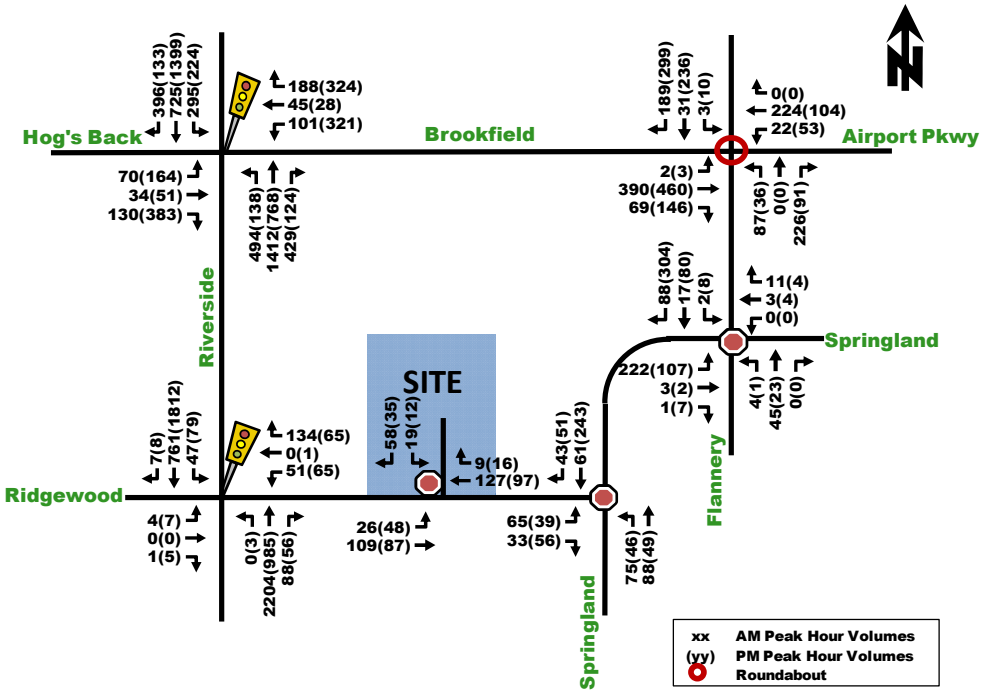
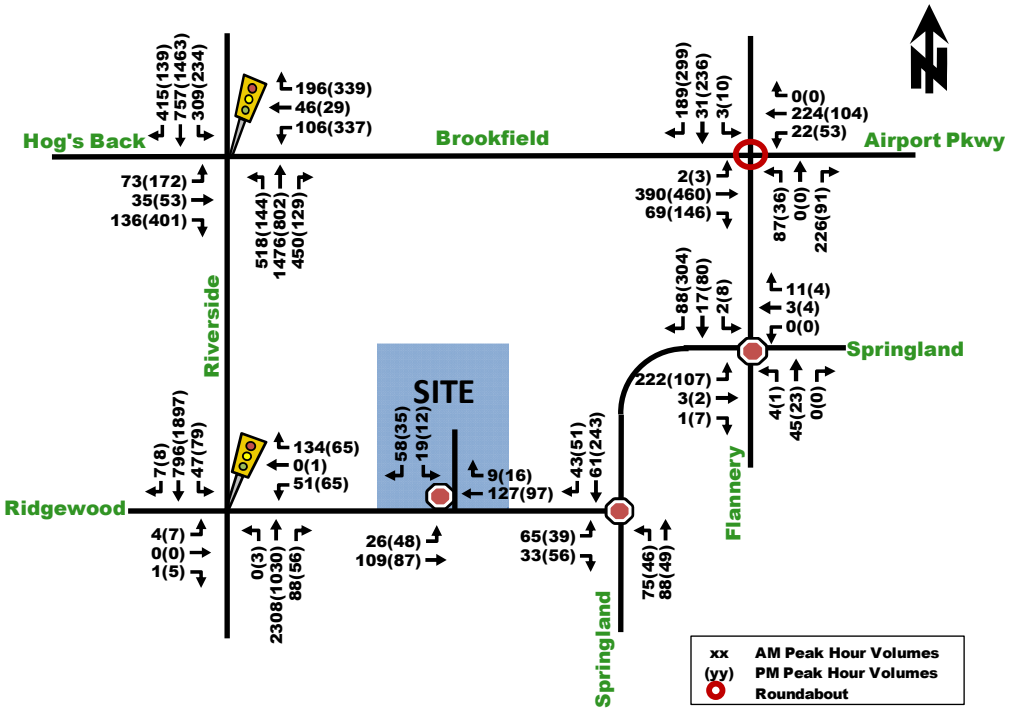



Figure 19: Total Projected 2031 Traffic Volumes




# 4. Analysis

## 4.1. Development Design

A description of the available and proposed transportation network elements for different travel modes is provided in the sections below.

#### 4.1.1. DESIGN FOR SUSTAINABLE MODES

Sidewalk facilities will be provided on all site frontages and will be at least 2.0m wide at all locations. The site will provide unit pavers to extend the pedestrian crossing area at the site access, a raised crosswalk between buildings 3 and 4 and a painted crosswalk before the parking garage entrance. Unit pavers and pedestrian walkways are provided throughout the site. Given the location of the development, pedestrian facilities within the area are well established and help to provide optimal access to nearby transit and active transportation facilities and other public amenities such as Mooney's Bay Beach and Park.

Along Ridgewood Ave, the existing bus stop along the site frontage (approximately 140 m east of Riverside Dr) will be relocated approximately 20 m further east to avoid conflicts with the new proposed site access. The precise location of the bus stop will be confirmed with City Transit Services prior to detailed design to ensure proper stop placement. All buildings will have access to the municipal sidewalk network, either directly or via on-site pathways, that will ensure optimal access to sustainable modes of travel from the proposed development.

Note that the City of Ottawa's TDM-Supportive Development Design and Infrastructure has been provided in **Appendix E** and discussed in more detail in **Section 4.5**.

#### 4.1.2. CIRCULATION AND ACCESS

The proposed development will provide a single two-way access to the two-level underground parking garage located at the end of the internal driveway, approximately 90 m north of Ridgewood Ave. The internal driveway will operate as a two-way roadway along the north-south stretch between Ridgewood Ave and the parking ramp. The proposed driveway is 7.2m wide as per the zoning exception. A plaza area with unit pavers, a center landscape island, 7 short-stay surface parking spaces and one-way counterclockwise travel direction will be provided near the middle of the site and is meant to indicate a non-auto focused area. In the south area of the plaza, a commercial loading zone will be provided at the south curbs to allow truck deliveries. One-way signage is provided to alert traffic to the one-way operations of the woonerf.

Truck and passenger vehicle turning maneuvers at the site access and internal plaza have been reviewed in detail, including providing recommendations and adjustments made to ensure their ability to accommodate the expected design vehicles. The internal driveway and plaza will also form the fire truck route with 6m wide pathway and 12m radius provided for turns throughout. All vehicle turning templates have been provided in **Appendix F.**

#### 4.1.3. NEW STREET NETWORK

Exempt – Refer to **Table 1**.

### 4.2. Parking

**Table 14** summarizes the parking requirements of the proposed development and the proposed number of spaces currently provided.

Based on City of Ottawa Parking Provisions, Schedule 1A, the proposed development is located in "Area C". A total of 640 vehicle parking spaces are required for the proposed development, consisting of 532 residential spaces, 89 visitor spaces and 20 commercial spaces.

For the residential land use, 421 vehicle parking spaces are proposed, with an additional 98 visitor parking spaces. For the commercial land use, 20 vehicle parking spaces are proposed. For bicycle parking, 115 horizontal and 111 vertical spaces are provided for residential use (223 total), and 3 spaces are provided for commercial use, for a total of 226 spaces.

Table 14: The Required and Provided Vehicle and Bicycle Parking Supplys

| Land Use | Size | Parking Rates | | | Required Spaces | | | Proposed Spaces | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Base | Visitors | Bicycle | Base | Visitors | Bicycle | Base | Visitors | Bicycle |
| High-Rise Residential | 443 Units | 1.2 per unit | 0.2 per unit | 0.5 per unit | 532 | 89 | 222 | 421 | 98 | 223 |
| Commercial | 587 $m^2$ | 3.4 per 100 $m^2$ | - | 1.0 per 250 $m^2$ | 20 | - | 2 | 20 | - | 3 |
| | | | | Total | **552** | **88** | **224** | **441** | **98** | **226** |

As such, the proposed number of visitor and bicycle parking spaces are expected to meet all the parking requirements, however, the residential parking spaces are anticipated to be lower than required. Alternative travel options such as transit, walking and cycling are promoted through TDM Measures identified in **Section 4.5**.

On-street parking is also permitted along two sections on the north side of Ridgewood Ave, as well as on the west side of Dupont St should additional parking be needed.

## 4.3. Boundary Street Design

Multi-Modal Level of Service (MMLOS) analysis was conducted for the boundary street, Ridgewood Ave, based on the City of Ottawa's MMLOS Analysis Guidelines.

Ridgewood Ave is a municipal collector road that comprises of the following features:

- 2 vehicle travel lanes in each direction
- Approximately 1.5 m monolithic concrete sidewalks and no boulevard on both sides of the road
- Less than 3000 average daily curb lane traffic
- On-street parking along the north side of the road
- No transit facilities
- Posted speed limit of 40 km/h
- Approximately 7 m wide lane

The multi-modal level of service analysis for Ridgewood Ave is summarized in **Table 15**, with detailed analysis provided in **Appendix G**. The table also identifies the minimum desirable LOS target, based on the land-use designation and road classification of the development site and boundary street. The Transportation Master Plan (TMP) of the City of Ottawa identifies the land-use designation of the development site as a "General Urban Area" and the road classifications of each of the boundary streets were noted in the descriptions of features.

Table 15: MMLOS Boundary Road Analysis

| Road Segment | Level of Service | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Pedestrian (PLOS) | | Bicycle (BLOS) | | Transit (TLOS) | | Truck (TkLOS) | |
| | PLOS | Target | BLOS | Target | TLOS | Target | TkLOS | Target |
| Ridgewood Ave | E | C | D | D | D | N/A | B | N/A |

As shown in **Table 15**, the pedestrian LOS minimum desirable target was not met. This LOS rating is largely due to the short sidewalk widths and lack of boulevard. TLOS and TkLOS targets were not applicable as Ridgewood is neither a rapid transit/transit priority route nor a designated truck route.

## 4.4. Access Intersection Design

Vehicle access to the proposed development will be provided via a single two-way access on the north side of Ridgewood Ave and will use Stop control for exiting vehicles. The access will continue as an internal driveway providing access to the parking garage ramp and internal plaza. The parking garage ramp will be located

perpendicular to the driveway on the east side. At the site access, continuous depressed concrete sidewalks will be provided for pedestrian crossing as per City standards. As mentioned in Section 4.1.2, truck turning movements in/out of the site (provided in **Appendix F**) were checked at the site access and no issues were identified.

**Driveway Throat Length**

The Transportation Association of Canada's (TAC) Geometric Design Guide for Canadian Roads, Chapter 8 (Access), was reviewed for the clear throat length provided by the proposed development access. Per TAC Table 8.9.3, the suggested minimum clear throat length to a collector road for apartments (>200 units) is 25 m and for a shopping centre (<25,000 $m^2$) is 8 m.

The driveway's available clear throat length was measured to be approximately 33 m measured from the end of the site access curb return at Ridgewood Ave to the first conflict (the raised crosswalk between Building 3 and Building 4). Therefore, the provided clear throat length of 33 m is considered sufficient and would safely allow vehicles to enter the site without hindering Ridgewood Ave traffic.

**Private Approach By-Law**

The Private Approach By-Law requirements of the City of Ottawa were reviewed, with the following noted:

- Section 25 (1) (c) indicates the maximum driveway width to be 9m. However, since the site access and internal driveway are part of the fire route, they need to accommodate a larger radius at the site access, resulting in a width greater than 9m. Therefore, the wider access as currently provided is considered acceptable.
- As per Section 25 (1) (u), the grade of the private approach is expected to not exceed 2% within the private property for a distance of 9 m from the curb line.

## 4.5. Transportation Demand Management

### 4.5.1. CONTEXT FOR TDM

Due to the developments primary land-use as a residential building, it is assumed most of the site generated trips are work-based and will occur during typical AM and PM peak hours, where AM trips will be employees exiting the site and PM trips will be employees entering the site. **Section 3.1** describes the anticipated site generated trips per travel mode and predicts the travel routes based on the 2011 OD-Survey for Ottawa.

### 4.5.2. NEED AND OPPORTUNITY

Considering the nature of the development and the generally high auto-driver mode share of the study area, the proposed development and its occupants could benefit from TDM measures that are geared towards educating commuters, providing resources, and providing information on existing and future active transportation facilities, transit schedules, and the benefits of sustainable travel modes.

### 4.5.3. TDM PROGRAM

Both the TDM Supportive Design and Infrastructure Checklist and the TDM Measures Checklist have both been provided in **Appendix E**. The proposed measures are as follows:

<u>TDM Supportive Development Design and Infrastructure Checklist</u>

- All ten (10) required measures related to Walking and Cycling (facilities and bicycle parking) and Vehicle Parking have been satisfied.
- Three (3) of the fourteen (14) basic measures related to Walking and Cycling, Parking and Ridesharing have been satisfied, namely:
    - Locating building doors and windows to ensure visibility of pedestrians from the building.
    - Provide lighting, landscaping and benches.
    - Provide wayfinding signage for site accesses.

- Two (2) of the Seven (7) better measures related to Walking and Cycling, Parking and Ridesharing have been satisfied, namely:
    - Provide up to three carshare parking spaces.
    - Provide a designated bikeshare station area near a major building entrance.

TDM Measures Checklist

- Five (5) of the seven (7) basic measures related to the Walking and Cycling, Transit, Parking, and TDM Marketing & Communications have been recommended and are as follows:
    - Display local area maps with walking/cycling access routes.
    - Display relevant transit schedules and route maps at entrances.
    - Unbundle parking cost from purchase prices (condos)
    - Unbundle parking cost from monthly rent (multi-family)
    - Provide a multimodal travel option information package to new residents.
- Four (4) of the twelve (12) better measures related to the Walking and Cycling, Transit, Parking, and TDM Marketing & Communications have been recommended and are as follows:
    - Contract with provider to install on-site bikeshare station.
    - Provide residents with bikeshare memberships.
    - Contract with provider to install on-site carshare vehicles and promote their use.
    - Provide residents with carshare memberships.

## 4.6. Neighbourhood Traffic Management

This module compares the maximum two-way traffic of a local or collector road during morning and afternoon peak hours, to the recommended thresholds outlined in the City of Ottawa TIA Guidelines. Access routes to/from the proposed development include collector roads Ridgewood Ave, Springland Dr and Flannery Dr.

The recommended thresholds provided in the TIA Guidelines indicate a maximum two-way traffic of 300 veh/h for collector roads. Using the total projected 2029 traffic volumes in **Figure 19**, future traffic volumes along the respective collector roads can be compared to the threshold as follows:

- For Ridgewood Ave, the maximum two-way traffic volume is approximately 320 veh/h between Riverside Dr and Springland Dr, which occurs during the morning peak hour. This volume slightly exceeds the 300 veh/h threshold of a collector road.

- For Springland Dr between Ridgewood Ave and Flannery Dr, the 300 veh/h threshold is exceeded at the west leg of the intersection of Springland/Flannery during both peak hours, and the north leg of the intersection of Ridgewood/Springland during the afternoon peak hour, with volumes up to 425 veh/h. Notably, the existing afternoon peak hour volumes at both locations also exceed the threshold, with volumes up to 356 veh/h.

  At this time, there are no indications the existing vehicular volumes cannot be accommodated. This section of the roadway can be monitored by the City of Ottawa's Area Traffic Management unit if needed to determine if reclassification or modification of the roadway is necessary.

- For Flannery Dr, the 300 veh/h threshold is exceeded at both the north leg of the intersection of Springland/Flannery and the south leg of the intersection of Brookfield/Flannery during both peak hours, with volumes up to 562 veh/h. Notably, the threshold is also exceeded in existing conditions, with volumes up to 482 veh/h.

  However, the design of Flannery Dr between Brookfield Rd and Springland is more consistent with a major collector road. This section clearly has far more stringent access management compared to Springland Dr, which has direct residential frontage with driveway access to the roadway. There are also

daytime on-street parking restrictions, which reduces friction and increases its overall vehicular capacity, whereas Springland Dr has no time restrictions.

The City recommended major collector roadway threshold is 600 vehicles per hour, which adequately accommodates anticipated vehicle traffic in the future. At this time, there are no indications the existing vehicular volumes cannot be accommodated.

Ultimately, this section of the roadway can be monitored by the City of Ottawa's Area Traffic Management unit if needed to determine if reclassification or modification of the roadway is necessary. The City may also incorporate traffic calming measures such as road narrowing, pavement markings and signage to address potential safety concerns if required.

## 4.7. Transit

Transit facilities are anticipated to continue operating in the future as mentioned in **Section 2.1.2: Transit Network**. The proposed development is anticipated to generate 37 transit trips during the morning and afternoon peak hours respectively.

Existing conditions (pre-COVID) transit ridership data was obtained from OC Transpo for five bus stops near the proposed development site, as shown in **Figure 20**. The data, provided in **Table 16**, is a summary of average bus boarding, alighting and occupancy information for bus routes at each of the respective stop numbers, during morning and afternoon peak hours.

Figure 20: Transit Ridership Data Bus Stop Locations

Table 16: Transit Ridership Data (5 Jan 2020 - 16 Mar 2020)

| Stop No. | Location | Route | Direction | AM | | | PM | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Boarding | Alighting | Avg. Load at Depart. | Boarding | Alighting | Avg. Load at Depart. |
| 2412 | Springland / Norberry | 290 | NB | 4 | 0 | 10 | - | - | - |
| | | 640 | NB | 0 | 0 | 35 | - | - | - |
| 2449 | Springland / Ridgewood | 90 | SB | 6 | 4 | 8 | 4 | 60 | 20 |
| | | 190 | SB | 0 | 0 | 1 | 0 | 2 | 1 |
| | | 290 | SB | - | - | - | 0 | 13 | 8 |
| | | 640 | SB | - | - | - | 2 | 3 | 37 |
| 6924 | Ridgewood / Riverside | 90 | SB | 1 | 1 | 8 | 0 | 8 | 20 |
| | | 190 | SB | 0 | 0 | 1 | 0 | 0 | 1 |
| 7405 | Ridgewood / Riverside | 90 | NB | 13 | 1 | 21 | 9 | 7 | 11 |
| 8903 | Springland / Ridgewood | 90 | NB | 50 | 4 | 24 | 34 | 3 | 14 |
| | | 290 | NB | 41 | 0 | 18 | - | - | - |
| | | 640 | NB | 0 | 0 | 35 | - | - | - |

As shown in **Table 16**, the average load of each bus route at its respective bus stop ranges from about 1 to 24 persons during the peak hours. This range excludes bus route #640, which is only used by students for transport during peak hours.

Bus route #90 is a frequent route that travels in both directions on Ridgewood Ave and arrives 4 to 5 times during peak hours, for a total of 8 to 10 buses in both directions. Similarly, bus route #290 operate at a high frequency during peak hours.

Based on information obtained from the OC Transpo website, the person capacity of OC Transpo buses, which includes the number of seats on the bus plus the standing capacity, ranges from approximately 65 occupants in its smallest vehicles to approximately 150 occupants in its largest vehicles. Based on the current average bus loads and the available capacity of the existing bus routes, the proposed development generating approximately 37 transit trips during peak hours is anticipated to have minor impact on the available transit services.

## 4.8. Review of Network Concept

Exempt – see **Table 1**.

## 4.9. Intersection Design

### 4.9.1. INTERSECTION CONTROL

Stop control is anticipated to be sufficient for vehicles exiting the proposed site access.

### 4.9.2. INTERSECTION DESIGN

Synchro 11 Trafficware was used to analyze intersection performance of signalized and unsignalized intersections within the study area. For the Brookfield/Flannery roundabout, the Sidra software was used for analysis. Critical movements at each of the intersections were assessed based on either the movement with the highest volume-to-capacity ratio (at signalized intersections), or the movement experiencing the highest average delay (at unsignalized and roundabout intersections).

Generally, an overall ('as a whole') level-of-service (LOS) 'D' or better is recommended for intersection operations during the peak hour periods. For signalized intersections, an overall LOS 'E' is generally considered acceptable at major arterial intersections in the City of Ottawa, as multi-lane arterial roads are intended to accommodate high levels of traffic volumes during peak hour periods.

It should be noted that, as per the TIA Guidelines, the Peak Hour Factor (PHF) used for analysis was 0.9 in existing conditions and 1.0 in all future scenario conditions. All Synchro and Sidra report outputs for existing and future conditions have been provided in **Appendix H**.

## Existing Conditions

**Table 17** below summarizes the intersection performance of study area intersections, based on the existing conditions traffic volumes illustrated in **Figure 8**.

Table 17: Existing Conditions Intersection Performance

| Intersection | Weekday AM Peak (PM Peak) | | | | | |
|---|---|---|---|---|---|---|
| | Critical Movement | | | Intersection 'As a Whole' | | |
| | LOS | max. v/c or avg. delay (s) | Movement | Delay (s) | LOS | v/c |
| Riverside Dr/Hog's Back Rd/Brookfield Rd (S) | F(F) | 1.10(1.42) | NBT(WBL) | 66.1(57.6) | E(D) | 0.98(0.90) |
| Riverside Dr/Ridgewood Ave (S) | E(B) | 0.93(0.68) | NBT(SBT) | 18.0(8.8) | D(B) | 0.90(0.67) |
| Springland Dr/Ridgewood Ave (U) | A(A) | 8.4(9.4) | NB(SB) | 8.0(8.9) | A(A) | - |
| Flannery Dr/Springland Dr (U) | A(A) | 9.0(9.4) | EB(SB) | 8.4(9.2) | A(A) | - |
| Brookfield Rd/Flannery Dr (R) | A(A) | 6.0(6.1) | NB(NB) | 3.9(4.0) | A(A) | - |
| Note: Analysis of signalized intersections assumes a PHF of 0.9 and a saturation flow rate of 1800 veh/h/lane.<br>(S) – Signalized intersection, critical movement based on max v/c<br>(U) – Unsignalized intersection, critical movement based on highest average delay<br>(R) – Roundabout intersection, critical movement based on highest average delay | | | | | | |

As shown in **Table 17**, the intersection of Riverside/Brookfield 'as a whole' operates near capacity during the morning peak hour, with critical NBT and WBL movements operating at capacity during the morning and afternoon peak hours respectively. The intersection of Riverside/Ridgewood operates acceptably 'as a whole', with the critical NBT movement operating near capacity during the morning peak hour. The unsignalized and roundabout intersections all operate at a LOS 'A' during both peak hours.

## Total Future Background 2026

**Table 18** below summarizes the Synchro traffic operations at study area intersections, based on the total future background 2026 conditions in **Figure 16**.

Table 18: Future Background 2026 Intersection Performance

| Intersection | Weekday AM Peak (PM Peak) | | | | | |
|---|---|---|---|---|---|---|
| | Critical Movement | | | Intersection 'As a Whole' | | |
| | LOS | max. v/c or avg. delay (s) | Movement | Delay (s) | LOS | v/c |
| Riverside Dr/Hog's Back Rd/Brookfield Rd (S) | F(F) | 1.07(1.33) | NBT(WBL) | 59.2(52.1) | E(D) | 0.96(0.86) |
| Riverside Dr/Ridgewood Ave (S) | D(B) | 0.88(0.65) | NBT(SBT) | 15.2(8.6) | D(B) | 0.85(0.64) |
| Springland Dr/Ridgewood Ave (U) | A(A) | 8.3(9.1) | NB(SB) | 8.0(8.7) | A(A) | - |
| Flannery Dr/Springland Dr (U) | A(A) | 9.0(9.3) | EB(SB) | 8.4(9.1) | A(A) | - |
| Brookfield Rd/Flannery Dr (R) | A(A) | 5.9(5.9) | NB(NB) | 3.9(4.0) | A(A) | - |
| Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane.<br>(S) – Signalized intersection, critical movement based on max v/c<br>(U) – Unsignalized intersection, critical movement based on highest average delay<br>(R) – Roundabout intersection, critical movement based on highest average delay | | | | | | |

As shown in **Table 18**, study area intersections are projected to operate similar or better than existing conditions due to increasing the PHF to 1.0.

## Total Future Background 2031

**Table 19** below summarizes the Synchro traffic operations at study area intersections, based on future background 2029 traffic volumes in **Figure 17**.

Table 19: Total Future Background 2031 Intersection Performance

| Intersection | Weekday AM Peak (PM Peak) | | | | | |
|---|---|---|---|---|---|---|
| | Critical Movement | | | Intersection 'As a Whole' | | |
| | LOS | max. v/c or avg. delay (s) | Movement | Delay (s) | LOS | v/c |
| Riverside Dr/Hog's Back Rd/Brookfield Rd (S) | F(F) | 1.11(1.40) | NBT(WBL) | 68.4(56.7) | E(E) | 0.99(0.91) |
| Riverside Dr/Ridgewood Ave (S) | E(B) | 0.92(0.68) | NBT(SBT) | 17.6(9.1) | D(B) | 0.89(0.67) |
| Springland Dr/Ridgewood Ave (U) | A(A) | 8.3(9.1) | NB(SB) | 8.0(8.7) | A(A) | - |
| Flannery Dr/Springland Dr (U) | A(A) | 9.0(9.3) | EB(SB) | 8.4(9.1) | A(A) | - |
| Brookfield Rd/Flannery Dr (R) | A(A) | 5.9(5.9) | NB(NB) | 3.9(4.0) | A(A) | - |
| Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane.<br>(S) – Signalized intersection, critical movement based on max v/c<br>(U) – Unsignalized intersection, critical movement based on highest average delay<br>(R) – Roundabout intersection, critical movement based on highest average delay | | | | | | |

As indicated by **Table 19**, traffic operations are anticipated to be similar to the total future background 2026 traffic operations, with slightly higher delays and v/c ratios.

### Total Projected 2026

Based on total projected 2026 traffic volumes in **Figure 18**, study area intersections were analyzed using Synchro, with results summarized in **Table 20** below.

Table 20: Total Projected 2026 Intersection Performance

| Intersection | Weekday AM Peak (PM Peak) | | | | | |
|---|---|---|---|---|---|---|
| | Critical Movement | | | Intersection 'As a Whole' | | |
| | LOS | max. v/c or avg. delay (s) | Movement | Delay (s) | LOS | v/c |
| Riverside Dr/Hog's Back Rd/Brookfield Rd (S) | E(E) | 0.99(0.99) | NBT(WBL) | 46.5(44.2) | E(D) | 0.91(0.89) |
| Riverside Dr/Ridgewood Ave (S) | E(B) | 0.94(0.66) | NBT(SBT) | 22.2(10.9) | E(B) | 0.91(0.65) |
| Springland Dr/Ridgewood Ave (U) | A(A) | 8.4(9.3) | NB(SB) | 8.1(8.9) | A(A) | - |
| Flannery Dr/Springland Dr (U) | A(A) | 9.2(9.5) | EB(SB) | 8.6(9.3) | A(A) | - |
| Ridgewood Ave/Site Access (U) | A(A) | 9.7(9.4) | SB(SB) | 2.7(2.8) | A(A) | - |
| Brookfield Rd/Flannery Dr (R) | A(A) | 5.8(5.8) | NB(NB) | 4.0(4.2) | A(A) | - |
| Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane.<br>(S) – Signalized intersection, critical movement based on max v/c<br>(U) – Unsignalized intersection, critical movement based on highest average delay<br>(R) – Roundabout intersection, critical movement based on highest average delay | | | | | | |

Note that the intersection of Riverside/Brookfield was optimized for phase splits in Synchro, resulting in improved traffic operations during both peak hours; the intersection 'as a whole' is projected to operate acceptably given that Riverside Dr is a major arterial intersection, with critical movements operating near capacity during both peak hours.

The intersection of Riverside/Ridgewood 'as a whole' operates near capacity in the morning peak hour. Unsignalized intersections, including the roundabout intersection and the proposed site access, operate at a LOS 'A' during both peak hours.

### Total Projected 2031

Based on total projected 2029 traffic volumes in **Figure 19**, study are intersections were analyzed using Synchro, with results summarized in **Table 21** below.

Table 21: Total Projected 2031 Intersection Performance

| Intersection | Weekday AM Peak (PM Peak) | | | | | |
|---|---|---|---|---|---|---|
| | Critical Movement | | | Intersection 'As a Whole' | | |
| | LOS | max. v/c or avg. delay (s) | Movement | Delay (s) | LOS | v/c |
| Riverside Dr/Hog's Back Rd/Brookfield Rd (S) | F(F) | 1.09(1.04) | NBT(WBL) | 61.4(50.3) | E(E) | 0.98(0.95) |
| Riverside Dr/Ridgewood Ave (S) | E(B) | 0.98(0.69) | NBT(SBT) | 27.1(11.3) | E(B) | 0.95(0.68) |
| Springland Dr/Ridgewood Ave (U) | A(A) | 8.4(9.3) | NB(SB) | 8.1(8.9) | A(A) | - |
| Flannery Dr/Springland Dr (U) | A(A) | 9.2(9.5) | EB(SB) | 8.6(9.3) | A(A) | - |
| Ridgewood Ave/Site Access (U) | A(A) | 9.7(9.4) | SB(SB) | 2.7(2.8) | A(A) | - |
| Brookfield Rd/Flannery Dr (R) | A(A) | 5.8(5.8) | NB(NB) | 4.0(4.2) | A(A) | - |
| Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane.<br>(S) – Signalized intersection, critical movement based on max v/c<br>(U) – Unsignalized intersection, critical movement based on highest average delay<br>(R) – Roundabout intersection, critical movement based on highest average delay | | | | | | |

As indicated by **Table 21**, traffic operations are anticipated to be similar to the total future projected 2026 traffic operations, with slightly higher delays and v/c ratios.

The intersection of Riverside/Brookfield was optimized in Synchro with regards to phase splits during both peak hours; the intersection 'as a whole' operates near capacity. The intersection of Riverside/Ridgewood operate 'as a whole' near capacity during the morning peak hour. All unsignalized and roundabout intersections operate at LOS 'A' during both peak hours.

Generally, operations at the two Riverside Drive intersections are expected to only approach congested conditions in the peak hour periods, but still operate within acceptable limits for major arterial intersections. If desired, operations can be improved to a LOS 'D' at each of the intersections with the following modifications:

- At Riverside/Brookfield: Add a left-turn lane to the southbound and westbound approaches for double left-turn lanes.
- At Riverside/Ridgewood: adjust the timing of the southbound left-turn lane to increase the available green time, which could adversely impact cycle length timing priority.

## MMLOS Analysis for Signalized Intersections

MMLOS analysis was conducted for the two signalized intersections in the study area, which includes the Riverside/Ridgewood and Riverside/Hog's Back/Brookfield intersections. Detailed analysis results have been provided in **Appendix G**.

**Table 22** below provides a summary of the results with respect to both existing and future conditions, along with the minimum desirable targets for each respective travel mode obtained from the MMLOS Guidelines. The targets reflect the following relevant designations:

- A "General Urban Area" land-use designation,
- Riverside Dr is classified as an arterial road, Ridgewood Ave as a collector road and Brookfield Rd/Hog's Back Dr as major collector roads,
- Riverside Dr is classified as a cycling spine route, and
- Riverside Dr is classified as a truck route.

Table 22: MMLOS Analysis for Signalized Intersections

| Signalized Intersection | Level of Service | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Pedestrian (PLOS) | | Bicycle (BLOS) | | Transit (TLOS) | | Truck (TkLOS) | |
| | PLOS | Target | BLOS | Target | TLOS | Target | TkLOS | Target |
| Riverside / Ridgewood | F | C | F | C | E | N/A | C | E |
| Riverside / Hog's Back / Brookfield | F | C | F | C | F | N/A | C | E |

Note: Red font in the table indicates that the respective desirable target has not been met.

As shown in **Table 22**, the pedestrian and cyclist minimum desirable LOS targets are not met at the two signalized intersections. It should be noted that, as per the MMLOS Guidelines, the LOS analysis result for each intersection is reflective of the most critical approach's performance, rather than the overall intersection's performance.

With regards to the pedestrian LOS, the target LOS have not been met at any of the intersections as the analysis for PLOS is largely dependent on the number of lanes that pedestrians have to cross. For the purpose of the MMLOS guidelines, a lane is typically 3.5m wide, which makes the number of lanes pedestrians have to cross dependent on the width of the crosswalk. At the very least, the number of lanes crossed need to be 3 or less in order to meet the target LOS, along with protected or prohibited conflicting turning movements to ensure more safe conditions for pedestrians.

With regards to cyclists, the target LOS is not met at any of the intersections due to lack of bike lanes on most approaches, which would cause cyclists to travel in mixed traffic conditions. Providing bike crossings at each intersection, along with bike lanes on each approach would allow the intersections to meet the minimum desirable LOS targets.

With regards to transit LOS, there are no minimum desirable LOS targets at the intersections as there are no transit priority measures or rapid transit along study area roads.

With regards to truck LOS, the minimum desirable LOS targets are met.

# 5. Findings, Conclusions and Recommendations

Based on the results summarized herein, the following transportation related conclusions are offered:

**Proposed Development**

- The proposed development will be located at the combined addresses of 729 & 753 Ridgewood Avenue. The site is currently occupied by a strip mall, which will be replaced by the proposed development.
- The development will consist of five apartment buildings that are 4 to 20 storeys and consist of 443 residential units and 587 $m^2$ (6,823 $ft^2$) of commercial space, which will all be constructed in a single phase by 2026.
- Access will be provided via a driveway on the north side of Ridgewood Ave. Stop control is anticipated to be sufficient for future traffic exiting the site. No issues were identified with regards to truck turning movements in/out of the site at the site access.
- A total of 539 vehicle parking spaces and 226 bicycle parking spaces are proposed. The proposed resident vehicle parking spaces are lower than the required number of spaces based on City of Ottawa Parking Provisions, while bicycle parking spaces are anticipated to meet the minimum requirements. Alternative travel options such as transit, walking and cycling are promoted through the provision of

various TDM Measures, including providing bikeshare station, unbundling parking costs from monthly rent or purchase price, and providing multi-modal travel options information to residents.

- At full buildout in 2026, the development is expected approximately 183 and 182 person trips during the morning and afternoon peak hours respectively.
- Approximately 110 new vehicular trips and 37 new transit trips are expected to be generated by the proposed development in both the morning and afternoon peak hours. Approximately 15 new bike and walk trips were expected in both the morning and afternoon peak hours. Based on existing transit ridership data, transit trips are anticipated to be accommodated by the existing transit network.

### Existing and Background Conditions

- In existing conditions, the following traffic operations are noted:
    - Riverside/Brookfield 'as a whole' operates near capacity (at a LOS 'E') in the morning peak hour, with poor traffic operations for critical movements (the NBT and WBL) in the morning and afternoon peak hours respectively.
    - The Riverside/Ridgewood intersection operates acceptably 'as a whole' (at a LOS 'D') in the morning peak hour.
    - The remaining intersections all operate at a LOS 'A' during both peak hours.
- A background growth rate of 1% per year was applied to Riverside Dr, Hog's Back Rd, and Brookfield Rd for future horizon years 2026 and 2031.
- Other proposed developments within the area were also included in the future traffic analysis, including: 740 Springland (Norberry Residences), 770 Brookfield, and 3071 Riverside (Canoe Bay).
- As required by the TIA Guidelines, the PHF in future conditions is increased to 1.0, which results in improved or similar traffic operations for total future background 2026 and 2031 as compared to existing conditions.

### Projected Conditions

- Ridgewood Ave, Springland Dr and Flannery Dr are all collector roads used as part of access routes to/from the proposed development. Two-way peak hour traffic volumes on all three roads exceeds the recommended ideal maximum two-way traffic threshold of 300 veh/h in total projected 2029 conditions as follows:
    - Ridgewood Ave is projected to have up to 320 veh/h, slightly exceeding the threshold. No traffic concerns are anticipated as a result.
    - Springland Dr exceeds the threshold in both existing and future conditions, with volumes up to 425 veh/h. There are no indications of traffic or safety concerns at this time, however, the roadway can be monitored by the City of Ottawa's Area Traffic Management unit if needed to determine if reclassification or modification of the roadway is necessary.
    - Flannery Dr exceeds the threshold in both existing and future conditions, with volumes up to 562 veh/h. These volumes are approaching the threshold of 600 veh/h for a major collector road. Notably, the roadway clearly has far more stringent access management compared to Springland Dr, with parking restrictions and no direct residential frontage. The roadway can be monitored by the City of Ottawa's Area Traffic Management unit if needed to determine if reclassification or modification of the roadway is necessary.
- For total projected 2026 conditions, the intersection of Riverside/Brookfield has poorly operating individual movements, but 'as a whole' operates acceptably (at a LOS 'E') during both peak hours. All other intersections operate acceptably, similar to existing conditions.

- For total projected 2031 conditions, higher delays and v/c ratios are experienced compared to total projected 2026 conditions. The intersection of Riverside/Brookfield continues to operate acceptably 'as a whole.' Similarly, the intersection of Riverside/Ridgewood 'as a whole' operates closer to capacity (at a LOS 'E), but acceptably in the morning peak hour. All other intersections operate acceptably, similar to existing conditions.

In summary, the adjacent road network is expected to accommodate anticipated development traffic in the future. Therefore, the proposed development is recommended to proceed from a transportation perspective.

Prepared By:

Basel Ansari, P.Eng.
Transportation Engineer

Reviewed By:

Austin Shih, M.A.Sc., P.Eng.
Senior Transportation Engineer

# Appendix A

SCREENING FORM AND RESPONSE TO CITY COMMENTS

Office: +1 613.738.4160
1223 Michael Street, Suite 100|Ottawa, ON K1J 7T2

City of Ottawa 2017 TIA Guidelines

# TIA Screening Form

| | |
|---|---|
| Date | 22-Mar-21 |
| Project | 729-753 Ridgewood Ave |
| Project Number | 477549 - 01000 |

| Results of Screening | Yes/No |
|---|---|
| Development Satisfies the Trip Generation Trigger | Yes |
| Development Satisfies the Location Trigger | No |
| Development Satisfies the Safety Trigger | Yes |

| Module 1.1 - Description of Proposed Development | |
|---|---|
| Municipal Address | 729-753 Ridgewood Avenue, Ottawa, ON |
| Description of location | North side of Ridgewood Ave |
| Land Use | Five residential buildings and commercials space |
| Development Size | 390 apartment units and 835 m^2 commercial |
| Number of Accesses and Locations | Single access proposed along north side of Ridgewood Ave |
| Development Phasing | Single Phase |
| Buildout Year | 2024 |
| Sketch Plan / Site Plan | See attached |

| Module 1.2 - Trip Generation Trigger | | |
|---|---|---|
| Land Use Type | Townhomes or Apartments | |
| Development Size | 390 | Units |
| Trip Generation Trigger Met? | Yes | |

| Module 1.3 - Location Triggers | |
|---|---|
| Development Proposes a new driveway to a boundary street that is designated as part of the City's Transit Priority, Rapid Transit, or Spine Bicycle Networks (See Sheet 3) | No |
| Development is in a Design Priority Area (DPA) or Transit-oriented Development (TOD) zone. (See Sheet 3) | No |
| Location Trigger Met? | No |

| Module 1.4 - Safety Triggers | | |
|---|---|---|
| Posted Speed Limit on any boundary road | <80 | km/h |
| Horizontal / Vertical Curvature on a boundary street limits sight lines at a proposed driveway | No | |
| A proposed driveway is within the area of influence of an adjacent traffic signal or roundabout (i.e. within 300 m of intersection in rural conditions, or within 150 m of intersection in urban/ suburban conditions) or within auxiliary lanes of an intersection; | Yes | |
| A proposed driveway makes use of an existing median break that serves an existing site | No | |
| There is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development | No | |
| The development includes a drive-thru facility | No | |
| Safety Trigger Met? | Yes | |

1223 Michael Street North, Suite 100 | Ottawa, ON K1J 7T2
P: +1 613.738.4160 | F: +1 613.739.7105 | www.parsons.com

20 November 2023

City of Ottawa
Development Review Services
110 Laurier Avenue West
Ottawa, ON K1P 1J1

**Attention: Mike Giampa**

Dear Mike:

# Re: 729-753 Ridgewood TIA

## Step 5 – Response to Comments

The following response has been prepared in response to City of Ottawa comments received on May 4th, 2023. Comments have been noted in black with the corresponding responses from Parsons in Green.

### Transportation Engineering Services

1. Include a concept plan for the boundary road.
   Included in latest site plan.

2. Include details on transit use and consider transit stop needs to encourage use.
   Transit use and ridership data within the study area and transit stop needs along Ridgewood discussed in Section 4.7.

3. Figure 2 does not seem to display the driveway at the "south west edge of the site" as mentioned in Section 2.1.1.
   Report updated.

4. Ensure the provision and design of accessible parking is consistent with the AODA IASR.
   Design of accessible parking spaces are consistent with AODA IASR.

5. If the proposed site will only be serviced through one access, ensure to show on the drawing that the other existing site accesses will be removed, and the curb will be reinstated (curb/sidewalk depressions removed).
   Latest site plan illustrates reinstated curb and sidewalks at existing access and proposed site access design is further discussed in Section 4.4.

6. Ensure to provide in both report and drawing all necessary design information for review (i.e., access and underground parking ramps' grades, the access' throat length, associated sight lines, etc.).
   Noted.

# Appendix B

TRANSIT ROUTE MAPS

# 90

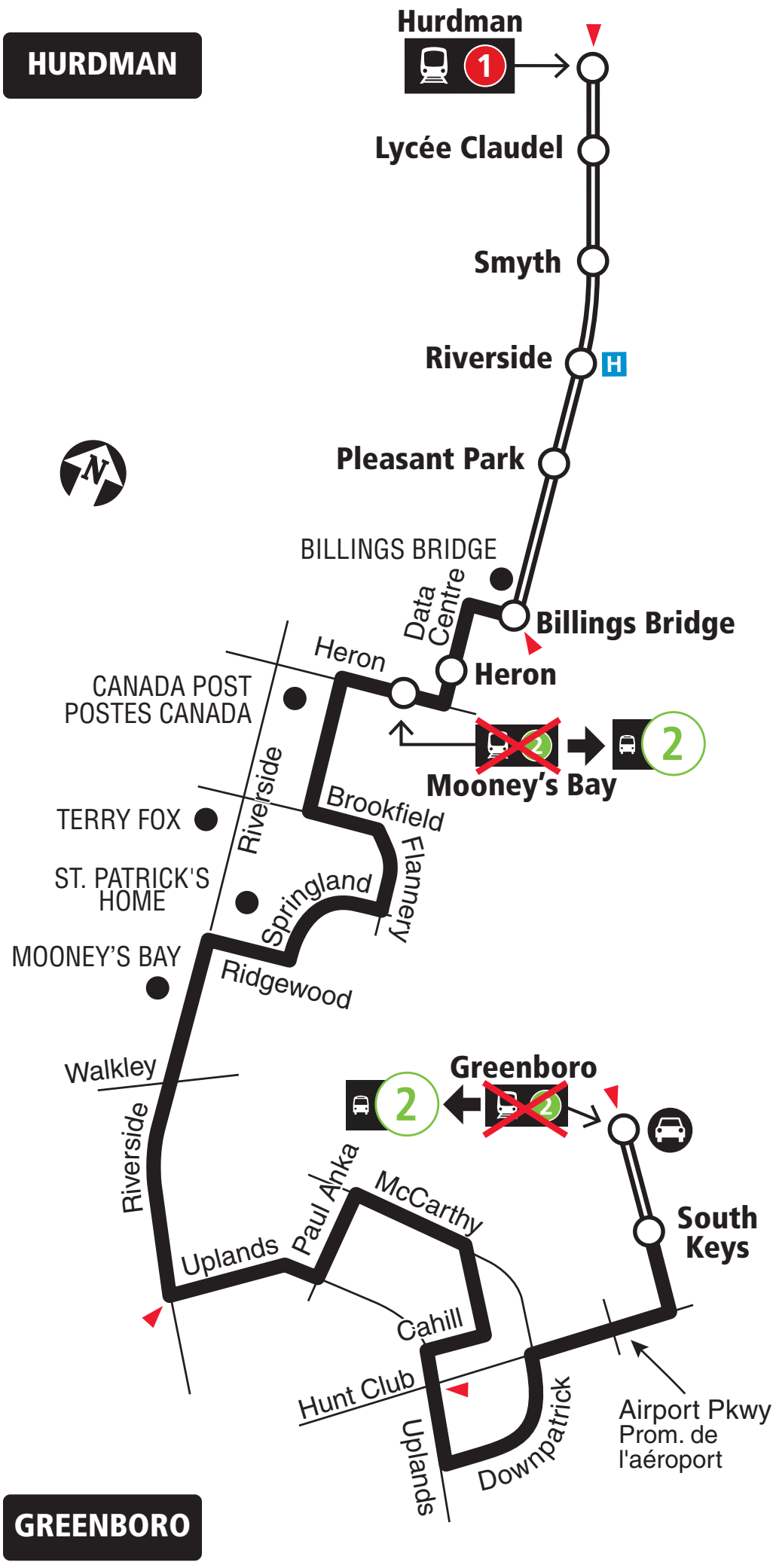
## Fréquent

# GREENBORO
# HURDMAN

## 7 days a week / 7 jours par semaine

All day service

Service toute la journée




Transitway & Station

Park & Ride / Parc-o-bus

Timepoint / Heures de passage

2020.04

**Schedule / Horaire.....613-560-1000**

**Text / Texto .....560560**

*plus* your four digit bus stop number / *plus* votre numéro d'arrêt à quatre chiffres

Customer Service
Service à la clientèle ..... **613-741-4390**

Lost and Found / Objets perdus..... **613-563-4011**

Security / Sécurité ..... **613-741-2478**

**Effective May 3, 2020**

**En vigueur 3 mai 2020**

OC Transpo

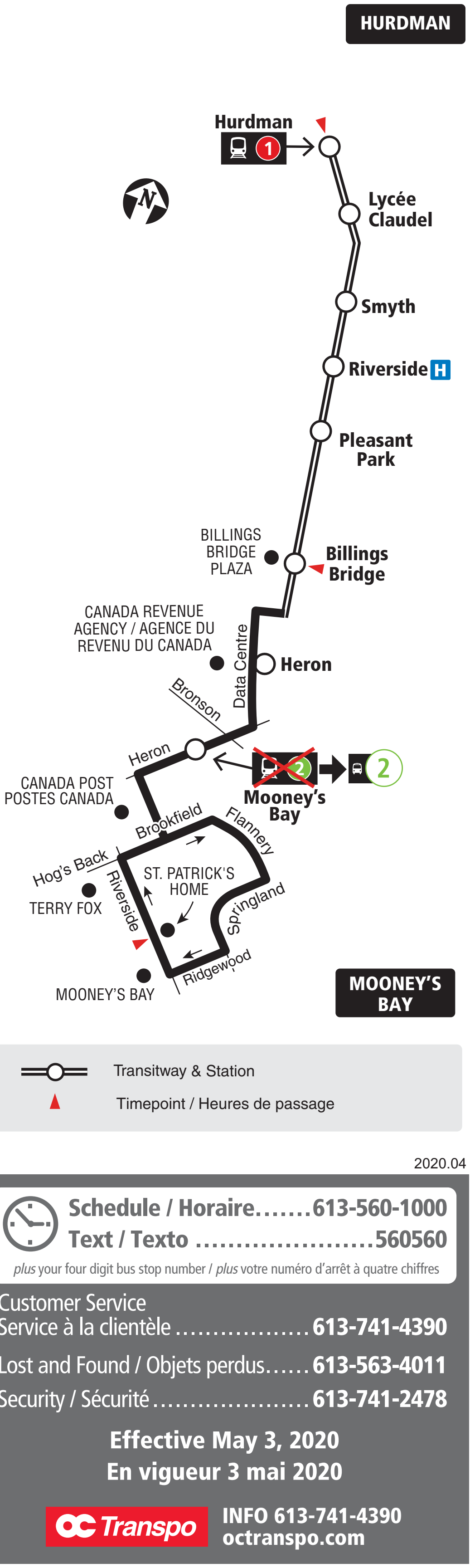
**INFO 613-741-4390**
**octranspo.com**

# 190 MOONEY'S BAY / HURDMAN

*Local*

## 7 days a week / 7 jours par semaine

Selected trips only
Trajets sélectionnés seulement




2020.04

**Schedule / Horaire.....613-560-1000**
**Text / Texto .....560560**

*plus* your four digit bus stop number / *plus* votre numéro d'arrêt à quatre chiffres

Customer Service
Service à la clientèle ..... **613-741-4390**

Lost and Found / Objets perdus..... **613-563-4011**

Security / Sécurité ..... **613-741-2478**

**Effective May 3, 2020**
**En vigueur 3 mai 2020**

OC Transpo

**INFO 613-741-4390**
**octranspo.com**

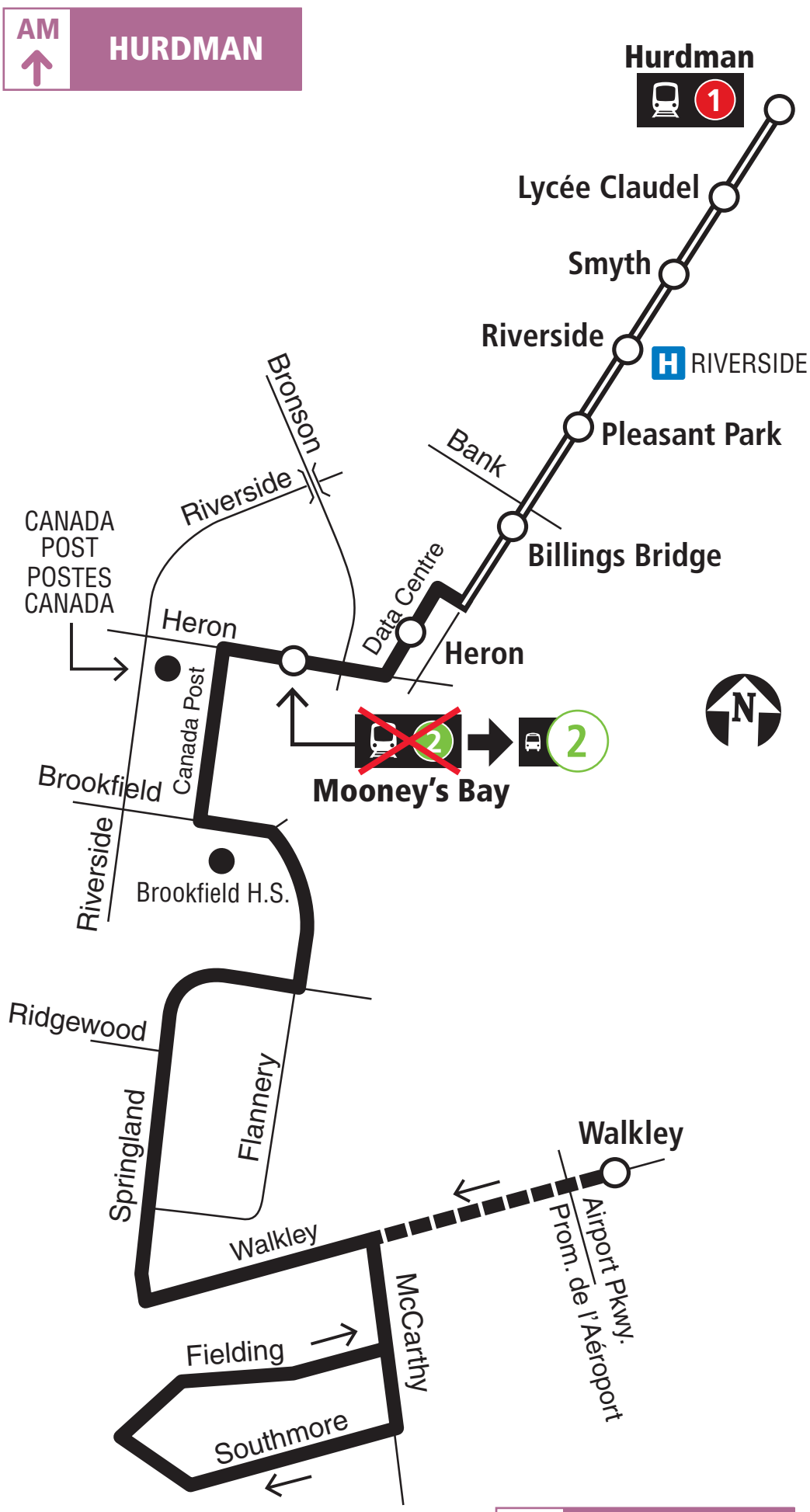
# 290 Connexion

# HURDMAN / McCARTHY

## Monday to Friday / Lundi au vendredi

Peak periods only
Périodes de pointe seulement

**AM ↑ HURDMAN**




**PM ↓ McCARTHY**

Transitway & Station

AM trips only / Trajets du matin seulement

2021.03

**Schedule / Horaire.....613-560-1000**
**Text / Texto .....560560**

*plus* your four digit bus stop number / *plus* votre numéro d'arrêt à quatre chiffres

Customer Relations
Service à la clientèle ..... **613-741-4390**

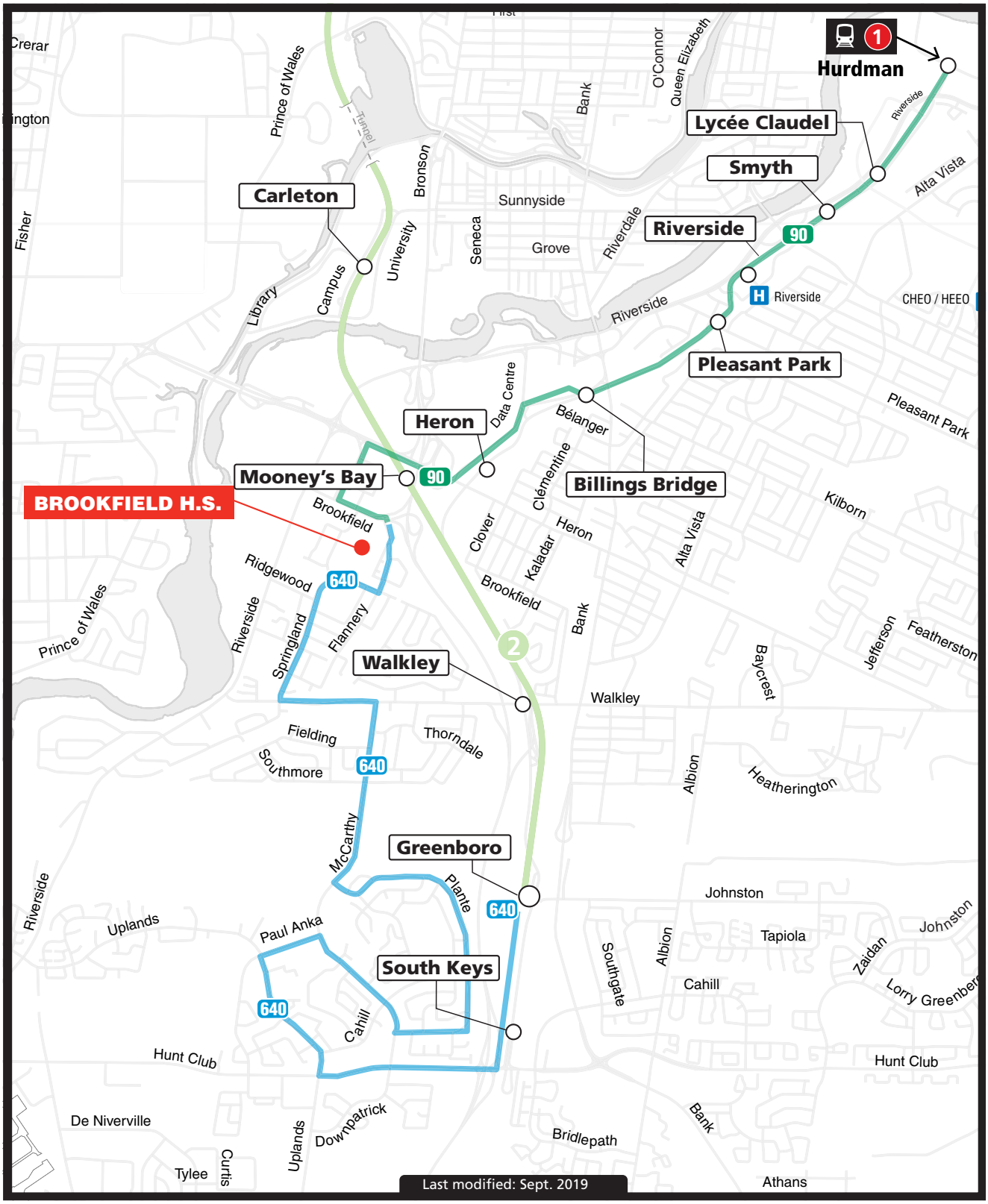
Lost and Found / Objets perdus..... **613-563-4011**

Security / Sécurité ..... **613-741-2478**

**Effective March 8, 2021**
**En vigueur 8 mars 2021**

OC Transpo

**INFO 613-741-4390**
**octranspo.com**


Hurdman
Lycée Claudel
Smyth
Riverside
Carleton
Sunnyside
Grove
Riverside
Riverside
CHEO / HEEO
Pleasant Park
Heron
Billings Bridge
Mooney's Bay
BROOKFIELD H.S.
Walkley
Greenboro
South Keys
90
640
2
Prince of Wales
Bronson
University
Campus
Library
Fisher
Seneca
Riverdale
Bank
O'Connor
Queen Elizabeth
Alta Vista
Data Centre
Bélanger
Clémentine
Clover
Kaladar
Heron
Brookfield
Ridgewood
Springland
Flannery
Riverside
Fielding
Southmore
Thorndale
McCarthy
Plante
Paul Anka
Uplands
Cahill
Hunt Club
De Niverville
Downpatrick
Bridlepath
Tylee
Curtis
Walkley
Albion
Heatherington
Baycrest
Jefferson
Featherston
Kilborn
Johnston
Tapiola
Zaidan
Lorry Greenberg
Southgate
Athans
Last modified: Sept. 2019

# Appendix C

TRAFFIC DATA

# Transportation Services - Traffic Services

W.O. 36342

## Turning Movement Count - 15 Minute Summary Report

# AIRPORT PKWY/BROOKFIELD RD @ FLANNERY DR/AIRPORT PKWY RAMPS 52A/53

**Survey Date:** Thursday, September 22, 2016

**Total Observed U-Turns**

Northbound: 1 Southbound: 0

Eastbound: 34 Westbound: 0

| | | Northbound | | | | Southbound | | | | | Eastbound | | | | Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time Period | | LT | ST | RT | N TOT | LT | ST | RT | S TOT | STR TOT | LT | ST | RT | E TOT | LT | ST | RT | W TOT | STR TOT | Grand Total |
| 07:00 | 07:15 | 6 | 0 | 20 | **26** | 0 | 6 | 38 | **44** | **70** | 0 | 69 | 3 | **72** | 3 | 40 | 0 | **43** | **115** | **185** |
| 07:15 | 07:30 | 8 | 0 | 40 | **48** | 0 | 4 | 47 | **51** | **99** | 0 | 81 | 4 | **87** | 0 | 44 | 0 | **44** | **131** | **230** |
| 07:30 | 07:45 | 15 | 1 | 49 | **65** | 0 | 3 | 36 | **39** | **104** | 0 | 110 | 10 | **120** | 1 | 55 | 0 | **56** | **176** | **280** |
| 07:45 | 08:00 | 14 | 0 | 39 | **53** | 1 | 8 | 41 | **50** | **103** | 0 | 118 | 4 | **122** | 0 | 52 | 0 | **52** | **174** | **277** |
| 08:00 | 08:15 | 18 | 0 | 63 | **81** | 0 | 8 | 36 | **44** | **125** | 1 | 92 | 17 | **111** | 0 | 57 | 0 | **57** | **168** | **293** |
| 08:15 | 08:30 | 16 | 0 | 42 | **58** | 0 | 10 | 43 | **53** | **111** | 1 | 80 | 8 | **91** | 1 | 60 | 0 | **61** | **152** | **263** |
| 08:30 | 08:45 | 24 | 0 | 44 | **68** | 1 | 3 | 51 | **55** | **123** | 0 | 91 | 14 | **105** | 3 | 45 | 0 | **48** | **153** | **276** |
| 08:45 | 09:00 | 27 | 0 | 35 | **62** | 2 | 10 | 46 | **58** | **120** | 0 | 98 | 28 | **127** | 0 | 62 | 0 | **62** | **189** | **309** |
| 09:00 | 09:15 | 13 | 0 | 23 | **36** | 0 | 8 | 44 | **52** | **88** | 0 | 78 | 16 | **95** | 6 | 37 | 0 | **43** | **138** | **226** |
| 09:15 | 09:30 | 5 | 0 | 19 | **24** | 0 | 7 | 32 | **39** | **63** | 1 | 71 | 12 | **84** | 3 | 30 | 0 | **33** | **117** | **180** |
| 09:30 | 09:45 | 12 | 0 | 24 | **36** | 0 | 6 | 24 | **30** | **66** | 2 | 60 | 8 | **72** | 2 | 22 | 0 | **24** | **96** | **162** |
| 09:45 | 10:00 | 16 | 0 | 22 | **38** | 2 | 6 | 17 | **25** | **63** | 0 | 32 | 6 | **39** | 3 | 19 | 0 | **22** | **61** | **124** |
| 11:30 | 11:45 | 12 | 0 | 16 | **29** | 3 | 12 | 18 | **33** | **62** | 0 | 72 | 12 | **85** | 1 | 19 | 0 | **20** | **105** | **167** |
| 11:45 | 12:00 | 6 | 0 | 18 | **24** | 0 | 11 | 20 | **31** | **55** | 1 | 69 | 11 | **84** | 3 | 16 | 0 | **19** | **103** | **158** |
| 12:00 | 12:15 | 10 | 0 | 21 | **31** | 1 | 8 | 16 | **25** | **56** | 0 | 66 | 18 | **84** | 3 | 18 | 0 | **21** | **105** | **161** |
| 12:15 | 12:30 | 9 | 0 | 14 | **23** | 0 | 16 | 13 | **29** | **52** | 0 | 79 | 17 | **98** | 1 | 22 | 0 | **23** | **121** | **173** |
| 12:30 | 12:45 | 12 | 1 | 21 | **34** | 0 | 17 | 23 | **40** | **74** | 0 | 56 | 12 | **68** | 3 | 20 | 0 | **23** | **91** | **165** |
| 12:45 | 13:00 | 6 | 0 | 13 | **19** | 0 | 10 | 19 | **29** | **48** | 0 | 48 | 13 | **62** | 2 | 23 | 0 | **25** | **87** | **135** |
| 13:00 | 13:15 | 11 | 0 | 15 | **26** | 3 | 12 | 23 | **38** | **64** | 0 | 51 | 10 | **61** | 1 | 27 | 0 | **28** | **89** | **153** |
| 13:15 | 13:30 | 5 | 0 | 20 | **25** | 3 | 12 | 12 | **27** | **52** | 1 | 48 | 16 | **67** | 0 | 29 | 0 | **29** | **96** | **148** |
| 15:00 | 15:15 | 14 | 0 | 12 | **26** | 3 | 18 | 30 | **51** | **77** | 0 | 125 | 34 | **160** | 6 | 28 | 0 | **34** | **194** | **271** |
| 15:15 | 15:30 | 13 | 1 | 10 | **24** | 2 | 20 | 47 | **69** | **93** | 0 | 105 | 24 | **129** | 3 | 31 | 0 | **34** | **163** | **256** |
| 15:30 | 15:45 | 13 | 1 | 21 | **35** | 2 | 18 | 53 | **73** | **108** | 0 | 120 | 25 | **147** | 8 | 38 | 0 | **46** | **193** | **301** |
| 15:45 | 16:00 | 10 | 0 | 13 | **23** | 0 | 34 | 53 | **87** | **110** | 1 | 122 | 27 | **152** | 2 | 30 | 0 | **32** | **184** | **294** |
| 16:00 | 16:15 | 13 | 0 | 12 | **25** | 5 | 33 | 69 | **107** | **132** | 0 | 136 | 31 | **167** | 0 | 24 | 0 | **24** | **191** | **323** |
| 16:15 | 16:30 | 4 | 0 | 18 | **22** | 2 | 62 | 70 | **134** | **156** | 1 | 109 | 27 | **140** | 3 | 31 | 0 | **34** | **174** | **330** |
| 16:30 | 16:45 | 8 | 0 | 19 | **27** | 3 | 68 | 62 | **133** | **160** | 2 | 101 | 46 | **149** | 7 | 24 | 0 | **31** | **180** | **340** |
| 16:45 | 17:00 | 8 | 0 | 17 | **25** | 0 | 73 | 69 | **142** | **167** | 0 | 93 | 38 | **134** | 6 | 25 | 0 | **31** | **165** | **332** |
| 17:00 | 17:15 | 12 | 0 | 15 | **27** | 0 | 63 | 48 | **111** | **138** | 0 | 99 | 24 | **124** | 3 | 26 | 0 | **29** | **153** | **291** |
| 17:15 | 17:30 | 13 | 0 | 12 | **25** | 0 | 60 | 47 | **107** | **132** | 1 | 101 | 29 | **132** | 6 | 34 | 0 | **40** | **172** | **304** |
| 17:30 | 17:45 | 6 | 0 | 25 | **31** | 2 | 55 | 52 | **109** | **140** | 0 | 109 | 23 | **132** | 6 | 24 | 0 | **30** | **162** | **302** |
| 17:45 | 18:00 | 7 | 0 | 26 | **33** | 0 | 33 | 47 | **80** | **113** | 1 | 87 | 26 | **116** | 3 | 28 | 0 | **31** | **147** | **260** |
| TOTAL: | | 366 | 4 | 758 | **1129** | 35 | 714 | 1246 | **1995** | **3124** | 13 | 2776 | 593 | **3416** | 89 | 1040 | 0 | **1129** | **4545** | **7669** |

| | Northbound | | | | Southbound | | | | | Eastbound | | | | Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time Period | LT | ST | RT | **N TOT** | LT | ST | RT | **S TOT** | **STR TOT** | LT | ST | RT | **E TOT** | LT | ST | RT | **W TOT** | **STR TOT** | **Grand Total** |

Note: U-Turns are included in Totals.

**Comment:**

# Transportation Services - Traffic Services

## Turning Movement Count - Cyclist Volume Report

**Work Order**
**36342**

## AIRPORT PKWY/BROOKFIELD RD @ FLANNERY DR/AIRPORT PKWY RAMPS 52A/53

**Count Date:** Thursday, September 22, 2016 **Start Time:** 07:00

| Time Period | Northbound | Southbound | **Street Total** | Eastbound | Westbound | **Street Total** | **Grand Total** |
|---|---|---|---|---|---|---|---|
| 07:00 08:00 | 11 | 1 | **12** | 1 | 6 | **7** | **19** |
| 08:00 09:00 | 14 | 1 | **15** | 4 | 4 | **8** | **23** |
| 09:00 10:00 | 1 | 0 | **1** | 0 | 2 | **2** | **3** |
| 11:30 12:30 | 3 | 4 | **7** | 2 | 0 | **2** | **9** |
| 12:30 13:30 | 1 | 0 | **1** | 4 | 2 | **6** | **7** |
| 15:00 16:00 | 0 | 3 | **3** | 4 | 2 | **6** | **9** |
| 16:00 17:00 | 3 | 4 | **7** | 13 | 1 | **14** | **21** |
| 17:00 18:00 | 2 | 2 | **4** | 12 | 2 | **14** | **18** |
| Total ..... | 35 | 15 | **50** | 40 | 19 | **59** | **109** |

**Comment:**

Note: These volumes consists of bicycles only (no mopeds or motorcycles) and ARE NOT included in the Turning Movement Count Summary.

# Transportation Services - Traffic Services

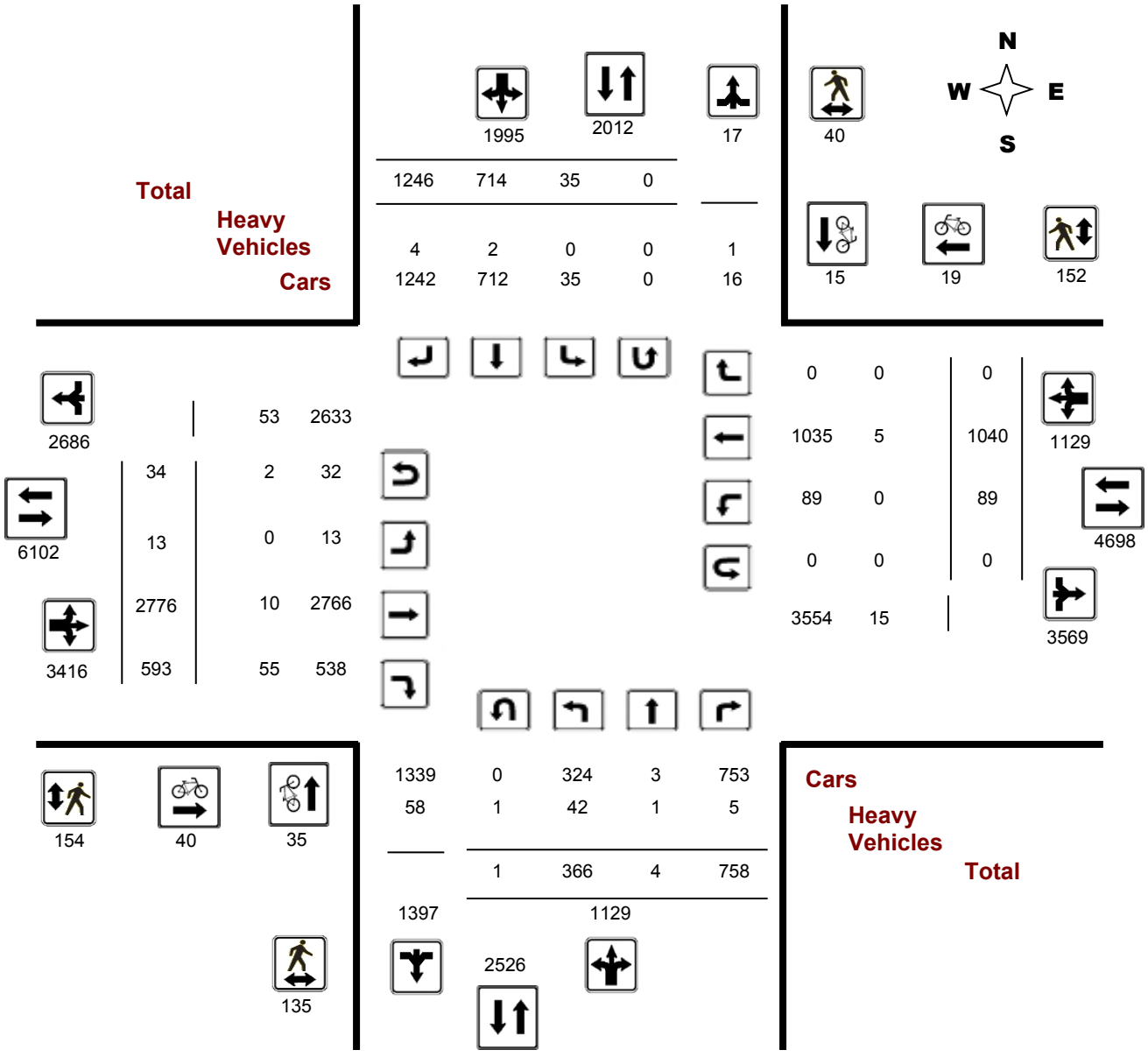
## Turning Movement Count - Full Study Diagram

## AIRPORT PKWY/BROOKFIELD RD @ FLANNERY DR/AIRPORT PKWY RAMPS 52A/53

**Survey Date:** Thursday, September 22, 2016

**WO#:** 36342

**Device:** Miovision




**Comments**

# Transportation Services - Traffic Services

**W.O.** 36342

## Turning Movement Count - Heavy Vehicle Report

# AIRPORT PKWY/BROOKFIELD RD @ FLANNERY DR/AIRPORT PKWY RAMPS 52A/53

**Survey Date:** Thursday, September 22, 2016

| | | Northbound | | | | Southbound | | | | | Eastbound | | | | Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time Period | | LT | ST | RT | N TOT | LT | ST | RT | S TOT | STR TOT | LT | ST | RT | E TOT | LT | ST | RT | W TOT | STR TOT | Grand Total |
| 07:00 | 08:00 | 9 | 0 | 0 | **9** | 0 | 0 | 0 | **0** | **9** | 0 | 1 | 4 | **5** | 0 | 0 | 0 | **0** | **5** | **14** |
| 08:00 | 09:00 | 6 | 0 | 1 | **7** | 0 | 0 | 1 | **1** | **8** | 0 | 1 | 6 | **7** | 0 | 2 | 0 | **2** | **9** | **17** |
| 09:00 | 10:00 | 7 | 0 | 0 | **7** | 0 | 0 | 1 | **1** | **8** | 0 | 1 | 7 | **8** | 0 | 0 | 0 | **0** | **8** | **16** |
| 11:30 | 12:30 | 4 | 0 | 0 | **5** | 0 | 1 | 0 | **1** | **6** | 0 | 0 | 5 | **6** | 0 | 1 | 0 | **1** | **7** | **13** |
| 12:30 | 13:30 | 4 | 0 | 1 | **5** | 0 | 1 | 0 | **1** | **6** | 0 | 2 | 4 | **6** | 0 | 0 | 0 | **0** | **6** | **12** |
| 15:00 | 16:00 | 5 | 1 | 1 | **7** | 0 | 0 | 1 | **1** | **8** | 0 | 3 | 12 | **16** | 0 | 2 | 0 | **2** | **18** | **26** |
| 16:00 | 17:00 | 4 | 0 | 1 | **5** | 0 | 0 | 0 | **0** | **5** | 0 | 1 | 9 | **10** | 0 | 0 | 0 | **0** | **10** | **15** |
| 17:00 | 18:00 | 3 | 0 | 1 | **4** | 0 | 0 | 1 | **1** | **5** | 0 | 1 | 8 | **9** | 0 | 0 | 0 | **0** | **9** | **14** |
| **Sub Total** | | 42 | 1 | 5 | **49** | 0 | 2 | 4 | **6** | **55** | 0 | 10 | 55 | **67** | 0 | 5 | 0 | **5** | **72** | **127** |
| **U-Turns (Heavy Vehicles)** | | | | | **1** | | | | **0** | **1** | | | | **2** | | | | **0** | **2** | **3** |
| **Total** | | 42 | 1 | 5 | **0** | 0 | 2 | 4 | **6** | **56** | 0 | 10 | 55 | **69** | 0 | 5 | 0 | **5** | **74** | **130** |

Heavy Vehicles include Buses, Single-Unit Trucks and Articulated Trucks. Further, they ARE included in the Turning Movement Count Summary.

# Transportation Services - Traffic Services

**Work Order**
**36342**

## Turning Movement Count - Pedestrian Volume Report

### AIRPORT PKWY/BROOKFIELD RD @ FLANNERY DR/AIRPORT PKWY RAMPS 52A/53

**Count Date:** Thursday, September 22, 2016 **Start Time:** 07:00

| Time Period | NB Approach (E or W Crossing) | SB Approach (E or W Crossing) | Total | EB Approach (N or S Crossing) | WB Approach (N or S Crossing) | Total | Grand Total |
|---|---|---|---|---|---|---|---|
| 07:00 07:15 | 1 | 0 | **1** | 0 | 0 | **0** | **1** |
| 07:15 07:30 | 5 | 0 | **5** | 3 | 5 | **8** | **13** |
| 07:30 07:45 | 2 | 1 | **3** | 2 | 2 | **4** | **7** |
| 07:45 08:00 | 1 | 0 | **1** | 2 | 4 | **6** | **7** |
| 07:00 08:00 | 9 | 1 | **10** | 7 | 11 | **18** | **28** |
| 08:00 08:15 | 1 | 2 | **3** | 2 | 6 | **8** | **11** |
| 08:15 08:30 | 21 | 1 | **22** | 7 | 4 | **11** | **33** |
| 08:30 08:45 | 65 | 1 | **66** | 13 | 6 | **19** | **85** |
| 08:45 09:00 | 2 | 4 | **6** | 29 | 0 | **29** | **35** |
| 08:00 09:00 | 89 | 8 | **97** | 51 | 16 | **67** | **164** |
| 09:00 09:15 | 7 | 4 | **11** | 5 | 3 | **8** | **19** |
| 09:15 09:30 | 0 | 0 | **0** | 0 | 0 | **0** | **0** |
| 09:30 09:45 | 0 | 3 | **3** | 0 | 7 | **7** | **10** |
| 09:45 10:00 | 0 | 2 | **2** | 1 | 5 | **6** | **8** |
| 09:00 10:00 | 7 | 9 | **16** | 6 | 15 | **21** | **37** |
| 11:30 11:45 | 2 | 1 | **3** | 1 | 8 | **9** | **12** |
| 11:45 12:00 | 0 | 0 | **0** | 2 | 4 | **6** | **6** |
| 12:00 12:15 | 0 | 2 | **2** | 5 | 1 | **6** | **8** |
| 12:15 12:30 | 0 | 3 | **3** | 7 | 5 | **12** | **15** |
| 11:30 12:30 | 2 | 6 | **8** | 15 | 18 | **33** | **41** |
| 12:30 12:45 | 0 | 2 | **2** | 6 | 4 | **10** | **12** |
| 12:45 13:00 | 0 | 0 | **0** | 2 | 2 | **4** | **4** |
| 13:00 13:15 | 0 | 0 | **0** | 2 | 4 | **6** | **6** |
| 13:15 13:30 | 0 | 0 | **0** | 1 | 4 | **5** | **5** |
| 12:30 13:30 | 0 | 2 | **2** | 11 | 14 | **25** | **27** |
| 15:00 15:15 | 6 | 4 | **10** | 25 | 2 | **27** | **37** |
| 15:15 15:30 | 5 | 4 | **9** | 20 | 6 | **26** | **35** |
| 15:30 15:45 | 4 | 1 | **5** | 4 | 8 | **12** | **17** |
| 15:45 16:00 | 0 | 1 | **1** | 0 | 4 | **4** | **5** |
| 15:00 16:00 | 15 | 10 | **25** | 49 | 20 | **69** | **94** |
| 16:00 16:15 | 0 | 1 | **1** | 1 | 3 | **4** | **5** |
| 16:15 16:30 | 1 | 0 | **1** | 3 | 4 | **7** | **8** |
| 16:30 16:45 | 5 | 0 | **5** | 0 | 11 | **11** | **16** |
| 16:45 17:00 | 2 | 0 | **2** | 3 | 6 | **9** | **11** |
| 16:00 17:00 | 8 | 1 | **9** | 7 | 24 | **31** | **40** |
| 17:00 17:15 | 2 | 2 | **4** | 5 | 5 | **10** | **14** |
| 17:15 17:30 | 1 | 1 | **2** | 0 | 9 | **9** | **11** |
| 17:30 17:45 | 2 | 0 | **2** | 2 | 12 | **14** | **16** |
| 17:45 18:00 | 0 | 0 | **0** | 1 | 8 | **9** | **9** |
| 17:00 18:00 | 5 | 3 | **8** | 8 | 34 | **42** | **50** |
| Total ..... | 135 | 40 | **175** | 154 | 152 | **306** | **481** |

**Comment:**

# Transportation Services - Traffic Services

**Work Order**
36342

## Turning Movement Count - Full Study Summary Report

# AIRPORT PKWY/BROOKFIELD RD @ FLANNERY DR/AIRPORT PKWY RAMPS 52A/53

**Survey Date:** Thursday, September 22, 2016

**Total Observed U-Turns**

Northbound: 1 Southbound: 0
Eastbound: 34 Westbound: 0

**AADT Factor**
1.00

### Full Study

| | Northbound | | | | Southbound | | | | | Eastbound | | | | Westbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Period | LT | ST | RT | **NB TOT** | LT | ST | RT | **SB TOT** | **STR TOT** | LT | ST | RT | **EB TOT** | LT | ST | RT | **WB TOT** | **STR TOT** | **Grand Total** |
| 07:00 08:00 | 43 | 1 | 148 | **192** | 1 | 21 | 162 | **184** | **376** | 0 | 378 | 21 | **399** | 4 | 191 | 0 | **195** | **594** | **970** |
| 08:00 09:00 | 85 | 0 | 184 | **269** | 3 | 31 | 176 | **210** | **479** | 2 | 361 | 67 | **430** | 4 | 224 | 0 | **228** | **658** | **1137** |
| 09:00 10:00 | 46 | 0 | 88 | **134** | 2 | 27 | 117 | **146** | **280** | 3 | 241 | 42 | **286** | 14 | 108 | 0 | **122** | **408** | **688** |
| 11:30 12:30 | 37 | 0 | 69 | **106** | 4 | 47 | 67 | **118** | **224** | 1 | 286 | 58 | **345** | 8 | 75 | 0 | **83** | **428** | **652** |
| 12:30 13:30 | 34 | 1 | 69 | **104** | 6 | 51 | 77 | **134** | **238** | 1 | 203 | 51 | **255** | 6 | 99 | 0 | **105** | **360** | **598** |
| 15:00 16:00 | 50 | 2 | 56 | **108** | 7 | 90 | 183 | **280** | **388** | 1 | 472 | 110 | **583** | 19 | 127 | 0 | **146** | **729** | **1117** |
| 16:00 17:00 | 33 | 0 | 66 | **99** | 10 | 236 | 270 | **516** | **615** | 3 | 439 | 142 | **584** | 16 | 104 | 0 | **120** | **704** | **1319** |
| 17:00 18:00 | 38 | 0 | 78 | **116** | 2 | 211 | 194 | **407** | **523** | 2 | 396 | 102 | **500** | 18 | 112 | 0 | **130** | **630** | **1153** |
| **Sub Total** | 366 | 4 | 758 | **1128** | 35 | 714 | 1246 | **1995** | **3123** | 13 | 2776 | 593 | **3382** | 89 | 1040 | 0 | **1129** | **4511** | **7634** |
| **U Turns** | | | | **1** | | | | **0** | **1** | | | | **34** | | | | **0** | **34** | **35** |
| **Total** | 366 | 4 | 758 | **1129** | 35 | 714 | 1246 | **1995** | **3124** | 13 | 2776 | 593 | **3416** | 89 | 1040 | 0 | **1129** | **4545** | **7669** |
| **EQ 12Hr** | 509 | 6 | 1054 | **1569** | 49 | 992 | 1732 | **2773** | **4342** | 18 | 3859 | 824 | **4748** | 124 | 1446 | 0 | **1569** | **6317** | **10659** |
| Note: These values are calculated by multiplying the totals by the appropriate expansion factor. | | | | | | | | | | | | | **1.39** | | | | | | |
| **AVG 12Hr** | 509 | 6 | 1054 | **1569** | 49 | 992 | 1732 | **2773** | **4342** | 18 | 3859 | 824 | **4748** | 124 | 1446 | 0 | **1569** | **6317** | **10659** |
| Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor. | | | | | | | | | | | | | **1.00** | | | | | | |
| **AVG 24Hr** | 666 | 7 | 1380 | **2056** | 64 | 1300 | 2269 | **3633** | **5689** | 24 | 5055 | 1080 | **6220** | 162 | 1894 | 0 | **2056** | **8276** | **13965** |
| Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor. | | | | | | | | | | | | | **1.31** | | | | | | |

**Comments:**

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

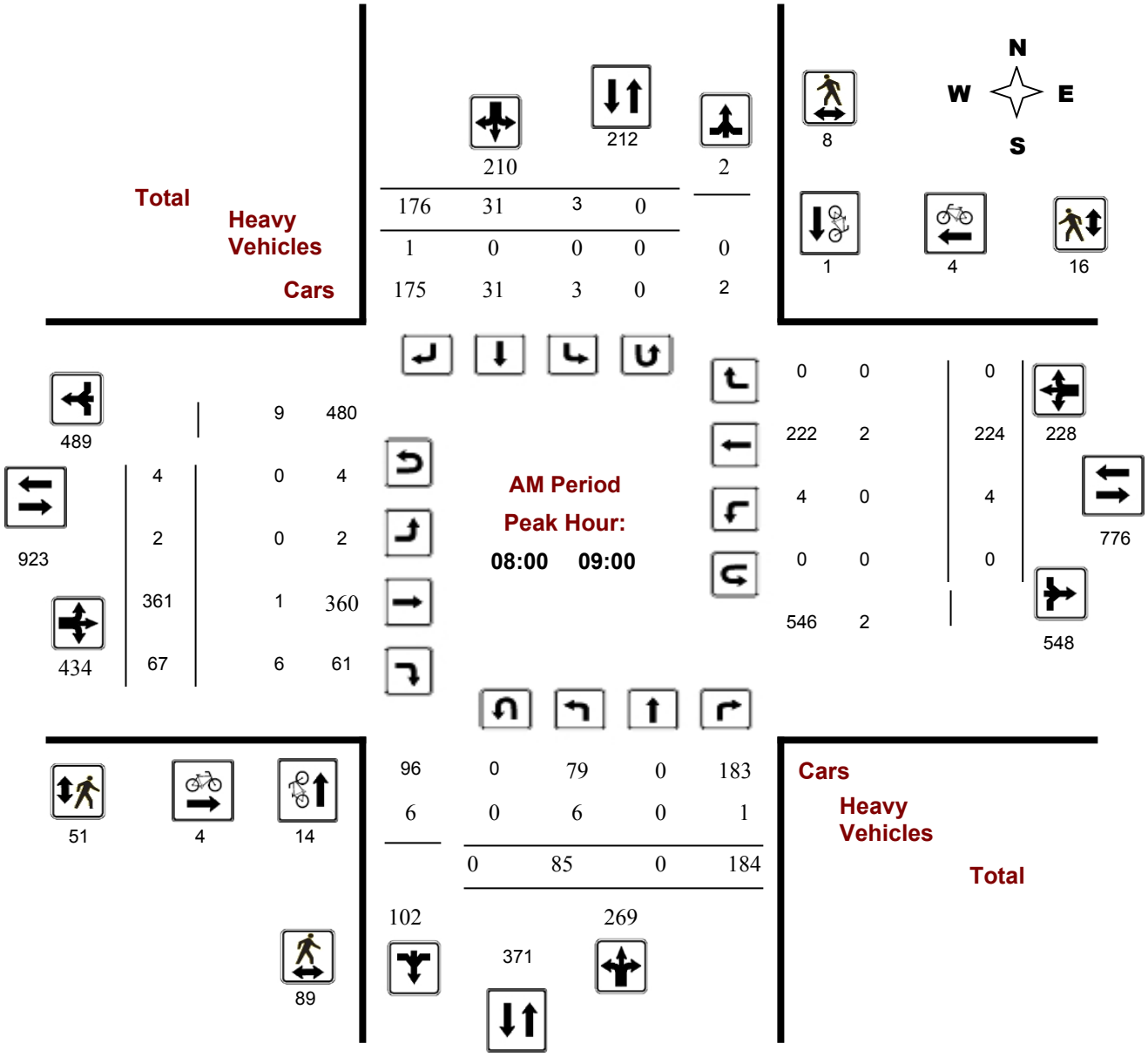
# Transportation Services - Traffic Services

## Turning Movement Count - Full Study Peak Hour Diagram

## AIRPORT PKWY/BROOKFIELD RD @ FLANNERY DR/AIRPORT PKWY RAMPS 52A/53

**Survey Date:** Thursday, September 22, 2016 **WO No:** 36342

**Start Time:** 07:00 **Device:** Miovision




**Comments**

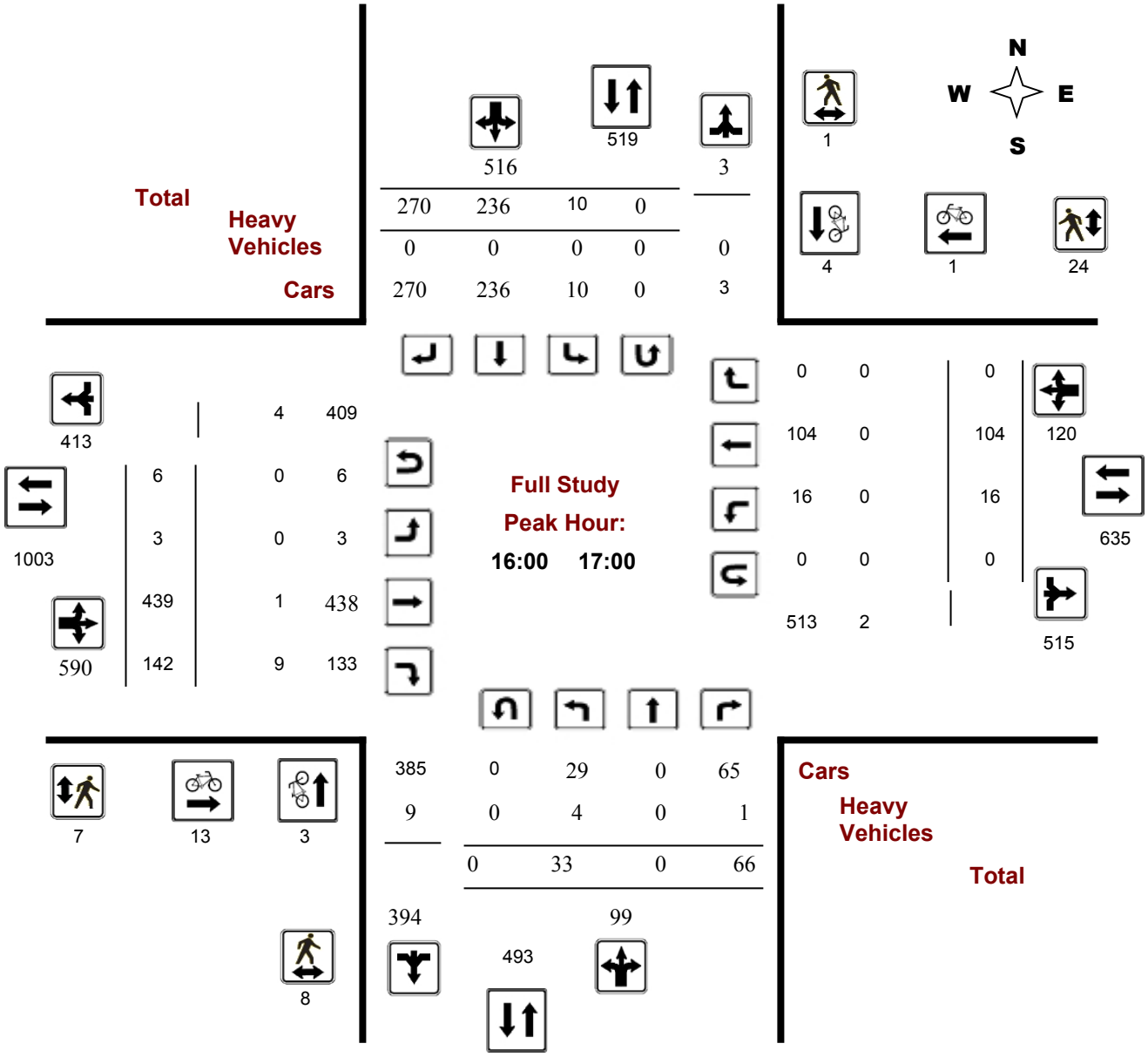
# Transportation Services - Traffic Services

## Turning Movement Count - Full Study Peak Hour Diagram

## AIRPORT PKWY/BROOKFIELD RD @ FLANNERY DR/AIRPORT PKWY RAMPS 52A/53

**Survey Date:** Thursday, September 22, 2016 **WO No:** 36342

**Start Time:** 07:00 **Device:** Miovision




**Comments**

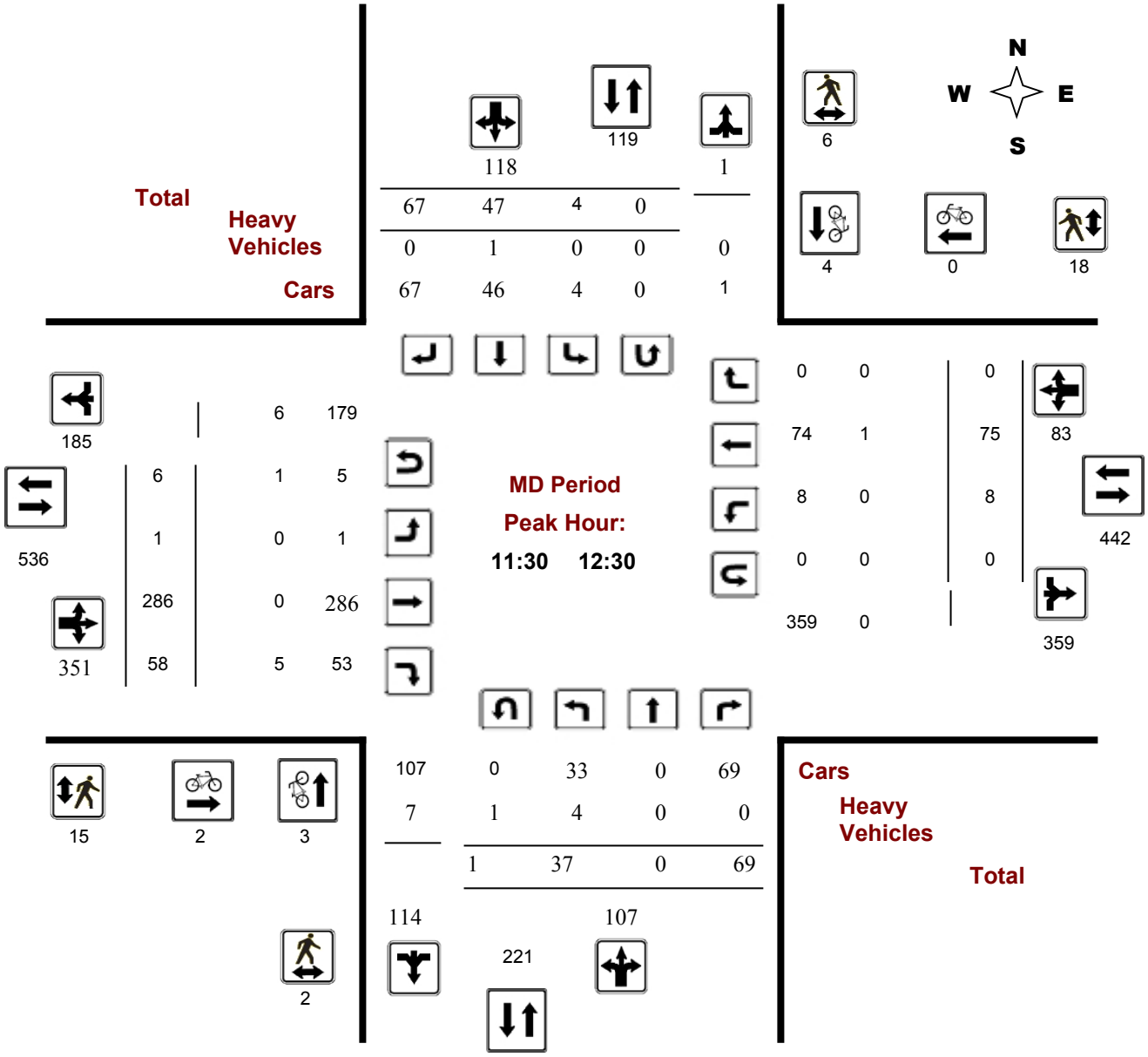
# Transportation Services - Traffic Services

## Turning Movement Count - Full Study Peak Hour Diagram

## AIRPORT PKWY/BROOKFIELD RD @ FLANNERY DR/AIRPORT PKWY RAMPS 52A/53

**Survey Date:** Thursday, September 22, 2016 **WO No:** 36342

**Start Time:** 07:00 **Device:** Miovision




**Comments**

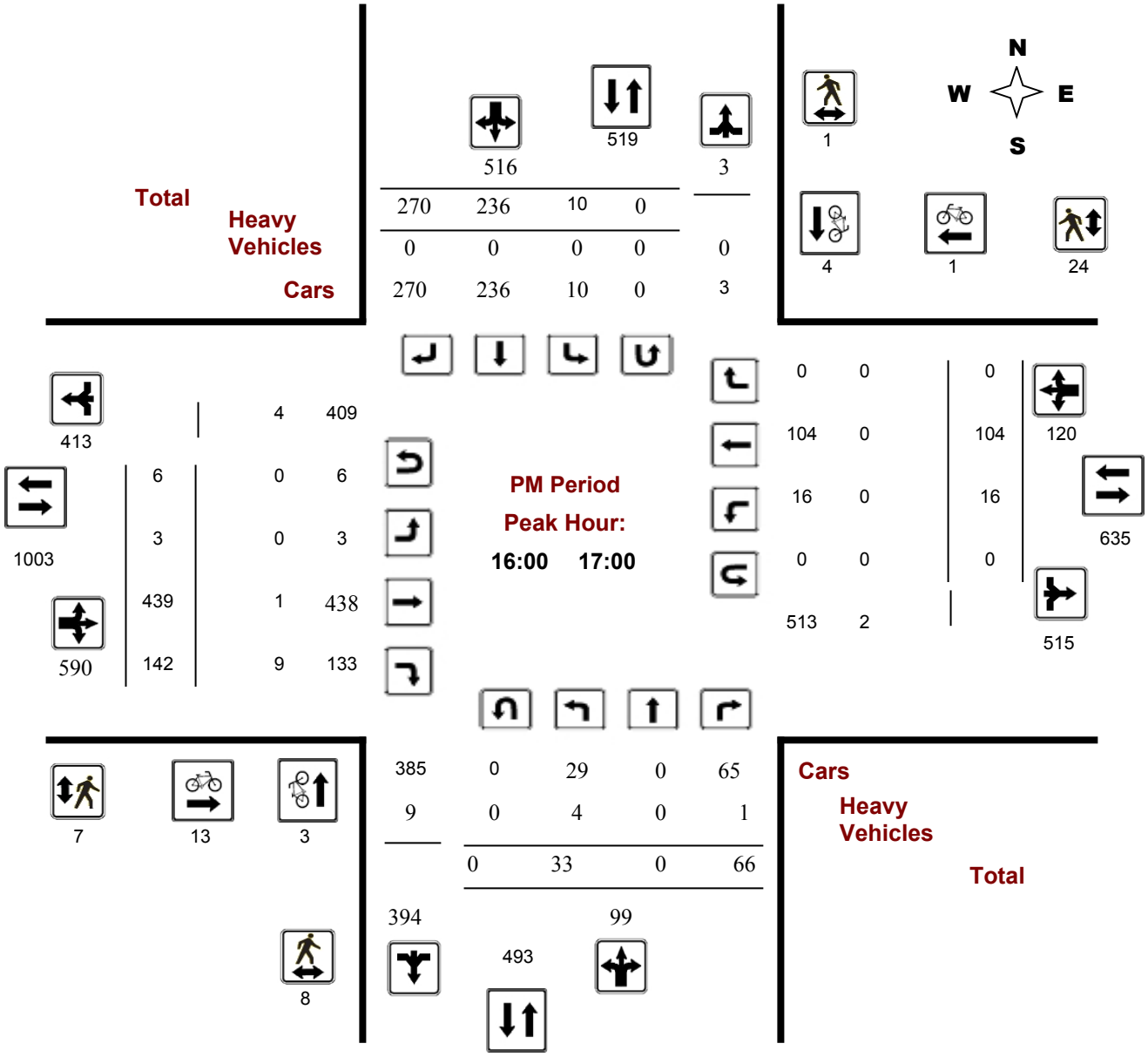
# Transportation Services - Traffic Services

## Turning Movement Count - Full Study Peak Hour Diagram

## AIRPORT PKWY/BROOKFIELD RD @ FLANNERY DR/AIRPORT PKWY RAMPS 52A/53

**Survey Date:** Thursday, September 22, 2016 **WO No:** 36342

**Start Time:** 07:00 **Device:** Miovision




**Comments**

# Transportation Services - Traffic Services

**Work Order**
36342

## Turning Movement Count - 15 Min U-Turn Total Report

## AIRPORT PKWY/BROOKFIELD RD @ FLANNERY DR/AIRPORT PKWY RAMPS 52A/53

**Survey Date:** Thursday, September 22, 2016

| Time Period | | Northbound U-Turn Total | Southbound U-Turn Total | Eastbound U-Turn Total | Westbound U-Turn Total | Total |
|---|---|---|---|---|---|---|
| 07:00 | 07:15 | 0 | 0 | 0 | 0 | 0 |
| 07:15 | 07:30 | 0 | 0 | 2 | 0 | 2 |
| 07:30 | 07:45 | 0 | 0 | 0 | 0 | 0 |
| 07:45 | 08:00 | 0 | 0 | 0 | 0 | 0 |
| 08:00 | 08:15 | 0 | 0 | 1 | 0 | 1 |
| 08:15 | 08:30 | 0 | 0 | 2 | 0 | 2 |
| 08:30 | 08:45 | 0 | 0 | 0 | 0 | 0 |
| 08:45 | 09:00 | 0 | 0 | 1 | 0 | 1 |
| 09:00 | 09:15 | 0 | 0 | 1 | 0 | 1 |
| 09:15 | 09:30 | 0 | 0 | 0 | 0 | 0 |
| 09:30 | 09:45 | 0 | 0 | 2 | 0 | 2 |
| 09:45 | 10:00 | 0 | 0 | 1 | 0 | 1 |
| 11:30 | 11:45 | 1 | 0 | 1 | 0 | 2 |
| 11:45 | 12:00 | 0 | 0 | 3 | 0 | 3 |
| 12:00 | 12:15 | 0 | 0 | 0 | 0 | 0 |
| 12:15 | 12:30 | 0 | 0 | 2 | 0 | 2 |
| 12:30 | 12:45 | 0 | 0 | 0 | 0 | 0 |
| 12:45 | 13:00 | 0 | 0 | 1 | 0 | 1 |
| 13:00 | 13:15 | 0 | 0 | 0 | 0 | 0 |
| 13:15 | 13:30 | 0 | 0 | 2 | 0 | 2 |
| 15:00 | 15:15 | 0 | 0 | 1 | 0 | 1 |
| 15:15 | 15:30 | 0 | 0 | 0 | 0 | 0 |
| 15:30 | 15:45 | 0 | 0 | 2 | 0 | 2 |
| 15:45 | 16:00 | 0 | 0 | 2 | 0 | 2 |
| 16:00 | 16:15 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 16:30 | 0 | 0 | 3 | 0 | 3 |
| 16:30 | 16:45 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 17:00 | 0 | 0 | 3 | 0 | 3 |
| 17:00 | 17:15 | 0 | 0 | 1 | 0 | 1 |
| 17:15 | 17:30 | 0 | 0 | 1 | 0 | 1 |
| 17:30 | 17:45 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 18:00 | 0 | 0 | 2 | 0 | 2 |
| Total | | 1 | 0 | 34 | 0 | 35 |

# Appendix D

COLLISION DATA

**Total Area** 2020-2021 Collision Analysis

| Classification of Accident | Rear End | Turning Movement | Sideswipe | Angle | Approaching | SMV other | SMV unattended vehicle | Other | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| P.D. only | 10 | 2 | 7 | 1 | 0 | 2 | 0 | 0 | 22 | 73% |
| Non-fatal injury | 4 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 8 | 27% |
| Non-reportable | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Total | **14** | **3** | **8** | **2** | **0** | **3** | **0** | **0** | **30** | 100% |
| | #1 or 47% | #3 or 10% | #2 or 27% | #5 or 7% | #6 or 0% | #3 or 10% | #6 or 0% | #6 or 0% | | |

## MOONEY'S BAY PL/RIVERSIDE DR

| Years | Total # Collisions | 24 Hr AADT Veh Volume | Days | Collisions/MEV |
|---|---|---|---|---|
| 2020-2021 | 5 | n/a | 730 | **n/a** |

| Classification of Accident | Rear End | Turning Movement | Sideswipe | Angle | Approaching | SMV other | SMV unattended vehicle | Other | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| P.D. only | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 80% |
| Non-fatal injury | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 20% |
| Non-reportable | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Total | **3** | **1** | **0** | **0** | **0** | **1** | **0** | **0** | **5** | 100% |
| | 60% | 20% | 0% | 0% | 0% | 20% | 0% | 0% | | |

## RIDGEWOOD AVE/RIVERSIDE DR

| Years | Total # Collisions | 24 Hr AADT Veh Volume | Days | Collisions/MEV |
|---|---|---|---|---|
| 2020-2021 | 3 | n/a | 730 | **n/a** |

| Classification of Accident | Rear End | Turning Movement | Sideswipe | Angle | Approaching | SMV other | SMV unattended vehicle | Other | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| P.D. only | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 67% |
| Non-fatal injury | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 33% |
| Non-reportable | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Total | **2** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **3** | 100% |
| | 67% | 0% | 33% | 0% | 0% | 0% | 0% | 0% | | |

## RIDGEWOOD AVE, DUPONT ST to RIVERSIDE DR

| Years | Total # Collisions | 24 Hr AADT Veh Volume | Days | Collisions/MEV |
|---|---|---|---|---|
| 2020-2021 | 2 | n/a | 730 | **n/a** |

| Classification of Accident | Rear End | Turning Movement | Sideswipe | Angle | Approaching | SMV other | SMV unattended vehicle | Other | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| P.D. only | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 100% |
| Non-fatal injury | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Non-reportable | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Total | **0** | **1** | **1** | **0** | **0** | **0** | **0** | **0** | **2** | 100% |
| | 0% | 50% | 50% | 0% | 0% | 0% | 0% | 0% | | |

## RIVERSIDE DR/BROOKFIELD RD/HOG'S BACK RD

| Years | Total # Collisions | 24 Hr AADT Veh Volume | Days | Collisions/MEV |
|---|---|---|---|---|
| 2020-2021 | 15 | n/a | 730 | **n/a** |

| Classification of Accident | Rear End | Turning Movement | Sideswipe | Angle | Approaching | SMV other | SMV unattended vehicle | Other | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| P.D. only | 5 | 0 | 4 | 1 | 0 | 1 | 0 | 0 | 11 | 73% |
| Non-fatal injury | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 4 | 27% |
| Non-reportable | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Total | **6** | **1** | **5** | **2** | **0** | **1** | **0** | **0** | **15** | 100% |
| | 40% | 7% | 33% | 13% | 0% | 7% | 0% | 0% | | |

## RIVERSIDE DR, BAYPORT PRIV to MOONEY'S BAY PL

| Years | Total # Collisions | 24 Hr AADT Veh Volume | Days | Collisions/MEV |
|---|---|---|---|---|
| 2020-2021 | 1 | n/a | 730 | **n/a** |

| Classification of Accident | Rear End | Turning Movement | Sideswipe | Angle | Approaching | SMV other | SMV unattended vehicle | Other | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| P.D. only | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 100% |
| Non-fatal injury | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Non-reportable | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Total | **0** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **1** | 100% |
| | 0% | 0% | 100% | 0% | 0% | 0% | 0% | 0% | | |

## RIVERSIDE DR, HOG'S BACK RD to RIDGEWOOD AVE

| Years | Total # Collisions | 24 Hr AADT Veh Volume | Days | Collisions/MEV |
|---|---|---|---|---|
| 2020-2021 | 4 | n/a | 730 | **n/a** |

| Classification of Accident | Rear End | Turning Movement | Sideswipe | Angle | Approaching | SMV other | SMV unattended vehicle | Other | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| P.D. only | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 50% |
| Non-fatal injury | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 50% |
| Non-reportable | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Total | **3** | **0** | **0** | **0** | **0** | **1** | **0** | **0** | **4** | 100% |
| | 75% | 0% | 0% | 0% | 0% | 25% | 0% | 0% | | |

**Total Area** 2015-2019 Collision Analysis

| Classification of Accident | Rear End | Turning Movement | Sideswipe | Angle | Approaching | Single Vehicle (other) | Single vehicle (Unattended vehicle) | Other | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| P.D. only | 64 | 9 | 17 | 4 | 0 | 0 | 0 | 2 | 96 | 80% |
| Non-fatal injury | 18 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 24 | 20% |
| Non reportable | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Total | **82** | **14** | **18** | **4** | **0** | **0** | **0** | **2** | **120** | 100% |
| | #1 or 68% | #3 or 12% | #2 or 15% | #4 or 3% | #6 or 0% | #6 or 0% | #6 or 0% | #5 or 2% | | |

**Mooney's Bay Pl/Riverside Dr**

| Years | Total # Collisions | 24 Hr AADT Veh Volume | Days | Collisions/MEV |
|---|---|---|---|---|
| 2015-2019 | 13 | 28,825 | 1825 | **0.25** |

| Classification of Accident | Rear End | Turning Movement | Sideswipe | Angle | Approaching | Single Vehicle (other) | Single vehicle (Unattended vehicle) | Other | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| P.D. only | 7 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 9 | 69% |
| Non-fatal injury | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 31% |
| Non reportable | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Total | **11** | **1** | **1** | **0** | **0** | **0** | **0** | **0** | **13** | 100% |
| | 85% | 8% | 8% | 0% | 0% | 0% | 0% | 0% | | |

**Ridgewood Ave/Riverside Dr**

| Years | Total # Collisions | 24 Hr AADT Veh Volume | Days | Collisions/MEV |
|---|---|---|---|---|
| 2015-2019 | 17 | 32,870 | 1825 | **0.28** |

| Classification of Accident | Rear End | Turning Movement | Sideswipe | Angle | Approaching | Single Vehicle (other) | Single vehicle (Unattended vehicle) | Other | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| P.D. only | 13 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 16 | 94% |
| Non-fatal injury | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 6% |
| Non reportable | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Total | **14** | **0** | **3** | **0** | **0** | **0** | **0** | **0** | **17** | 100% |
| | 82% | 0% | 18% | 0% | 0% | 0% | 0% | 0% | | |

**Ridgewood Ave, Riverside Dr to Dupont St**

| Years | Total # Collisions | 24 Hr AADT Veh Volume | Days | Collisions/MEV |
|---|---|---|---|---|
| 2015-2019 | 2 | n/a | 1825 | **n/a** |

| Classification of Accident | Rear End | Turning Movement | Sideswipe | Angle | Approaching | Single Vehicle (other) | Single vehicle (Unattended vehicle) | Other | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| P.D. only | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 100% |
| Non-fatal injury | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Non reportable | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Total | **0** | **0** | **0** | **1** | **0** | **0** | **0** | **1** | **2** | 100% |
| | 0% | 0% | 0% | 50% | 0% | 0% | 0% | 50% | | |

**Riverside Dr/Brookfield Rd/Hog's Back Rd**

| Years | Total # Collisions | 24 Hr AADT Veh Volume | Days | Collisions/MEV |
|---|---|---|---|---|
| 2015-2019 | 68 | 45,436 | 1825 | **0.82** |

| Classification of Accident | Rear End | Turning Movement | Sideswipe | Angle | Approaching | Single Vehicle (other) | Single vehicle (Unattended vehicle) | Other | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| P.D. only | 36 | 8 | 6 | 2 | 0 | 0 | 0 | 1 | 53 | 78% |
| Non-fatal injury | 9 | 5 | 1 | 0 | 0 | 0 | 0 | 0 | 15 | 22% |
| Non reportable | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Total | **45** | **13** | **7** | **2** | **0** | **0** | **0** | **1** | **68** | 100% |
| | 66% | 19% | 10% | 3% | 0% | 0% | 0% | 1% | | |

**Riverside Dr, Bayport Priv to Mooney's Bay Pl**

| Years | Total # Collisions | 24 Hr AADT Veh Volume | Days | Collisions/MEV |
|---|---|---|---|---|
| 2015-2019 | 2 | n/a | 1825 | **n/a** |

| Classification of Accident | Rear End | Turning Movement | Sideswipe | Angle | Approaching | Single Vehicle (other) | Single vehicle (Unattended vehicle) | Other | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| P.D. only | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 100% |
| Non-fatal injury | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Non reportable | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Total | **2** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **2** | 100% |
| | 100% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | | |

**Riverside Dr, Hog's Back Rd to Ridgewood Ave**

| Years | Total # Collisions | 24 Hr AADT Veh Volume | Days | Collisions/MEV |
|---|---|---|---|---|
| 2015-2019 | 16 | n/a | 1825 | **n/a** |

| Classification of Accident | Rear End | Turning Movement | Sideswipe | Angle | Approaching | Single Vehicle (other) | Single vehicle (Unattended vehicle) | Other | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| P.D. only | 6 | 0 | 6 | 1 | 0 | 0 | 0 | 0 | 13 | 81% |
| Non-fatal injury | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 19% |
| Non reportable | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Total | **9** | **0** | **6** | **1** | **0** | **0** | **0** | **0** | **16** | 100% |
| | 56% | 0% | 38% | 6% | 0% | 0% | 0% | 0% | | |

**Riverside Dr, Ridgewood Ave to Bayport Priv**

| Years | Total # Collisions | 24 Hr AADT Veh Volume | Days | Collisions/MEV |
|---|---|---|---|---|
| 2015-2019 | 2 | n/a | 1825 | **n/a** |

| Classification of Accident | Rear End | Turning Movement | Sideswipe | Angle | Approaching | Single Vehicle (other) | Single vehicle (Unattended vehicle) | Other | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| P.D. only | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 50% |
| Non-fatal injury | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 50% |
| Non reportable | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0% |
| Total | **1** | **0** | **1** | **0** | **0** | **0** | **0** | **0** | **2** | 100% |
| | 50% | 0% | 50% | 0% | 0% | 0% | 0% | 0% | | |

# City Operations - Transportation Services

## Collision Details Report - Public Version

**From:** January 1, 2014 **To:** December 31, 2018

**Location:** MOONEY'S BAY PL @ RIVERSIDE DR

**Traffic Control:** Traffic signal

**Total Collisions:** 9

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2015-May-01, Fri,15:58 | Clear | Rear end | P.D. only | Dry | South | Going ahead | Passenger van | Other motor vehicle | |
| | | | | | South | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Aug-08, Sat,12:30 | Clear | Rear end | Non-fatal injury | Dry | North | Slowing or stopping | Pick-up truck | Other motor vehicle | |
| | | | | | North | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Going ahead | Passenger van | Other motor vehicle | |
| | | | | | North | Changing lanes | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Aug-20, Thu,10:08 | Clear | Sideswipe | P.D. only | Dry | North | Going ahead | Truck - closed | Other motor vehicle | |
| | | | | | North | Slowing or stopping | Passenger van | Other motor vehicle | |
| | | | | | North | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Aug-23, Tue,16:46 | Clear | Rear end | P.D. only | Dry | South | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Going ahead | Automobile, station wagon | Other motor vehicle | |

# City Operations - Transportation Services

## Collision Details Report - Public Version

**From:** January 1, 2014 **To:** December 31, 2018

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2016-Dec-07, Wed,16:52 | Clear | Rear end | P.D. only | Wet | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Dec-31, Sat,16:56 | Snow | Turning movement | P.D. only | Loose snow | North | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Making "U" turn | Truck - tractor | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2017-Apr-21, Fri,09:44 | Clear | Rear end | Non-fatal injury | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2018-Feb-23, Fri,19:26 | Freezing Rain | Rear end | P.D. only | Ice | North | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2018-Jul-16, Mon,18:02 | Clear | Rear end | Non-fatal injury | Dry | North | Stopped | Pick-up truck | Other motor vehicle | |
| | | | | | North | Going ahead | Automobile, station wagon | Other motor vehicle | |

**Location:** RIDGEWOOD AVE @ RIVERSIDE DR

**Traffic Control:** Traffic signal

**Total Collisions:** 19

# City Operations - Transportation Services

## Collision Details Report - Public Version

**From:** January 1, 2014 **To:** December 31, 2018

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2014-Jan-26, Sun,10:44 | Clear | Rear end | P.D. only | Slush | South | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2014-Mar-06, Thu,13:00 | Clear | Rear end | P.D. only | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2014-Apr-06, Sun,22:35 | Clear | Turning movement | P.D. only | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Turning left | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2014-Dec-01, Mon,10:20 | Clear | Rear end | P.D. only | Dry | South | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Stopped | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Jan-28, Wed,19:05 | Clear | Sideswipe | P.D. only | Wet | South | Changing lanes | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Going ahead | Automobile, station wagon | Other motor vehicle | |

# City Operations - Transportation Services

## Collision Details Report - Public Version

**From:** January 1, 2014 **To:** December 31, 2018

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2015-Jul-11, Sat,17:02 | Clear | Rear end | Non-fatal injury | Dry | South | Turning left | Unknown | Cyclist | |
| | | | | | South | Turning left | Bicycle | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Aug-28, Fri,12:32 | Clear | Rear end | P.D. only | Dry | North | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Stopped | Pick-up truck | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Sep-08, Tue,14:55 | Clear | Sideswipe | P.D. only | Dry | North | Changing lanes | Pick-up truck | Other motor vehicle | |
| | | | | | North | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Slowing or stopping | Truck - closed | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Oct-20, Tue,12:44 | Clear | Rear end | P.D. only | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-May-25, Wed,18:13 | Clear | Sideswipe | P.D. only | Dry | West | Turning left | Pick-up truck | Other motor vehicle | |
| | | | | | West | Turning left | Automobile, station wagon | Other motor vehicle | |

# City Operations - Transportation Services

## Collision Details Report - Public Version

**From:** January 1, 2014 **To:** December 31, 2018

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2016-Aug-20, Sat,17:10 | Clear | SMV other | P.D. only | Dry | South | Going ahead | Pick-up truck | Curb | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Oct-01, Sat,13:37 | Clear | Rear end | P.D. only | Dry | South | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2017-Feb-16, Thu,14:52 | Clear | Rear end | P.D. only | Loose snow | North | Changing lanes | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Going ahead | Pick-up truck | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2017-Jun-27, Tue,19:31 | Clear | Rear end | P.D. only | Dry | South | Going ahead | Passenger van | Other motor vehicle | |
| | | | | | South | Stopped | Pick-up truck | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2017-Jul-15, Sat,14:55 | Clear | Rear end | P.D. only | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |

# City Operations - Transportation Services

## Collision Details Report - Public Version

**From:** January 1, 2014 **To:** December 31, 2018

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2018-Jan-28, Sun,14:57 | Clear | Rear end | P.D. only | Dry | North | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2018-Aug-14, Tue,08:16 | Clear | Rear end | P.D. only | Dry | North | Going ahead | Passenger van | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Stopped | Pick-up truck | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2018-Nov-19, Mon,11:20 | Clear | Rear end | P.D. only | Slush | West | Turning right | Passenger van | Other motor vehicle | |
| | | | | | West | Turning right | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2018-Nov-23, Fri,14:51 | Clear | Rear end | P.D. only | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |

**Location:** RIDGEWOOD AVE btwn RIVERSIDE DR & DUPONT ST

**Traffic Control:** No control

**Total Collisions:** 3

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2016-Oct-06, Thu,00:00 | Clear | SMV unattended vehicle | P.D. only | Dry | North | Reversing | Automobile, station wagon | Unattended vehicle | |

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2018-Jul-19, Thu,18:02 | Clear | Angle | P.D. only | Dry | North | Turning right | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Going ahead | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2018-Sep-06, Thu,09:20 | Clear | Other | P.D. only | Dry | South | Reversing | Unknown | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |

**Location:** RIVERSIDE DR @ BROOKFIELD RD/HOG'S BACK RD

**Traffic Control:** Traffic signal **Total Collisions:** 72

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2014-Jan-11, Sat,07:17 | Freezing Rain | Rear end | P.D. only | Ice | South | Going ahead | Automobile, station wagon | Skidding/sliding | |
| | | | | | South | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2014-Feb-12, Wed,09:32 | Clear | Turning movement | P.D. only | Dry | East | Turning left | Passenger van | Other motor vehicle | |
| | | | | | West | Going ahead | Pick-up truck | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2014-Jul-02, Wed,15:40 | Clear | Rear end | P.D. only | Dry | East | Turning right | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Turning right | Automobile, station wagon | Other motor vehicle | |

# City Operations - Transportation Services

## Collision Details Report - Public Version

**From:** January 1, 2014 **To:** December 31, 2018

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2014-Jul-28, Mon,21:00 | Clear | Other | P.D. only | Dry | North | Reversing | Passenger van | Other motor vehicle | |
| | | | | | South | Stopped | Motorcycle | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2014-Aug-01, Fri,16:00 | Clear | Rear end | P.D. only | Dry | West | Going ahead | Pick-up truck | Other motor vehicle | |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2014-Sep-01, Mon,15:30 | Clear | Other | P.D. only | Dry | West | Reversing | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2014-Sep-03, Wed,15:51 | Clear | Rear end | P.D. only | Dry | West | Turning right | Automobile, station wagon | Other motor vehicle | |
| | | | | | West | Turning right | Truck and trailer | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2014-Sep-07, Sun,12:24 | Clear | Rear end | P.D. only | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |

# City Operations - Transportation Services

## Collision Details Report - Public Version

**From:** January 1, 2014 **To:** December 31, 2018

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2014-Nov-04, Tue,17:30 | Rain | Sideswipe | P.D. only | Wet | North | Changing lanes | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Turning left | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2014-Nov-25, Tue,00:08 | Clear | Angle | Non-fatal injury | Dry | South | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Going ahead | Pick-up truck | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2014-Dec-01, Mon,17:35 | Clear | Rear end | P.D. only | Dry | East | Turning right | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Turning right | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2014-Dec-05, Fri,17:00 | Clear | Rear end | P.D. only | Ice | East | Slowing or stopping | Pick-up truck | Other motor vehicle | |
| | | | | | East | Stopped | Pick-up truck | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2014-Dec-12, Fri,16:35 | Clear | Rear end | P.D. only | Wet | West | Going ahead | Pick-up truck | Other motor vehicle | |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle | |

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## Collision Details Report - Public Version

**From:** January 1, 2014 **To:** December 31, 2018

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2014-Dec-16, Tue,20:29 | Freezing Rain | Turning movement | P.D. only | Ice | South | Turning right | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Turning right | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Jan-18, Sun,00:42 | Clear | Turning movement | P.D. only | Dry | East | Turning left | Automobile, station wagon | Other motor vehicle | |
| | | | | | West | Going ahead | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Jan-22, Thu,08:00 | Clear | Rear end | P.D. only | Ice | East | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Stopped | Passenger van | Other motor vehicle | |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Jan-30, Fri,20:20 | Clear | Turning movement | P.D. only | Dry | East | Turning left | Unknown | Other motor vehicle | |
| | | | | | West | Going ahead | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Feb-04, Wed,13:47 | Snow | Rear end | P.D. only | Ice | North | Turning left | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Turning left | Passenger van | Other motor vehicle | |

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**From:** January 1, 2014 **To:** December 31, 2018

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2015-Feb-05, Thu,07:20 | Clear | Rear end | P.D. only | Wet | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Stopped | Delivery van | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Feb-19, Thu,08:49 | Clear | Rear end | P.D. only | Wet | South | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Mar-22, Sun,15:35 | Clear | Rear end | P.D. only | Dry | South | Turning right | Pick-up truck | Other motor vehicle | |
| | | | | | South | Turning right | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Mar-23, Mon,19:06 | Clear | SMV other | P.D. only | Dry | West | Turning right | Automobile, station wagon | Pole (sign, parking meter) | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Apr-21, Tue,16:16 | Clear | Rear end | Non-fatal injury | Dry | West | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle | |

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**From:** January 1, 2014 **To:** December 31, 2018

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2015-May-01, Fri,16:11 | Clear | Rear end | P.D. only | Dry | North | Turning right | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Turning right | Delivery van | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Oct-09, Fri,07:28 | Rain | Sideswipe | Non-fatal injury | Wet | North | Going ahead | Pick-up truck | Other motor vehicle | |
| | | | | | North | Turning left | Pick-up truck | Other motor vehicle | |
| | | | | | North | Turning left | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Oct-14, Wed,14:37 | Clear | Rear end | P.D. only | Dry | South | Turning right | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Turning right | Pick-up truck | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Dec-12, Sat,14:30 | Clear | Rear end | Non-fatal injury | Dry | East | Turning right | Passenger van | Other motor vehicle | |
| | | | | | East | Turning right | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Jan-02, Sat,16:24 | Clear | Rear end | P.D. only | Wet | South | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Stopped | Pick-up truck | Other motor vehicle | |

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**From:** January 1, 2014 **To:** December 31, 2018

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2016-Jan-06, Wed,21:48 | Clear | Turning movement | P.D. only | Dry | East | Turning left | Automobile, station wagon | Other motor vehicle | |
| | | | | | West | Going ahead | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Mar-27, Sun,20:55 | Clear | Rear end | P.D. only | Dry | East | Turning right | Pick-up truck | Other motor vehicle | |
| | | | | | East | Turning right | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Mar-30, Wed,15:30 | Clear | Rear end | P.D. only | Dry | South | Turning right | Pick-up truck | Other motor vehicle | |
| | | | | | South | Turning right | Pick-up truck | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Mar-30, Wed,21:16 | Clear | Turning movement | P.D. only | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Turning left | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-May-20, Fri,08:00 | Clear | Rear end | P.D. only | Dry | South | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Stopped | Pick-up truck | Other motor vehicle | |

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| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2016-Jun-07, Tue,17:15 | Clear | Sideswipe | P.D. only | Dry | East | Changing lanes | Pick-up truck | Other motor vehicle | |
| | | | | | East | Changing lanes | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Jun-17, Fri,21:28 | Clear | Turning movement | Non-fatal injury | Dry | East | Turning left | Automobile, station wagon | Cyclist | |
| | | | | | West | Going ahead | Bicycle | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Jul-19, Tue,16:58 | Clear | Rear end | Non-fatal injury | Dry | East | Turning right | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Turning right | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Aug-02, Tue,17:44 | Clear | Rear end | P.D. only | Dry | South | Turning right | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Turning right | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Sep-09, Fri,22:37 | Clear | Turning movement | P.D. only | Dry | East | Turning left | Automobile, station wagon | Other motor vehicle | |
| | | | | | West | Going ahead | Automobile, station wagon | Other motor vehicle | |

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| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2016-Sep-15, Thu,17:58 | Clear | Sideswipe | P.D. only | Dry | West | Changing lanes | Pick-up truck | Other motor vehicle | |
| | | | | | West | Going ahead | Pick-up truck | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Sep-24, Sat,12:55 | Clear | Rear end | Non-fatal injury | Dry | East | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Sep-29, Thu,16:30 | Clear | Rear end | Non-fatal injury | Dry | South | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | West | Going ahead | Fire vehicle | Other | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Oct-18, Tue,08:56 | Clear | Rear end | P.D. only | Dry | South | Going ahead | Tow truck | Other motor vehicle | |
| | | | | | South | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Dec-05, Mon,08:52 | Clear | SMV other | P.D. only | Packed snow | East | Turning right | Automobile, station wagon | Skidding/sliding | |

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| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2016-Dec-23, Fri,12:40 | Clear | Sideswipe | P.D. only | Dry | South | Changing lanes | Pick-up truck | Other motor vehicle | |
| | | | | | South | Going ahead | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2017-Jan-16, Mon,09:00 | Clear | Rear end | P.D. only | Dry | South | Turning left | Unknown | Other motor vehicle | |
| | | | | | South | Turning left | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2017-Feb-08, Wed,13:19 | Freezing Rain | Rear end | P.D. only | Ice | West | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | West | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2017-Feb-09, Thu,09:52 | Clear | Rear end | P.D. only | Dry | East | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2017-Feb-12, Sun,20:50 | Snow | Rear end | P.D. only | Packed snow | North | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |

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| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2017-Mar-08, Wed,19:01 | Clear | Rear end | P.D. only | Dry | East | Unknown | Unknown | Other motor vehicle | |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2017-Mar-14, Tue,17:23 | Snow | Rear end | P.D. only | Loose snow | North | Turning left | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Turning left | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2017-Apr-10, Mon,17:00 | Clear | Rear end | Non-fatal injury | Dry | North | Slowing or stopping | Pick-up truck | Other motor vehicle | |
| | | | | | North | Stopped | Pick-up truck | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2017-Jun-13, Tue,12:16 | Clear | Rear end | P.D. only | Dry | North | Slowing or stopping | Passenger van | Other motor vehicle | |
| | | | | | North | Stopped | Passenger van | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2017-Jun-23, Fri,09:50 | Rain | Rear end | P.D. only | Wet | North | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |

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| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2017-Jul-13, Thu,08:55 | Clear | Turning movement | P.D. only | Dry | East | Turning right | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Going ahead | Pick-up truck | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2017-Jul-14, Fri,12:31 | Clear | Other | P.D. only | Dry | South | Reversing | Pick-up truck | Other motor vehicle | |
| | | | | | North | Stopped | Motorcycle | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2017-Aug-14, Mon,09:20 | Clear | Angle | P.D. only | Dry | South | Turning left | Automobile, station wagon | Other motor vehicle | |
| | | | | | West | Going ahead | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2017-Sep-18, Mon,20:21 | Clear | Rear end | Non-fatal injury | Dry | South | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2017-Sep-23, Sat,20:00 | Clear | Sideswipe | P.D. only | Dry | East | Changing lanes | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Going ahead | Automobile, station wagon | Other motor vehicle | |

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| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2017-Sep-27, Wed,14:34 | Rain | Rear end | P.D. only | Wet | West | Turning right | Pick-up truck | Other motor vehicle | |
| | | | | | West | Turning right | Passenger van | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2017-Oct-25, Wed,08:45 | Clear | Rear end | P.D. only | Dry | West | Turning right | Automobile, station wagon | Other motor vehicle | |
| | | | | | West | Turning right | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2017-Dec-16, Sat,15:32 | Clear | Sideswipe | P.D. only | Dry | South | Changing lanes | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Going ahead | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2018-Jan-20, Sat,15:15 | Clear | Rear end | P.D. only | Loose snow | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2018-Mar-05, Mon,01:12 | Clear | SMV other | P.D. only | Dry | North | Going ahead | Automobile, station wagon | Pole (utility, power) | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2018-Mar-17, Sat,02:33 | Clear | SMV other | P.D. only | Dry | East | Turning left | Automobile, station wagon | Ran off road | |

# City Operations - Transportation Services

## Collision Details Report - Public Version

**From:** January 1, 2014 **To:** December 31, 2018

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2018-Sep-23, Sun,17:30 | Clear | Rear end | P.D. only | Dry | East | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2018-Oct-05, Fri,17:14 | Clear | Turning movement | Non-fatal injury | Dry | North | Turning left | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Going ahead | Motorcycle | Other motor vehicle | |
| | | | | | South | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2018-Oct-09, Tue,10:00 | Clear | Rear end | P.D. only | Dry | South | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2018-Nov-02, Fri,18:02 | Rain | Rear end | P.D. only | Wet | West | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | West | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2018-Dec-08, Sat,21:03 | Clear | Turning movement | Non-fatal injury | Packed snow | East | Turning left | Automobile, station wagon | Other motor vehicle | |
| | | | | | West | Going ahead | Automobile, station wagon | Other motor vehicle | |

# City Operations - Transportation Services

## Collision Details Report - Public Version

**From:** January 1, 2014 **To:** December 31, 2018

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2018-Dec-11, Tue,11:10 | Snow | Rear end | P.D. only | Loose snow | South | Turning right | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Turning right | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2018-Dec-21, Fri,15:18 | Rain | Turning movement | Non-fatal injury | Wet | West | Turning left | Automobile, station wagon | Cyclist | |
| | | | | | East | Going ahead | Bicycle | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2018-Dec-29, Sat,19:21 | Clear | Turning movement | Non-fatal injury | Dry | East | Turning left | Automobile, station wagon | Other motor vehicle | |
| | | | | | West | Going ahead | Automobile, station wagon | Other motor vehicle | |

**Location:** RIVERSIDE DR btwn BAYPORT PRIV & MOONEY'S BAY PL

**Traffic Control:** No control

**Total Collisions:** 3

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2014-May-26, Mon,19:15 | Clear | Rear end | P.D. only | Dry | South | Changing lanes | Passenger van | Other motor vehicle | |
| | | | | | South | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2014-Jun-11, Wed,07:58 | Clear | Rear end | Non-fatal injury | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Jul-22, Fri,14:36 | Clear | Rear end | P.D. only | Dry | South | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Going ahead | Pick-up truck | Other motor vehicle | |

**Location:** RIVERSIDE DR btwn HOG'S BACK RD & RIDGEWOOD AVE

**Traffic Control:** No control **Total Collisions:** 17

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2014-Jan-16, Thu,18:30 | Clear | Rear end | P.D. only | Wet | East | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2014-Oct-30, Thu,15:20 | Clear | Rear end | P.D. only | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2014-Dec-11, Thu,07:17 | Clear | Turning movement | P.D. only | Slush | North | Turning right | Tow truck | Other motor vehicle | |
| | | | | | North | Going ahead | Pick-up truck | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-May-17, Sun,21:22 | Clear | Rear end | Non-fatal injury | Dry | South | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Stopped | Pick-up truck | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Dec-13, Sun,00:15 | Clear | SMV other | P.D. only | Dry | South | Changing lanes | Automobile, station wagon | Ran off road | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Dec-15, Tue,08:16 | Rain | Rear end | P.D. only | Wet | North | Going ahead | Pick-up truck | Other motor vehicle | |
| | | | | | North | Stopped | Pick-up truck | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Dec-16, Wed,11:30 | Clear | Rear end | Non-fatal injury | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Turning right | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Going ahead | Unknown | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Dec-16, Wed,11:40 | Clear | Rear end | P.D. only | Dry | North | Going ahead | Pick-up truck | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |

# City Operations - Transportation Services

## Collision Details Report - Public Version

**From:** January 1, 2014 **To:** December 31, 2018

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2016-Jan-22, Fri,14:41 | Clear | Sideswipe | P.D. only | Dry | South | Changing lanes | Truck - closed | Other motor vehicle | |
| | | | | | South | Going ahead | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-May-13, Fri,15:33 | Clear | Rear end | P.D. only | Dry | North | Going ahead | Passenger van | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Jun-24, Fri,21:25 | Clear | Rear end | Non-fatal injury | Dry | South | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Slowing or stopping | Pick-up truck | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Sep-03, Sat,07:58 | Clear | Sideswipe | P.D. only | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Changing lanes | Pick-up truck | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Oct-04, Tue,15:07 | Clear | Angle | P.D. only | Dry | West | Turning left | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Going ahead | Pick-up truck | Other motor vehicle | |

# City Operations - Transportation Services

## Collision Details Report - Public Version

**From:** January 1, 2014 **To:** December 31, 2018

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2017-Feb-14, Tue,10:17 | Clear | Sideswipe | P.D. only | Dry | South | Changing lanes | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Going ahead | Passenger van | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2017-Aug-22, Tue,12:13 | Clear | Sideswipe | P.D. only | Wet | South | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Going ahead | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2018-Jul-25, Wed,14:25 | Clear | Sideswipe | P.D. only | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Changing lanes | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2018-Dec-22, Sat,07:20 | Snow | Rear end | P.D. only | Packed snow | North | Going ahead | Pick-up truck | Other motor vehicle | |
| | | | | | North | Merging | Automobile, station wagon | Other motor vehicle | |

**Location:** RIVERSIDE DR btwn RIDGEWOOD AVE & BAYPORT PRIV

**Traffic Control:** No control

**Total Collisions:** 3

# City Operations - Transportation Services

## Collision Details Report - Public Version

**From:** January 1, 2014 **To:** December 31, 2018

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 0 |
| 2014-Jul-12, Sat,13:11 | Clear | Rear end | P.D. only | Dry | South | Changing lanes | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | South | Going ahead | Automobile, station wagon | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2015-Sep-11, Fri,16:12 | Clear | Rear end | Non-fatal injury | Dry | South | Going ahead | Pick-up truck | Other motor vehicle | |
| | | | | | South | Slowing or stopping | Pick-up truck | Other motor vehicle | |
| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
| | | | | | | | | | 0 |
| 2016-Aug-23, Tue,17:02 | Clear | Sideswipe | P.D. only | Dry | South | Changing lanes | Pick-up truck | Other motor vehicle | |
| | | | | | South | Going ahead | Automobile, station wagon | Other motor vehicle | |

# Transportation Services - Traffic Services

## Collision Details Report - Public Version

**From:** January 1, 2019 **To:** December 31, 2019

**Location:** MOONEY'S BAY PL @ RIVERSIDE DR

**Traffic Control:** Traffic signal **Total Collisions:** 4

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| 2019-Jul-01, Mon,12:23 | Clear | Rear end | P.D. only | Dry | South | Slowing or stopping | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | South | Stopped | Automobile, station wagon | Other motor vehicle | |
| 2019-Jul-10, Wed,08:41 | Clear | Rear end | P.D. only | Dry | North | Slowing or stopping | Delivery van | Other motor vehicle | 0 |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |
| 2019-Sep-18, Wed,11:57 | Clear | Rear end | P.D. only | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | North | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |
| 2019-Dec-05, Thu,07:20 | Snow | Rear end | Non-fatal injury | Loose snow | South | Slowing or stopping | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | South | Stopped | Automobile, station wagon | Other motor vehicle | |

**Location:** RIDGEWOOD AVE @ RIVERSIDE DR

**Traffic Control:** Traffic signal **Total Collisions:** 4

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| 2019-Jan-17, Thu,11:15 | Clear | Rear end | P.D. only | Dry | West | Turning right | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | West | Turning right | Automobile, station wagon | Other motor vehicle | |
| 2019-Jan-27, Sun,11:30 | Clear | SMV other | P.D. only | Packed snow | North | Going ahead | Automobile, station wagon | Snowbank/drift | 0 |
| 2019-Apr-03, Wed,23:00 | Clear | Rear end | P.D. only | Wet | North | Changing lanes | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| 2019-May-12, Sun,20:00 | Clear | Rear end | P.D. only | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |

**Location:** RIDGEWOOD AVE btwn RIVERSIDE DR & DUPONT ST

**Traffic Control:** No control **Total Collisions:** 2

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|

# Transportation Services - Traffic Services

## Collision Details Report - Public Version

**From:** January 1, 2019 **To:** December 31, 2019

**Location:** RIDGEWOOD AVE btwn RIVERSIDE DR & DUPONT ST

**Traffic Control:** No control **Total Collisions:** 2

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| 2019-Jun-13, Thu,13:53 | Clear | SMV unattended vehicle | Non-fatal injury | Dry | East | Going ahead | Automobile, station wagon | Unattended vehicle | 0 |
| 2019-Jul-19, Fri,23:00 | Clear | SMV other | P.D. only | Dry | East | Going ahead | Automobile, station wagon | Pedestrian | 1 |

**Location:** RIVERSIDE DR @ BROOKFIELD RD/HOG'S BACK RD

**Traffic Control:** Traffic signal **Total Collisions:** 14

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| 2019-Apr-19, Fri,19:10 | Rain | Rear end | Non-fatal injury | Wet | North | Going ahead | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | North | Going ahead | Automobile, station wagon | Other motor vehicle | |
| 2019-May-25, Sat,19:13 | Rain | Angle | P.D. only | Wet | South | Going ahead | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | East | Turning left | Automobile, station wagon | Other motor vehicle | |
| 2019-May-31, Fri,22:14 | Clear | Turning movement | P.D. only | Dry | East | Turning left | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | West | Going ahead | Automobile, station wagon | Other motor vehicle | |
| 2019-Jun-23, Sun,20:45 | Clear | Rear end | P.D. only | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | North | Changing lanes | Automobile, station wagon | Other motor vehicle | |
| 2019-Jun-28, Fri,10:10 | Clear | Turning movement | P.D. only | Dry | West | Turning left | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | East | Going ahead | Automobile, station wagon | Other motor vehicle | |
| 2019-Jun-28, Fri,15:30 | Clear | Rear end | P.D. only | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |
| 2019-Jul-17, Wed,19:41 | Clear | Rear end | P.D. only | Dry | South | Turning right | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | South | Turning right | Automobile, station wagon | Other motor vehicle | |
| 2019-Jul-31, Wed,12:05 | Clear | Sideswipe | P.D. only | Dry | North | Changing lanes | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | North | Turning left | Automobile, station wagon | Other motor vehicle | |
| 2019-Aug-28, Wed,22:30 | Clear | Rear end | P.D. only | Dry | East | Turning right | Pick-up truck | Other motor vehicle | 0 |
| | | | | | East | Turning right | Automobile, station wagon | Other motor vehicle | |

# Transportation Services - Traffic Services

## Collision Details Report - Public Version

**From:** January 1, 2019 **To:** December 31, 2019

**Location:** RIVERSIDE DR @ BROOKFIELD RD/HOG'S BACK RD

**Traffic Control:** Traffic signal **Total Collisions:** 14

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| 2019-Oct-03, Thu,16:12 | Clear | Rear end | P.D. only | Dry | North | Turning right | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | North | Turning right | Automobile, station wagon | Other motor vehicle | |
| 2019-Oct-07, Mon,15:35 | Clear | Rear end | Non-fatal injury | Dry | East | Turning right | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | East | Turning right | Automobile, station wagon | Other motor vehicle | |
| 2019-Oct-24, Thu,17:55 | Clear | Rear end | P.D. only | Dry | East | Turning right | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | East | Turning right | Automobile, station wagon | Other motor vehicle | |
| 2019-Dec-11, Wed,17:36 | Freezing Rain | Rear end | P.D. only | Ice | North | Going ahead | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | North | Slowing or stopping | Automobile, station wagon | Other motor vehicle | |
| 2019-Dec-13, Fri,16:30 | Clear | Rear end | P.D. only | Dry | East | Turning right | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | East | Stopped | Automobile, station wagon | Other motor vehicle | |

**Location:** RIVERSIDE DR btwn BAYPORT PRIV & MOONEY'S BAY PL

**Traffic Control:** No control **Total Collisions:** 1

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| 2019-Jul-13, Sat,14:30 | Clear | Rear end | P.D. only | Dry | South | Slowing or stopping | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | South | Stopped | Passenger van | Other motor vehicle | |
| | | | | | South | Stopped | Passenger van | Other motor vehicle | |

**Location:** RIVERSIDE DR btwn HOG'S BACK RD & RIDGEWOOD AVE

**Traffic Control:** No control **Total Collisions:** 4

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| 2019-Feb-19, Tue,14:51 | Clear | Rear end | P.D. only | Loose snow | North | Slowing or stopping | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |

# Transportation Services - Traffic Services

## Collision Details Report - Public Version

**From:** January 1, 2019 **To:** December 31, 2019

**Location:** RIVERSIDE DR btwn HOG'S BACK RD & RIDGEWOOD AVE

**Traffic Control:** No control **Total Collisions:** 4

| Date/Day/Time | Environment | Impact Type | Classification | Surface Cond'n | Veh. Dir | Vehicle Manoeuver | Vehicle type | First Event | No. Ped |
|---|---|---|---|---|---|---|---|---|---|
| 2019-Jul-19, Fri,06:59 | Clear | Sideswipe | P.D. only | Dry | North | Changing lanes | Truck - closed | Other motor vehicle | 0 |
| | | | | | North | Turning right | Automobile, station wagon | Other motor vehicle | |
| 2019-Jul-26, Fri,09:31 | Clear | Rear end | P.D. only | Dry | North | Going ahead | Automobile, station wagon | Other motor vehicle | 0 |
| | | | | | North | Stopped | Automobile, station wagon | Other motor vehicle | |
| 2019-Nov-16, Sat,03:46 | Clear | SMV other | P.D. only | Dry | South | Going ahead | Automobile, station wagon | Ran off road | 0 |

# Appendix E

TDM CHECKLISTS

# TDM-Supportive Development Design and Infrastructure Checklist:
*Residential Developments (multi-family or condominium)*

***Legend***

| | |
|---|---|
| REQUIRED | The Official Plan or Zoning By-law provides related guidance that must be followed |
| BASIC | The measure is generally feasible and effective, and in most cases would benefit the development and its users |
| BETTER | The measure could maximize support for users of sustainable modes, and optimize development performance |

| | | TDM-supportive design & infrastructure measures: *Residential developments* | Check if completed & add descriptions, explanations or plan/drawing references |
|---|---|---|---|
| | **1.** | **WALKING & CYCLING: ROUTES** | |
| | **1.1** | **Building location & access points** | |
| BASIC | 1.1.1 | Locate building close to the street, and do not locate parking areas between the street and building entrances | ☐ |
| BASIC | 1.1.2 | Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations | ☐ |
| BASIC | 1.1.3 | Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort | ☑ |
| | **1.2** | **Facilities for walking & cycling** | |
| REQUIRED | 1.2.1 | Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather-protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations *(see Official Plan policy 4.3.3)* | ☑ |
| REQUIRED | 1.2.2 | Provide safe, direct and attractive pedestrian access from public sidewalks to building entrances through such measures as: reducing distances between public sidewalks and major building entrances; providing walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate, such as courtyards and transit stops; and providing weather protection through canopies, colonnades, and other design elements wherever possible *(see Official Plan policy 4.3.12)* | ☑ |

| | | TDM-supportive design & infrastructure measures: *Residential developments* | Check if completed & add descriptions, explanations or plan/drawing references |
|---|---|---|---|
| REQUIRED | 1.2.3 | Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks *(see Official Plan policy 4.3.10)* | ☑ |
| REQUIRED | 1.2.4 | Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps *(see Official Plan policy 4.3.10)* | ☑ |
| REQUIRED | 1.2.5 | Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on-road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians *(see Official Plan policy 4.3.11)* | ☑ |
| BASIC | 1.2.6 | Provide safe, direct and attractive walking routes from building entrances to nearby transit stops | ☐ |
| BASIC | 1.2.7 | Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible | ☐ |
| BASIC | 1.2.8 | Design roads used for access or circulation by cyclists using a target operating speed of no more than 30 km/h, or provide a separated cycling facility | ☐ |
| | **1.3** | **Amenities for walking & cycling** | |
| BASIC | 1.3.1 | Provide lighting, landscaping and benches along walking and cycling routes between building entrances and streets, sidewalks and trails | ☑ |
| BASIC | 1.3.2 | Provide wayfinding signage for site access (where required, e.g. when multiple buildings or entrances exist) and egress (where warranted, such as when directions to reach transit stops/stations, trails or other common destinations are not obvious) | ☑ |

| | | TDM-supportive design & infrastructure measures: *Residential developments* | Check if completed & add descriptions, explanations or plan/drawing references |
|---|---|---|---|
| | **2.** | **WALKING & CYCLING: END-OF-TRIP FACILITIES** | |
| | **2.1** | **Bicycle parking** | |
| REQUIRED | 2.1.1 | Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible *(see Official Plan policy 4.3.6)* | ☑ |
| REQUIRED | 2.1.2 | Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas *(see Zoning By-law Section 111)* | ☑ |
| REQUIRED | 2.1.3 | Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored *(see Zoning By-law Section 111)* | ☑ |
| BASIC | 2.1.4 | Provide bicycle parking spaces equivalent to the expected number of resident-owned bicycles, plus the expected peak number of visitor cyclists | ☐ |
| | **2.2** | **Secure bicycle parking** | |
| REQUIRED | 2.2.1 | Where more than 50 bicycle parking spaces are provided for a single residential building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers *(see Zoning By-law Section 111)* | ☑ |
| BETTER | 2.2.2 | Provide secure bicycle parking spaces equivalent to at least the number of units at condominiums or multi-family residential developments | ☐ |
| | **2.3** | **Bicycle repair station** | |
| BETTER | 2.3.1 | Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided) | ☐ |
| | **3.** | **TRANSIT** | |
| | **3.1** | **Customer amenities** | |
| BASIC | 3.1.1 | Provide shelters, lighting and benches at any on-site transit stops | ☐ |
| BASIC | 3.1.2 | Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter | ☐ |
| BETTER | 3.1.3 | Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building | ☐ |

| | | TDM-supportive design & infrastructure measures: *Residential developments* | Check if completed & add descriptions, explanations or plan/drawing references |
|---|---|---|---|
| | **4.** | **RIDESHARING** | |
| | **4.1** | **Pick-up & drop-off facilities** | |
| BASIC | 4.1.1 | Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones | ☐ |
| | **5.** | **CARSHARING & BIKESHARING** | |
| | **5.1** | **Carshare parking spaces** | |
| BETTER | 5.1.1 | Provide up to three carshare parking spaces in an R3, R4 or R5 Zone for specified residential uses *(see Zoning By-law Section 94)* | ☑ |
| | **5.2** | **Bikeshare station location** | |
| BETTER | 5.2.1 | Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection | ☑ |
| | **6.** | **PARKING** | |
| | **6.1** | **Number of parking spaces** | |
| REQUIRED | 6.1.1 | Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for | ☑ |
| BASIC | 6.1.2 | Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking | ☐ |
| BASIC | 6.1.3 | Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly *(see Zoning By-law Section 104)* | ☐ |
| BETTER | 6.1.4 | Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking *(see Zoning By-law Section 111)* | ☐ |
| | **6.2** | **Separate long-term & short-term parking areas** | |
| BETTER | 6.2.1 | Provide separate areas for short-term and long-term parking (using signage or physical barriers) to permit access controls and simplify enforcement (i.e. to discourage residents from parking in visitor spaces, and vice versa) | ☐ |

# TDM Measures Checklist:
*Residential Developments (multi-family, condominium or subdivision)*

***Legend***

BASIC — The measure is generally feasible and effective, and in most cases would benefit the development and its users

BETTER — The measure could maximize support for users of sustainable modes, and optimize development performance

★ — The measure is one of the most dependably effective tools to encourage the use of sustainable modes

| | | TDM measures: *Residential developments* | Check if proposed & add descriptions |
|---|---|---|---|
| | **1.** | **TDM PROGRAM MANAGEMENT** | |
| | **1.1** | **Program coordinator** | |
| BASIC ★ | 1.1.1 | Designate an internal coordinator, or contract with an external coordinator | ☐ |
| | **1.2** | **Travel surveys** | |
| BETTER | 1.2.1 | Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress | ☐ |
| | **2.** | **WALKING AND CYCLING** | |
| | **2.1** | **Information on walking/cycling routes & destinations** | |
| BASIC | 2.1.1 | Display local area maps with walking/cycling access routes and key destinations at major entrances *(multi-family, condominium)* | ☑ |
| | **2.2** | **Bicycle skills training** | |
| BETTER | 2.2.1 | Offer on-site cycling courses for residents, or subsidize off-site courses | ☐ |

| | | | TDM measures: *Residential developments* | Check if proposed & add descriptions |
|---|---|---|---|---|
| | | **3.** | **TRANSIT** | |
| | | **3.1** | **Transit information** | |
| BASIC | | 3.1.1 | Display relevant transit schedules and route maps at entrances *(multi-family, condominium)* | ☑ |
| BETTER | | 3.1.2 | Provide real-time arrival information display at entrances *(multi-family, condominium)* | ☐ |
| | | **3.2** | **Transit fare incentives** | |
| BASIC | ★ | 3.2.1 | Offer PRESTO cards preloaded with one monthly transit pass on residence purchase/move-in, to encourage residents to use transit | ☐ |
| BETTER | | 3.2.2 | Offer at least one year of free monthly transit passes on residence purchase/move-in | ☐ |
| | | **3.3** | **Enhanced public transit service** | |
| BETTER | ★ | 3.3.1 | Contract with OC Transpo to provide early transit services until regular services are warranted by occupancy levels *(subdivision)* | ☐ |
| | | **3.4** | **Private transit service** | |
| BETTER | | 3.4.1 | Provide shuttle service for seniors homes or lifestyle communities (e.g. scheduled mall or supermarket runs) | ☐ |
| | | **4.** | **CARSHARING & BIKESHARING** | |
| | | **4.1** | **Bikeshare stations & memberships** | |
| BETTER | | 4.1.1 | Contract with provider to install on-site bikeshare station (*multi-family)* | ☑ |
| BETTER | | 4.1.2 | Provide residents with bikeshare memberships, either free or subsidized *(multi-family)* | ☑ |
| | | **4.2** | **Carshare vehicles & memberships** | |
| BETTER | | 4.2.1 | Contract with provider to install on-site carshare vehicles and promote their use by residents | ☑ |
| BETTER | | 4.2.2 | Provide residents with carshare memberships, either free or subsidized | ☑ |
| | | **5.** | **PARKING** | |
| | | **5.1** | **Priced parking** | |
| BASIC | ★ | 5.1.1 | Unbundle parking cost from purchase price *(condominium)* | ☑ |
| BASIC | ★ | 5.1.2 | Unbundle parking cost from monthly rent *(multi-family)* | ☑ |

| TDM measures: *Residential developments* | | | | Check if proposed & add descriptions |
|---|---|---|---|---|
| | | **6.** | **TDM MARKETING & COMMUNICATIONS** | |
| | | **6.1** | **Multimodal travel information** | |
| BASIC | ★ | 6.1.1 | Provide a multimodal travel option information package to new residents | ☑ |
| | | **6.2** | **Personalized trip planning** | |
| BETTER | ★ | 6.2.1 | Offer personalized trip planning to new residents | ☐ |

# Appendix F

TRUCK TURNING TEMPLATES

Page Setup: ----

Plot Date: Thursday, January 11, 2024 8:50:24 PM

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Consultant\ \\CCCAN27FS01\Data\ISO\477549\1000\DWGS\01-Auto Turn\2024-01-11\477549-gfn-layout.dwg

# BUILDING 4
# 'BLOC 2'

RAISED PLANTER BEDS (CORTEN STEEL) REFER TO LANDSCAPING

RAISED PLANTER BEDS (CORTEN STEEL) REFER TO LANDSCAPING

RAISED PLANTER BEDS (CORTEN STEEL) REFER TO LANDSCAPING

RAISED PLANTER BEDS (CORTEN STEEL) REFER TO LANDSCAPING

RAISED PLANTER BEDS REFER TO LANDSCAPING

PLANTING REFER TO LANDSCAPE DRAWINGS

PLANTING BEDS REFER TO LANDSCAPE DRAWINGS

NEW SITE ENTRANCE

NEW BUS STOP LOCATION

AT GRADE CONCRETE SIDEWALK

CONCRETE SIDEWALK

AIR SHAFT

EXISTING SIDEWALK

EXISTING SIDEWALK

RIDGEWOOD AVENUE

HSU TAC-2017 (CA)

HSU TAC-2017 (CA)

HSU TAC-2017 (CA)

HSU TAC-2017 (CA)

HSU TAC-2017 (CA)

1800

1500

2600

4151

2650

#1

#2

42800

3000

2500

5098

R8500

R12000

5472

5369

3000

D.C.

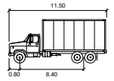
D.C.

PARSONS®

NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned. The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

N

Legend



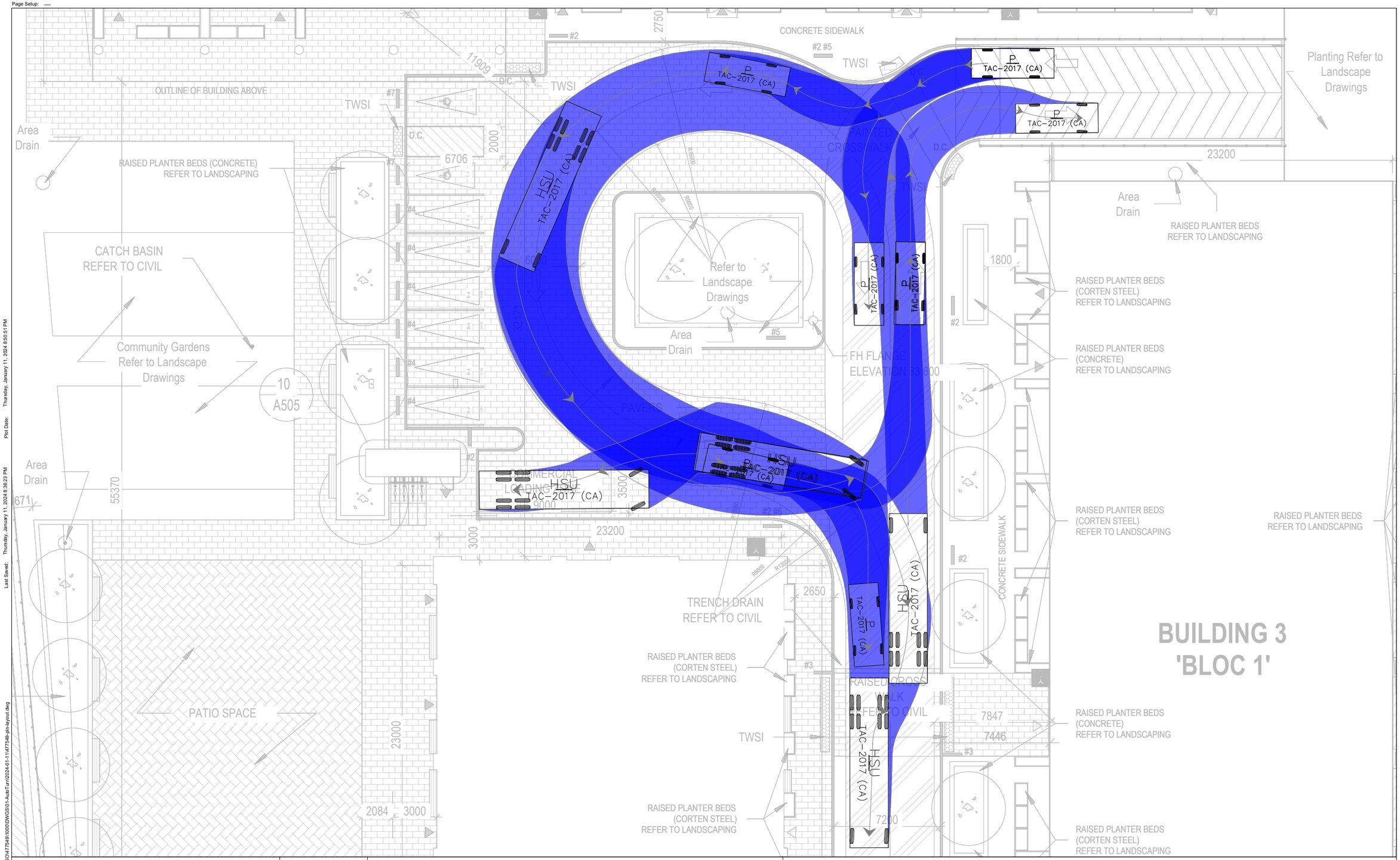

HSU

| | meters |
|---|---|
| Width | : 2.60 |
| Track | : 2.60 |
| Lock to Lock Time | : 6.0 |
| Steering Angle | : 40.0 |

Not to Scale

| | | |
|---|---|---|
| Drawing Description: Access - Fire Route (HSU) | | |
| Client | Date: Jan 12, 2024 | Figure Number: 001 |
| Project Number: 477549 | Project Description: 729 Ridgewood | |

Page Setup: ----




NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned. The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

Legend

HSU

| meters | |
|---|---|
| Width | : 2.60 |
| Track | : 2.60 |
| Lock to Lock Time | : 6.0 |
| Steering Angle | : 40.0 |

P

| meters | |
|---|---|
| Width | : 2.00 |
| Track | : 2.00 |
| Lock to Lock Time | : 6.0 |
| Steering Angle | : 35.9 |

Not to Scale

Drawing Description: Internal Site - Fire Route (HSU)

| Client | Date | Figure Number |
|---|---|---|
| | Jan 12, 2024 | 002 |

| Project Number | Project Description |
|---|---|
| 477549 | 729 Ridgewood |

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# Appendix G

MMLOS ANALYSIS

## Multi-Modal Level of Service - Intersections Form

| | | | |
|---|---|---|---|
| **Consultant** | **Parsons** | **Project** | **477549 - 01000** |
| **Scenario** | **Existing and Future** | **Date** | **22-Nov-21** |
| **Comments** | | | |
| | | | |

| INTERSECTIONS | | RIVERSIDE / RIDGEWOOD | | | | RIVERSIDE / HOG'S BACK / BROOKFIELD | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **Crossing Side** | NORTH | SOUTH | EAST | WEST | NORTH | SOUTH | EAST | WEST |
| Pedestrian | Lanes | 8 | 8 | 5 | 6 | 10+ | 10+ | 5 | 5 |
| | Median | No Median - 2.4 m | No Median - 2.4 m | No Median - 2.4 m | No Median - 2.4 m | No Median - 2.4 m | No Median - 2.4 m | No Median - 2.4 m | No Median - 2.4 m |
| | Conflicting Left Turns | Permissive | Permissive | Protected | Protected | Protected/ Permissive | Protected/ Permissive | Protected | Protected |
| | Conflicting Right Turns | Permissive or yield control | Permissive or yield control | Permissive or yield control | Permissive or yield control | Permissive or yield control | Permissive or yield control | Permissive or yield control | Permissive or yield control |
| | Right Turns on Red (RToR) ? | RTOR allowed | RTOR allowed | RTOR allowed | RTOR allowed | RTOR allowed | RTOR allowed | RTOR allowed | RTOR allowed |
| | Ped Signal Leading Interval? | No | No | No | No | No | No | No | No |
| | Right Turn Channel | Conventional with Receiving Lane | Conventional with Receiving Lane | Conv'tl without Receiving Lane | Conv'tl without Receiving Lane | Conv'tl without Receiving Lane | Conv'tl without Receiving Lane | Conventional with Receiving Lane | Conv'tl without Receiving Lane |
| | Corner Radius | 15-25m | >25m | 15-25m | 15-25m | >25m | >25m | >25m | >25m |
| | Crosswalk Type | Std transverse markings | Std transverse markings | Std transverse markings | Std transverse markings | Std transverse markings | Std transverse markings | Std transverse markings | Std transverse markings |
| | **PETSI Score** | **-13** | **-14** | **47** | **30** | **-44** | **-44** | **43** | **46** |
| | **Ped. Exposure to Traffic LoS** | **F** | **F** | **D** | **E** | **#N/A** | **#N/A** | **E** | **D** |
| | Cycle Length | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| | Effective Walk Time | 7 | 7 | 59 | 59 | 7 | 7 | 32 | 22 |
| | **Average Pedestrian Delay** | **53** | **53** | **16** | **16** | **53** | **53** | **32** | **40** |
| | **Pedestrian Delay LoS** | **E** | **E** | **B** | **B** | **E** | **E** | **D** | **E** |
| | **Level of Service** | **F** | **F** | **D** | **E** | **#N/A** | **#N/A** | **E** | **E** |
| | | **F** | | | | **#N/A** | | | |
| | **Approach From** | NORTH | SOUTH | EAST | WEST | NORTH | SOUTH | EAST | WEST |
| Bicycle | Bicycle Lane Arrangement on Approach | Mixed Traffic | Mixed Traffic | Mixed Traffic | Mixed Traffic | Pocket Bike Lane | Mixed Traffic | Mixed Traffic | Mixed Traffic |
| | Right Turn Lane Configuration | > 50 m | > 50 m | ≤ 50 m | ≤ 50 m | ≤ 50 m Introduced right turn lane | ≤ 50 m | ≤ 50 m | ≤ 50 m |
| | Right Turning Speed | ≤ 25 km/h | ≤ 25 km/h | ≤ 25 km/h | ≤ 25 km/h | ≤ 25 km/h | ≤ 25 km/h | ≤ 25 km/h | ≤ 25 km/h |
| | **Cyclist relative to RT motorists** | **F** | **F** | **D** | **D** | **B** | **D** | **D** | **D** |
| | **Separated or Mixed Traffic** | **Mixed Traffic** | **Mixed Traffic** | **Mixed Traffic** | **Mixed Traffic** | **Separated** | **Mixed Traffic** | **Mixed Traffic** | **Mixed Traffic** |
| | Left Turn Approach | ≥ 2 lanes crossed | ≥ 2 lanes crossed | One lane crossed | One lane crossed | ≥ 2 lanes crossed | ≥ 2 lanes crossed | One lane crossed | One lane crossed |
| | Operating Speed | ≥ 60 km/h | ≥ 60 km/h | > 40 to ≤ 50 km/h | > 40 to ≤ 50 km/h | ≥ 60 km/h | ≥ 60 km/h | > 50 to < 60 km/h | > 40 to ≤ 50 km/h |
| | **Left Turning Cyclist** | **F** | **F** | **D** | **D** | **F** | **F** | **E** | **D** |
| | **Level of Service** | **F** | **F** | **D** | **D** | **F** | **F** | **E** | **D** |
| | | **F** | | | | **F** | | | |
| Transit | Average Signal Delay | ≤ 10 sec | ≤ 30 sec | ≤ 40 sec | | | > 40 sec | | |
| | **Level of Service** | **B** | **D** | **E** | **-** | **-** | **F** | **-** | **-** |
| | | **E** | | | | **F** | | | |
| Truck | Effective Corner Radius | > 15 m | > 15 m | | | > 15 m | > 15 m | | |
| | Number of Receiving Lanes on Departure from Intersection | 1 | ≥ 2 | | | 1 | ≥ 2 | | |
| | **Level of Service** | **C** | **A** | **-** | **-** | **C** | **A** | **-** | **-** |
| | | **C** | | | | **C** | | | |

# Multi-Modal Level of Service - Segments Form

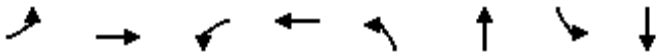
| | | | |
|---|---|---|---|
| **Consultant** | **Parsons** | **Project** | **477549** |
| **Scenario** | | **Date** | **10/31/2023** |
| **Comments** | | | |
| | | | |

| SEGMENTS | | Street A | Riverside - Dupon | Section | Section | Section | Section | Section | Section | Section | Section |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Pedestrian | Sidewalk Width<br>Boulevard Width | E | 1.5 m<br>< 0.5 m | | | | | | | | |
| | Avg Daily Curb Lane Traffic Volume | | ≤ 3000 | | | | | | | | |
| | Operating Speed<br>On-Street Parking | | > 30 to 50 km/h<br>yes | | | | | | | | |
| | **Exposure to Traffic PLoS** | | **E** | - | - | - | - | - | - | - | - |
| | Effective Sidewalk Width | | 1.5 m | | | | | | | | |
| | Pedestrian Volume | | 250 ped/hr | | | | | | | | |
| | **Crowding PLoS** | | **B** | - | - | - | - | - | - | - | - |
| | **Level of Service** | | **E** | - | - | - | - | - | - | - | - |
| Bicycle | Type of Cycling Facility | D | Mixed Traffic | | | | | | | | |
| | Number of Travel Lanes | | 2-3 lanes total | | | | | | | | |
| | Operating Speed | | >40 to <50 km/h | | | | | | | | |
| | **# of Lanes & Operating Speed LoS** | | **D** | - | - | - | - | - | - | - | - |
| | Bike Lane (+ Parking Lane) Width | | | | | | | | | | |
| | **Bike Lane Width LoS** | | - | - | - | - | - | - | - | - | - |
| | Bike Lane Blockages | | | | | | | | | | |
| | **Blockage LoS** | | - | - | - | - | - | - | - | - | - |
| | Median Refuge Width (no median = < 1.8 m) | | < 1.8 m refuge | | | | | | | | |
| | No. of Lanes at Unsignalized Crossing | | ≤ 3 lanes | | | | | | | | |
| | Sidestreet Operating Speed | | >40 to 50 km/h | | | | | | | | |
| | **Unsignalized Crossing - Lowest LoS** | | **B** | - | - | - | - | - | - | - | - |
| | **Level of Service** | | **D** | - | - | - | - | - | - | - | - |
| Transit | Facility Type | D | Mixed Traffic | | | | | | | | |
| | Friction or Ratio Transit:Posted Speed | | Vt/Vp ≥ 0.8 | | | | | | | | |
| | **Level of Service** | | **D** | - | - | - | - | - | - | - | - |
| Truck | Truck Lane Width | B | > 3.7 m | | | | | | | | |
| | Travel Lanes per Direction | | 1 | | | | | | | | |
| | **Level of Service** | | **B** | - | - | - | - | - | - | - | - |

# Appendix H

SYNCHRO AND SIDRA ANALYSIS REPORTS

# Existing Conditions

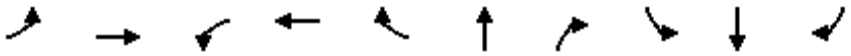


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 68 | 25 | 97 | 28 | 472 | 1279 | 279 | 654 |
| Future Volume (vph) | 68 | 25 | 97 | 28 | 472 | 1279 | 279 | 654 |
| Lane Group Flow (vph) | 76 | 165 | 108 | 217 | 524 | 1883 | 310 | 1154 |
| Turn Type | pm+pt | NA | Perm | NA | Prot | NA | Prot | NA |
| Protected Phases | 7 | 4 | | 8 | 5 | 2 | 1 | 6 |
| Permitted Phases | 4 | | 8 | | | | | |
| Detector Phase | 7 | 4 | 8 | 8 | 5 | 2 | 1 | 6 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 10.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 11.2 | 36.7 | 36.7 | 36.7 | 11.1 | 25.6 | 11.1 | 25.6 |
| Total Split (s) | 15.0 | 52.0 | 37.0 | 37.0 | 32.0 | 48.0 | 20.0 | 36.0 |
| Total Split (%) | 12.5% | 43.3% | 30.8% | 30.8% | 26.7% | 40.0% | 16.7% | 30.0% |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 2.9 | 3.4 | 3.4 | 3.4 | 2.4 | 1.9 | 2.4 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.2 | 6.7 | 6.7 | 6.7 | 6.1 | 5.6 | 6.1 | 5.6 |
| Lead/Lag | Lead | | Lag | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | C-Max | None | C-Max |
| Act Effct Green (s) | 29.3 | 28.8 | 16.8 | 16.8 | 42.4 | 42.4 | 30.4 | 30.4 |
| Actuated g/C Ratio | 0.24 | 0.24 | 0.14 | 0.14 | 0.35 | 0.35 | 0.25 | 0.25 |
| v/c Ratio | 0.39 | 0.35 | 0.66 | 0.58 | 0.88 | 1.10 | 0.72 | 0.92 |
| Control Delay | 38.2 | 9.8 | 67.1 | 15.7 | 35.7 | 97.1 | 54.4 | 51.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 38.2 | 9.8 | 67.1 | 15.7 | 35.7 | 97.1 | 54.4 | 51.9 |
| LOS | D | A | E | B | D | F | D | D |
| Approach Delay | | 18.7 | | 32.8 | | 83.7 | | 52.4 |
| Approach LOS | | B | | C | | F | | D |
| Queue Length 50th (m) | 13.8 | 5.0 | 24.5 | 6.5 | 112.3 | ~186.5 | 69.1 | 88.6 |
| Queue Length 95th (m) | 23.8 | 19.7 | 40.7 | 27.6 | m#168.8 | m#214.2 | #139.3 | #115.4 |
| Internal Link Dist (m) | | 228.4 | | 515.1 | | 121.4 | | 276.2 |
| Turn Bay Length (m) | 15.0 | | | | 135.0 | | 160.0 | |
| Base Capacity (vph) | 201 | 674 | 294 | 531 | 598 | 1705 | 429 | 1252 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.38 | 0.24 | 0.37 | 0.41 | 0.88 | 1.10 | 0.72 | 0.92 |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 91 (76%), Referenced to phase 2:NBT and 6:SBT, Start of Green | |
| Natural Cycle: 145 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 1.10 | |
| Intersection Signal Delay: 66.1 | Intersection LOS: E |
| Intersection Capacity Utilization 90.8% | ICU Level of Service E |
| Analysis Period (min) 15 | |

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Riverside Dr & Hog's Back Rd/Brookfield Rd



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | NBR | SBL | SBT | SBR | Ø5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 4 | 0 | 21 | 0 | 91 | 2081 | 72 | 32 | 699 | 7 | |
| Future Volume (vph) | 4 | 0 | 21 | 0 | 91 | 2081 | 72 | 32 | 699 | 7 | |
| Lane Group Flow (vph) | 4 | 1 | 0 | 23 | 101 | 2312 | 80 | 36 | 777 | 8 | |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | Prot | NA | Perm | |
| Protected Phases | | 4 | | 8 | | 2 | | 1 | 6 | | 5 |
| Permitted Phases | 4 | | 8 | | 8 | | 2 | | | 6 | |
| Detector Phase | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 1 | 6 | 6 | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 5.0 | 10.0 | 10.0 | 5.0 |
| Minimum Split (s) | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 26.6 | 26.6 | 10.8 | 26.6 | 26.6 | 10.8 |
| Total Split (s) | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 75.0 | 75.0 | 14.0 | 75.0 | 75.0 | 14.0 |
| Total Split (%) | 25.8% | 25.8% | 25.8% | 25.8% | 25.8% | 62.5% | 62.5% | 11.7% | 62.5% | 62.5% | 12% |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 1.9 | 1.9 | 2.1 | 1.9 | 1.9 | 2.1 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.8 | 6.8 | | 6.8 | 6.8 | 5.6 | 5.6 | 5.8 | 5.6 | 5.6 | |
| Lead/Lag | | | | | | Lag | Lag | Lead | Lag | Lag | Lead |
| Lead-Lag Optimize? | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max | None |
| Act Effct Green (s) | 10.3 | 10.3 | | 10.3 | 10.3 | 88.3 | 88.3 | 8.0 | 97.3 | 97.3 | |
| Actuated g/C Ratio | 0.09 | 0.09 | | 0.09 | 0.09 | 0.74 | 0.74 | 0.07 | 0.81 | 0.81 | |
| v/c Ratio | 0.04 | 0.00 | | 0.20 | 0.45 | 0.93 | 0.07 | 0.32 | 0.28 | 0.01 | |
| Control Delay | 50.8 | 0.0 | | 55.2 | 16.8 | 23.2 | 1.4 | 50.9 | 1.6 | 0.0 | |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 50.8 | 0.0 | | 55.2 | 16.8 | 23.2 | 1.4 | 50.9 | 1.6 | 0.0 | |
| LOS | D | A | | E | B | C | A | D | A | A | |
| Approach Delay | | 40.6 | | 23.9 | | 22.5 | | | 3.8 | | |
| Approach LOS | | D | | C | | C | | | A | | |
| Queue Length 50th (m) | 0.9 | 0.0 | | 5.2 | 0.0 | 243.6 | 0.0 | 8.7 | 14.8 | 0.0 | |
| Queue Length 95th (m) | 4.4 | 0.0 | | 13.4 | 16.4 | #347.3 | 4.4 | m11.6 | m13.7 | m0.0 | |
| Internal Link Dist (m) | | 58.8 | | 118.5 | | 110.2 | | | 196.4 | | |
| Turn Bay Length (m) | | | | | 35.0 | | 50.0 | 90.0 | | 55.0 | |
| Base Capacity (vph) | 267 | 531 | | 272 | 386 | 2494 | 1139 | 125 | 2749 | 1247 | |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.01 | 0.00 | | 0.08 | 0.26 | 0.93 | 0.07 | 0.29 | 0.28 | 0.01 | |

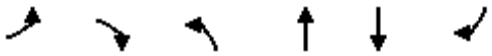
| Intersection Summary | | |
|---|---|---|
| Cycle Length: 120 | | |
| Actuated Cycle Length: 120 | | |
| Offset: 100 (83%), Referenced to phase 2:NBT and 6:SBT, Start of Green | | |
| Natural Cycle: 150 | | |
| Control Type: Actuated-Coordinated | | |
| Maximum v/c Ratio: 0.93 | | |
| Intersection Signal Delay: 18.0 | Intersection LOS: B | |
| Intersection Capacity Utilization 93.4% | ICU Level of Service F | |
| Analysis Period (min) 15 | | |

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Riverside Dr & Ridgewood Ave

| Lane Group | EBL | NBT | SBT |
|---|---|---|---|
| Lane Configurations | | | |
| Traffic Volume (vph) | 45 | 86 | 59 |
| Future Volume (vph) | 45 | 86 | 59 |
| Lane Group Flow (vph) | 82 | 165 | 102 |
| Sign Control | Stop | Stop | Stop |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization | 26.2% | ICU Level of Service A |
| Analysis Period (min) | 15 | |



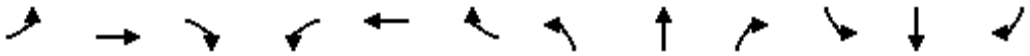
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Sign Control | Stop | | | Stop | Stop | |
| Traffic Volume (vph) | 45 | 29 | 62 | 86 | 59 | 32 |
| Future Volume (vph) | 45 | 29 | 62 | 86 | 59 | 32 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 50 | 32 | 69 | 96 | 66 | 36 |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total (vph) | 82 | 165 | 102 |
| Volume Left (vph) | 50 | 69 | 0 |
| Volume Right (vph) | 32 | 0 | 36 |
| Hadj (s) | -0.08 | 0.12 | -0.18 |
| Departure Headway (s) | 4.4 | 4.3 | 4.1 |
| Degree Utilization, x | 0.10 | 0.20 | 0.12 |
| Capacity (veh/h) | 760 | 810 | 855 |
| Control Delay (s) | 7.9 | 8.4 | 7.6 |
| Approach Delay (s) | 7.9 | 8.4 | 7.6 |
| Approach LOS | A | A | A |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 8.0 | | |
| Level of Service | A | | |
| Intersection Capacity Utilization | 26.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | WBT | NBT | SBT |
|---|---|---|---|---|
| Lane Configurations | | | | |
| Traffic Volume (vph) | 3 | 3 | 45 | 17 |
| Future Volume (vph) | 3 | 3 | 45 | 17 |
| Lane Group Flow (vph) | 202 | 15 | 54 | 97 |
| Sign Control | Stop | Stop | Stop | Stop |

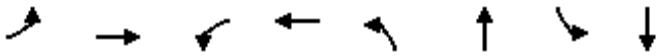
| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 29.9% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Traffic Volume (vph) | 178 | 3 | 1 | 0 | 3 | 11 | 4 | 45 | 0 | 2 | 17 | 68 |
| Future Volume (vph) | 178 | 3 | 1 | 0 | 3 | 11 | 4 | 45 | 0 | 2 | 17 | 68 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 198 | 3 | 1 | 0 | 3 | 12 | 4 | 50 | 0 | 2 | 19 | 76 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total (vph) | 202 | 15 | 54 | 97 |
| Volume Left (vph) | 198 | 0 | 4 | 2 |
| Volume Right (vph) | 1 | 12 | 0 | 76 |
| Hadj (s) | 0.23 | -0.45 | 0.05 | -0.43 |
| Departure Headway (s) | 4.5 | 4.0 | 4.6 | 4.0 |
| Degree Utilization, x | 0.25 | 0.02 | 0.07 | 0.11 |
| Capacity (veh/h) | 780 | 837 | 742 | 832 |
| Control Delay (s) | 9.0 | 7.1 | 7.9 | 7.5 |
| Approach Delay (s) | 9.0 | 7.1 | 7.9 | 7.5 |
| Approach LOS | A | A | A | A |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Delay | 8.4 | | | |
| Level of Service | A | | | |
| Intersection Capacity Utilization | 29.9% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |

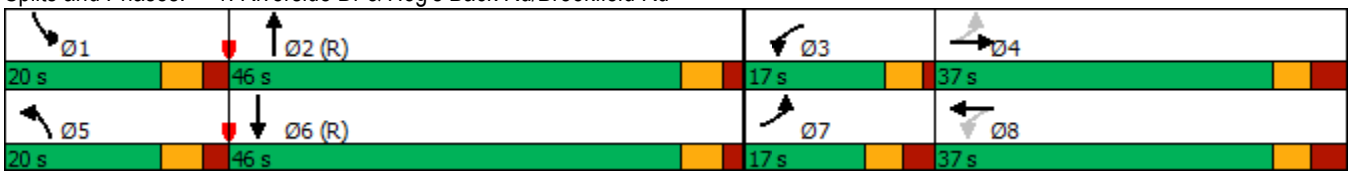


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 159 | 34 | 309 | 14 | 129 | 670 | 202 | 1270 |
| Future Volume (vph) | 159 | 34 | 309 | 14 | 129 | 670 | 202 | 1270 |
| Lane Group Flow (vph) | 177 | 445 | 343 | 350 | 143 | 875 | 224 | 1554 |
| Turn Type | pm+pt | NA | pm+pt | NA | Prot | NA | Prot | NA |
| Protected Phases | 7 | 4 | 3 | 8 | 5 | 2 | 1 | 6 |
| Permitted Phases | 4 | | 8 | | | | | |
| Detector Phase | 7 | 4 | 3 | 8 | 5 | 2 | 1 | 6 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 11.2 | 36.7 | 9.5 | 36.7 | 11.1 | 25.6 | 11.1 | 25.6 |
| Total Split (s) | 17.0 | 37.0 | 17.0 | 37.0 | 20.0 | 46.0 | 20.0 | 46.0 |
| Total Split (%) | 14.2% | 30.8% | 14.2% | 30.8% | 16.7% | 38.3% | 16.7% | 38.3% |
| Yellow Time (s) | 3.3 | 3.3 | 3.5 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 2.9 | 3.4 | 1.0 | 3.4 | 2.4 | 1.9 | 2.4 | 1.9 |
| Lost Time Adjust (s) | -2.2 | -2.7 | -0.5 | -2.7 | -2.1 | -1.6 | -2.1 | -1.6 |
| Total Lost Time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lead/Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | C-Max | None | C-Max |
| Act Effct Green (s) | 38.1 | 25.3 | 38.4 | 25.4 | 15.3 | 45.3 | 20.4 | 50.4 |
| Actuated g/C Ratio | 0.32 | 0.21 | 0.32 | 0.21 | 0.13 | 0.38 | 0.17 | 0.42 |
| v/c Ratio | 0.73 | 0.86 | 1.38 | 0.61 | 0.67 | 0.48 | 0.78 | 0.77 |
| Control Delay | 45.3 | 36.1 | 222.7 | 11.0 | 56.5 | 40.9 | 67.5 | 34.3 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 45.3 | 36.1 | 222.7 | 11.0 | 56.5 | 40.9 | 67.5 | 34.3 |
| LOS | D | D | F | B | E | D | E | C |
| Approach Delay | | 38.7 | | 115.8 | | 43.1 | | 38.5 |
| Approach LOS | | D | | F | | D | | D |
| Queue Length 50th (m) | 29.4 | 47.6 | ~89.9 | 7.0 | 32.1 | 77.7 | 49.9 | 117.8 |
| Queue Length 95th (m) | #45.1 | 84.0 | #139.4 | 32.3 | #54.1 | 91.7 | #102.9 | #151.5 |
| Internal Link Dist (m) | | 228.4 | | 515.1 | | 121.4 | | 276.2 |
| Turn Bay Length (m) | 15.0 | | | | 135.0 | | 160.0 | |
| Base Capacity (vph) | 244 | 601 | 248 | 647 | 231 | 1817 | 288 | 2027 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.73 | 0.74 | 1.38 | 0.54 | 0.62 | 0.48 | 0.78 | 0.77 |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 84 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Green | |
| Natural Cycle: 115 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 1.38 | |
| Intersection Signal Delay: 52.7 | Intersection LOS: D |
| Intersection Capacity Utilization 93.6% | ICU Level of Service F |
| Analysis Period (min) 15 | |

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Riverside Dr & Hog's Back Rd/Brookfield Rd



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 0 | 44 | 1 | 43 | 3 | 896 | 29 | 45 | 1694 | 8 |
| Future Volume (vph) | 7 | 0 | 44 | 1 | 43 | 3 | 896 | 29 | 45 | 1694 | 8 |
| Lane Group Flow (vph) | 8 | 6 | 0 | 50 | 48 | 3 | 996 | 32 | 50 | 1882 | 9 |
| Turn Type | Perm | NA | Perm | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | | 4 | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 8 | | 8 | | | 2 | | | 6 |
| Detector Phase | 4 | 4 | 8 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 5.0 | 10.0 | 10.0 | 5.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 10.8 | 26.6 | 26.6 | 10.8 | 26.6 | 26.6 |
| Total Split (s) | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 14.0 | 75.0 | 75.0 | 14.0 | 75.0 | 75.0 |
| Total Split (%) | 25.8% | 25.8% | 25.8% | 25.8% | 25.8% | 11.7% | 62.5% | 62.5% | 11.7% | 62.5% | 62.5% |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 2.1 | 1.9 | 1.9 | 2.1 | 1.9 | 1.9 |
| Lost Time Adjust (s) | -2.8 | -2.8 | | -2.8 | -2.8 | -1.8 | -1.6 | -1.6 | -1.8 | -1.6 | -1.6 |
| Total Lost Time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Lead/Lag | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 13.9 | 13.9 | | 13.9 | 13.9 | 7.6 | 89.8 | 89.8 | 10.7 | 99.8 | 99.8 |
| Actuated g/C Ratio | 0.12 | 0.12 | | 0.12 | 0.12 | 0.06 | 0.75 | 0.75 | 0.09 | 0.83 | 0.83 |
| v/c Ratio | 0.05 | 0.02 | | 0.33 | 0.20 | 0.03 | 0.39 | 0.03 | 0.33 | 0.67 | 0.01 |
| Control Delay | 47.0 | 0.2 | | 54.7 | 5.7 | 53.0 | 8.1 | 0.0 | 58.6 | 5.4 | 0.0 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 47.0 | 0.2 | | 54.7 | 5.7 | 53.0 | 8.1 | 0.0 | 58.6 | 5.4 | 0.0 |
| LOS | D | A | | D | A | D | A | A | E | A | A |
| Approach Delay | | 26.9 | | 30.7 | | | 7.9 | | | 6.8 | |
| Approach LOS | | C | | C | | | A | | | A | |
| Queue Length 50th (m) | 1.7 | 0.0 | | 11.1 | 0.0 | 0.7 | 46.2 | 0.0 | 12.2 | 35.6 | 0.0 |
| Queue Length 95th (m) | 6.3 | 0.0 | | 22.9 | 4.8 | 3.8 | 71.7 | 0.0 | m14.7 | m49.4 | m0.0 |
| Internal Link Dist (m) | | 58.8 | | 118.5 | | | 110.2 | | | 196.4 | |
| Turn Bay Length (m) | | | | | 35.0 | 50.0 | | 50.0 | 90.0 | | 55.0 |
| Base Capacity (vph) | 290 | 440 | | 291 | 400 | 141 | 2537 | 1157 | 160 | 2819 | 1276 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.03 | 0.01 | | 0.17 | 0.12 | 0.02 | 0.39 | 0.03 | 0.31 | 0.67 | 0.01 |

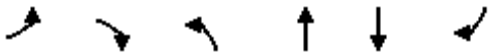
| Intersection Summary | | | |
|---|---|---|---|
| Cycle Length: 120 | | | |
| Actuated Cycle Length: 120 | | | |
| Offset: 112 (93%), Referenced to phase 2:NBT and 6:SBT, Start of Green | | | |
| Natural Cycle: 100 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.67 | | | |
| Intersection Signal Delay: 8.0 | | Intersection LOS: A | |
| Intersection Capacity Utilization 65.4% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Riverside Dr & Ridgewood Ave

| Lane Group | EBL | NBT | SBT |
|---|---|---|---|
| Lane Configurations | | | |
| Traffic Volume (vph) | 25 | 46 | 239 |
| Future Volume (vph) | 25 | 46 | 239 |
| Lane Group Flow (vph) | 78 | 94 | 303 |
| Sign Control | Stop | Stop | Stop |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 34.6% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |



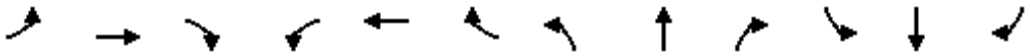
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Sign Control | Stop | | | Stop | Stop | |
| Traffic Volume (vph) | 25 | 45 | 39 | 46 | 239 | 33 |
| Future Volume (vph) | 25 | 45 | 39 | 46 | 239 | 33 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 28 | 50 | 43 | 51 | 266 | 37 |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total (vph) | 78 | 94 | 303 |
| Volume Left (vph) | 28 | 43 | 0 |
| Volume Right (vph) | 50 | 0 | 37 |
| Hadj (s) | -0.28 | 0.13 | -0.04 |
| Departure Headway (s) | 4.5 | 4.5 | 4.2 |
| Degree Utilization, x | 0.10 | 0.12 | 0.35 |
| Capacity (veh/h) | 733 | 766 | 841 |
| Control Delay (s) | 8.0 | 8.1 | 9.4 |
| Approach Delay (s) | 8.0 | 8.1 | 9.4 |
| Approach LOS | A | A | A |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 8.9 | | |
| Level of Service | A | | |
| Intersection Capacity Utilization | 34.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | WBT | NBT | SBT |
|---|---|---|---|---|
| Lane Configurations | | | | |
| Traffic Volume (vph) | 2 | 4 | 23 | 80 |
| Future Volume (vph) | 2 | 4 | 23 | 80 |
| Lane Group Flow (vph) | 98 | 8 | 27 | 390 |
| Sign Control | Stop | Stop | Stop | Stop |

| Intersection Summary | | | |
|---|---|---|---|
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization | 43.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

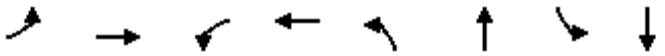


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Traffic Volume (vph) | 79 | 2 | 7 | 0 | 4 | 4 | 1 | 23 | 0 | 8 | 80 | 263 |
| Future Volume (vph) | 79 | 2 | 7 | 0 | 4 | 4 | 1 | 23 | 0 | 8 | 80 | 263 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Hourly flow rate (vph) | 88 | 2 | 8 | 0 | 4 | 4 | 1 | 26 | 0 | 9 | 89 | 292 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total (vph) | 98 | 8 | 27 | 390 |
| Volume Left (vph) | 88 | 0 | 1 | 9 |
| Volume Right (vph) | 8 | 4 | 0 | 292 |
| Hadj (s) | 0.16 | -0.27 | 0.04 | -0.41 |
| Departure Headway (s) | 4.9 | 4.6 | 4.6 | 3.8 |
| Degree Utilization, x | 0.13 | 0.01 | 0.03 | 0.41 |
| Capacity (veh/h) | 672 | 697 | 744 | 929 |
| Control Delay (s) | 8.7 | 7.7 | 7.7 | 9.4 |
| Approach Delay (s) | 8.7 | 7.7 | 7.7 | 9.4 |
| Approach LOS | A | A | A | A |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Delay | 9.2 | | | |
| Level of Service | A | | | |
| Intersection Capacity Utilization | 43.4% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |

# Total Future Background 2026

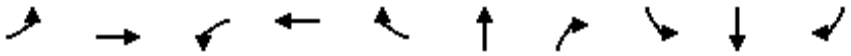


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 70 | 34 | 101 | 45 | 486 | 1389 | 295 | 715 |
| Future Volume (vph) | 70 | 34 | 101 | 45 | 486 | 1389 | 295 | 715 |
| Lane Group Flow (vph) | 70 | 161 | 101 | 233 | 486 | 1818 | 295 | 1111 |
| Turn Type | pm+pt | NA | Perm | NA | Prot | NA | Prot | NA |
| Protected Phases | 7 | 4 | | 8 | 5 | 2 | 1 | 6 |
| Permitted Phases | 4 | | 8 | | | | | |
| Detector Phase | 7 | 4 | 8 | 8 | 5 | 2 | 1 | 6 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 10.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 11.2 | 36.7 | 36.7 | 36.7 | 11.1 | 25.6 | 11.1 | 25.6 |
| Total Split (s) | 15.0 | 52.0 | 37.0 | 37.0 | 32.0 | 48.0 | 20.0 | 36.0 |
| Total Split (%) | 12.5% | 43.3% | 30.8% | 30.8% | 26.7% | 40.0% | 16.7% | 30.0% |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 2.9 | 3.4 | 3.4 | 3.4 | 2.4 | 1.9 | 2.4 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.2 | 6.7 | 6.7 | 6.7 | 6.1 | 5.6 | 6.1 | 5.6 |
| Lead/Lag | Lead | | Lag | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | C-Max | None | C-Max |
| Act Effct Green (s) | 28.6 | 28.1 | 16.2 | 16.2 | 43.1 | 42.4 | 31.1 | 30.4 |
| Actuated g/C Ratio | 0.24 | 0.23 | 0.14 | 0.14 | 0.36 | 0.35 | 0.26 | 0.25 |
| v/c Ratio | 0.40 | 0.35 | 0.64 | 0.65 | 0.80 | 1.07 | 0.67 | 0.89 |
| Control Delay | 39.2 | 10.9 | 66.7 | 23.4 | 31.8 | 83.5 | 51.3 | 48.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 39.2 | 10.9 | 66.7 | 23.4 | 31.8 | 83.5 | 51.3 | 48.6 |
| LOS | D | B | E | C | C | F | D | D |
| Approach Delay | | 19.5 | | 36.5 | | 72.6 | | 49.2 |
| Approach LOS | | B | | D | | E | | D |
| Queue Length 50th (m) | 12.8 | 6.1 | 22.9 | 14.1 | 104.9 | ~174.4 | 64.5 | 84.4 |
| Queue Length 95th (m) | 22.4 | 21.0 | 38.7 | 37.5 | m#157.9 | #204.7 | #127.5 | #105.1 |
| Internal Link Dist (m) | | 228.4 | | 515.1 | | 121.4 | | 276.2 |
| Turn Bay Length (m) | 15.0 | | | | 135.0 | | 160.0 | |
| Base Capacity (vph) | 184 | 673 | 295 | 521 | 608 | 1707 | 439 | 1251 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.38 | 0.24 | 0.34 | 0.45 | 0.80 | 1.07 | 0.67 | 0.89 |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 91 (76%), Referenced to phase 2:NBT and 6:SBT, Start of Green | |
| Natural Cycle: 135 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 1.07 | |
| Intersection Signal Delay: 59.2 | Intersection LOS: E |
| Intersection Capacity Utilization 95.1% | ICU Level of Service F |
| Analysis Period (min) 15 | |

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Riverside Dr & Hog's Back Rd/Brookfield Rd



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | NBR | SBL | SBT | SBR | Ø5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 4 | 0 | 24 | 0 | 103 | 2204 | 76 | 33 | 761 | 7 | |
| Future Volume (vph) | 4 | 0 | 24 | 0 | 103 | 2204 | 76 | 33 | 761 | 7 | |
| Lane Group Flow (vph) | 4 | 1 | 0 | 24 | 103 | 2204 | 76 | 33 | 761 | 7 | |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | Prot | NA | Perm | |
| Protected Phases | | 4 | | 8 | | 2 | | 1 | 6 | | 5 |
| Permitted Phases | 4 | | 8 | | 8 | | 2 | | | 6 | |
| Detector Phase | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 1 | 6 | 6 | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 5.0 | 10.0 | 10.0 | 5.0 |
| Minimum Split (s) | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 26.6 | 26.6 | 10.8 | 26.6 | 26.6 | 10.8 |
| Total Split (s) | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 75.0 | 75.0 | 14.0 | 75.0 | 75.0 | 14.0 |
| Total Split (%) | 25.8% | 25.8% | 25.8% | 25.8% | 25.8% | 62.5% | 62.5% | 11.7% | 62.5% | 62.5% | 12% |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 1.9 | 1.9 | 2.1 | 1.9 | 1.9 | 2.1 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.8 | 6.8 | | 6.8 | 6.8 | 5.6 | 5.6 | 5.8 | 5.6 | 5.6 | |
| Lead/Lag | | | | | | Lag | Lag | Lead | Lag | Lag | Lead |
| Lead-Lag Optimize? | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max | None |
| Act Effct Green (s) | 10.3 | 10.3 | | 10.3 | 10.3 | 88.4 | 88.4 | 7.8 | 97.3 | 97.3 | |
| Actuated g/C Ratio | 0.09 | 0.09 | | 0.09 | 0.09 | 0.74 | 0.74 | 0.06 | 0.81 | 0.81 | |
| v/c Ratio | 0.04 | 0.00 | | 0.21 | 0.46 | 0.88 | 0.07 | 0.30 | 0.28 | 0.01 | |
| Control Delay | 50.8 | 0.0 | | 55.5 | 16.7 | 19.4 | 1.2 | 50.8 | 1.6 | 0.0 | |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 50.8 | 0.0 | | 55.5 | 16.7 | 19.4 | 1.2 | 50.8 | 1.6 | 0.0 | |
| LOS | D | A | | E | B | B | A | D | A | A | |
| Approach Delay | | 40.6 | | 24.1 | | 18.8 | | | 3.6 | | |
| Approach LOS | | D | | C | | B | | | A | | |
| Queue Length 50th (m) | 0.9 | 0.0 | | 5.4 | 0.0 | 209.7 | 0.0 | 8.2 | 14.0 | 0.0 | |
| Queue Length 95th (m) | 4.4 | 0.0 | | 13.8 | 16.4 | #318.6 | 4.0 | m10.9 | m14.1 | m0.0 | |
| Internal Link Dist (m) | | 58.8 | | 118.5 | | 110.2 | | | 196.4 | | |
| Turn Bay Length (m) | | | | | 35.0 | | 50.0 | 90.0 | | 55.0 | |
| Base Capacity (vph) | 267 | 536 | | 272 | 388 | 2497 | 1140 | 124 | 2749 | 1247 | |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.01 | 0.00 | | 0.09 | 0.27 | 0.88 | 0.07 | 0.27 | 0.28 | 0.01 | |

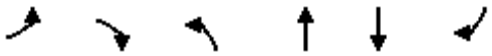
| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 100 (83%), Referenced to phase 2:NBT and 6:SBT, Start of Green | |
| Natural Cycle: 130 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.88 | |
| Intersection Signal Delay: 15.2 | Intersection LOS: B |
| Intersection Capacity Utilization 97.0% | ICU Level of Service F |
| Analysis Period (min) 15 | |

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Riverside Dr & Ridgewood Ave

| Lane Group | EBL | NBT | SBT |
|---|---|---|---|
| Lane Configurations | | | |
| Traffic Volume (vph) | 46 | 88 | 61 |
| Future Volume (vph) | 46 | 88 | 61 |
| Lane Group Flow (vph) | 79 | 163 | 95 |
| Sign Control | Stop | Stop | Stop |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization | 27.4% | ICU Level of Service A |
| Analysis Period (min) | 15 | |



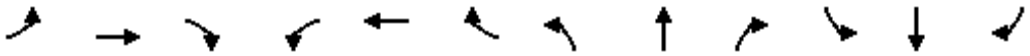
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Sign Control | Stop | | | Stop | Stop | |
| Traffic Volume (vph) | 46 | 33 | 75 | 88 | 61 | 34 |
| Future Volume (vph) | 46 | 33 | 75 | 88 | 61 | 34 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 46 | 33 | 75 | 88 | 61 | 34 |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total (vph) | 79 | 163 | 95 |
| Volume Left (vph) | 46 | 75 | 0 |
| Volume Right (vph) | 33 | 0 | 34 |
| Hadj (s) | -0.10 | 0.13 | -0.18 |
| Departure Headway (s) | 4.4 | 4.3 | 4.1 |
| Degree Utilization, x | 0.10 | 0.20 | 0.11 |
| Capacity (veh/h) | 778 | 812 | 858 |
| Control Delay (s) | 7.8 | 8.3 | 7.6 |
| Approach Delay (s) | 7.8 | 8.3 | 7.6 |
| Approach LOS | A | A | A |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 8.0 | | |
| Level of Service | A | | |
| Intersection Capacity Utilization | 27.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | WBT | NBT | SBT |
|---|---|---|---|---|
| Lane Configurations | | | | |
| Traffic Volume (vph) | 3 | 3 | 45 | 17 |
| Future Volume (vph) | 3 | 3 | 45 | 17 |
| Lane Group Flow (vph) | 207 | 14 | 49 | 98 |
| Sign Control | Stop | Stop | Stop | Stop |

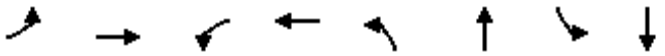
| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 32.1% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Traffic Volume (vph) | 203 | 3 | 1 | 0 | 3 | 11 | 4 | 45 | 0 | 2 | 17 | 79 |
| Future Volume (vph) | 203 | 3 | 1 | 0 | 3 | 11 | 4 | 45 | 0 | 2 | 17 | 79 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 203 | 3 | 1 | 0 | 3 | 11 | 4 | 45 | 0 | 2 | 17 | 79 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total (vph) | 207 | 14 | 49 | 98 |
| Volume Left (vph) | 203 | 0 | 4 | 2 |
| Volume Right (vph) | 1 | 11 | 0 | 79 |
| Hadj (s) | 0.23 | -0.44 | 0.05 | -0.45 |
| Departure Headway (s) | 4.5 | 4.0 | 4.6 | 4.0 |
| Degree Utilization, x | 0.26 | 0.02 | 0.06 | 0.11 |
| Capacity (veh/h) | 782 | 837 | 740 | 834 |
| Control Delay (s) | 9.0 | 7.1 | 7.9 | 7.5 |
| Approach Delay (s) | 9.0 | 7.1 | 7.9 | 7.5 |
| Approach LOS | A | A | A | A |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Delay | 8.4 | | | |
| Level of Service | A | | | |
| Intersection Capacity Utilization | 32.1% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |

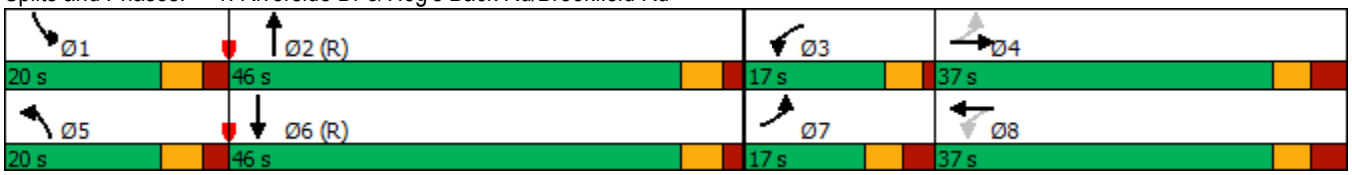


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 164 | 51 | 321 | 28 | 133 | 754 | 224 | 1380 |
| Future Volume (vph) | 164 | 51 | 321 | 28 | 133 | 754 | 224 | 1380 |
| Lane Group Flow (vph) | 164 | 428 | 321 | 352 | 133 | 878 | 224 | 1513 |
| Turn Type | pm+pt | NA | pm+pt | NA | Prot | NA | Prot | NA |
| Protected Phases | 7 | 4 | 3 | 8 | 5 | 2 | 1 | 6 |
| Permitted Phases | 4 | | 8 | | | | | |
| Detector Phase | 7 | 4 | 3 | 8 | 5 | 2 | 1 | 6 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 11.2 | 36.7 | 9.5 | 36.7 | 11.1 | 25.6 | 11.1 | 25.6 |
| Total Split (s) | 17.0 | 37.0 | 17.0 | 37.0 | 20.0 | 46.0 | 20.0 | 46.0 |
| Total Split (%) | 14.2% | 30.8% | 14.2% | 30.8% | 16.7% | 38.3% | 16.7% | 38.3% |
| Yellow Time (s) | 3.3 | 3.3 | 3.5 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 2.9 | 3.4 | 1.0 | 3.4 | 2.4 | 1.9 | 2.4 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.2 | 6.7 | 4.5 | 6.7 | 6.1 | 5.6 | 6.1 | 5.6 |
| Lead/Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | C-Max | None | C-Max |
| Act Effct Green (s) | 32.5 | 21.4 | 36.4 | 21.7 | 13.4 | 41.8 | 21.4 | 49.8 |
| Actuated g/C Ratio | 0.27 | 0.18 | 0.30 | 0.18 | 0.11 | 0.35 | 0.18 | 0.42 |
| v/c Ratio | 0.78 | 0.89 | 1.33 | 0.67 | 0.70 | 0.52 | 0.74 | 0.76 |
| Control Delay | 54.8 | 40.9 | 203.5 | 13.8 | 61.8 | 43.1 | 64.0 | 34.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 54.8 | 40.9 | 203.5 | 13.8 | 61.8 | 43.1 | 64.0 | 34.4 |
| LOS | D | D | F | B | E | D | E | C |
| Approach Delay | | 44.8 | | 104.2 | | 45.6 | | 38.3 |
| Approach LOS | | D | | F | | D | | D |
| Queue Length 50th (m) | 28.6 | 44.2 | ~80.6 | 9.2 | 30.2 | 78.9 | 50.1 | 112.3 |
| Queue Length 95th (m) | #43.2 | 79.3 | #126.5 | 35.9 | #56.4 | 92.4 | #110.2 | #154.1 |
| Internal Link Dist (m) | | 228.4 | | 515.1 | | 121.4 | | 276.2 |
| Turn Bay Length (m) | 15.0 | | | | 135.0 | | 160.0 | |
| Base Capacity (vph) | 213 | 575 | 241 | 617 | 205 | 1678 | 302 | 2001 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.77 | 0.74 | 1.33 | 0.57 | 0.65 | 0.52 | 0.74 | 0.76 |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 84 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Green | |
| Natural Cycle: 115 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 1.33 | |
| Intersection Signal Delay: 52.1 | Intersection LOS: D |
| Intersection Capacity Utilization 104.3% | ICU Level of Service G |
| Analysis Period (min) 15 | |

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Riverside Dr & Hog's Back Rd/Brookfield Rd



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 0 | 49 | 1 | 47 | 3 | 985 | 34 | 53 | 1812 | 8 |
| Future Volume (vph) | 7 | 0 | 49 | 1 | 47 | 3 | 985 | 34 | 53 | 1812 | 8 |
| Lane Group Flow (vph) | 7 | 5 | 0 | 50 | 47 | 3 | 985 | 34 | 53 | 1812 | 8 |
| Turn Type | Perm | NA | Perm | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | | 4 | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 8 | | 8 | | | 2 | | | 6 |
| Detector Phase | 4 | 4 | 8 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 5.0 | 10.0 | 10.0 | 5.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 10.8 | 26.6 | 26.6 | 10.8 | 26.6 | 26.6 |
| Total Split (s) | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 14.0 | 75.0 | 75.0 | 14.0 | 75.0 | 75.0 |
| Total Split (%) | 25.8% | 25.8% | 25.8% | 25.8% | 25.8% | 11.7% | 62.5% | 62.5% | 11.7% | 62.5% | 62.5% |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 2.1 | 1.9 | 1.9 | 2.1 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.8 | 6.8 | | 6.8 | 6.8 | 5.8 | 5.6 | 5.6 | 5.8 | 5.6 | 5.6 |
| Lead/Lag | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 11.2 | 11.2 | | 11.2 | 11.2 | 5.8 | 88.2 | 88.2 | 9.1 | 98.4 | 98.4 |
| Actuated g/C Ratio | 0.09 | 0.09 | | 0.09 | 0.09 | 0.05 | 0.74 | 0.74 | 0.08 | 0.82 | 0.82 |
| v/c Ratio | 0.06 | 0.02 | | 0.41 | 0.22 | 0.04 | 0.40 | 0.03 | 0.41 | 0.65 | 0.01 |
| Control Delay | 49.4 | 0.2 | | 61.4 | 6.2 | 55.0 | 8.8 | 0.1 | 62.6 | 5.4 | 0.0 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 49.4 | 0.2 | | 61.4 | 6.2 | 55.0 | 8.8 | 0.1 | 62.6 | 5.4 | 0.0 |
| LOS | D | A | | E | A | D | A | A | E | A | A |
| Approach Delay | | 28.9 | | 34.6 | | | 8.7 | | | 7.0 | |
| Approach LOS | | C | | C | | | A | | | A | |
| Queue Length 50th (m) | 1.5 | 0.0 | | 11.4 | 0.0 | 0.7 | 48.3 | 0.0 | 13.1 | 33.7 | 0.0 |
| Queue Length 95th (m) | 6.0 | 0.0 | | 23.5 | 4.7 | 3.9 | 75.0 | 0.0 | m15.8 | m46.8 | m0.0 |
| Internal Link Dist (m) | | 58.8 | | 118.5 | | | 110.2 | | | 196.4 | |
| Turn Bay Length (m) | | | | | 35.0 | 50.0 | | 50.0 | 90.0 | | 55.0 |
| Base Capacity (vph) | 260 | 408 | | 261 | 366 | 115 | 2492 | 1138 | 137 | 2780 | 1259 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.03 | 0.01 | | 0.19 | 0.13 | 0.03 | 0.40 | 0.03 | 0.39 | 0.65 | 0.01 |

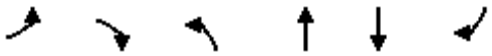
| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 112 (93%), Referenced to phase 2:NBT and 6:SBT, Start of Green | |
| Natural Cycle: 100 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.65 | |
| Intersection Signal Delay: 8.6 | Intersection LOS: A |
| Intersection Capacity Utilization 72.8% | ICU Level of Service C |
| Analysis Period (min) 15 | |

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Riverside Dr & Ridgewood Ave

| Lane Group | EBL | NBT | SBT |
|---|---|---|---|
| Lane Configurations | | | |
| Traffic Volume (vph) | 27 | 49 | 243 |
| Future Volume (vph) | 27 | 49 | 243 |
| Lane Group Flow (vph) | 83 | 95 | 278 |
| Sign Control | Stop | Stop | Stop |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization | 36.4% | ICU Level of Service A |
| Analysis Period (min) | 15 | |



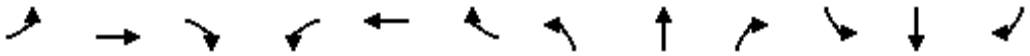
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Sign Control | Stop | | | Stop | Stop | |
| Traffic Volume (vph) | 27 | 56 | 46 | 49 | 243 | 35 |
| Future Volume (vph) | 27 | 56 | 46 | 49 | 243 | 35 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 27 | 56 | 46 | 49 | 243 | 35 |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total (vph) | 83 | 95 | 278 |
| Volume Left (vph) | 27 | 46 | 0 |
| Volume Right (vph) | 56 | 0 | 35 |
| Hadj (s) | -0.31 | 0.13 | -0.04 |
| Departure Headway (s) | 4.4 | 4.5 | 4.2 |
| Degree Utilization, x | 0.10 | 0.12 | 0.32 |
| Capacity (veh/h) | 748 | 769 | 838 |
| Control Delay (s) | 7.9 | 8.1 | 9.1 |
| Approach Delay (s) | 7.9 | 8.1 | 9.1 |
| Approach LOS | A | A | A |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 8.7 | | |
| Level of Service | A | | |
| Intersection Capacity Utilization | 36.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | WBT | NBT | SBT |
|---|---|---|---|---|
| Lane Configurations | | | | |
| Traffic Volume (vph) | 2 | 4 | 23 | 80 |
| Future Volume (vph) | 2 | 4 | 23 | 80 |
| Lane Group Flow (vph) | 104 | 8 | 24 | 376 |
| Sign Control | Stop | Stop | Stop | Stop |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 46.0% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |

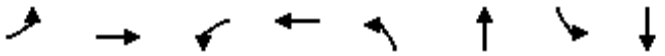


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Traffic Volume (vph) | 95 | 2 | 7 | 0 | 4 | 4 | 1 | 23 | 0 | 8 | 80 | 288 |
| Future Volume (vph) | 95 | 2 | 7 | 0 | 4 | 4 | 1 | 23 | 0 | 8 | 80 | 288 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 95 | 2 | 7 | 0 | 4 | 4 | 1 | 23 | 0 | 8 | 80 | 288 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total (vph) | 104 | 8 | 24 | 376 |
| Volume Left (vph) | 95 | 0 | 1 | 8 |
| Volume Right (vph) | 7 | 4 | 0 | 288 |
| Hadj (s) | 0.18 | -0.27 | 0.04 | -0.42 |
| Departure Headway (s) | 4.9 | 4.6 | 4.6 | 3.8 |
| Degree Utilization, x | 0.14 | 0.01 | 0.03 | 0.40 |
| Capacity (veh/h) | 677 | 705 | 743 | 928 |
| Control Delay (s) | 8.7 | 7.6 | 7.7 | 9.3 |
| Approach Delay (s) | 8.7 | 7.6 | 7.7 | 9.3 |
| Approach LOS | A | A | A | A |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 9.1 | | |
| Level of Service | A | | |
| Intersection Capacity Utilization | 46.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

# Total Future Background 2031

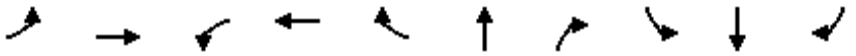


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 73 | 35 | 106 | 46 | 510 | 1453 | 309 | 747 |
| Future Volume (vph) | 73 | 35 | 106 | 46 | 510 | 1453 | 309 | 747 |
| Lane Group Flow (vph) | 73 | 168 | 106 | 242 | 510 | 1903 | 309 | 1162 |
| Turn Type | pm+pt | NA | Perm | NA | Prot | NA | Prot | NA |
| Protected Phases | 7 | 4 | | 8 | 5 | 2 | 1 | 6 |
| Permitted Phases | 4 | | 8 | | | | | |
| Detector Phase | 7 | 4 | 8 | 8 | 5 | 2 | 1 | 6 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 10.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 11.2 | 36.7 | 36.7 | 36.7 | 11.1 | 25.6 | 11.1 | 25.6 |
| Total Split (s) | 15.0 | 52.0 | 37.0 | 37.0 | 32.0 | 48.0 | 20.0 | 36.0 |
| Total Split (%) | 12.5% | 43.3% | 30.8% | 30.8% | 26.7% | 40.0% | 16.7% | 30.0% |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 2.9 | 3.4 | 3.4 | 3.4 | 2.4 | 1.9 | 2.4 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.2 | 6.7 | 6.7 | 6.7 | 6.1 | 5.6 | 6.1 | 5.6 |
| Lead/Lag | Lead | | Lag | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | C-Max | None | C-Max |
| Act Effct Green (s) | 29.1 | 28.6 | 16.6 | 16.6 | 42.6 | 42.4 | 30.6 | 30.4 |
| Actuated g/C Ratio | 0.24 | 0.24 | 0.14 | 0.14 | 0.36 | 0.35 | 0.26 | 0.25 |
| v/c Ratio | 0.41 | 0.35 | 0.66 | 0.66 | 0.85 | 1.11 | 0.72 | 0.93 |
| Control Delay | 39.5 | 10.7 | 67.2 | 24.0 | 33.8 | 101.3 | 53.8 | 53.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 39.5 | 10.7 | 67.2 | 24.0 | 33.8 | 101.3 | 53.8 | 53.1 |
| LOS | D | B | E | C | C | F | D | D |
| Approach Delay | | 19.4 | | 37.1 | | 87.0 | | 53.3 |
| Approach LOS | | B | | D | | F | | D |
| Queue Length 50th (m) | 13.2 | 6.3 | 24.1 | 15.4 | 107.5 | ~190.0 | 68.7 | 90.1 |
| Queue Length 95th (m) | 23.0 | 21.4 | 40.0 | 39.2 | m#161.0 | m#219.4 | #137.3 | #117.4 |
| Internal Link Dist (m) | | 228.4 | | 515.1 | | 121.4 | | 276.2 |
| Turn Bay Length (m) | 15.0 | | | | 135.0 | | 160.0 | |
| Base Capacity (vph) | 182 | 676 | 293 | 523 | 601 | 1707 | 432 | 1250 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.40 | 0.25 | 0.36 | 0.46 | 0.85 | 1.11 | 0.72 | 0.93 |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 91 (76%), Referenced to phase 2:NBT and 6:SBT, Start of Green | |
| Natural Cycle: 145 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 1.11 | |
| Intersection Signal Delay: 68.4 | Intersection LOS: E |
| Intersection Capacity Utilization 98.4% | ICU Level of Service F |
| Analysis Period (min) 15 | |

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Riverside Dr & Hog's Back Rd/Brookfield Rd



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | NBR | SBL | SBT | SBR | Ø5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 4 | 0 | 24 | 0 | 103 | 2308 | 76 | 33 | 796 | 7 | |
| Future Volume (vph) | 4 | 0 | 24 | 0 | 103 | 2308 | 76 | 33 | 796 | 7 | |
| Lane Group Flow (vph) | 4 | 1 | 0 | 24 | 103 | 2308 | 76 | 33 | 796 | 7 | |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | Prot | NA | Perm | |
| Protected Phases | | 4 | | 8 | | 2 | | 1 | 6 | | 5 |
| Permitted Phases | 4 | | 8 | | 8 | | 2 | | | 6 | |
| Detector Phase | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 1 | 6 | 6 | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 5.0 | 10.0 | 10.0 | 5.0 |
| Minimum Split (s) | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 26.6 | 26.6 | 10.8 | 26.6 | 26.6 | 10.8 |
| Total Split (s) | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 75.0 | 75.0 | 14.0 | 75.0 | 75.0 | 14.0 |
| Total Split (%) | 25.8% | 25.8% | 25.8% | 25.8% | 25.8% | 62.5% | 62.5% | 11.7% | 62.5% | 62.5% | 12% |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 1.9 | 1.9 | 2.1 | 1.9 | 1.9 | 2.1 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.8 | 6.8 | | 6.8 | 6.8 | 5.6 | 5.6 | 5.8 | 5.6 | 5.6 | |
| Lead/Lag | | | | | | Lag | Lag | Lead | Lag | Lag | Lead |
| Lead-Lag Optimize? | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max | None |
| Act Effct Green (s) | 10.3 | 10.3 | | 10.3 | 10.3 | 88.4 | 88.4 | 7.8 | 97.3 | 97.3 | |
| Actuated g/C Ratio | 0.09 | 0.09 | | 0.09 | 0.09 | 0.74 | 0.74 | 0.06 | 0.81 | 0.81 | |
| v/c Ratio | 0.04 | 0.00 | | 0.21 | 0.46 | 0.92 | 0.07 | 0.30 | 0.29 | 0.01 | |
| Control Delay | 50.8 | 0.0 | | 55.5 | 16.7 | 22.8 | 1.2 | 50.4 | 1.6 | 0.0 | |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 50.8 | 0.0 | | 55.5 | 16.7 | 22.8 | 1.2 | 50.4 | 1.6 | 0.0 | |
| LOS | D | A | | E | B | C | A | D | A | A | |
| Approach Delay | | 40.6 | | 24.1 | | 22.1 | | | 3.5 | | |
| Approach LOS | | D | | C | | C | | | A | | |
| Queue Length 50th (m) | 0.9 | 0.0 | | 5.4 | 0.0 | 240.4 | 0.0 | 8.0 | 14.7 | 0.0 | |
| Queue Length 95th (m) | 4.4 | 0.0 | | 13.8 | 16.4 | #345.1 | 4.0 | m10.7 | m14.0 | m0.0 | |
| Internal Link Dist (m) | | 58.8 | | 118.5 | | 110.2 | | | 196.4 | | |
| Turn Bay Length (m) | | | | | 35.0 | | 50.0 | 90.0 | | 55.0 | |
| Base Capacity (vph) | 267 | 526 | | 272 | 388 | 2497 | 1140 | 124 | 2749 | 1247 | |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.01 | 0.00 | | 0.09 | 0.27 | 0.92 | 0.07 | 0.27 | 0.29 | 0.01 | |

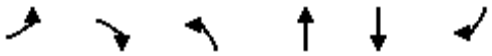
| Intersection Summary | | |
|---|---|---|
| Cycle Length: 120 | | |
| Actuated Cycle Length: 120 | | |
| Offset: 100 (83%), Referenced to phase 2:NBT and 6:SBT, Start of Green | | |
| Natural Cycle: 150 | | |
| Control Type: Actuated-Coordinated | | |
| Maximum v/c Ratio: 0.92 | | |
| Intersection Signal Delay: 17.6 | Intersection LOS: B | |
| Intersection Capacity Utilization 100.0% | ICU Level of Service G | |
| Analysis Period (min) 15 | | |

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Riverside Dr & Ridgewood Ave

| Lane Group | EBL | NBT | SBT |
|---|---|---|---|
| Lane Configurations | | | |
| Traffic Volume (vph) | 46 | 88 | 61 |
| Future Volume (vph) | 46 | 88 | 61 |
| Lane Group Flow (vph) | 79 | 163 | 95 |
| Sign Control | Stop | Stop | Stop |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization | 27.4% | ICU Level of Service A |
| Analysis Period (min) | 15 | |



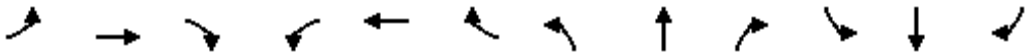
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Sign Control | Stop | | | Stop | Stop | |
| Traffic Volume (vph) | 46 | 33 | 75 | 88 | 61 | 34 |
| Future Volume (vph) | 46 | 33 | 75 | 88 | 61 | 34 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 46 | 33 | 75 | 88 | 61 | 34 |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total (vph) | 79 | 163 | 95 |
| Volume Left (vph) | 46 | 75 | 0 |
| Volume Right (vph) | 33 | 0 | 34 |
| Hadj (s) | -0.10 | 0.13 | -0.18 |
| Departure Headway (s) | 4.4 | 4.3 | 4.1 |
| Degree Utilization, x | 0.10 | 0.20 | 0.11 |
| Capacity (veh/h) | 778 | 812 | 858 |
| Control Delay (s) | 7.8 | 8.3 | 7.6 |
| Approach Delay (s) | 7.8 | 8.3 | 7.6 |
| Approach LOS | A | A | A |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 8.0 | | |
| Level of Service | A | | |
| Intersection Capacity Utilization | 27.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | WBT | NBT | SBT |
|---|---|---|---|---|
| Lane Configurations | | | | |
| Traffic Volume (vph) | 3 | 3 | 45 | 17 |
| Future Volume (vph) | 3 | 3 | 45 | 17 |
| Lane Group Flow (vph) | 207 | 14 | 49 | 98 |
| Sign Control | Stop | Stop | Stop | Stop |

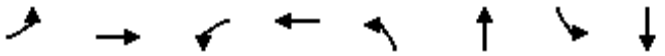
| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 32.1% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Traffic Volume (vph) | 203 | 3 | 1 | 0 | 3 | 11 | 4 | 45 | 0 | 2 | 17 | 79 |
| Future Volume (vph) | 203 | 3 | 1 | 0 | 3 | 11 | 4 | 45 | 0 | 2 | 17 | 79 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 203 | 3 | 1 | 0 | 3 | 11 | 4 | 45 | 0 | 2 | 17 | 79 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total (vph) | 207 | 14 | 49 | 98 |
| Volume Left (vph) | 203 | 0 | 4 | 2 |
| Volume Right (vph) | 1 | 11 | 0 | 79 |
| Hadj (s) | 0.23 | -0.44 | 0.05 | -0.45 |
| Departure Headway (s) | 4.5 | 4.0 | 4.6 | 4.0 |
| Degree Utilization, x | 0.26 | 0.02 | 0.06 | 0.11 |
| Capacity (veh/h) | 782 | 837 | 740 | 834 |
| Control Delay (s) | 9.0 | 7.1 | 7.9 | 7.5 |
| Approach Delay (s) | 9.0 | 7.1 | 7.9 | 7.5 |
| Approach LOS | A | A | A | A |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Delay | 8.4 | | | |
| Level of Service | A | | | |
| Intersection Capacity Utilization | 32.1% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |

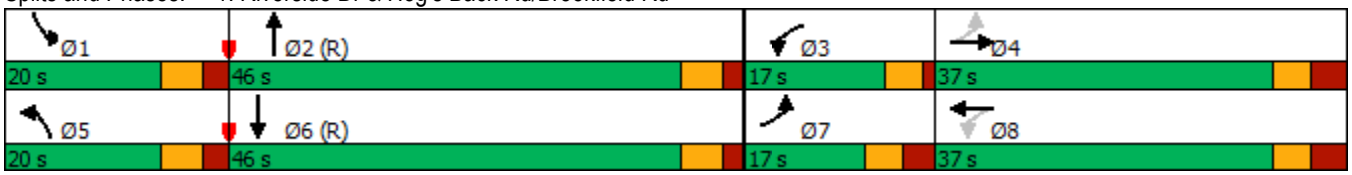


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 172 | 53 | 337 | 29 | 139 | 788 | 234 | 1444 |
| Future Volume (vph) | 172 | 53 | 337 | 29 | 139 | 788 | 234 | 1444 |
| Lane Group Flow (vph) | 172 | 448 | 337 | 368 | 139 | 917 | 234 | 1583 |
| Turn Type | pm+pt | NA | pm+pt | NA | Prot | NA | Prot | NA |
| Protected Phases | 7 | 4 | 3 | 8 | 5 | 2 | 1 | 6 |
| Permitted Phases | 4 | | 8 | | | | | |
| Detector Phase | 7 | 4 | 3 | 8 | 5 | 2 | 1 | 6 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 11.2 | 36.7 | 9.5 | 36.7 | 11.1 | 25.6 | 11.1 | 25.6 |
| Total Split (s) | 17.0 | 37.0 | 17.0 | 37.0 | 20.0 | 46.0 | 20.0 | 46.0 |
| Total Split (%) | 14.2% | 30.8% | 14.2% | 30.8% | 16.7% | 38.3% | 16.7% | 38.3% |
| Yellow Time (s) | 3.3 | 3.3 | 3.5 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 2.9 | 3.4 | 1.0 | 3.4 | 2.4 | 1.9 | 2.4 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.2 | 6.7 | 4.5 | 6.7 | 6.1 | 5.6 | 6.1 | 5.6 |
| Lead/Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | C-Max | None | C-Max |
| Act Effct Green (s) | 34.3 | 23.1 | 38.0 | 23.3 | 13.3 | 40.5 | 20.9 | 48.2 |
| Actuated g/C Ratio | 0.29 | 0.19 | 0.32 | 0.19 | 0.11 | 0.34 | 0.17 | 0.40 |
| v/c Ratio | 0.82 | 0.91 | 1.40 | 0.68 | 0.74 | 0.56 | 0.79 | 0.82 |
| Control Delay | 58.0 | 43.2 | 229.5 | 15.9 | 65.5 | 44.5 | 69.0 | 37.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 58.0 | 43.2 | 229.5 | 15.9 | 65.5 | 44.5 | 69.0 | 37.5 |
| LOS | E | D | F | B | E | D | E | D |
| Approach Delay | | 47.3 | | 118.0 | | 47.2 | | 41.5 |
| Approach LOS | | D | | F | | D | | D |
| Queue Length 50th (m) | 29.0 | 49.8 | ~88.3 | 14.0 | 31.5 | 82.5 | 54.2 | 125.8 |
| Queue Length 95th (m) | #50.9 | #88.7 | #138.4 | 43.6 | #60.4 | 96.2 | #116.0 | #166.9 |
| Internal Link Dist (m) | | 228.4 | | 515.1 | | 121.4 | | 276.2 |
| Turn Bay Length (m) | 15.0 | | | | 135.0 | | 160.0 | |
| Base Capacity (vph) | 213 | 573 | 241 | 610 | 200 | 1629 | 295 | 1939 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.81 | 0.78 | 1.40 | 0.60 | 0.69 | 0.56 | 0.79 | 0.82 |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 84 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Green | |
| Natural Cycle: 125 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 1.40 | |
| Intersection Signal Delay: 56.7 | Intersection LOS: E |
| Intersection Capacity Utilization 108.3% | ICU Level of Service G |
| Analysis Period (min) 15 | |

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Riverside Dr & Hog's Back Rd/Brookfield Rd



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 0 | 49 | 1 | 47 | 3 | 1030 | 34 | 53 | 1897 | 8 |
| Future Volume (vph) | 7 | 0 | 49 | 1 | 47 | 3 | 1030 | 34 | 53 | 1897 | 8 |
| Lane Group Flow (vph) | 7 | 5 | 0 | 50 | 47 | 3 | 1030 | 34 | 53 | 1897 | 8 |
| Turn Type | Perm | NA | Perm | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | | 4 | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 8 | | 8 | | | 2 | | | 6 |
| Detector Phase | 4 | 4 | 8 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 5.0 | 10.0 | 10.0 | 5.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 10.8 | 26.6 | 26.6 | 10.8 | 26.6 | 26.6 |
| Total Split (s) | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 14.0 | 75.0 | 75.0 | 14.0 | 75.0 | 75.0 |
| Total Split (%) | 25.8% | 25.8% | 25.8% | 25.8% | 25.8% | 11.7% | 62.5% | 62.5% | 11.7% | 62.5% | 62.5% |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 2.1 | 1.9 | 1.9 | 2.1 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.8 | 6.8 | | 6.8 | 6.8 | 5.8 | 5.6 | 5.6 | 5.8 | 5.6 | 5.6 |
| Lead/Lag | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 11.2 | 11.2 | | 11.2 | 11.2 | 5.8 | 88.2 | 88.2 | 9.1 | 98.4 | 98.4 |
| Actuated g/C Ratio | 0.09 | 0.09 | | 0.09 | 0.09 | 0.05 | 0.74 | 0.74 | 0.08 | 0.82 | 0.82 |
| v/c Ratio | 0.06 | 0.02 | | 0.41 | 0.22 | 0.04 | 0.41 | 0.03 | 0.41 | 0.68 | 0.01 |
| Control Delay | 49.4 | 0.2 | | 61.4 | 6.2 | 55.0 | 9.0 | 0.1 | 60.8 | 6.4 | 0.0 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 49.4 | 0.2 | | 61.4 | 6.2 | 55.0 | 9.0 | 0.1 | 60.8 | 6.4 | 0.0 |
| LOS | D | A | | E | A | D | A | A | E | A | A |
| Approach Delay | | 28.9 | | 34.6 | | | 8.9 | | | 7.8 | |
| Approach LOS | | C | | C | | | A | | | A | |
| Queue Length 50th (m) | 1.5 | 0.0 | | 11.4 | 0.0 | 0.7 | 51.4 | 0.0 | 12.9 | 35.9 | 0.0 |
| Queue Length 95th (m) | 6.0 | 0.0 | | 23.5 | 4.7 | 3.9 | 79.5 | 0.0 | m14.7 | m48.3 | m0.0 |
| Internal Link Dist (m) | | 58.8 | | 118.5 | | | 110.2 | | | 196.4 | |
| Turn Bay Length (m) | | | | | 35.0 | 50.0 | | 50.0 | 90.0 | | 55.0 |
| Base Capacity (vph) | 260 | 406 | | 261 | 366 | 115 | 2492 | 1138 | 137 | 2780 | 1259 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.03 | 0.01 | | 0.19 | 0.13 | 0.03 | 0.41 | 0.03 | 0.39 | 0.68 | 0.01 |

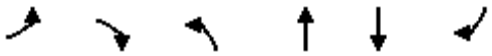
| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 112 (93%), Referenced to phase 2:NBT and 6:SBT, Start of Green | |
| Natural Cycle: 100 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.68 | |
| Intersection Signal Delay: 9.1 | Intersection LOS: A |
| Intersection Capacity Utilization 75.3% | ICU Level of Service D |
| Analysis Period (min) 15 | |

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Riverside Dr & Ridgewood Ave

| Lane Group | EBL | NBT | SBT |
|---|---|---|---|
| Lane Configurations | | | |
| Traffic Volume (vph) | 27 | 49 | 243 |
| Future Volume (vph) | 27 | 49 | 243 |
| Lane Group Flow (vph) | 83 | 95 | 278 |
| Sign Control | Stop | Stop | Stop |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 36.4% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |



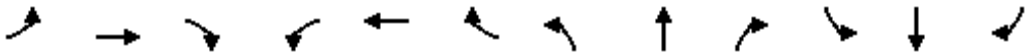
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Sign Control | Stop | | | Stop | Stop | |
| Traffic Volume (vph) | 27 | 56 | 46 | 49 | 243 | 35 |
| Future Volume (vph) | 27 | 56 | 46 | 49 | 243 | 35 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 27 | 56 | 46 | 49 | 243 | 35 |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total (vph) | 83 | 95 | 278 |
| Volume Left (vph) | 27 | 46 | 0 |
| Volume Right (vph) | 56 | 0 | 35 |
| Hadj (s) | -0.31 | 0.13 | -0.04 |
| Departure Headway (s) | 4.4 | 4.5 | 4.2 |
| Degree Utilization, x | 0.10 | 0.12 | 0.32 |
| Capacity (veh/h) | 748 | 769 | 838 |
| Control Delay (s) | 7.9 | 8.1 | 9.1 |
| Approach Delay (s) | 7.9 | 8.1 | 9.1 |
| Approach LOS | A | A | A |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 8.7 | | |
| Level of Service | A | | |
| Intersection Capacity Utilization | 36.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | WBT | NBT | SBT |
|---|---|---|---|---|
| Lane Configurations | | | | |
| Traffic Volume (vph) | 2 | 4 | 23 | 80 |
| Future Volume (vph) | 2 | 4 | 23 | 80 |
| Lane Group Flow (vph) | 104 | 8 | 24 | 376 |
| Sign Control | Stop | Stop | Stop | Stop |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 46.0% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |

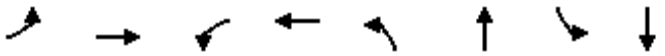


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Traffic Volume (vph) | 95 | 2 | 7 | 0 | 4 | 4 | 1 | 23 | 0 | 8 | 80 | 288 |
| Future Volume (vph) | 95 | 2 | 7 | 0 | 4 | 4 | 1 | 23 | 0 | 8 | 80 | 288 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 95 | 2 | 7 | 0 | 4 | 4 | 1 | 23 | 0 | 8 | 80 | 288 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total (vph) | 104 | 8 | 24 | 376 |
| Volume Left (vph) | 95 | 0 | 1 | 8 |
| Volume Right (vph) | 7 | 4 | 0 | 288 |
| Hadj (s) | 0.18 | -0.27 | 0.04 | -0.42 |
| Departure Headway (s) | 4.9 | 4.6 | 4.6 | 3.8 |
| Degree Utilization, x | 0.14 | 0.01 | 0.03 | 0.40 |
| Capacity (veh/h) | 677 | 705 | 743 | 928 |
| Control Delay (s) | 8.7 | 7.6 | 7.7 | 9.3 |
| Approach Delay (s) | 8.7 | 7.6 | 7.7 | 9.3 |
| Approach LOS | A | A | A | A |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 9.1 | | |
| Level of Service | A | | |
| Intersection Capacity Utilization | 46.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

# Total Projected 2026

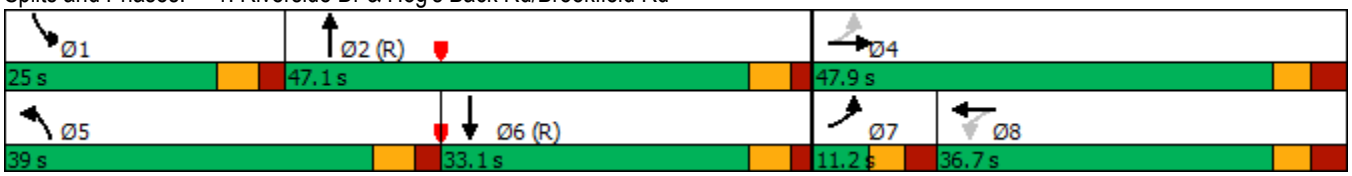


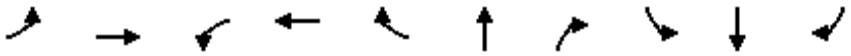
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 70 | 34 | 101 | 45 | 494 | 1412 | 295 | 725 |
| Future Volume (vph) | 70 | 34 | 101 | 45 | 494 | 1412 | 295 | 725 |
| Lane Group Flow (vph) | 70 | 164 | 101 | 233 | 494 | 1841 | 295 | 1121 |
| Turn Type | pm+pt | NA | Perm | NA | Prot | NA | Prot | NA |
| Protected Phases | 7 | 4 | | 8 | 5 | 2 | 1 | 6 |
| Permitted Phases | 4 | | 8 | | | | | |
| Detector Phase | 7 | 4 | 8 | 8 | 5 | 2 | 1 | 6 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 10.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 11.2 | 36.7 | 36.7 | 36.7 | 11.1 | 25.6 | 11.1 | 25.6 |
| Total Split (s) | 11.2 | 47.9 | 36.7 | 36.7 | 39.0 | 47.1 | 25.0 | 33.1 |
| Total Split (%) | 9.3% | 39.9% | 30.6% | 30.6% | 32.5% | 39.3% | 20.8% | 27.6% |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 2.9 | 3.4 | 3.4 | 3.4 | 2.4 | 1.9 | 2.4 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.2 | 6.7 | 6.7 | 6.7 | 6.1 | 5.6 | 6.1 | 5.6 |
| Lead/Lag | Lead | | Lag | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | C-Max | None | C-Max |
| Act Effct Green (s) | 25.7 | 25.2 | 16.2 | 16.2 | 44.1 | 46.2 | 30.2 | 32.4 |
| Actuated g/C Ratio | 0.21 | 0.21 | 0.14 | 0.14 | 0.37 | 0.38 | 0.25 | 0.27 |
| v/c Ratio | 0.53 | 0.38 | 0.64 | 0.65 | 0.79 | 0.99 | 0.69 | 0.85 |
| Control Delay | 50.1 | 12.1 | 66.6 | 23.6 | 26.6 | 56.3 | 51.1 | 45.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 50.1 | 12.1 | 66.6 | 23.6 | 26.6 | 56.3 | 51.1 | 45.6 |
| LOS | D | B | E | C | C | E | D | D |
| Approach Delay | | 23.5 | | 36.6 | | 50.1 | | 46.8 |
| Approach LOS | | C | | D | | D | | D |
| Queue Length 50th (m) | 13.4 | 6.4 | 23.0 | 14.3 | 86.7 | ~173.3 | 62.9 | 86.8 |
| Queue Length 95th (m) | 23.5 | 22.1 | 38.7 | 37.8 | m109.6 | m#205.3 | #111.6 | #120.5 |
| Internal Link Dist (m) | | 228.4 | | 515.1 | | 121.4 | | 276.2 |
| Turn Bay Length (m) | 15.0 | | | | 135.0 | | 160.0 | |
| Base Capacity (vph) | 133 | 625 | 291 | 517 | 622 | 1852 | 427 | 1321 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.53 | 0.26 | 0.35 | 0.45 | 0.79 | 0.99 | 0.69 | 0.85 |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 91 (76%), Referenced to phase 2:NBT and 6:SBT, Start of Green | |
| Natural Cycle: 135 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.99 | |
| Intersection Signal Delay: 46.5 | Intersection LOS: D |
| Intersection Capacity Utilization 95.7% | ICU Level of Service F |
| Analysis Period (min) 15 | |

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Riverside Dr & Hog's Back Rd/Brookfield Rd





| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | NBR | SBL | SBT | SBR | Ø5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 4 | 0 | 51 | 0 | 134 | 2204 | 88 | 47 | 761 | 7 | |
| Future Volume (vph) | 4 | 0 | 51 | 0 | 134 | 2204 | 88 | 47 | 761 | 7 | |
| Lane Group Flow (vph) | 4 | 1 | 0 | 51 | 134 | 2204 | 88 | 47 | 761 | 7 | |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | Prot | NA | Perm | |
| Protected Phases | | 4 | | 8 | | 2 | | 1 | 6 | | 5 |
| Permitted Phases | 4 | | 8 | | 8 | | 2 | | | 6 | |
| Detector Phase | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 1 | 6 | 6 | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 5.0 | 10.0 | 10.0 | 5.0 |
| Minimum Split (s) | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 26.6 | 26.6 | 10.8 | 26.6 | 26.6 | 10.8 |
| Total Split (s) | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 78.4 | 78.4 | 10.8 | 78.4 | 78.4 | 10.8 |
| Total Split (%) | 25.7% | 25.7% | 25.7% | 25.7% | 25.7% | 65.3% | 65.3% | 9.0% | 65.3% | 65.3% | 9% |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 1.9 | 1.9 | 2.1 | 1.9 | 1.9 | 2.1 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.8 | 6.8 | | 6.8 | 6.8 | 5.6 | 5.6 | 5.8 | 5.6 | 5.6 | |
| Lead/Lag | | | | | | Lag | Lag | Lead | Lag | Lag | Lead |
| Lead-Lag Optimize? | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max | None |
| Act Effct Green (s) | 11.9 | 11.9 | | 11.9 | 11.9 | 83.1 | 83.1 | 9.1 | 95.7 | 95.7 | |
| Actuated g/C Ratio | 0.10 | 0.10 | | 0.10 | 0.10 | 0.69 | 0.69 | 0.08 | 0.80 | 0.80 | |
| v/c Ratio | 0.03 | 0.00 | | 0.38 | 0.61 | 0.94 | 0.08 | 0.37 | 0.28 | 0.01 | |
| Control Delay | 47.2 | 0.0 | | 58.1 | 35.2 | 27.4 | 2.1 | 59.8 | 2.6 | 0.0 | |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 47.2 | 0.0 | | 58.1 | 35.2 | 27.4 | 2.1 | 59.8 | 2.6 | 0.0 | |
| LOS | D | A | | E | D | C | A | E | A | A | |
| Approach Delay | | 37.8 | | 41.5 | | 26.4 | | | 5.9 | | |
| Approach LOS | | D | | D | | C | | | A | | |
| Queue Length 50th (m) | 0.9 | 0.0 | | 11.6 | 13.0 | 220.7 | 0.1 | 11.6 | 13.8 | 0.0 | |
| Queue Length 95th (m) | 4.2 | 0.0 | | 23.2 | 31.6 | #343.3 | 6.3 | m16.4 | m17.8 | m0.0 | |
| Internal Link Dist (m) | | 58.8 | | 118.5 | | 110.2 | | | 196.4 | | |
| Turn Bay Length (m) | | | | | 35.0 | | 50.0 | 90.0 | | 55.0 | |
| Base Capacity (vph) | 258 | 517 | | 270 | 365 | 2348 | 1078 | 128 | 2703 | 1227 | |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.02 | 0.00 | | 0.19 | 0.37 | 0.94 | 0.08 | 0.37 | 0.28 | 0.01 | |

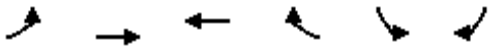
| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 100 (83%), Referenced to phase 2:NBT and 6:SBT, Start of Green | |
| Natural Cycle: 130 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.94 | |
| Intersection Signal Delay: 22.2 | Intersection LOS: C |
| Intersection Capacity Utilization 97.4% | ICU Level of Service F |
| Analysis Period (min) 15 | |

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Riverside Dr & Ridgewood Ave

| Lane Group | EBT | WBT | SBL |
|---|---|---|---|
| Lane Configurations | | | |
| Traffic Volume (vph) | 109 | 127 | 19 |
| Future Volume (vph) | 109 | 127 | 19 |
| Lane Group Flow (vph) | 135 | 136 | 77 |
| Sign Control | Free | Free | Stop |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 30.1% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |



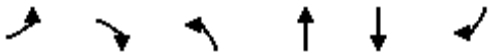
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 26 | 109 | 127 | 9 | 19 | 58 |
| Future Volume (Veh/h) | 26 | 109 | 127 | 9 | 19 | 58 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 26 | 109 | 127 | 9 | 19 | 58 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | 143 | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 136 | | | | 292 | 132 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 136 | | | | 292 | 132 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 98 | | | | 97 | 94 |
| cM capacity (veh/h) | 1448 | | | | 686 | 918 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 135 | 136 | 77 |
| Volume Left | 26 | 0 | 19 |
| Volume Right | 0 | 9 | 58 |
| cSH | 1448 | 1700 | 847 |
| Volume to Capacity | 0.02 | 0.08 | 0.09 |
| Queue Length 95th (m) | 0.4 | 0.0 | 2.3 |
| Control Delay (s) | 1.6 | 0.0 | 9.7 |
| Lane LOS | A | | A |
| Approach Delay (s) | 1.6 | 0.0 | 9.7 |
| Approach LOS | | | A |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.7 | | |
| Intersection Capacity Utilization | 30.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | NBT | SBT |
|---|---|---|---|
| Lane Configurations | | | |
| Traffic Volume (vph) | 65 | 88 | 61 |
| Future Volume (vph) | 65 | 88 | 61 |
| Lane Group Flow (vph) | 98 | 163 | 104 |
| Sign Control | Stop | Stop | Stop |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 28.5% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |



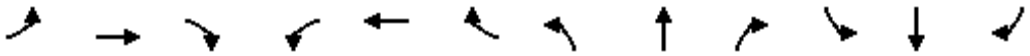
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Sign Control | Stop | | | Stop | Stop | |
| Traffic Volume (vph) | 65 | 33 | 75 | 88 | 61 | 43 |
| Future Volume (vph) | 65 | 33 | 75 | 88 | 61 | 43 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 65 | 33 | 75 | 88 | 61 | 43 |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total (vph) | 98 | 163 | 104 |
| Volume Left (vph) | 65 | 75 | 0 |
| Volume Right (vph) | 33 | 0 | 43 |
| Hadj (s) | -0.04 | 0.13 | -0.21 |
| Departure Headway (s) | 4.5 | 4.4 | 4.1 |
| Degree Utilization, x | 0.12 | 0.20 | 0.12 |
| Capacity (veh/h) | 754 | 798 | 851 |
| Control Delay (s) | 8.1 | 8.4 | 7.6 |
| Approach Delay (s) | 8.1 | 8.4 | 7.6 |
| Approach LOS | A | A | A |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 8.1 | | |
| Level of Service | A | | |
| Intersection Capacity Utilization | 28.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | WBT | NBT | SBT |
|---|---|---|---|---|
| Lane Configurations | | | | |
| Traffic Volume (vph) | 3 | 3 | 45 | 17 |
| Future Volume (vph) | 3 | 3 | 45 | 17 |
| Lane Group Flow (vph) | 226 | 14 | 49 | 107 |
| Sign Control | Stop | Stop | Stop | Stop |

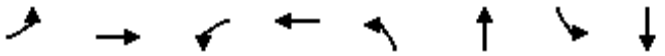
| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 33.8% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Traffic Volume (vph) | 222 | 3 | 1 | 0 | 3 | 11 | 4 | 45 | 0 | 2 | 17 | 88 |
| Future Volume (vph) | 222 | 3 | 1 | 0 | 3 | 11 | 4 | 45 | 0 | 2 | 17 | 88 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 222 | 3 | 1 | 0 | 3 | 11 | 4 | 45 | 0 | 2 | 17 | 88 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total (vph) | 226 | 14 | 49 | 107 |
| Volume Left (vph) | 222 | 0 | 4 | 2 |
| Volume Right (vph) | 1 | 11 | 0 | 88 |
| Hadj (s) | 0.23 | -0.44 | 0.05 | -0.46 |
| Departure Headway (s) | 4.5 | 4.1 | 4.6 | 4.1 |
| Degree Utilization, x | 0.28 | 0.02 | 0.06 | 0.12 |
| Capacity (veh/h) | 778 | 826 | 728 | 824 |
| Control Delay (s) | 9.2 | 7.1 | 8.0 | 7.6 |
| Approach Delay (s) | 9.2 | 7.1 | 8.0 | 7.6 |
| Approach LOS | A | A | A | A |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Delay | 8.6 | | | |
| Level of Service | A | | | |
| Intersection Capacity Utilization | 33.8% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |

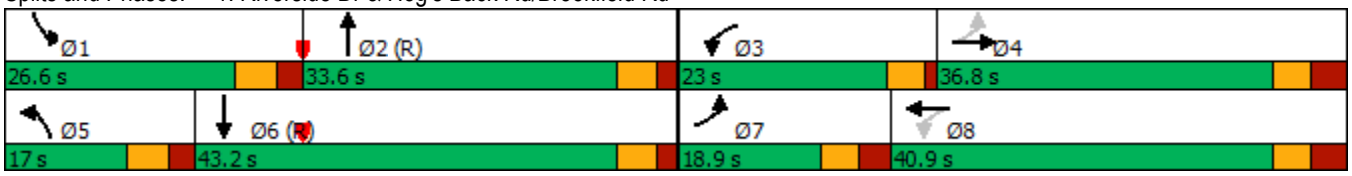


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 164 | 51 | 321 | 28 | 138 | 768 | 224 | 1399 |
| Future Volume (vph) | 164 | 51 | 321 | 28 | 138 | 768 | 224 | 1399 |
| Lane Group Flow (vph) | 164 | 434 | 321 | 352 | 138 | 892 | 224 | 1532 |
| Turn Type | pm+pt | NA | pm+pt | NA | Prot | NA | Prot | NA |
| Protected Phases | 7 | 4 | 3 | 8 | 5 | 2 | 1 | 6 |
| Permitted Phases | 4 | | 8 | | | | | |
| Detector Phase | 7 | 4 | 3 | 8 | 5 | 2 | 1 | 6 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 11.2 | 36.7 | 9.5 | 36.7 | 11.1 | 25.6 | 11.1 | 25.6 |
| Total Split (s) | 18.9 | 36.8 | 23.0 | 40.9 | 17.0 | 33.6 | 26.6 | 43.2 |
| Total Split (%) | 15.8% | 30.7% | 19.2% | 34.1% | 14.2% | 28.0% | 22.2% | 36.0% |
| Yellow Time (s) | 3.3 | 3.3 | 3.5 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 2.9 | 3.4 | 1.0 | 3.4 | 2.4 | 1.9 | 2.4 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.2 | 6.7 | 4.5 | 6.7 | 6.1 | 5.6 | 6.1 | 5.6 |
| Lead/Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | C-Max | None | C-Max |
| Act Effct Green (s) | 34.2 | 21.8 | 46.8 | 26.8 | 13.4 | 37.4 | 19.4 | 43.4 |
| Actuated g/C Ratio | 0.28 | 0.18 | 0.39 | 0.22 | 0.11 | 0.31 | 0.16 | 0.36 |
| v/c Ratio | 0.64 | 0.90 | 0.99 | 0.59 | 0.73 | 0.59 | 0.82 | 0.88 |
| Control Delay | 36.5 | 41.3 | 79.7 | 9.7 | 64.2 | 39.2 | 71.9 | 43.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 36.5 | 41.3 | 79.7 | 9.7 | 64.2 | 39.2 | 71.9 | 43.5 |
| LOS | D | D | E | A | E | D | E | D |
| Approach Delay | | 40.0 | | 43.1 | | 42.5 | | 47.1 |
| Approach LOS | | D | | D | | D | | D |
| Queue Length 50th (m) | 26.0 | 45.5 | 59.3 | 5.2 | 30.7 | 76.4 | 50.3 | 129.4 |
| Queue Length 95th (m) | 37.6 | 81.6 | #108.4 | 29.3 | #70.3 | 92.9 | #87.3 | #168.1 |
| Internal Link Dist (m) | | 228.4 | | 515.1 | | 121.4 | | 276.2 |
| Turn Bay Length (m) | 15.0 | | | | 135.0 | | 160.0 | |
| Base Capacity (vph) | 269 | 574 | 325 | 669 | 188 | 1502 | 296 | 1747 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.61 | 0.76 | 0.99 | 0.53 | 0.73 | 0.59 | 0.76 | 0.88 |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 84 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Green | |
| Natural Cycle: 115 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.99 | |
| Intersection Signal Delay: 44.2 | Intersection LOS: D |
| Intersection Capacity Utilization 105.4% | ICU Level of Service G |
| Analysis Period (min) 15 | |

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Riverside Dr & Hog's Back Rd/Brookfield Rd



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 0 | 65 | 1 | 65 | 3 | 985 | 56 | 79 | 1812 | 8 |
| Future Volume (vph) | 7 | 0 | 65 | 1 | 65 | 3 | 985 | 56 | 79 | 1812 | 8 |
| Lane Group Flow (vph) | 7 | 5 | 0 | 66 | 65 | 3 | 985 | 56 | 79 | 1812 | 8 |
| Turn Type | Perm | NA | Perm | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | | 4 | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 8 | | 8 | | | 2 | | | 6 |
| Detector Phase | 4 | 4 | 8 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 5.0 | 10.0 | 10.0 | 5.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 10.8 | 26.6 | 26.6 | 10.8 | 26.6 | 26.6 |
| Total Split (s) | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 14.0 | 75.0 | 75.0 | 14.0 | 75.0 | 75.0 |
| Total Split (%) | 25.8% | 25.8% | 25.8% | 25.8% | 25.8% | 11.7% | 62.5% | 62.5% | 11.7% | 62.5% | 62.5% |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 2.1 | 1.9 | 1.9 | 2.1 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.8 | 6.8 | | 6.8 | 6.8 | 5.8 | 5.6 | 5.6 | 5.8 | 5.6 | 5.6 |
| Lead/Lag | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 12.3 | 12.3 | | 12.3 | 12.3 | 5.8 | 81.6 | 81.6 | 11.3 | 97.3 | 97.3 |
| Actuated g/C Ratio | 0.10 | 0.10 | | 0.10 | 0.10 | 0.05 | 0.68 | 0.68 | 0.09 | 0.81 | 0.81 |
| v/c Ratio | 0.05 | 0.02 | | 0.50 | 0.29 | 0.04 | 0.43 | 0.05 | 0.50 | 0.66 | 0.01 |
| Control Delay | 47.6 | 0.2 | | 63.2 | 11.5 | 55.0 | 10.9 | 0.9 | 73.1 | 6.4 | 0.0 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 47.6 | 0.2 | | 63.2 | 11.5 | 55.0 | 10.9 | 0.9 | 73.1 | 6.4 | 0.0 |
| LOS | D | A | | E | B | D | B | A | E | A | A |
| Approach Delay | | 27.8 | | 37.6 | | | 10.5 | | | 9.2 | |
| Approach LOS | | C | | D | | | B | | | A | |
| Queue Length 50th (m) | 1.5 | 0.0 | | 15.1 | 0.0 | 0.7 | 54.2 | 0.0 | 19.7 | 25.8 | 0.0 |
| Queue Length 95th (m) | 5.9 | 0.0 | | 28.5 | 10.2 | 3.9 | 84.0 | 2.3 | m22.9 | m221.7 | m0.0 |
| Internal Link Dist (m) | | 58.8 | | 118.5 | | | 110.2 | | | 196.4 | |
| Turn Bay Length (m) | | | | | 35.0 | 50.0 | | 50.0 | 90.0 | | 55.0 |
| Base Capacity (vph) | 256 | 408 | | 261 | 366 | 115 | 2304 | 1058 | 162 | 2748 | 1246 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.03 | 0.01 | | 0.25 | 0.18 | 0.03 | 0.43 | 0.05 | 0.49 | 0.66 | 0.01 |

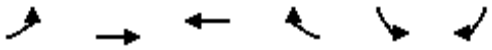
| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 112 (93%), Referenced to phase 2:NBT and 6:SBT, Start of Green | |
| Natural Cycle: 100 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.66 | |
| Intersection Signal Delay: 10.9 | Intersection LOS: B |
| Intersection Capacity Utilization 82.7% | ICU Level of Service E |
| Analysis Period (min) 15 | |

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Riverside Dr & Ridgewood Ave

| Lane Group | EBT | WBT | SBL |
|---|---|---|---|
| Lane Configurations | | | |
| Traffic Volume (vph) | 87 | 97 | 12 |
| Future Volume (vph) | 87 | 97 | 12 |
| Lane Group Flow (vph) | 135 | 113 | 47 |
| Sign Control | Free | Free | Stop |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization | 24.3% | ICU Level of Service A |
| Analysis Period (min) | 15 | |



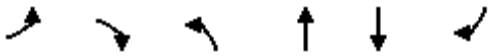
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 48 | 87 | 97 | 16 | 12 | 35 |
| Future Volume (Veh/h) | 48 | 87 | 97 | 16 | 12 | 35 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 48 | 87 | 97 | 16 | 12 | 35 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | 143 | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 113 | | | | 288 | 105 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 113 | | | | 288 | 105 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 97 | | | | 98 | 96 |
| cM capacity (veh/h) | 1476 | | | | 680 | 949 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 135 | 113 | 47 |
| Volume Left | 48 | 0 | 12 |
| Volume Right | 0 | 16 | 35 |
| cSH | 1476 | 1700 | 862 |
| Volume to Capacity | 0.03 | 0.07 | 0.05 |
| Queue Length 95th (m) | 0.8 | 0.0 | 1.3 |
| Control Delay (s) | 2.8 | 0.0 | 9.4 |
| Lane LOS | A | | A |
| Approach Delay (s) | 2.8 | 0.0 | 9.4 |
| Approach LOS | | | A |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 2.8 | |
| Intersection Capacity Utilization | | 24.3% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |

| Lane Group | EBL | NBT | SBT |
|---|---|---|---|
| Lane Configurations | | | |
| Traffic Volume (vph) | 39 | 49 | 243 |
| Future Volume (vph) | 39 | 49 | 243 |
| Lane Group Flow (vph) | 95 | 95 | 294 |
| Sign Control | Stop | Stop | Stop |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization | 38.1% | ICU Level of Service A |
| Analysis Period (min) | 15 | |



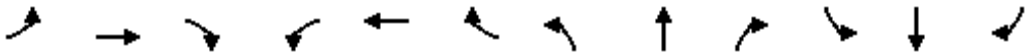
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Sign Control | Stop | | | Stop | Stop | |
| Traffic Volume (vph) | 39 | 56 | 46 | 49 | 243 | 51 |
| Future Volume (vph) | 39 | 56 | 46 | 49 | 243 | 51 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 39 | 56 | 46 | 49 | 243 | 51 |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total (vph) | 95 | 95 | 294 |
| Volume Left (vph) | 39 | 46 | 0 |
| Volume Right (vph) | 56 | 0 | 51 |
| Hadj (s) | -0.24 | 0.13 | -0.07 |
| Departure Headway (s) | 4.5 | 4.6 | 4.2 |
| Degree Utilization, x | 0.12 | 0.12 | 0.34 |
| Capacity (veh/h) | 731 | 757 | 836 |
| Control Delay (s) | 8.1 | 8.2 | 9.3 |
| Approach Delay (s) | 8.1 | 8.2 | 9.3 |
| Approach LOS | A | A | A |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 8.9 | | |
| Level of Service | A | | |
| Intersection Capacity Utilization | 38.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | WBT | NBT | SBT |
|---|---|---|---|---|
| Lane Configurations | | | | |
| Traffic Volume (vph) | 2 | 4 | 23 | 80 |
| Future Volume (vph) | 2 | 4 | 23 | 80 |
| Lane Group Flow (vph) | 116 | 8 | 24 | 392 |
| Sign Control | Stop | Stop | Stop | Stop |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 47.8% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |

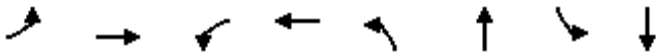


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Traffic Volume (vph) | 107 | 2 | 7 | 0 | 4 | 4 | 1 | 23 | 0 | 8 | 80 | 304 |
| Future Volume (vph) | 107 | 2 | 7 | 0 | 4 | 4 | 1 | 23 | 0 | 8 | 80 | 304 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 107 | 2 | 7 | 0 | 4 | 4 | 1 | 23 | 0 | 8 | 80 | 304 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total (vph) | 116 | 8 | 24 | 392 |
| Volume Left (vph) | 107 | 0 | 1 | 8 |
| Volume Right (vph) | 7 | 4 | 0 | 304 |
| Hadj (s) | 0.18 | -0.27 | 0.04 | -0.43 |
| Departure Headway (s) | 4.9 | 4.7 | 4.6 | 3.8 |
| Degree Utilization, x | 0.16 | 0.01 | 0.03 | 0.42 |
| Capacity (veh/h) | 671 | 692 | 732 | 910 |
| Control Delay (s) | 8.9 | 7.7 | 7.8 | 9.5 |
| Approach Delay (s) | 8.9 | 7.7 | 7.8 | 9.5 |
| Approach LOS | A | A | A | A |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 9.3 | | |
| Level of Service | A | | |
| Intersection Capacity Utilization | 47.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

# Total Projected 2031

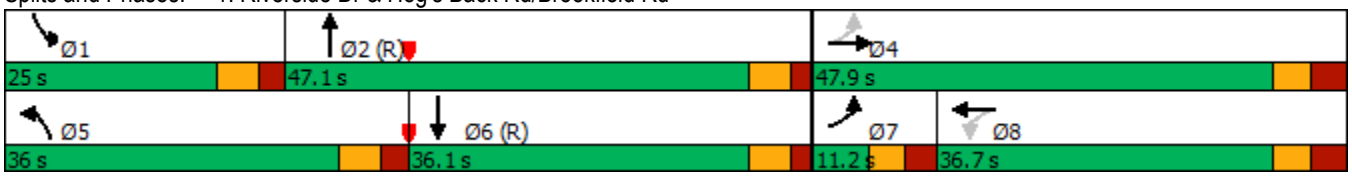


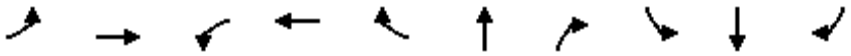
| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 73 | 35 | 106 | 46 | 518 | 1476 | 309 | 757 |
| Future Volume (vph) | 73 | 35 | 106 | 46 | 518 | 1476 | 309 | 757 |
| Lane Group Flow (vph) | 73 | 171 | 106 | 242 | 518 | 1926 | 309 | 1172 |
| Turn Type | pm+pt | NA | Perm | NA | Prot | NA | Prot | NA |
| Protected Phases | 7 | 4 | | 8 | 5 | 2 | 1 | 6 |
| Permitted Phases | 4 | | 8 | | | | | |
| Detector Phase | 7 | 4 | 8 | 8 | 5 | 2 | 1 | 6 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 10.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 11.2 | 36.7 | 36.7 | 36.7 | 11.1 | 25.6 | 11.1 | 25.6 |
| Total Split (s) | 11.2 | 47.9 | 36.7 | 36.7 | 36.0 | 47.1 | 25.0 | 36.1 |
| Total Split (%) | 9.3% | 39.9% | 30.6% | 30.6% | 30.0% | 39.3% | 20.8% | 30.1% |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 2.9 | 3.4 | 3.4 | 3.4 | 2.4 | 1.9 | 2.4 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.2 | 6.7 | 6.7 | 6.7 | 6.1 | 5.6 | 6.1 | 5.6 |
| Lead/Lag | Lead | | Lag | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | C-Max | None | C-Max |
| Act Effct Green (s) | 26.1 | 25.6 | 16.7 | 16.7 | 45.5 | 44.2 | 31.8 | 30.5 |
| Actuated g/C Ratio | 0.22 | 0.21 | 0.14 | 0.14 | 0.38 | 0.37 | 0.26 | 0.25 |
| v/c Ratio | 0.55 | 0.39 | 0.66 | 0.66 | 0.81 | 1.09 | 0.69 | 0.93 |
| Control Delay | 51.5 | 11.8 | 67.1 | 24.1 | 27.0 | 86.4 | 50.2 | 53.6 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 51.5 | 11.8 | 67.1 | 24.1 | 27.0 | 86.4 | 50.2 | 53.6 |
| LOS | D | B | E | C | C | F | D | D |
| Approach Delay | | 23.7 | | 37.2 | | 73.8 | | 52.9 |
| Approach LOS | | C | | D | | E | | D |
| Queue Length 50th (m) | 13.9 | 6.5 | 24.1 | 15.6 | 96.0 | ~198.1 | 64.9 | 91.1 |
| Queue Length 95th (m) | 24.1 | 22.5 | 40.0 | 39.3 | m#136.9 | m#205.2 | #121.4 | #118.9 |
| Internal Link Dist (m) | | 228.4 | | 515.1 | | 121.4 | | 276.2 |
| Turn Bay Length (m) | 15.0 | | | | 135.0 | | 160.0 | |
| Base Capacity (vph) | 132 | 629 | 289 | 519 | 642 | 1774 | 448 | 1255 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.55 | 0.27 | 0.37 | 0.47 | 0.81 | 1.09 | 0.69 | 0.93 |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 91 (76%), Referenced to phase 2:NBT and 6:SBT, Start of Green | |
| Natural Cycle: 145 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 1.09 | |
| Intersection Signal Delay: 61.4 | Intersection LOS: E |
| Intersection Capacity Utilization 98.8% | ICU Level of Service F |
| Analysis Period (min) 15 | |

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Riverside Dr & Hog's Back Rd/Brookfield Rd





| Lane Group | EBL | EBT | WBL | WBT | WBR | NBT | NBR | SBL | SBT | SBR | Ø5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 4 | 0 | 51 | 0 | 134 | 2308 | 88 | 47 | 796 | 7 | |
| Future Volume (vph) | 4 | 0 | 51 | 0 | 134 | 2308 | 88 | 47 | 796 | 7 | |
| Lane Group Flow (vph) | 4 | 1 | 0 | 51 | 134 | 2308 | 88 | 47 | 796 | 7 | |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | Prot | NA | Perm | |
| Protected Phases | | 4 | | 8 | | 2 | | 1 | 6 | | 5 |
| Permitted Phases | 4 | | 8 | | 8 | | 2 | | | 6 | |
| Detector Phase | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 1 | 6 | 6 | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 5.0 | 10.0 | 10.0 | 5.0 |
| Minimum Split (s) | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 26.6 | 26.6 | 10.8 | 26.6 | 26.6 | 10.8 |
| Total Split (s) | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 78.4 | 78.4 | 10.8 | 78.4 | 78.4 | 10.8 |
| Total Split (%) | 25.7% | 25.7% | 25.7% | 25.7% | 25.7% | 65.3% | 65.3% | 9.0% | 65.3% | 65.3% | 9% |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 1.9 | 1.9 | 2.1 | 1.9 | 1.9 | 2.1 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.8 | 6.8 | | 6.8 | 6.8 | 5.6 | 5.6 | 5.8 | 5.6 | 5.6 | |
| Lead/Lag | | | | | | Lag | Lag | Lead | Lag | Lag | Lead |
| Lead-Lag Optimize? | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max | None |
| Act Effct Green (s) | 12.0 | 12.0 | | 12.0 | 12.0 | 83.1 | 83.1 | 9.1 | 95.6 | 95.6 | |
| Actuated g/C Ratio | 0.10 | 0.10 | | 0.10 | 0.10 | 0.69 | 0.69 | 0.08 | 0.80 | 0.80 | |
| v/c Ratio | 0.03 | 0.00 | | 0.38 | 0.61 | 0.98 | 0.08 | 0.37 | 0.29 | 0.01 | |
| Control Delay | 47.0 | 0.0 | | 57.9 | 35.6 | 34.9 | 2.1 | 57.3 | 2.4 | 0.0 | |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 47.0 | 0.0 | | 57.9 | 35.6 | 34.9 | 2.1 | 57.3 | 2.4 | 0.0 | |
| LOS | D | A | | E | D | C | A | E | A | A | |
| Approach Delay | | 37.6 | | 41.8 | | 33.7 | | | 5.5 | | |
| Approach LOS | | D | | D | | C | | | A | | |
| Queue Length 50th (m) | 0.9 | 0.0 | | 11.6 | 13.2 | 254.2 | 0.1 | 11.6 | 15.0 | 0.0 | |
| Queue Length 95th (m) | 4.2 | 0.0 | | 23.1 | 31.9 | #370.3 | 6.3 | m15.1 | m17.8 | m0.0 | |
| Internal Link Dist (m) | | 58.8 | | 118.5 | | 110.2 | | | 196.4 | | |
| Turn Bay Length (m) | | | | | 35.0 | | 50.0 | 90.0 | | 55.0 | |
| Base Capacity (vph) | 258 | 505 | | 270 | 364 | 2347 | 1077 | 128 | 2701 | 1226 | |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.02 | 0.00 | | 0.19 | 0.37 | 0.98 | 0.08 | 0.37 | 0.29 | 0.01 | |

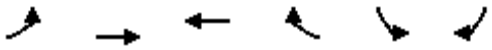
| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 100 (83%), Referenced to phase 2:NBT and 6:SBT, Start of Green | |
| Natural Cycle: 150 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.98 | |
| Intersection Signal Delay: 27.1 | Intersection LOS: C |
| Intersection Capacity Utilization 100.4% | ICU Level of Service G |
| Analysis Period (min) 15 | |

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Riverside Dr & Ridgewood Ave

| Lane Group | EBT | WBT | SBL |
|---|---|---|---|
| Lane Configurations | | | |
| Traffic Volume (vph) | 109 | 127 | 19 |
| Future Volume (vph) | 109 | 127 | 19 |
| Lane Group Flow (vph) | 135 | 136 | 77 |
| Sign Control | Free | Free | Stop |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 30.1% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |



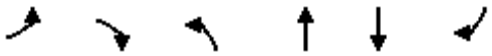
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 26 | 109 | 127 | 9 | 19 | 58 |
| Future Volume (Veh/h) | 26 | 109 | 127 | 9 | 19 | 58 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 26 | 109 | 127 | 9 | 19 | 58 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | 143 | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 136 | | | | 292 | 132 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 136 | | | | 292 | 132 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 98 | | | | 97 | 94 |
| cM capacity (veh/h) | 1448 | | | | 686 | 918 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 135 | 136 | 77 |
| Volume Left | 26 | 0 | 19 |
| Volume Right | 0 | 9 | 58 |
| cSH | 1448 | 1700 | 847 |
| Volume to Capacity | 0.02 | 0.08 | 0.09 |
| Queue Length 95th (m) | 0.4 | 0.0 | 2.3 |
| Control Delay (s) | 1.6 | 0.0 | 9.7 |
| Lane LOS | A | | A |
| Approach Delay (s) | 1.6 | 0.0 | 9.7 |
| Approach LOS | | | A |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.7 | | |
| Intersection Capacity Utilization | 30.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | NBT | SBT |
|---|---|---|---|
| Lane Configurations | | | |
| Traffic Volume (vph) | 65 | 88 | 61 |
| Future Volume (vph) | 65 | 88 | 61 |
| Lane Group Flow (vph) | 98 | 163 | 104 |
| Sign Control | Stop | Stop | Stop |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization | 28.5% | ICU Level of Service A |
| Analysis Period (min) | 15 | |



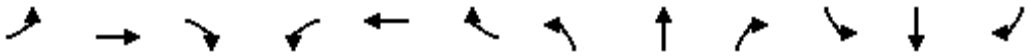
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Sign Control | Stop | | | Stop | Stop | |
| Traffic Volume (vph) | 65 | 33 | 75 | 88 | 61 | 43 |
| Future Volume (vph) | 65 | 33 | 75 | 88 | 61 | 43 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 65 | 33 | 75 | 88 | 61 | 43 |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total (vph) | 98 | 163 | 104 |
| Volume Left (vph) | 65 | 75 | 0 |
| Volume Right (vph) | 33 | 0 | 43 |
| Hadj (s) | -0.04 | 0.13 | -0.21 |
| Departure Headway (s) | 4.5 | 4.4 | 4.1 |
| Degree Utilization, x | 0.12 | 0.20 | 0.12 |
| Capacity (veh/h) | 754 | 798 | 851 |
| Control Delay (s) | 8.1 | 8.4 | 7.6 |
| Approach Delay (s) | 8.1 | 8.4 | 7.6 |
| Approach LOS | A | A | A |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 8.1 | | |
| Level of Service | A | | |
| Intersection Capacity Utilization | 28.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | WBT | NBT | SBT |
|---|---|---|---|---|
| Lane Configurations | | | | |
| Traffic Volume (vph) | 3 | 3 | 45 | 17 |
| Future Volume (vph) | 3 | 3 | 45 | 17 |
| Lane Group Flow (vph) | 226 | 14 | 49 | 107 |
| Sign Control | Stop | Stop | Stop | Stop |

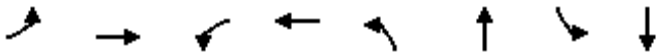
| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 33.8% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Traffic Volume (vph) | 222 | 3 | 1 | 0 | 3 | 11 | 4 | 45 | 0 | 2 | 17 | 88 |
| Future Volume (vph) | 222 | 3 | 1 | 0 | 3 | 11 | 4 | 45 | 0 | 2 | 17 | 88 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 222 | 3 | 1 | 0 | 3 | 11 | 4 | 45 | 0 | 2 | 17 | 88 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total (vph) | 226 | 14 | 49 | 107 |
| Volume Left (vph) | 222 | 0 | 4 | 2 |
| Volume Right (vph) | 1 | 11 | 0 | 88 |
| Hadj (s) | 0.23 | -0.44 | 0.05 | -0.46 |
| Departure Headway (s) | 4.5 | 4.1 | 4.6 | 4.1 |
| Degree Utilization, x | 0.28 | 0.02 | 0.06 | 0.12 |
| Capacity (veh/h) | 778 | 826 | 728 | 824 |
| Control Delay (s) | 9.2 | 7.1 | 8.0 | 7.6 |
| Approach Delay (s) | 9.2 | 7.1 | 8.0 | 7.6 |
| Approach LOS | A | A | A | A |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Delay | 8.6 | | | |
| Level of Service | A | | | |
| Intersection Capacity Utilization | 33.8% | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | |

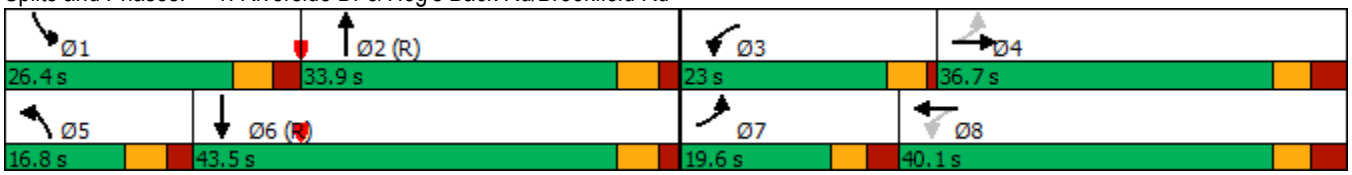


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 172 | 53 | 337 | 29 | 144 | 802 | 234 | 1463 |
| Future Volume (vph) | 172 | 53 | 337 | 29 | 144 | 802 | 234 | 1463 |
| Lane Group Flow (vph) | 172 | 454 | 337 | 368 | 144 | 931 | 234 | 1602 |
| Turn Type | pm+pt | NA | pm+pt | NA | Prot | NA | Prot | NA |
| Protected Phases | 7 | 4 | 3 | 8 | 5 | 2 | 1 | 6 |
| Permitted Phases | 4 | | 8 | | | | | |
| Detector Phase | 7 | 4 | 3 | 8 | 5 | 2 | 1 | 6 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 11.2 | 36.7 | 9.5 | 36.7 | 11.1 | 25.6 | 11.1 | 25.6 |
| Total Split (s) | 19.6 | 36.7 | 23.0 | 40.1 | 16.8 | 33.9 | 26.4 | 43.5 |
| Total Split (%) | 16.3% | 30.6% | 19.2% | 33.4% | 14.0% | 28.3% | 22.0% | 36.3% |
| Yellow Time (s) | 3.3 | 3.3 | 3.5 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 2.9 | 3.4 | 1.0 | 3.4 | 2.4 | 1.9 | 2.4 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.2 | 6.7 | 4.5 | 6.7 | 6.1 | 5.6 | 6.1 | 5.6 |
| Lead/Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | C-Max | None | C-Max |
| Act Effct Green (s) | 36.7 | 23.9 | 48.4 | 28.3 | 13.2 | 35.1 | 19.7 | 41.5 |
| Actuated g/C Ratio | 0.31 | 0.20 | 0.40 | 0.24 | 0.11 | 0.29 | 0.16 | 0.35 |
| v/c Ratio | 0.64 | 0.91 | 1.04 | 0.59 | 0.77 | 0.66 | 0.84 | 0.96 |
| Control Delay | 35.4 | 45.3 | 94.0 | 9.4 | 69.0 | 42.2 | 74.6 | 52.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 35.4 | 45.3 | 94.0 | 9.4 | 69.0 | 42.2 | 74.6 | 52.9 |
| LOS | D | D | F | A | E | D | E | D |
| Approach Delay | | 42.5 | | 49.9 | | 45.8 | | 55.7 |
| Approach LOS | | D | | D | | D | | E |
| Queue Length 50th (m) | 26.0 | 52.8 | ~68.0 | 5.3 | 33.0 | 84.1 | 52.3 | ~149.7 |
| Queue Length 95th (m) | 39.4 | #101.4 | #121.2 | 30.6 | #74.0 | 96.7 | #93.9 | #179.8 |
| Internal Link Dist (m) | | 228.4 | | 515.1 | | 121.4 | | 276.2 |
| Turn Bay Length (m) | 15.0 | | | | 135.0 | | 160.0 | |
| Base Capacity (vph) | 282 | 565 | 324 | 672 | 186 | 1410 | 293 | 1673 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.61 | 0.80 | 1.04 | 0.55 | 0.77 | 0.66 | 0.80 | 0.96 |

| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 84 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Green | |
| Natural Cycle: 125 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 1.04 | |
| Intersection Signal Delay: 50.3 | Intersection LOS: D |
| Intersection Capacity Utilization 109.4% | ICU Level of Service H |
| Analysis Period (min) 15 | |

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Riverside Dr & Hog's Back Rd/Brookfield Rd



| Lane Group | EBL | EBT | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 0 | 65 | 1 | 65 | 3 | 1030 | 56 | 79 | 1897 | 8 |
| Future Volume (vph) | 7 | 0 | 65 | 1 | 65 | 3 | 1030 | 56 | 79 | 1897 | 8 |
| Lane Group Flow (vph) | 7 | 5 | 0 | 66 | 65 | 3 | 1030 | 56 | 79 | 1897 | 8 |
| Turn Type | Perm | NA | Perm | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | | 4 | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 8 | | 8 | | | 2 | | | 6 |
| Detector Phase | 4 | 4 | 8 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 5.0 | 10.0 | 10.0 | 5.0 | 10.0 | 10.0 |
| Minimum Split (s) | 30.8 | 30.8 | 30.8 | 30.8 | 30.8 | 10.8 | 26.6 | 26.6 | 10.8 | 26.6 | 26.6 |
| Total Split (s) | 31.0 | 31.0 | 31.0 | 31.0 | 31.0 | 14.0 | 75.0 | 75.0 | 14.0 | 75.0 | 75.0 |
| Total Split (%) | 25.8% | 25.8% | 25.8% | 25.8% | 25.8% | 11.7% | 62.5% | 62.5% | 11.7% | 62.5% | 62.5% |
| Yellow Time (s) | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 |
| All-Red Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 2.1 | 1.9 | 1.9 | 2.1 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.8 | 6.8 | | 6.8 | 6.8 | 5.8 | 5.6 | 5.6 | 5.8 | 5.6 | 5.6 |
| Lead/Lag | | | | | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | | | | | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max |
| Act Effct Green (s) | 12.3 | 12.3 | | 12.3 | 12.3 | 5.8 | 81.6 | 81.6 | 11.3 | 97.3 | 97.3 |
| Actuated g/C Ratio | 0.10 | 0.10 | | 0.10 | 0.10 | 0.05 | 0.68 | 0.68 | 0.09 | 0.81 | 0.81 |
| v/c Ratio | 0.05 | 0.02 | | 0.50 | 0.29 | 0.04 | 0.45 | 0.05 | 0.50 | 0.69 | 0.01 |
| Control Delay | 47.6 | 0.2 | | 63.2 | 11.5 | 55.0 | 11.2 | 0.9 | 70.5 | 7.2 | 0.0 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 47.6 | 0.2 | | 63.2 | 11.5 | 55.0 | 11.2 | 0.9 | 70.5 | 7.2 | 0.0 |
| LOS | D | A | | E | B | D | B | A | E | A | A |
| Approach Delay | | 27.8 | | 37.6 | | | 10.8 | | | 9.7 | |
| Approach LOS | | C | | D | | | B | | | A | |
| Queue Length 50th (m) | 1.5 | 0.0 | | 15.1 | 0.0 | 0.7 | 57.7 | 0.0 | 19.8 | 32.8 | 0.0 |
| Queue Length 95th (m) | 5.9 | 0.0 | | 28.5 | 10.2 | 3.9 | 89.1 | 2.3 | m21.3 | m224.3 | m0.0 |
| Internal Link Dist (m) | | 58.8 | | 118.5 | | | 110.2 | | | 196.4 | |
| Turn Bay Length (m) | | | | | 35.0 | 50.0 | | 50.0 | 90.0 | | 55.0 |
| Base Capacity (vph) | 256 | 406 | | 261 | 366 | 115 | 2304 | 1058 | 162 | 2748 | 1246 |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.03 | 0.01 | | 0.25 | 0.18 | 0.03 | 0.45 | 0.05 | 0.49 | 0.69 | 0.01 |

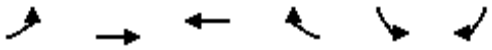
| Intersection Summary | |
|---|---|
| Cycle Length: 120 | |
| Actuated Cycle Length: 120 | |
| Offset: 112 (93%), Referenced to phase 2:NBT and 6:SBT, Start of Green | |
| Natural Cycle: 100 | |
| Control Type: Actuated-Coordinated | |
| Maximum v/c Ratio: 0.69 | |
| Intersection Signal Delay: 11.3 | Intersection LOS: B |
| Intersection Capacity Utilization 85.2% | ICU Level of Service E |
| Analysis Period (min) 15 | |

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Riverside Dr & Ridgewood Ave

| Lane Group | EBT | WBT | SBL |
|---|---|---|---|
| Lane Configurations | | | |
| Traffic Volume (vph) | 87 | 97 | 12 |
| Future Volume (vph) | 87 | 97 | 12 |
| Lane Group Flow (vph) | 135 | 113 | 47 |
| Sign Control | Free | Free | Stop |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization | 24.3% | ICU Level of Service A |
| Analysis Period (min) | 15 | |



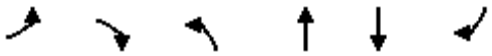
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 48 | 87 | 97 | 16 | 12 | 35 |
| Future Volume (Veh/h) | 48 | 87 | 97 | 16 | 12 | 35 |
| Sign Control | | Free | Free | | Stop | |
| Grade | | 0% | 0% | | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 48 | 87 | 97 | 16 | 12 | 35 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | None | None | | | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | 143 | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 113 | | | | 288 | 105 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 113 | | | | 288 | 105 |
| tC, single (s) | 4.1 | | | | 6.4 | 6.2 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 2.2 | | | | 3.5 | 3.3 |
| p0 queue free % | 97 | | | | 98 | 96 |
| cM capacity (veh/h) | 1476 | | | | 680 | 949 |

| Direction, Lane # | EB 1 | WB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 135 | 113 | 47 |
| Volume Left | 48 | 0 | 12 |
| Volume Right | 0 | 16 | 35 |
| cSH | 1476 | 1700 | 862 |
| Volume to Capacity | 0.03 | 0.07 | 0.05 |
| Queue Length 95th (m) | 0.8 | 0.0 | 1.3 |
| Control Delay (s) | 2.8 | 0.0 | 9.4 |
| Lane LOS | A | | A |
| Approach Delay (s) | 2.8 | 0.0 | 9.4 |
| Approach LOS | | | A |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.8 | | |
| Intersection Capacity Utilization | 24.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | NBT | SBT |
|---|---|---|---|
| Lane Configurations | | | |
| Traffic Volume (vph) | 39 | 49 | 243 |
| Future Volume (vph) | 39 | 49 | 243 |
| Lane Group Flow (vph) | 95 | 95 | 294 |
| Sign Control | Stop | Stop | Stop |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization | 38.1% | ICU Level of Service A |
| Analysis Period (min) | 15 | |



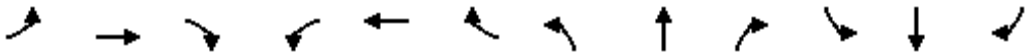
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Sign Control | Stop | | | Stop | Stop | |
| Traffic Volume (vph) | 39 | 56 | 46 | 49 | 243 | 51 |
| Future Volume (vph) | 39 | 56 | 46 | 49 | 243 | 51 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 39 | 56 | 46 | 49 | 243 | 51 |

| Direction, Lane # | EB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total (vph) | 95 | 95 | 294 |
| Volume Left (vph) | 39 | 46 | 0 |
| Volume Right (vph) | 56 | 0 | 51 |
| Hadj (s) | -0.24 | 0.13 | -0.07 |
| Departure Headway (s) | 4.5 | 4.6 | 4.2 |
| Degree Utilization, x | 0.12 | 0.12 | 0.34 |
| Capacity (veh/h) | 731 | 757 | 836 |
| Control Delay (s) | 8.1 | 8.2 | 9.3 |
| Approach Delay (s) | 8.1 | 8.2 | 9.3 |
| Approach LOS | A | A | A |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 8.9 | | |
| Level of Service | A | | |
| Intersection Capacity Utilization | 38.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | WBT | NBT | SBT |
|---|---|---|---|---|
| Lane Configurations | | | | |
| Traffic Volume (vph) | 2 | 4 | 23 | 80 |
| Future Volume (vph) | 2 | 4 | 23 | 80 |
| Lane Group Flow (vph) | 116 | 8 | 24 | 392 |
| Sign Control | Stop | Stop | Stop | Stop |

| Intersection Summary | | |
|---|---|---|
| Control Type: Unsignalized | | |
| Intersection Capacity Utilization 47.8% | | ICU Level of Service A |
| Analysis Period (min) 15 | | |



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Traffic Volume (vph) | 107 | 2 | 7 | 0 | 4 | 4 | 1 | 23 | 0 | 8 | 80 | 304 |
| Future Volume (vph) | 107 | 2 | 7 | 0 | 4 | 4 | 1 | 23 | 0 | 8 | 80 | 304 |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 107 | 2 | 7 | 0 | 4 | 4 | 1 | 23 | 0 | 8 | 80 | 304 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 | SB 1 |
|---|---|---|---|---|
| Volume Total (vph) | 116 | 8 | 24 | 392 |
| Volume Left (vph) | 107 | 0 | 1 | 8 |
| Volume Right (vph) | 7 | 4 | 0 | 304 |
| Hadj (s) | 0.18 | -0.27 | 0.04 | -0.43 |
| Departure Headway (s) | 4.9 | 4.7 | 4.6 | 3.8 |
| Degree Utilization, x | 0.16 | 0.01 | 0.03 | 0.42 |
| Capacity (veh/h) | 671 | 692 | 732 | 910 |
| Control Delay (s) | 8.9 | 7.7 | 7.8 | 9.5 |
| Approach Delay (s) | 8.9 | 7.7 | 7.8 | 9.5 |
| Approach LOS | A | A | A | A |

| Intersection Summary | | | |
|---|---|---|---|
| Delay | 9.3 | | |
| Level of Service | A | | |
| Intersection Capacity Utilization | 47.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

# Roundabout Analysis Reports

# MOVEMENT SUMMARY

## Site: 101 [Existing AM]

New Site
Site Category: (None)
Roundabout

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Flannery Dr | | | | | | | | | | | | |
| 1 | L2 | 94 | 2.0 | 0.295 | 9.1 | LOS A | 1.3 | 9.1 | 0.46 | 0.61 | 0.46 | 48.0 |
| 3 | R2 | 204 | 2.0 | 0.295 | 4.6 | LOS A | 1.3 | 9.1 | 0.46 | 0.61 | 0.46 | 46.5 |
| Approach | | 299 | 2.0 | 0.295 | 6.0 | LOS A | 1.3 | 9.1 | 0.46 | 0.61 | 0.46 | 47.0 |
| East: Airport Pkwy NB On-Off / SB On Ramps | | | | | | | | | | | | |
| 4 | L2 | 4 | 2.0 | 0.198 | 7.8 | LOS A | 1.0 | 7.1 | 0.25 | 0.33 | 0.25 | 49.6 |
| 5 | T1 | 249 | 2.0 | 0.198 | 2.9 | LOS A | 1.0 | 7.1 | 0.25 | 0.33 | 0.25 | 49.3 |
| Approach | | 253 | 2.0 | 0.198 | 3.0 | LOS A | 1.0 | 7.1 | 0.25 | 0.33 | 0.25 | 49.3 |
| North: Airport Pkwy SB Off Ramp | | | | | | | | | | | | |
| 7 | L2 | 3 | 2.0 | 0.197 | 9.1 | LOS A | 1.1 | 8.0 | 0.49 | 0.52 | 0.49 | 48.6 |
| 8 | T1 | 34 | 2.0 | 0.197 | 4.2 | LOS A | 1.1 | 8.0 | 0.49 | 0.52 | 0.49 | 48.3 |
| 9 | R2 | 196 | 2.0 | 0.197 | 4.6 | LOS A | 1.1 | 8.0 | 0.49 | 0.52 | 0.49 | 47.0 |
| Approach | | 233 | 2.0 | 0.197 | 4.6 | LOS A | 1.1 | 8.0 | 0.49 | 0.52 | 0.49 | 47.2 |
| West: Brookfield Rd | | | | | | | | | | | | |
| 11 | T1 | 401 | 2.0 | 0.153 | 2.7 | LOS A | 0.9 | 6.1 | 0.16 | 0.30 | 0.16 | 49.6 |
| 12 | R2 | 74 | 2.0 | 0.153 | 3.5 | LOS A | 0.9 | 6.1 | 0.16 | 0.31 | 0.16 | 48.2 |
| Approach | | 476 | 2.0 | 0.153 | 2.8 | LOS A | 0.9 | 6.1 | 0.16 | 0.30 | 0.16 | 49.4 |
| All Vehicles | | 1261 | 2.0 | 0.295 | 3.9 | LOS A | 1.3 | 9.1 | 0.31 | 0.42 | 0.31 | 48.4 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [Existing PM]

New Site
Site Category: (None)
Roundabout

| Movement Performance - Vehicles | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
| South: Flannery Dr | | | | | | | | | | | | |
| 1 | L2 | 37 | 2.0 | 0.117 | 9.1 | LOS A | 0.5 | 3.4 | 0.48 | 0.61 | 0.48 | 47.9 |
| 3 | R2 | 73 | 2.0 | 0.117 | 4.6 | LOS A | 0.5 | 3.4 | 0.48 | 0.61 | 0.48 | 46.4 |
| Approach | | 110 | 2.0 | 0.117 | 6.1 | LOS A | 0.5 | 3.4 | 0.48 | 0.61 | 0.48 | 46.9 |
| East: Airport Pkwy NB On-Off / SB On Ramps | | | | | | | | | | | | |
| 4 | L2 | 18 | 2.0 | 0.098 | 7.6 | LOS A | 0.5 | 3.3 | 0.13 | 0.34 | 0.13 | 49.7 |
| 5 | T1 | 116 | 2.0 | 0.098 | 2.7 | LOS A | 0.5 | 3.3 | 0.13 | 0.34 | 0.13 | 49.4 |
| Approach | | 133 | 2.0 | 0.098 | 3.3 | LOS A | 0.5 | 3.3 | 0.13 | 0.34 | 0.13 | 49.4 |
| North: Airport Pkwy SB Off Ramp | | | | | | | | | | | | |
| 7 | L2 | 11 | 2.0 | 0.413 | 8.4 | LOS A | 2.8 | 20.0 | 0.42 | 0.43 | 0.42 | 48.9 |
| 8 | T1 | 262 | 2.0 | 0.413 | 3.5 | LOS A | 2.8 | 20.0 | 0.42 | 0.43 | 0.42 | 48.5 |
| 9 | R2 | 300 | 2.0 | 0.413 | 4.0 | LOS A | 2.8 | 20.0 | 0.42 | 0.43 | 0.42 | 47.3 |
| Approach | | 573 | 2.0 | 0.413 | 3.8 | LOS A | 2.8 | 20.0 | 0.42 | 0.43 | 0.42 | 47.9 |
| West: Brookfield Rd | | | | | | | | | | | | |
| 11 | T1 | 488 | 2.0 | 0.239 | 3.8 | LOS A | 1.5 | 10.9 | 0.48 | 0.44 | 0.48 | 48.3 |
| 12 | R2 | 158 | 2.0 | 0.239 | 4.3 | LOS A | 1.5 | 10.9 | 0.47 | 0.44 | 0.47 | 47.0 |
| Approach | | 646 | 2.0 | 0.239 | 3.9 | LOS A | 1.5 | 10.9 | 0.48 | 0.44 | 0.48 | 48.0 |
| All Vehicles | | 1462 | 2.0 | 0.413 | 4.0 | LOS A | 2.8 | 20.0 | 0.42 | 0.44 | 0.42 | 48.0 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [Total Background 2026 and 2031 AM]

New Site
Site Category: (None)
Roundabout

| Movement Performance - Vehicles | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
| South: Flannery Dr | | | | | | | | | | | | |
| 1 | L2 | 87 | 2.0 | 0.289 | 9.0 | LOS A | 1.2 | 8.9 | 0.46 | 0.60 | 0.46 | 48.1 |
| 3 | R2 | 207 | 2.0 | 0.289 | 4.6 | LOS A | 1.2 | 8.9 | 0.46 | 0.60 | 0.46 | 46.6 |
| Approach | | 294 | 2.0 | 0.289 | 5.9 | LOS A | 1.2 | 8.9 | 0.46 | 0.60 | 0.46 | 47.0 |
| East: Airport Pkwy NB On-Off / SB On Ramps | | | | | | | | | | | | |
| 4 | L2 | 13 | 2.0 | 0.184 | 7.8 | LOS A | 0.9 | 6.5 | 0.23 | 0.34 | 0.23 | 49.6 |
| 5 | T1 | 224 | 2.0 | 0.184 | 2.9 | LOS A | 0.9 | 6.5 | 0.23 | 0.34 | 0.23 | 49.2 |
| Approach | | 237 | 2.0 | 0.184 | 3.2 | LOS A | 0.9 | 6.5 | 0.23 | 0.34 | 0.23 | 49.2 |
| North: Airport Pkwy SB Off Ramp | | | | | | | | | | | | |
| 7 | L2 | 3 | 2.0 | 0.186 | 8.9 | LOS A | 1.0 | 7.4 | 0.47 | 0.51 | 0.47 | 48.7 |
| 8 | T1 | 31 | 2.0 | 0.186 | 4.0 | LOS A | 1.0 | 7.4 | 0.47 | 0.51 | 0.47 | 48.3 |
| 9 | R2 | 189 | 2.0 | 0.186 | 4.5 | LOS A | 1.0 | 7.4 | 0.47 | 0.51 | 0.47 | 47.1 |
| Approach | | 223 | 2.0 | 0.186 | 4.5 | LOS A | 1.0 | 7.4 | 0.47 | 0.51 | 0.47 | 47.3 |
| West: Brookfield Rd | | | | | | | | | | | | |
| 11 | T1 | 390 | 2.0 | 0.148 | 2.7 | LOS A | 0.8 | 5.7 | 0.17 | 0.30 | 0.17 | 49.6 |
| 12 | R2 | 69 | 2.0 | 0.148 | 3.5 | LOS A | 0.8 | 5.7 | 0.16 | 0.31 | 0.16 | 48.2 |
| Approach | | 459 | 2.0 | 0.148 | 2.8 | LOS A | 0.8 | 5.7 | 0.17 | 0.30 | 0.17 | 49.4 |
| All Vehicles | | 1213 | 2.0 | 0.289 | 3.9 | LOS A | 1.2 | 8.9 | 0.31 | 0.42 | 0.31 | 48.4 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [Total Background 2026 and 2031 PM]

New Site
Site Category: (None)
Roundabout

**Movement Performance - Vehicles**

| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Flannery Dr | | | | | | | | | | | | |
| 1 | L2 | 36 | 2.0 | 0.120 | 9.0 | LOS A | 0.5 | 3.5 | 0.47 | 0.60 | 0.47 | 48.0 |
| 3 | R2 | 79 | 2.0 | 0.120 | 4.5 | LOS A | 0.5 | 3.5 | 0.47 | 0.60 | 0.47 | 46.5 |
| Approach | | 115 | 2.0 | 0.120 | 5.9 | LOS A | 0.5 | 3.5 | 0.47 | 0.60 | 0.47 | 47.0 |
| East: Airport Pkwy NB On-Off / SB On Ramps | | | | | | | | | | | | |
| 4 | L2 | 37 | 2.0 | 0.104 | 7.6 | LOS A | 0.5 | 3.4 | 0.13 | 0.39 | 0.13 | 49.4 |
| 5 | T1 | 104 | 2.0 | 0.104 | 2.7 | LOS A | 0.5 | 3.4 | 0.13 | 0.39 | 0.13 | 49.0 |
| Approach | | 141 | 2.0 | 0.104 | 4.0 | LOS A | 0.5 | 3.4 | 0.13 | 0.39 | 0.13 | 49.1 |
| North: Airport Pkwy SB Off Ramp | | | | | | | | | | | | |
| 7 | L2 | 10 | 2.0 | 0.396 | 8.4 | LOS A | 2.6 | 18.8 | 0.42 | 0.44 | 0.42 | 48.9 |
| 8 | T1 | 236 | 2.0 | 0.396 | 3.5 | LOS A | 2.6 | 18.8 | 0.42 | 0.44 | 0.42 | 48.5 |
| 9 | R2 | 299 | 2.0 | 0.396 | 4.0 | LOS A | 2.6 | 18.8 | 0.42 | 0.44 | 0.42 | 47.3 |
| Approach | | 545 | 2.0 | 0.396 | 3.9 | LOS A | 2.6 | 18.8 | 0.42 | 0.44 | 0.42 | 47.8 |
| West: Brookfield Rd | | | | | | | | | | | | |
| 11 | T1 | 460 | 2.0 | 0.223 | 3.7 | LOS A | 1.4 | 10.0 | 0.47 | 0.44 | 0.47 | 48.4 |
| 12 | R2 | 146 | 2.0 | 0.223 | 4.3 | LOS A | 1.4 | 10.0 | 0.45 | 0.43 | 0.45 | 47.1 |
| Approach | | 606 | 2.0 | 0.223 | 3.9 | LOS A | 1.4 | 10.0 | 0.46 | 0.43 | 0.46 | 48.0 |
| All Vehicles | | 1407 | 2.0 | 0.396 | 4.0 | LOS A | 2.6 | 18.8 | 0.41 | 0.44 | 0.41 | 48.0 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [Total Projected 2026 and 2031 AM]

New Site
Site Category: (None)
Roundabout

| Movement Performance - Vehicles | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
| South: Flannery Dr | | | | | | | | | | | | |
| 1 | L2 | 87 | 2.0 | 0.308 | 9.0 | LOS A | 1.4 | 9.6 | 0.47 | 0.60 | 0.47 | 48.1 |
| 3 | R2 | 226 | 2.0 | 0.308 | 4.6 | LOS A | 1.4 | 9.6 | 0.47 | 0.60 | 0.47 | 46.6 |
| Approach | | 313 | 2.0 | 0.308 | 5.8 | LOS A | 1.4 | 9.6 | 0.47 | 0.60 | 0.47 | 47.0 |
| East: Airport Pkwy NB On-Off / SB On Ramps | | | | | | | | | | | | |
| 4 | L2 | 22 | 2.0 | 0.191 | 7.8 | LOS A | 1.0 | 6.8 | 0.23 | 0.36 | 0.23 | 49.5 |
| 5 | T1 | 224 | 2.0 | 0.191 | 2.9 | LOS A | 1.0 | 6.8 | 0.23 | 0.36 | 0.23 | 49.1 |
| Approach | | 246 | 2.0 | 0.191 | 3.3 | LOS A | 1.0 | 6.8 | 0.23 | 0.36 | 0.23 | 49.1 |
| North: Airport Pkwy SB Off Ramp | | | | | | | | | | | | |
| 7 | L2 | 3 | 2.0 | 0.187 | 9.0 | LOS A | 1.0 | 7.5 | 0.48 | 0.51 | 0.48 | 48.6 |
| 8 | T1 | 31 | 2.0 | 0.187 | 4.1 | LOS A | 1.0 | 7.5 | 0.48 | 0.51 | 0.48 | 48.3 |
| 9 | R2 | 189 | 2.0 | 0.187 | 4.5 | LOS A | 1.0 | 7.5 | 0.48 | 0.51 | 0.48 | 47.1 |
| Approach | | 223 | 2.0 | 0.187 | 4.5 | LOS A | 1.0 | 7.5 | 0.48 | 0.51 | 0.48 | 47.3 |
| West: Brookfield Rd | | | | | | | | | | | | |
| 11 | T1 | 390 | 2.0 | 0.150 | 2.7 | LOS A | 0.8 | 5.6 | 0.18 | 0.31 | 0.18 | 49.5 |
| 12 | R2 | 69 | 2.0 | 0.150 | 3.5 | LOS A | 0.8 | 5.6 | 0.17 | 0.32 | 0.17 | 48.1 |
| Approach | | 459 | 2.0 | 0.150 | 2.9 | LOS A | 0.8 | 5.6 | 0.18 | 0.31 | 0.18 | 49.3 |
| All Vehicles | | 1241 | 2.0 | 0.308 | 4.0 | LOS A | 1.4 | 9.6 | 0.32 | 0.43 | 0.32 | 48.3 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [Total Projected 2026 and 2031 PM]

New Site
Site Category: (None)
Roundabout

| Movement Performance - Vehicles | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
| South: Flannery Dr | | | | | | | | | | | | |
| 1 | L2 | 36 | 2.0 | 0.133 | 9.0 | LOS A | 0.6 | 4.0 | 0.47 | 0.60 | 0.47 | 48.1 |
| 3 | R2 | 91 | 2.0 | 0.133 | 4.6 | LOS A | 0.6 | 4.0 | 0.47 | 0.60 | 0.47 | 46.5 |
| Approach | | 127 | 2.0 | 0.133 | 5.8 | LOS A | 0.6 | 4.0 | 0.47 | 0.60 | 0.47 | 47.0 |
| East: Airport Pkwy NB On-Off / SB On Ramps | | | | | | | | | | | | |
| 4 | L2 | 53 | 2.0 | 0.115 | 7.6 | LOS A | 0.5 | 3.8 | 0.13 | 0.41 | 0.13 | 49.1 |
| 5 | T1 | 104 | 2.0 | 0.115 | 2.7 | LOS A | 0.5 | 3.8 | 0.13 | 0.41 | 0.13 | 48.8 |
| Approach | | 157 | 2.0 | 0.115 | 4.3 | LOS A | 0.5 | 3.8 | 0.13 | 0.41 | 0.13 | 48.9 |
| North: Airport Pkwy SB Off Ramp | | | | | | | | | | | | |
| 7 | L2 | 10 | 2.0 | 0.402 | 8.5 | LOS A | 2.7 | 19.2 | 0.44 | 0.45 | 0.44 | 48.8 |
| 8 | T1 | 236 | 2.0 | 0.402 | 3.6 | LOS A | 2.7 | 19.2 | 0.44 | 0.45 | 0.44 | 48.5 |
| 9 | R2 | 299 | 2.0 | 0.402 | 4.1 | LOS A | 2.7 | 19.2 | 0.44 | 0.45 | 0.44 | 47.2 |
| Approach | | 545 | 2.0 | 0.402 | 4.0 | LOS A | 2.7 | 19.2 | 0.44 | 0.45 | 0.44 | 47.8 |
| West: Brookfield Rd | | | | | | | | | | | | |
| 11 | T1 | 460 | 2.0 | 0.225 | 3.8 | LOS A | 1.4 | 10.1 | 0.48 | 0.44 | 0.48 | 48.3 |
| 12 | R2 | 146 | 2.0 | 0.225 | 4.4 | LOS A | 1.4 | 10.1 | 0.47 | 0.44 | 0.47 | 47.0 |
| Approach | | 606 | 2.0 | 0.225 | 3.9 | LOS A | 1.4 | 10.1 | 0.48 | 0.44 | 0.48 | 48.0 |
| All Vehicles | | 1435 | 2.0 | 0.402 | 4.2 | LOS A | 2.7 | 19.2 | 0.42 | 0.46 | 0.42 | 47.9 |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.