



**paradigm**  
TRANSPORTATION SOLUTIONS LIMITED

# 6111 Carlton Avenue City of Niagara Falls Parking Study

Paradigm Transportation Solutions Limited

May 2024  
240008



# Project Summary



**Project Number:**  
240008

**6111 Carlton Avenue, City of Niagara Falls, Parking Study**

**Date and Version:**  
May 2024  
1.0.0

**Client:**  
**Carlo Montemurro**  
6251 Crawford Street  
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Carlo Montemurro

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# Executive Summary

## Content

Paradigm Transportation Solutions Limited (Paradigm) has been retained to conduct this Parking Study for a proposed residential development at 6111 Carlton Avenue in the City of Niagara Falls.

This study aims to assess the adequacy of the proposed parking supply to ensure that the site's parking demand can be accommodated and managed on-site.

## Development Concept

The subject site is municipally known as 6111 Carlton Avenue in the City of Niagara Falls. The development proposes eight townhomes, each supporting eight driveway parking spaces plus a garage space for each unit. The subject site is also supported with on-street parking surrounding the area.

The townhomes will be constructed behind the existing single-detached property sharing the same address, with proposed vehicle access by a private driveway to Carlton Road and an extension to the existing driveway for the single-detached property.

## Conclusions

The conclusions of the study are as follows:

- ▶ Zoning By-Law 79-200<sup>1</sup>, is currently in effect for multiple-unit residential uses located within Niagara Falls. This Zoning By-Law mandates a parking rate of 1.40 parking spaces per unit for multiple dwelling units, equating to 11 parking spaces for the subject site, not including garage parking spaces.
- ▶ Though the City does not count garage spaces towards the total provided parking, the proposed plans show garage dimensions of 3.5m by 6.0m, providing adequate space for a parked vehicle. As such, it is highly likely that residents can utilize their garage space in addition to the driveway if they require parking.
- ▶ Paradigm has completed a review of the parking by-law requirements for several other municipalities within the Niagara Region. The parking rates for the comparator municipalities require a parking rate of 1.00 to 2.00 spaces per unit. Of

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<sup>1</sup> Zoning By-Law 79-200 < <https://niagarafalls.ca/pdf/planning/zoning-by-law-79-200.pdf> >



importance, though, regardless of the rate, all comparator municipalities permit tandem parking to satisfy the requirement (i.e. one garage space plus one driveway space) consistent with the development proposal.

- ▶ A review of actual parking demands likely generated by the development has been considered to assess them independently and separately from a review of the Zoning By-Law requirements. All-day parking utilization surveys were conducted in May 2024 at 6186 Dorchester Road, 6263 Valley Way, and 4300 Kalar Road. Based on the data set compiled utilizing the highest parking demand observed at each site, an average parking demand of 0.91 spaces per unit is identified and would be consistent with the development proposal.
- ▶ Due to various constraining factors influencing the design and development of the property, no dedicated area for on-site visitor parking will be provided. However, if residents require only a single parking space and utilize the garage to park their vehicles, the parking supply for the development would be 1.00 resident space per unit with a visitor supply of 1.00 space per unit.
- ▶ If all residents utilize the driveway space, there are on-street parking locations visitors can use as the primary purpose of these spaces is to provide short-stay parking for visitors. As approximately 122 on-street parking are available within a 5-minute walk of the site, these spaces can adequately accommodate the expected visitor supply of the development proposal (3 parking spaces).
- ▶ The proposed development provides sufficient parking to meet the anticipated parking demand without including garage parking spaces.



## Recommendations

Based on the findings of this study, it is recommended that:

- ▶ The City of Niagara Falls recognizes the conclusions drawn above; and
- ▶ The City of Niagara Falls supports the proposed Zoning By-Law variance to allow the site to operate with eight units and eight parking spaces for the development (1.00 parking spaces per unit).



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# 1 Introduction

## 1.1 Overview

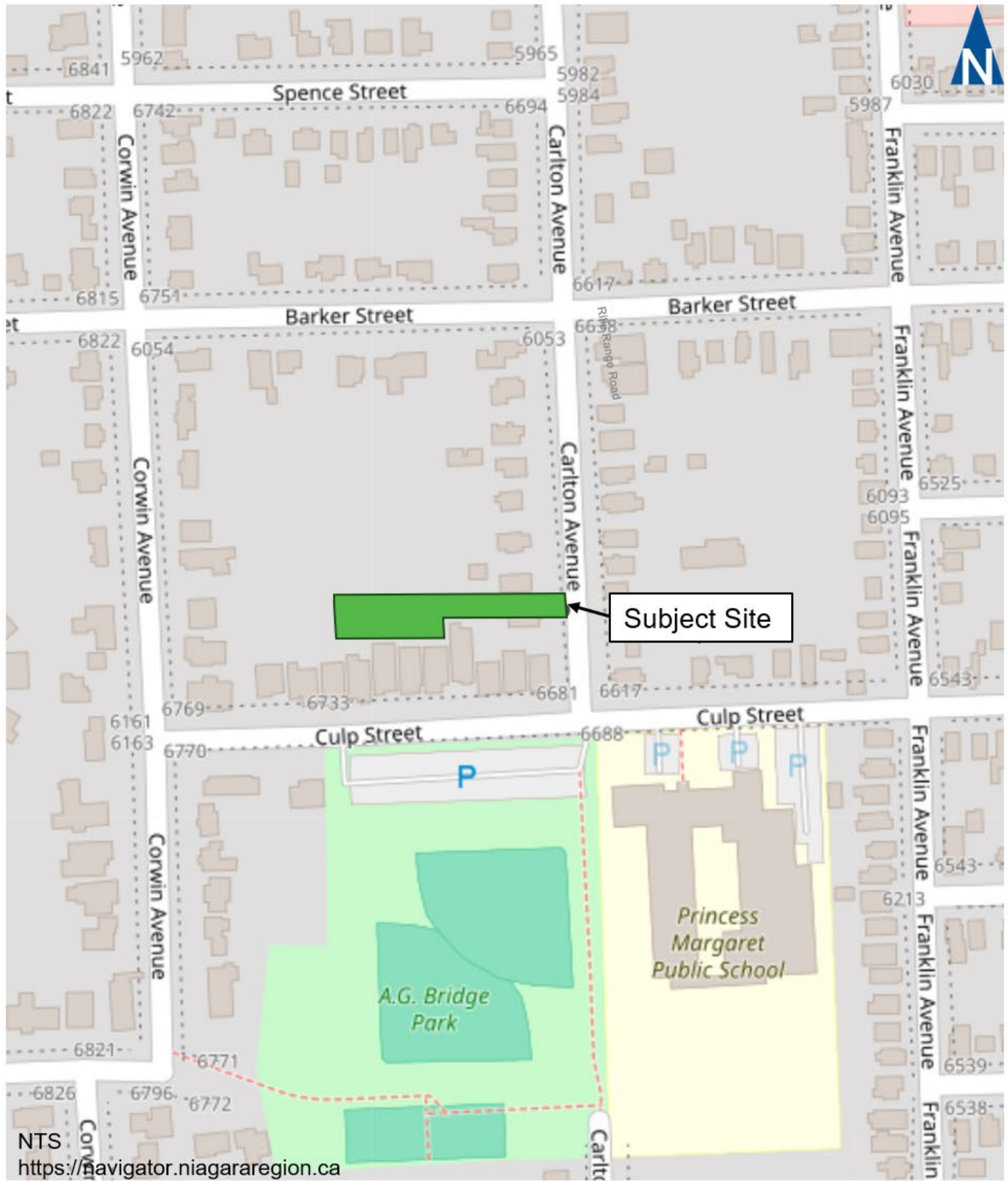
Paradigm Transportation Solutions Limited (Paradigm) has been retained to conduct this Parking Study for a proposed residential development at 6111 Carlton Avenue in the City of Niagara Falls. **Figure 1.1** details the location of the subject development.

This study aims to assess the adequacy of the proposed parking supply to ensure that the site's parking demand can be accommodated and managed on-site.

**Appendix A** contains the pre-study consultation material with the City of Niagara Falls.







## Subject Site Location

6111 Carlton Avenue, Niagara Falls  
 240008

Figure 1.1

## 2 Area Description

This section of the report provides an overview of the conditions and components of the study area.

### 2.1 Road Network

The main roads near the subject site are Carlton Avenue, Culp Street, Corwin Avenue, Barker Street, and Franklin Avenue. The characteristics of this roadway are as follows:

- ▶ **Carlton Avenue** is a north-south local roadway<sup>2</sup> with a two-lane cross-section and an assumed statutory speed limit of 50 km/h. Active transportation facilities include sidewalks on both sides of the road. There are no dedicated on-street cycling facilities present in the study area.
- ▶ **Culp Street** is an east-west local roadway with a two-lane cross-section and an assumed statutory speed limit of 50 km/hr. Active Transportation Facilities include sidewalks on both sides of the road. There are no dedicated on-street cycling facilities present in the study area.
- ▶ **Corwin Avenue** has a two-lane cross-section and an assumed statutory speed limit of 50 km/h. Active transportation facilities include sidewalks on the west side of the road, south of the Barker Street intersection, and along both sides of the road north of the intersection. There are no dedicated on-street cycling facilities present in the study area.
- ▶ **Barker Street** is an east-west local roadway with a two-lane urban cross-section and an assumed statutory speed limit of 50 km/hr. Active Transportation Facilities include sidewalks on both sides of the road. There are no dedicated on-street cycling facilities present in the study area.
- ▶ **Franklin Avenue** has a two-lane cross-section<sup>2</sup> and an assumed statutory speed limit of 50 km/h. Active transportation facilities include sidewalks on both sides of the road. There are no dedicated on-street cycling facilities present in the study area.

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<sup>2</sup> City of Niagara Falls – Official Plan Schedule C 2008



## 2.2 Transit Service

The study area is served by regional transit service (Niagara Region Transit) and local transit services (WEGO). Niagara Region Transit provides transit service across the Niagara Region and local route service in St. Catharines, Niagara Falls, Welland, Port Colborne, and Fort Erie. Note that as of January 1, 2023, Niagara Falls Transit, which had provided local transit service within Niagara Falls, has become part of Niagara Region Transit. WEGO Transit service remains a separate service. The following routes serve the study corridor:

▶ **WEGO:**

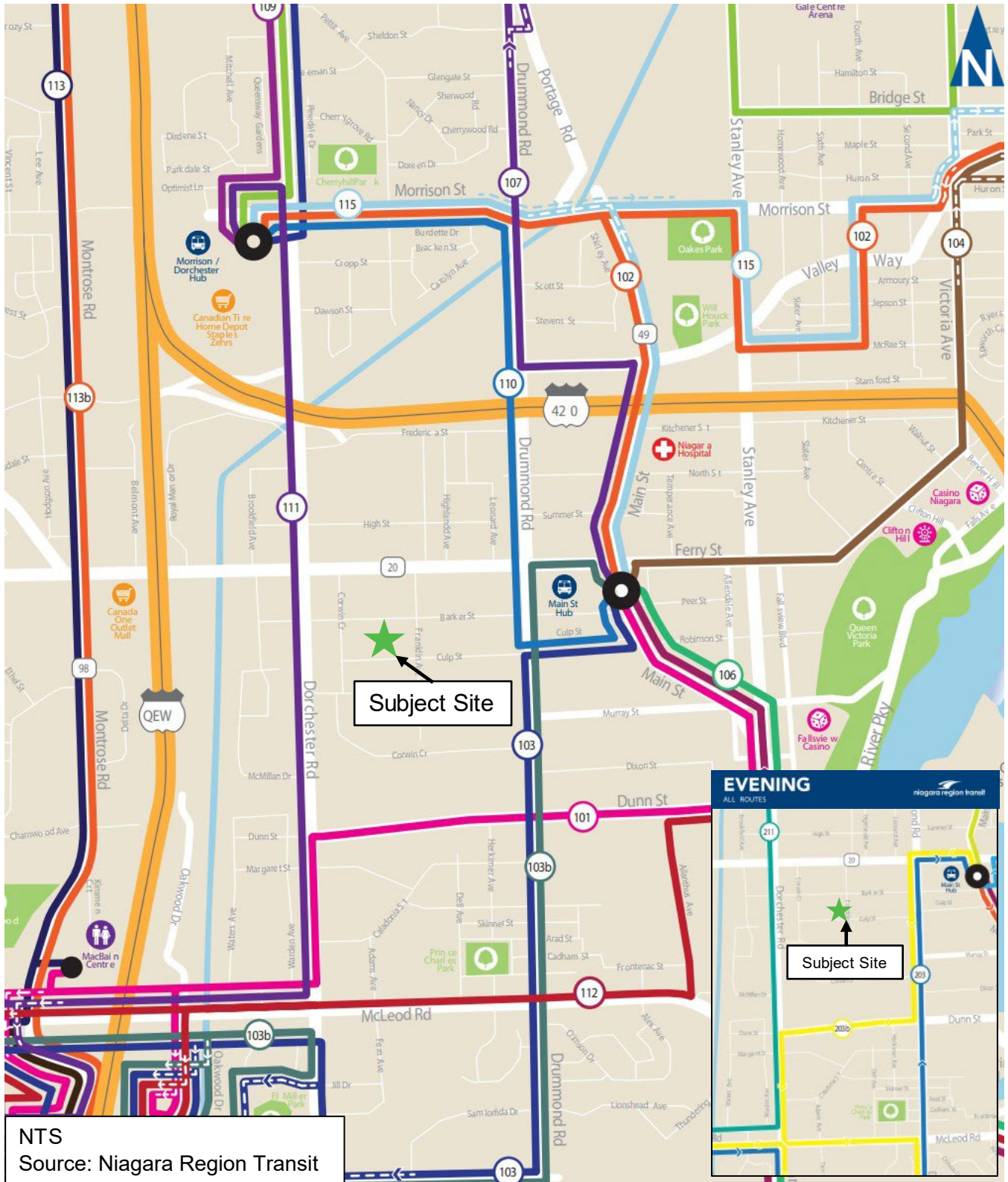
- **WEGO Red Line** provides service along Lundy's Lane between Campark Resort and Table Rock Welcome Centre. Service runs every 30 minutes between 6:00 AM and 12:00 AM, Monday to Saturday. Service runs every 30 minutes on Sunday between 7:00 AM and 11:55 PM.

- ▶ **Route 111/211** provides service along the Canadian Drive and Morrison-Dorchester Hubs. Service for this route is separated into daytime and evening services. Route 111 operates during the daytime, running every 30 minutes between 6:00 AM and 6:45 PM, Monday to Saturday. Route 211 operates in the evening, running every 30 minutes between 6:45 PM and 11:15 PM, Monday to Saturday. On Sunday, service is provided between 7:15 AM to 8:45 PM with headways of 30 minutes.

**Figure 2.1** illustrates the Niagara Region Transit and WEGO routes serving the study corridor.







## Local Transit Route

## 2.3 Active Transportation

Pedestrian infrastructure typically consists of sidewalks or multi-use paths parallel to the roadway.

Cycling infrastructure typically consists of on-street and off-street facilities. On-street facilities comprise cycling lanes, signed cycling routes, and paved shoulders. Off-street facilities are in the form of multi-use or informal trails.

Concerning the study area's active transportation facilities, sidewalks are provided on at least one side of the road along Culp Street, Barker Street, Franklin Avenue, and Carlton Avenue. However, no dedicated on-street cycling facilities are present near the study area.

## 2.4 Neighbourhood Multi-Modal Assessment

Sustainability is a principle that cuts across all developments as it is ingrained in developing a balanced multi-modal transportation system and is supported by the City of Niagara Falls.

Analytical tools allow communities, transit agencies, developers, and employers to measure the environmental impact of neighbourhoods' transportation and land-use choices.

### 2.4.1 Walkability

Walk Score is a well-known (but proprietary) measure of Walkability – it aggregates several data sources to provide a proxy measure of the quality of the pedestrian environment. It is used to gauge the walkability and destination density of each neighbourhood.

6111 Carlton Avenue has a **Walk Score of 76** and is considered a "Very Walkable" location, meaning most errands can be accomplished on foot<sup>3</sup>.

### 2.4.2 Transit

Transit Score is a measure of transit accessibility. It aggregates information regarding transit frequency, the density of stops and routes, and mode of service. It is used to gauge the transit accessibility of each neighbourhood.

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<sup>3</sup> <https://www.walkscore.com/score/6111-carlton-ave-niagara-falls-on-canada>



6111 Carlton Avenue has a **Transit Score of 43** and is considered "Some Transit," which means there are a few nearby public transportation options.

### 2.4.3 Cycling

Bike Score is a measure of the area's ability to accommodate cyclists. A Bike Score is calculated for a given location by measuring bike infrastructure (lanes, trails, etc.), hills, destinations and road connectivity, and the number of bike commuters.

6111 Carlton Avenue has a **Bike Score of 61** and is considered "Bikeable," which means some bike infrastructure is available.



## 3 Development Concept

### 3.1 Description

The subject site is municipally known as 6111 Carlton Avenue in the City of Niagara Falls. The development concept includes eight townhomes with a driveway connected to a private roadway.

All units will have a minimum of one driveway space plus a garage space. It is understood, however, that the City does not permit tandem parking to be counted towards the overall parking requirements. As a result, only the individual driveway spaces are accounted for in the parking calculations.

**Figure 3.1** illustrates the site concept plan.







## 4 Parking Methodology

As with any equilibrium system, a minimum of two components are required to be in balance and reach the equilibrium point. With parking systems, this involves the balance of parking supply and demand. Achieving an appropriate supply level is equally important as demand. The ubiquitous oversupply of cheap and accessible parking has long contributed significantly to single-occupant vehicle (SOV) travel growth.

### 4.1 Zoning Requirements

#### 4.1.1 City of Niagara Falls Zoning By-Law 79-200

Zoning By-Law 79-200<sup>4</sup>, is currently in effect for multiple-unit residential uses located within Niagara Falls. This Zoning By-Law mandates a parking rate of 1.40 parking spaces per unit for multiple dwelling units, equating to 11 parking spaces for the subject site.

The proposed site provides eight driveway spaces (1.00 per unit) and eight garage spaces. As the garage spaces are not counted towards the required parking, the proposed development has a 3-parking space deficit.

Though the City does not count garage spaces towards the total on-site parking supply, residents will likely utilize the garage as a parking space. The proposed plans show garage dimensions of 3.5m by 6.0m, providing adequate space for a parked vehicle.

Though it could be argued that the garage space in tandem with the driveway parking space prevents it from being fully utilized, it is highly unlikely that the resident will be unable to move the car on their driveway to access the garage space.

**Table 4.1** summarizes the minimum parking calculations for the development under the current City of Niagara Falls Zoning By-Law.

<sup>4</sup> Zoning By-Law 79-200 < <https://niagarafalls.ca/pdf/planning/zoning-by-law-79-200.pdf> >



**TABLE 4.1 NIAGARA FALLS PARKING REQUIREMENTS**

Land Use	Rate	Zoning By-law Calculation
Dwelling containing 3 or more dwelling units (8 units)	1.40 spaces per unit	11 spaces
<b>Mandated Parking Supply</b>		<b>11 spaces</b>
<b>Proposed Parking Supply</b>		<b>8 spaces</b>
<b>Surplus/Deficit</b>		<b>-3 spaces (27%)</b>

## 4.2 Comparator Juridical Review

Paradigm has completed a review of the parking by-law requirements for several other municipalities within the Niagara Region. The review included four municipalities that derive parking requirements for townhouses or private road developments.

The municipalities and their respective parking by-law requirements are presented in **Table 4.3**.

**TABLE 4.2: COMPARATOR JURIDICAL SUMMARY**

Municipality	By-Law	Land Use	Parking Requirement	Tandem Permitted (Garage + Driveway)
City of Welland	2017-117	Detached Dwelling; Two-Unit Dwelling; Street Townhouse Dwelling	1 space per unit; one of which may be provided in an attached or detached garage	Yes
City of St. Catharines	2017-117	Private Road Development	1.25 spaces per unit	Yes
Town of Niagara-on-the-Lake	4316-09	Dwelling, Townhouse	2.00 spaces per unit	Yes
City of Thorold	60-2019	Private Road Development	2.0 space per condominium unit	Yes

As noted in **Table 4.3**, the parking rates for the comparator municipalities require a parking rate of 1.00 to 2.00 spaces per unit. Regardless of the rate, all comparator municipalities permit tandem parking to satisfy the requirement (i.e., one garage space plus one driveway space).



### 4.3 Parking Utilization Survey

A review of actual parking demands likely generated by the development has been considered to assess them independently and separately from a review of the Zoning By-Law requirements.

The "real" demands established for the subject site are based upon a review of parking demand data collected by Paradigm. The specified demand considers several influencing factors, including market demands and study area attributes.

All-day parking utilization surveys were conducted from Friday, May 24, to Sunday, May 26, 2024, at 6186 Dorchester Road, 6263 Valley Way, and 4300 Kalar Road. Given the low turnover at residential land uses, the parking utilization surveys were carried out in 15-minute increments. **Table 4.3** summarizes this assessment. **Appendix B** contains the parking survey data.

- ▶ **6186 Dorchester Road** is a 6-unit townhouse development with a single driveway and garage per unit. The site contains approximately 8 parking spaces for residents and visitors, 2 of which are being used as non-labeled visitor parking.

The parking surveys show that out of the 8 parking spaces provided, at most, 6 spaces were observed to be used. The survey's maximum parking demand was calculated to be 1.00 parking space per unit.

- ▶ **6263 Valley Way** is an 11-unit townhouse development with a single driveway and garage per unit. The site contains approximately 17 parking spaces, 13 of which are reserved parking and approximately 4 for visitors. Visitor parking spaces located at the back of the development are not available during the winter months as the spaces are dedicated for snow storage.

The parking surveys confirm out of the 17 parking spaces provided, at most, 12 spaces were observed to be used, exceeding the available supply. The survey's maximum parking demand was calculated to be 1.09 parking spaces per unit.

- ▶ **4300 Kalar Road** is a 16-unit townhouse development with a single driveway and garage per unit. The subject site contains approximately 20 parking spaces, 4 of which are reserved for visitors.

The parking surveys confirm out of the 20 parking spaces provided, at most, 10 spaces were observed to be used. The



survey's maximum parking demand was calculated to be 0.63 parking spaces per unit.

**TABLE 4.3: PARKING UTILIZATION SURVEYS**

Day of the Week	6186 Dorchester Road			6263 Valley Way			4300 Kalar Road		
	Max Parking	Usage	Parking Rate	Max Parking	Usage	Parking Rate	Max Parking	Usage	Parking Rate
Friday (May 24, 2024)	6	75%	1.00	12	71%	1.09	9	45%	0.56
Saturday (May 25, 2024)	6	75%	1.00	12	71%	1.09	8	40%	0.50
Sunday (May 26, 2024)	4	50%	0.67	11	65%	1.00	10	50%	0.63
<b>Maximum</b>	<b>6</b>	<b>75%</b>	<b>1.00</b>	<b>12</b>	<b>71%</b>	<b>1.09</b>	<b>10</b>	<b>50%</b>	<b>0.63</b>

The parking survey results indicate that the parking demand ranges from 0.63 to 1.09 parking spaces per unit.

#### 4.3.1 Analysis

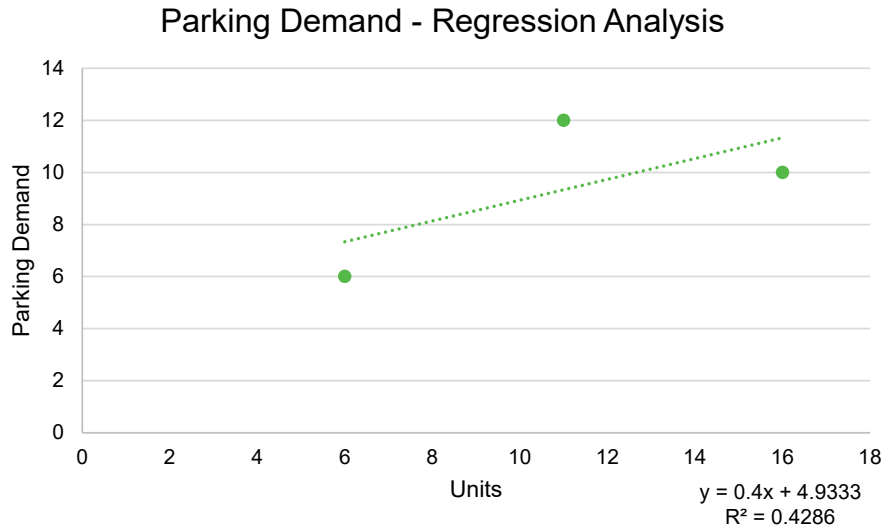
The collection of the parking utilization data over the various proxy sites enables a unique statistical analysis and the development of a model for predicting parking utilization at townhouse residential developments. Based on the field data collected by Paradigm, a regression analysis was developed to create a statistical model that best describes the relationship between parking utilization and demand.

To construct the regression analysis, many approaches were tested to find the best method of including, removing, and assembling the best data points. Ultimately, the goal was to find the data set that provided the most robust theoretical framework while remaining relevant from a practical development and planning standpoint.

As multiple survey days were collected at each site, only the highest observed parking demand was used in the statistical analysis, given this was the peak parking demand observed at the site. The thought behind this is the objective of the analysis is to estimate the total quantity of parking that would be demanded at a given property to provide peak characteristics of each survey site. Therefore, it is not desirable for the model to consider situations where parking utilization was lower on other survey dates because we are only interested in capturing peak demand.

The coefficient of determination (R<sup>2</sup>) for occupant parking is 0.43. In terms of statistical analysis, as an R<sup>2</sup> value approaches 1.0, the better the fit; as the R<sup>2</sup> value approaches zero, the worse the fit. The final equation for the model is:  $Y=0.4x + 4.9333$





As the data collected provides an R2 value significantly below 1.00, providing a prediction model through this methodology would be unreliable as there would be too much variance between the independent variables. The Institute of Transportation Engineers Trip Generation Manual<sup>5</sup> outlines that regression analysis should be utilized when the R2 value equals or exceeds 0.75. If this is not the case, average rates should be used for prediction models.

Based on the data set compiled utilizing the highest parking demand observed at each site, an average parking demand of 0.91 spaces per unit is identified. **Table 4.4** outlines the average parking demand at the proxy surveys.

**TABLE 4.4: PROXY SURVEYS – AVERAGE DEMAND**

Source	Date	Address	Units	Peak Parking Demand	Rate
Paradigm	Friday (May 24, 2024)	6186 Dorchester Road	6	6	1.00
Paradigm	Friday (May 24, 2024)	6263 Valley Way	11	12	1.09
Paradigm	Sunday (May 26, 2024)	4300 Kalar Road	16	10	0.63
<b>Average</b>			<b>11</b>	<b>9</b>	<b>0.91</b>
<b>Max</b>			<b>16</b>	<b>12</b>	<b>1.09</b>
<b>Min</b>			<b>6</b>	<b>6</b>	<b>0.63</b>

<sup>5</sup> Institute of Transportation Engineers (ITE) – Trip Generation Handbook, September 2017



## 4.4 Visitor Parking Supply

Due to various constraining factors influencing the design and development of the property, no dedicated area for on-site visitor parking will be provided.

However, if residents require only a single parking space and utilize the garage to park their vehicles, the parking supply for the development would be 1.00 resident space per unit with a visitor supply of 1.00 space per unit. Granted, these spaces would be limited to visitors of those units where residents do not own a vehicle or choose to park their vehicle within the garage.

However, if all residents utilize the driveway, there are on-street parking locations visitors can use as the primary purpose of these spaces is to provide short-stay parking for visitors.

### 4.4.1 On-Street Supply

For this development, the primary area of potential parking impact is considered within 200 metres of the development. This represents a typical walking time of about two minutes, and casual (i.e., visitor) parking beyond this distance is not expected. **Figure 4.1** illustrates the general parking provisions within 200 metres of the subject site.

As the on-street parking spaces do not have pavement markings, the supply can vary based on how efficiently people park their vehicles. Near the development, there are approximately 122 on-street parking spaces that could be utilized for site visitors to park. Based on field observations completed, these spaces appear seldom used throughout a typical day. **Table 4.5** outlines the estimated parking supply for each roadway.

**TABLE 4.5: ON-STREET PARKING SUPPLY**

Street	On-Street
Corwin Avenue	36
Culp Street	10
Barker Street - West of Carlton Avenue	16
Barker Street - East of Carlton Avenue	19
Carlton Avenue - North of Barker Street	16
Franklin Avenue	25
<b>Total</b>	<b>122</b>



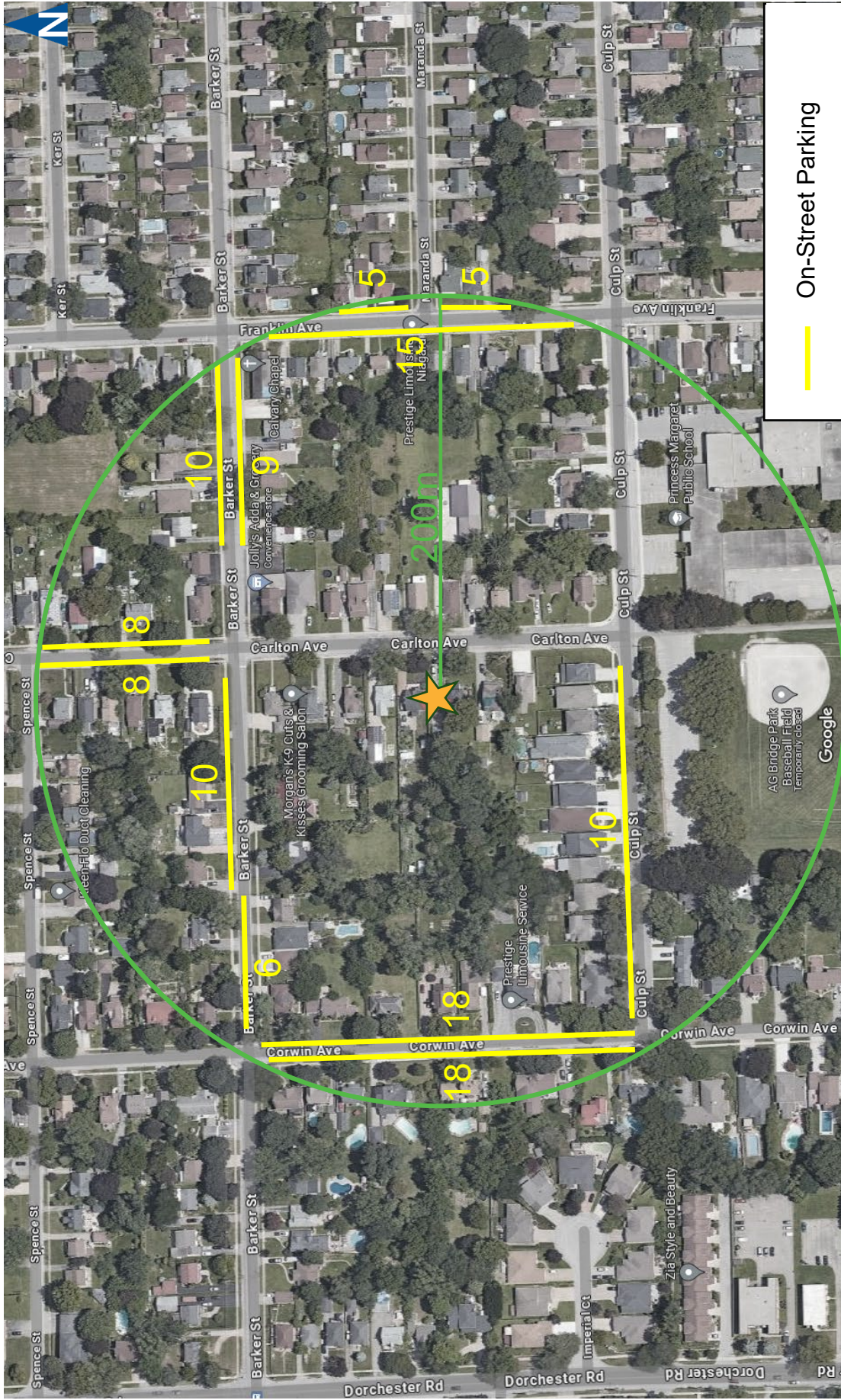
#### **4.4.2 Visitor Parking Impacts**

Per the Zoning By-law, there is no defined number of visitor spaces. Instead, it is assumed that the proposed supply of 1.40 spaces per unit would accommodate a portion of visitors, likely 0.40 spaces for visitors, which would equal three parking spaces.

As approximately 122 on-street parking are available within a 5-minute walk of the site, these spaces can adequately accommodate the expected visitor demand of three parking spaces.







# Available On-Street Parking Provisions

Figure 4.1



## 5 Conclusions and Recommendations

### 5.1 Conclusions

The conclusions of the study are as follows:

- ▶ Zoning By-Law 79-200<sup>6</sup>, is currently in effect for multiple-unit residential uses located within Niagara Falls. This Zoning By-Law mandates a parking rate of 1.40 parking spaces per unit for multiple dwelling units, equating to 11 parking spaces for the subject site, not including garage parking spaces.
- ▶ Though the City does not count garage spaces towards the total provided parking, the proposed plans show garage dimensions of 3.5m by 6.0m, providing adequate space for a parked vehicle. As such, it is highly likely that residents can utilize their garage space in addition to the driveway if they require parking.
- ▶ Paradigm has completed a review of the parking by-law requirements for several other municipalities within the Niagara Region. The parking rates for the comparator municipalities require a parking rate of 1.00 to 2.00 spaces per unit. Of importance, though, regardless of the rate, all comparator municipalities permit tandem parking to satisfy the requirement (i.e. one garage space plus one driveway space) consistent with the development proposal.
- ▶ A review of actual parking demands likely generated by the development has been considered to assess them independently and separately from a review of the Zoning By-Law requirements. All-day parking utilization surveys were conducted in May 2024 at 6186 Dorchester Road, 6263 Valley Way, and 4300 Kalar Road. Based on the data set compiled utilizing the highest parking demand observed at each site, an average parking demand of 0.91 spaces per unit is identified and would be consistent with the development proposal.
- ▶ Due to various constraining factors influencing the design and development of the property, no dedicated area for on-site visitor parking will be provided. However, if residents require only a single parking space and utilize the garage to park their vehicles, the parking supply for the development would be 1.00

<sup>6</sup> Zoning By-Law 79-200 < <https://niagarafalls.ca/pdf/planning/zoning-by-law-79-200.pdf>>

<sup>7</sup> Zoning By-Law 79-200 < <https://niagarafalls.ca/pdf/planning/zoning-by-law-79-200.pdf>>



resident space per unit with a visitor supply of 1.00 space per unit.

- ▶ If all residents utilize the driveway space, there are on-street parking locations visitors can use as the primary purpose of these spaces is to provide short-stay parking for visitors. As approximately 122 on-street parking are available within a 5-minute walk of the site, these spaces can adequately accommodate the expected visitor supply of the development proposal (3 parking spaces).
- ▶ The proposed development provides sufficient parking to meet the anticipated parking demand without including garage parking spaces.

## 5.2 Recommendations

Based on the findings of this study, it is recommended that:

- ▶ The City of Niagara Falls recognizes the conclusions drawn above; and
- ▶ The City of Niagara Falls supports the proposed Zoning By-Law variance to allow the site to operate with eight units and eight parking spaces for the development (1.00 parking spaces per unit).



# Appendix A

## Terms of Reference



## 240008: 6111 Carlton Avenue, Niagara Falls - Parking Study - Terms of Reference

Brian Kim <bkim@ptsl.com>

Tue 2024-03-19 7:02 PM

To: John Grubich <jgrubich@niagarafalls.ca>

Cc: Adam Makarewicz <amakarewicz@ptsl.com>

Hi John,

Paradigm Transportation Solutions Limited has been retained to conduct a Parking Study for the residential development at 6111 Carlton Avenue in Niagara Falls, Ontario. It is understood a Zoning By-Law Amendment and Draft Plan of Condominium is being prepared for an 8-unit townhouse development at 6111 Carlton Avenue. The proposal includes the provision of 8 driveway parking spaces plus one car garage. No on-site visitor parking is proposed. It is understood that the development requires 11 on-site parking spaces (1.40 spaces per unit), however only 8 parking spaces are able to be provided as the City will not accept tandem parking to meet the requirements.

We'd like to prepare our report based on the following scope, subject to your comments:

### Proposed Terms of Reference

#### Parking Study

- Parking generation for the site will be calculated using parking rates obtained from ITE Parking Generation Manual and Zoning By-Law comparisons.
- A parking rate will be recommended that is deemed applicable to the subject site taking into account the development's location. The recommended rate will then be used to estimate the number of parking spaces needed to meet the projected parking demand. The estimated parking supply needed will be compared to the By-law required supply to assess the feasibility of providing less than the By-law supply requirements. In the event that the parking review determines that a parking reduction cannot be justified, the report will speak to this point.
- Parking utilization surveys will be conducted over three days during peak parking demand periods for the following sites:
  - 3118 Secord Place - Three townhomes supporting 12 units.
  - 5787 Swayze Drive (Parkview Estates) - Four townhomes supporting approximately 24 units.
  - 3896 Sinnicks Avenue - Four townhomes supporting approximately 22 units.
- Parking utilization surveys will be conducted for the current on-street parking supply within a 200 m distance from the site.

#### Report

- We will document the study methodologies, findings, and conclusions in a report with appendices containing the detailed analysis results and any data collected.

Please let me know if you have any comments or concerns about the proposed study.

Thank you,

**Brian Kim**

Transportation Consultant



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Paradigm operates on a four-day workweek. Our offices are closed on Fridays.

# Appendix B

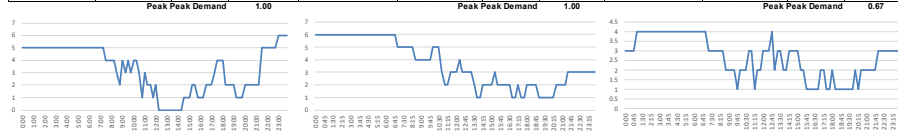
## Parking Utilization Data





Niagara Falls - 6186 Dorchester Road

Private Road - Townhouse Development Project Number: 240008														
2024-06-24				2024-05-25				2024-05-26						
Utilization		Rate Per Unit	Utilization		Rate Per Unit	Utilization		Rate Per Unit	Utilization		Rate Per Unit			
Occupied	Unoccupied		Occupied	Unoccupied		Occupied	Unoccupied		Occupied	Unoccupied				
0:00	5	63%	3	0.83	0:00	6	78%	2	1.00	0:00	3	38%	5	0.50
0:15	5	63%	3	0.83	0:15	6	78%	2	1.00	0:15	3	38%	5	0.50
0:30	5	63%	3	0.83	0:30	6	78%	2	1.00	0:30	3	38%	5	0.50
0:45	5	63%	3	0.83	0:45	6	78%	2	1.00	0:45	3	38%	5	0.50
1:00	5	63%	3	0.83	1:00	6	78%	2	1.00	1:00	4	50%	4	0.67
1:15	5	63%	3	0.83	1:15	6	78%	2	1.00	1:15	4	50%	4	0.67
1:30	5	63%	3	0.83	1:30	6	78%	2	1.00	1:30	4	50%	4	0.67
1:45	5	63%	3	0.83	1:45	6	78%	2	1.00	1:45	4	50%	4	0.67
2:00	5	63%	3	0.83	2:00	6	78%	2	1.00	2:00	4	50%	4	0.67
2:15	5	63%	3	0.83	2:15	6	78%	2	1.00	2:15	4	50%	4	0.67
2:30	5	63%	3	0.83	2:30	6	78%	2	1.00	2:30	4	50%	4	0.67
2:45	5	63%	3	0.83	2:45	6	78%	2	1.00	2:45	4	50%	4	0.67
3:00	5	63%	3	0.83	3:00	6	78%	2	1.00	3:00	4	50%	4	0.67
3:15	5	63%	3	0.83	3:15	6	78%	2	1.00	3:15	4	50%	4	0.67
3:30	5	63%	3	0.83	3:30	6	78%	2	1.00	3:30	4	50%	4	0.67
3:45	5	63%	3	0.83	3:45	6	78%	2	1.00	3:45	4	50%	4	0.67
4:00	5	63%	3	0.83	4:00	6	78%	2	1.00	4:00	4	50%	4	0.67
4:15	5	63%	3	0.83	4:15	6	78%	2	1.00	4:15	4	50%	4	0.67
4:30	5	63%	3	0.83	4:30	6	78%	2	1.00	4:30	4	50%	4	0.67
4:45	5	63%	3	0.83	4:45	6	78%	2	1.00	4:45	4	50%	4	0.67
5:00	5	63%	3	0.83	5:00	6	78%	2	1.00	5:00	4	50%	4	0.67
5:15	5	63%	3	0.83	5:15	6	78%	2	1.00	5:15	4	50%	4	0.67
5:30	5	63%	3	0.83	5:30	6	78%	2	1.00	5:30	4	50%	4	0.67
5:45	5	63%	3	0.83	5:45	6	78%	2	1.00	5:45	4	50%	4	0.67
6:00	5	63%	3	0.83	6:00	6	78%	2	1.00	6:00	4	50%	4	0.67
6:15	5	63%	3	0.83	6:15	6	78%	2	1.00	6:15	4	50%	4	0.67
6:30	5	63%	3	0.83	6:30	6	78%	2	1.00	6:30	4	50%	4	0.67
6:45	5	63%	3	0.83	6:45	6	78%	2	1.00	6:45	4	50%	4	0.67
7:00	5	63%	3	0.83	7:00	5	63%	3	0.83	7:00	4	50%	4	0.67
7:15	5	63%	3	0.83	7:15	5	63%	3	0.83	7:15	3	38%	5	0.50
7:30	4	50%	4	0.67	7:30	5	63%	3	0.83	7:30	3	38%	5	0.50
7:45	4	50%	4	0.67	7:45	5	63%	3	0.83	7:45	3	38%	5	0.50
8:00	4	50%	4	0.67	8:00	5	63%	3	0.83	8:00	3	38%	5	0.50
8:15	4	50%	4	0.67	8:15	5	63%	3	0.83	8:15	3	38%	5	0.50
8:30	3	38%	5	0.50	8:30	4	50%	4	0.67	8:30	3	38%	5	0.50
8:45	2	25%	6	0.33	8:45	4	50%	4	0.67	8:45	2	25%	6	0.33
9:00	4	50%	4	0.67	9:00	4	50%	4	0.67	9:00	2	25%	6	0.33
9:15	3	38%	5	0.50	9:15	4	50%	4	0.67	9:15	2	25%	6	0.33
9:30	4	50%	4	0.67	9:30	4	50%	4	0.67	9:30	2	25%	6	0.33
9:45	3	38%	5	0.50	9:45	4	50%	4	0.67	9:45	1	13%	7	0.17
10:00	4	50%	4	0.67	10:00	5	63%	3	0.83	10:00	2	25%	6	0.33
10:15	4	50%	4	0.67	10:15	5	63%	3	0.83	10:15	2	25%	6	0.33
10:30	3	38%	5	0.50	10:30	5	63%	3	0.83	10:30	2	25%	6	0.33
10:45	1	13%	7	0.17	10:45	3	38%	5	0.50	10:45	3	38%	5	0.50
11:00	3	38%	5	0.50	11:00	2	25%	6	0.33	11:00	3	38%	5	0.50
11:15	2	25%	6	0.33	11:15	2	25%	6	0.33	11:15	1	13%	7	0.17
11:30	1	13%	7	0.17	11:30	3	38%	5	0.50	11:30	2	25%	6	0.33
11:45	1	13%	7	0.17	11:45	3	38%	5	0.50	11:45	2	25%	6	0.33
12:00	2	25%	6	0.33	12:00	3	38%	5	0.50	12:00	3	38%	5	0.50
12:15	0	0%	8	0.00	12:15	4	50%	4	0.67	12:15	3	38%	5	0.50
12:30	0	0%	8	0.00	12:30	3	38%	5	0.50	12:30	3	38%	5	0.50
12:45	0	0%	8	0.00	12:45	3	38%	5	0.50	12:45	4	50%	4	0.67
13:00	0	0%	8	0.00	13:00	3	38%	5	0.50	13:00	2	25%	6	0.33
13:15	0	0%	8	0.00	13:15	3	38%	5	0.50	13:15	2	25%	6	0.33
13:30	0	0%	8	0.00	13:30	2	25%	6	0.33	13:30	3	38%	5	0.50
13:45	0	0%	8	0.00	13:45	1	13%	7	0.17	13:45	2	25%	6	0.33
14:00	0	0%	8	0.00	14:00	1	13%	7	0.17	14:00	2	25%	6	0.33
14:15	0	0%	8	0.00	14:15	2	25%	6	0.33	14:15	3	38%	5	0.50
14:30	1	13%	7	0.17	14:30	2	25%	6	0.33	14:30	3	38%	5	0.50
14:45	1	13%	7	0.17	14:45	2	25%	6	0.33	14:45	3	38%	5	0.50
15:00	1	13%	7	0.17	15:00	2	25%	6	0.33	15:00	3	38%	5	0.50
15:15	2	25%	6	0.33	15:15	3	38%	5	0.50	15:15	2	25%	6	0.33
15:30	2	25%	6	0.33	15:30	2	25%	6	0.33	15:30	2	25%	6	0.33
15:45	1	13%	7	0.17	15:45	2	25%	6	0.33	15:45	1	13%	7	0.17
16:00	1	13%	7	0.17	16:00	2	25%	6	0.33	16:00	1	13%	7	0.17
16:15	1	13%	7	0.17	16:15	2	25%	6	0.33	16:15	1	13%	7	0.17
16:30	2	25%	6	0.33	16:30	2	25%	6	0.33	16:30	1	13%	7	0.17
16:45	2	25%	6	0.33	16:45	1	13%	7	0.17	16:45	1	13%	7	0.17
17:00	2	25%	6	0.33	17:00	1	13%	7	0.17	17:00	2	25%	6	0.33
17:15	3	38%	5	0.50	17:15	2	25%	6	0.33	17:15	2	25%	6	0.33
17:30	4	50%	4	0.67	17:30	1	13%	7	0.17	17:30	1	13%	7	0.17
17:45	4	50%	4	0.67	17:45	1	13%	7	0.17	17:45	1	13%	7	0.17
18:00	4	50%	4	0.67	18:00	2	25%	6	0.33	18:00	2	25%	6	0.33
18:15	2	25%	6	0.33	18:15	2	25%	6	0.33	18:15	1	13%	7	0.17
18:30	2	25%	6	0.33	18:30	2	25%	6	0.33	18:30	1	13%	7	0.17
18:45	2	25%	6	0.33	18:45	2	25%	6	0.33	18:45	1	13%	7	0.17
19:00	2	25%	6	0.33	19:00	1	13%	7	0.17	19:00	1	13%	7	0.17
19:15	1	13%	7	0.17	19:15	1	13%	7	0.17	19:15	1	13%	7	0.17
19:30	1	13%	7	0.17	19:30	1	13%	7	0.17	19:30	1	13%	7	0.17
19:45	1	13%	7	0.17	19:45	1	13%	7	0.17	19:45	1	13%	7	0.17
20:00	2	25%	6	0.33	20:00	1	13%	7	0.17	20:00	2	25%	6	0.33
20:15	2	25%	6	0.33	20:15	1	13%	7	0.17	20:15	1	13%	7	0.17
20:30	2	25%	6	0.33	20:30	2	25%	6	0.33	20:30	2	25%	6	0.33
20:45	2	25%	6	0.33	20:45	2	25%	6	0.33	20:45	2	25%	6	0.33
21:00	2	25%	6	0.33	21:00	2	25%	6	0.33	21:00	2	25%	6	0.33
21:15	2	25%	6	0.33	21:15	2	25%	6	0.33	21:15	2	25%	6	0.33
21:30	5	63%	3	0.83	21:30	3	38%	5	0.50	21:30	2	25%	6	0.33
21:45	5	63%	3	0.83	21:45	3	38%	5	0.50	21:45	2	25%	6	0.33
22:00	5	63%	3	0.83	22:00	3	38%	5	0.50	22:00	3	38%	5	0.50
22:15	5	63%	3	0.83	22:15	3	38%	5	0.50	22:15	3	38%	5	0.50
22:30	5	63%	3	0.83	22:30	3	38%	5	0.50	22:30	3	38%	5	0.50
22:45	5	63%	3	0.83	22:45	3	38%	5	0.50	22:45	3	38%	5	0.50
23:00	6	78%	2	1.00	23:00	3	38%	5	0.50	23:00	3	38%	5	0.50
23:15	6	78%	2	1.00	23:15	3	38%	5	0.50	23:15	3	38%	5	0.50
23:30	6	78%	2	1.00	23:30	3	38%	5	0.50	23:30	3	38%	5	0.50
23:45	6	78%	2	1.00	23:45	3	38%	5	0.50	23:45	3	38%	5	0.50





Niagara Falls - 6263 Valley Way

Private Road - Townhouse Development Project Number: 240008														
2024-05-24				2024-05-25				2024-05-26						
Utilization		Rate Per Unit	Utilization		Rate Per Unit	Utilization		Rate Per Unit	Utilization		Rate Per Unit			
Occupied	Unoccupied		Occupied	Unoccupied		Occupied	Unoccupied		Occupied	Unoccupied				
0:00	11	65%	6	1.00	0:00	11	65%	6	1.00	0:00	11	65%	6	1.00
0:15	11	65%	6	1.00	0:15	11	65%	6	1.00	0:15	11	65%	6	1.00
0:30	11	65%	6	1.00	0:30	11	65%	6	1.00	0:30	11	65%	6	1.00
0:45	11	65%	6	1.00	0:45	11	65%	6	1.00	0:45	10	59%	7	0.91
1:00	11	65%	6	1.00	1:00	11	65%	6	1.00	1:00	10	59%	7	0.91
1:15	11	65%	6	1.00	1:15	11	65%	6	1.00	1:15	10	59%	7	0.91
1:30	10	59%	7	0.91	1:30	11	65%	6	1.00	1:30	10	59%	7	0.91
1:45	10	59%	7	0.91	1:45	11	65%	6	1.00	1:45	10	59%	7	0.91
2:00	10	59%	7	0.91	2:00	11	65%	6	1.00	2:00	10	59%	7	0.91
2:15	10	59%	7	0.91	2:15	11	65%	6	1.00	2:15	10	59%	7	0.91
2:30	10	59%	7	0.91	2:30	11	65%	6	1.00	2:30	10	59%	7	0.91
2:45	10	59%	7	0.91	2:45	11	65%	6	1.00	2:45	10	59%	7	0.91
3:00	10	59%	7	0.91	3:00	11	65%	6	1.00	3:00	10	59%	7	0.91
3:15	10	59%	7	0.91	3:15	11	65%	6	1.00	3:15	10	59%	7	0.91
3:30	10	59%	7	0.91	3:30	11	65%	6	1.00	3:30	10	59%	7	0.91
3:45	10	59%	7	0.91	3:45	11	65%	6	1.00	3:45	10	59%	7	0.91
4:00	10	59%	7	0.91	4:00	11	65%	6	1.00	4:00	10	59%	7	0.91
4:15	10	59%	7	0.91	4:15	11	65%	6	1.00	4:15	10	59%	7	0.91
4:30	10	59%	7	0.91	4:30	11	65%	6	1.00	4:30	10	59%	7	0.91
4:45	10	59%	7	0.91	4:45	11	65%	6	1.00	4:45	10	59%	7	0.91
5:00	10	59%	7	0.91	5:00	11	65%	6	1.00	5:00	10	59%	7	0.91
5:15	10	59%	7	0.91	5:15	11	65%	6	1.00	5:15	10	59%	7	0.91
5:30	10	59%	7	0.91	5:30	11	65%	6	1.00	5:30	10	59%	7	0.91
5:45	10	59%	7	0.91	5:45	12	71%	5	1.09	5:45	11	65%	6	1.00
6:00	10	59%	7	0.91	6:00	12	71%	5	1.09	6:00	11	65%	6	1.00
6:15	10	59%	7	0.91	6:15	12	71%	5	1.09	6:15	11	65%	6	1.00
6:30	10	59%	7	0.91	6:30	12	71%	5	1.09	6:30	11	65%	6	1.00
6:45	10	59%	7	0.91	6:45	12	71%	5	1.09	6:45	11	65%	6	1.00
7:00	9	53%	8	0.82	7:00	11	65%	6	1.00	7:00	11	65%	6	1.00
7:15	9	53%	8	0.82	7:15	11	65%	6	1.00	7:15	11	65%	6	1.00
7:30	9	53%	8	0.82	7:30	11	65%	6	1.00	7:30	11	65%	6	1.00
7:45	9	53%	8	0.82	7:45	11	65%	6	1.00	7:45	11	65%	6	1.00
8:00	9	53%	8	0.82	8:00	10	59%	7	0.91	8:00	11	65%	6	1.00
8:15	9	53%	8	0.82	8:15	9	53%	8	0.82	8:15	11	65%	6	1.00
8:30	8	53%	11	0.55	8:30	9	53%	8	0.82	8:30	11	65%	6	1.00
8:45	8	53%	11	0.55	8:45	9	53%	8	0.82	8:45	11	65%	6	1.00
9:00	5	29%	12	0.45	9:00	9	53%	8	0.82	9:00	11	65%	6	1.00
9:15	5	29%	12	0.45	9:15	10	59%	7	0.91	9:15	11	65%	6	1.00
9:30	5	29%	12	0.45	9:30	9	53%	8	0.82	9:30	11	65%	6	1.00
9:45	5	29%	12	0.45	9:45	8	47%	9	0.73	9:45	11	65%	6	1.00
10:00	4	24%	13	0.36	10:00	6	35%	11	0.55	10:00	8	53%	8	0.82
10:15	4	24%	13	0.36	10:15	7	41%	10	0.64	10:15	8	47%	9	0.73
10:30	3	18%	14	0.27	10:30	5	29%	12	0.45	10:30	8	47%	9	0.73
10:45	3	18%	14	0.27	10:45	6	35%	11	0.55	10:45	6	35%	11	0.55
11:00	2	12%	15	0.18	11:00	6	35%	11	0.55	11:00	7	41%	10	0.64
11:15	2	12%	15	0.18	11:15	5	29%	12	0.45	11:15	7	41%	10	0.64
11:30	1	8%	16	0.09	11:30	6	35%	11	0.55	11:30	7	41%	10	0.64
11:45	1	8%	16	0.09	11:45	7	41%	10	0.64	11:45	6	35%	11	0.55
12:00	2	12%	15	0.18	12:00	6	35%	11	0.55	12:00	7	41%	10	0.64
12:15	2	12%	15	0.18	12:15	8	47%	9	0.73	12:15	6	35%	11	0.55
12:30	3	18%	14	0.27	12:30	8	47%	9	0.73	12:30	6	35%	11	0.55
12:45	4	24%	13	0.36	12:45	8	47%	9	0.73	12:45	7	41%	10	0.64
13:00	5	29%	12	0.45	13:00	7	41%	10	0.64	13:00	8	47%	9	0.73
13:15	5	29%	12	0.45	13:15	8	35%	11	0.55	13:15	7	41%	10	0.64
13:30	4	24%	13	0.36	13:30	6	35%	11	0.55	13:30	7	41%	10	0.64
13:45	3	18%	14	0.27	13:45	6	35%	11	0.55	13:45	6	35%	11	0.55
14:00	2	12%	15	0.18	14:00	4	24%	13	0.36	14:00	6	35%	11	0.55
14:15	1	8%	16	0.09	14:15	5	29%	12	0.45	14:15	6	35%	11	0.55
14:30	0	0%	17	0.00	14:30	5	29%	12	0.45	14:30	6	35%	11	0.55
14:45	0	0%	17	0.00	14:45	5	29%	12	0.45	14:45	6	35%	11	0.55
15:00	1	8%	16	0.09	15:00	5	29%	12	0.45	15:00	6	35%	11	0.55
15:15	1	8%	16	0.09	15:15	5	29%	12	0.45	15:15	6	35%	11	0.55
15:30	3	18%	14	0.27	15:30	5	29%	12	0.45	15:30	7	41%	10	0.64
15:45	6	35%	11	0.55	15:45	7	41%	10	0.64	15:45	7	41%	10	0.64
16:00	6	35%	11	0.55	16:00	7	41%	10	0.64	16:00	7	41%	10	0.64
16:15	6	35%	11	0.55	16:15	8	47%	9	0.73	16:15	7	41%	10	0.64
16:30	5	29%	12	0.45	16:30	9	53%	8	0.82	16:30	7	41%	10	0.64
16:45	6	35%	11	0.55	16:45	9	53%	8	0.82	16:45	6	35%	11	0.55
17:00	6	35%	11	0.55	17:00	8	47%	9	0.73	17:00	6	35%	11	0.55
17:15	6	35%	11	0.55	17:15	10	59%	7	0.91	17:15	6	35%	11	0.55
17:30	5	29%	12	0.45	17:30	9	53%	8	0.82	17:30	6	35%	11	0.55
17:45	6	35%	11	0.55	17:45	9	53%	8	0.82	17:45	6	35%	11	0.55
18:00	7	41%	10	0.64	18:00	8	47%	9	0.73	18:00	6	35%	11	0.55
18:15	7	41%	10	0.64	18:15	9	53%	8	0.82	18:15	6	35%	11	0.55
18:30	6	35%	11	0.55	18:30	10	59%	7	0.91	18:30	6	35%	11	0.55
18:45	8	47%	9	0.73	18:45	10	59%	7	0.91	18:45	7	41%	10	0.64
19:00	8	47%	9	0.73	19:00	9	53%	8	0.82	19:00	7	41%	10	0.64
19:15	9	53%	8	0.82	19:15	9	53%	8	0.82	19:15	10	59%	7	0.91
19:30	9	53%	8	0.82	19:30	10	59%	7	0.91	19:30	10	59%	7	0.91
19:45	10	59%	7	0.91	19:45	10	59%	7	0.91	19:45	10	59%	7	0.91
20:00	10	59%	7	0.91	20:00	10	59%	7	0.91	20:00	10	59%	7	0.91
20:15	10	59%	7	0.91	20:15	9	53%	8	0.82	20:15	10	59%	7	0.91
20:30	10	59%	7	0.91	20:30	9	53%	8	0.82	20:30	11	65%	6	1.00
20:45	10	59%	7	0.91	20:45	9	53%	8	0.82	20:45	11	65%	6	1.00
21:00	11	65%	6	1.00	21:00	9	53%	8	0.82	21:00	11	65%	6	1.00
21:15	11	65%	6	1.00	21:15	8	53%	8	0.82	21:15	10	59%	7	0.91
21:30	11	65%	6	1.00	21:30	10	59%	7	0.91	21:30	10	59%	7	0.91
21:45	11	65%	6	1.00	21:45	10	59%	7	0.91	21:45	10	59%	7	0.91
22:00	11	65%	6	1.00	22:00	10	59%	7	0.91	22:00	11	65%	6	1.00
22:15	12	71%	5	1.09	22:15	10	59%	7	0.91	22:15	11	65%	6	1.00
22:30	12	71%	5	1.09	22:30	10	59%	7	0.91	22:30	11	65%	6	1.00
22:45	11	65%	6	1.00	22:45	10	59%	7	0.91	22:45	11	65%	6	1.00
23:00	11	65%	6	1.00	23:00	11	65%	6	1.00	23:00	11	65%	6	1.00
23:15	11	65%	6	1.00	23:15	11	65%	6	1.00	23:15	11	65%	6	1.00
23:30	11	65%	6	1.00	23:30	11	65%	6	1.00	23:30	11	65%	6	1.00
23:45	10	59%	7	0.91	23:45	11	65%	6	1.00	23:45	11	65%	6	1.00







Niagara Falls - 4300 Kalar Road

Private Road - Townhouse Development Project Number: 240008											
Dwelling Units				Dwelling Units				Dwelling Units			
Dwelling Units Occupied				Dwelling Units Unoccupied				Dwelling Units Occupied			
Total Number of Spaces				Total Number of Spaces				Total Number of Spaces			
Walk Score				Walk Score				Walk Score			
Transit Score				Transit Score				Transit Score			
Bike Score				Bike Score				Bike Score			
2024-05-24				2024-05-25				2024-05-26			
Utilization		Rate Per Unit	Utilization		Rate Per Unit	Utilization		Rate Per Unit	Utilization		Rate Per Unit
Occupied	Unoccupied		Occupied	Unoccupied		Occupied	Unoccupied				
0:00	8 40%	12 0.50	0:00	7 41%	10 0.64	0:00	8 47%	9 0.73	0:00	8 47%	9 0.73
0:15	8 40%	12 0.50	0:15	7 41%	10 0.64	0:15	8 47%	9 0.73	0:15	8 47%	9 0.73
0:30	8 40%	12 0.50	0:30	8 47%	9 0.73	0:30	8 47%	9 0.73	0:30	8 47%	9 0.73
0:45	8 40%	12 0.50	0:45	8 47%	9 0.73	0:45	8 47%	9 0.73	0:45	8 47%	9 0.73
1:00	8 40%	12 0.50	1:00	8 47%	9 0.73	1:00	8 47%	9 0.73	1:00	8 47%	9 0.73
1:15	8 40%	12 0.50	1:15	8 47%	9 0.73	1:15	8 47%	9 0.73	1:15	8 47%	9 0.73
1:30	8 40%	12 0.50	1:30	8 47%	9 0.73	1:30	8 47%	9 0.73	1:30	8 47%	9 0.73
1:45	8 40%	12 0.50	1:45	8 47%	9 0.73	1:45	8 47%	9 0.73	1:45	8 47%	9 0.73
2:00	8 40%	12 0.50	2:00	8 47%	9 0.73	2:00	8 47%	9 0.73	2:00	8 47%	9 0.73
2:15	8 40%	12 0.50	2:15	8 47%	9 0.73	2:15	8 47%	9 0.73	2:15	8 47%	9 0.73
2:30	8 40%	12 0.50	2:30	8 47%	9 0.73	2:30	8 47%	9 0.73	2:30	8 47%	9 0.73
2:45	8 40%	12 0.50	2:45	8 47%	9 0.73	2:45	8 47%	9 0.73	2:45	8 47%	9 0.73
3:00	8 40%	12 0.50	3:00	8 47%	9 0.73	3:00	8 47%	9 0.73	3:00	8 47%	9 0.73
3:15	8 40%	12 0.50	3:15	8 47%	9 0.73	3:15	8 47%	9 0.73	3:15	8 47%	9 0.73
3:30	8 40%	12 0.50	3:30	8 47%	9 0.73	3:30	8 47%	9 0.73	3:30	8 47%	9 0.73
3:45	8 40%	12 0.50	3:45	8 47%	9 0.73	3:45	8 47%	9 0.73	3:45	8 47%	9 0.73
4:00	8 40%	12 0.50	4:00	8 47%	9 0.73	4:00	8 47%	9 0.73	4:00	8 47%	9 0.73
4:15	8 40%	12 0.50	4:15	8 47%	9 0.73	4:15	8 47%	9 0.73	4:15	8 47%	9 0.73
4:30	8 40%	12 0.50	4:30	8 47%	9 0.73	4:30	8 47%	9 0.73	4:30	8 47%	9 0.73
4:45	8 40%	12 0.50	4:45	8 47%	9 0.73	4:45	8 47%	9 0.73	4:45	8 47%	9 0.73
5:00	8 40%	12 0.50	5:00	8 47%	9 0.73	5:00	8 47%	9 0.73	5:00	8 47%	9 0.73
5:15	7 35%	13 0.44	5:15	8 47%	9 0.73	5:15	8 47%	9 0.73	5:15	8 47%	9 0.73
5:30	8 40%	12 0.50	5:30	7 41%	10 0.64	5:30	8 47%	9 0.73	5:30	8 47%	9 0.73
5:45	8 40%	12 0.50	5:45	8 47%	9 0.73	5:45	7 41%	10 0.64	5:45	7 41%	10 0.64
6:00	8 40%	12 0.50	6:00	8 47%	9 0.73	6:00	8 47%	9 0.73	6:00	8 47%	9 0.73
6:15	8 40%	12 0.50	6:15	8 47%	9 0.73	6:15	8 47%	9 0.73	6:15	8 47%	9 0.73
6:30	8 40%	12 0.50	6:30	8 47%	9 0.73	6:30	8 47%	9 0.73	6:30	8 47%	9 0.73
6:45	8 40%	12 0.50	6:45	8 47%	9 0.73	6:45	8 47%	9 0.73	6:45	8 47%	9 0.73
7:00	8 40%	12 0.50	7:00	8 47%	9 0.73	7:00	8 47%	9 0.73	7:00	8 47%	9 0.73
7:15	8 40%	12 0.50	7:15	6 35%	11 0.55	7:15	8 47%	9 0.73	7:15	8 47%	9 0.73
7:30	7 35%	13 0.44	7:30	7 41%	10 0.64	7:30	8 47%	9 0.73	7:30	8 47%	9 0.73
7:45	7 35%	13 0.44	7:45	6 35%	11 0.55	7:45	8 47%	9 0.73	7:45	8 47%	9 0.73
8:00	6 30%	14 0.38	8:00	5 25%	12 0.45	8:00	8 47%	9 0.73	8:00	8 47%	9 0.73
8:15	6 30%	14 0.38	8:15	5 25%	12 0.45	8:15	6 35%	11 0.55	8:15	6 35%	11 0.55
8:30	6 30%	14 0.38	8:30	5 25%	12 0.45	8:30	5 25%	12 0.45	8:30	5 25%	12 0.45
8:45	5 25%	15 0.31	8:45	5 25%	12 0.45	8:45	6 35%	11 0.55	8:45	6 35%	11 0.55
9:00	5 25%	15 0.31	9:00	4 24%	13 0.36	9:00	7 41%	10 0.64	9:00	7 41%	10 0.64
9:15	6 30%	14 0.38	9:15	3 18%	14 0.27	9:15	6 35%	11 0.55	9:15	6 35%	11 0.55
9:30	5 25%	15 0.31	9:30	3 18%	14 0.27	9:30	6 35%	11 0.55	9:30	6 35%	11 0.55
9:45	5 25%	15 0.31	9:45	3 18%	14 0.27	9:45	5 25%	12 0.45	9:45	5 25%	12 0.45
10:00	5 25%	15 0.31	10:00	2 12%	15 0.18	10:00	5 25%	12 0.45	10:00	5 25%	12 0.45
10:15	3 18%	17 0.19	10:15	0 0%	17 0.00	10:15	4 24%	13 0.36	10:15	4 24%	13 0.36
10:30	3 18%	17 0.19	10:30	1 6%	16 0.09	10:30	4 24%	13 0.36	10:30	4 24%	13 0.36
10:45	4 20%	16 0.25	10:45	1 6%	16 0.09	10:45	4 24%	13 0.36	10:45	4 24%	13 0.36
11:00	4 20%	16 0.25	11:00	1 6%	16 0.09	11:00	5 25%	12 0.45	11:00	5 25%	12 0.45
11:15	2 10%	18 0.13	11:15	3 18%	14 0.27	11:15	7 41%	10 0.64	11:15	7 41%	10 0.64
11:30	2 10%	18 0.13	11:30	2 12%	15 0.18	11:30	7 41%	10 0.64	11:30	7 41%	10 0.64
11:45	1 5%	19 0.06	11:45	0 0%	17 0.00	11:45	6 35%	11 0.55	11:45	6 35%	11 0.55
12:00	1 5%	19 0.06	12:00	1 6%	16 0.09	12:00	6 35%	11 0.55	12:00	6 35%	11 0.55
12:15	1 5%	19 0.06	12:15	2 12%	15 0.18	12:15	6 35%	11 0.55	12:15	6 35%	11 0.55
12:30	1 5%	19 0.06	12:30	1 6%	16 0.09	12:30	6 35%	11 0.55	12:30	6 35%	11 0.55
12:45	3 18%	17 0.19	12:45	2 12%	15 0.18	12:45	8 47%	9 0.73	12:45	8 47%	9 0.73
13:00	3 18%	17 0.19	13:00	2 12%	15 0.18	13:00	8 47%	9 0.73	13:00	8 47%	9 0.73
13:15	3 18%	17 0.19	13:15	4 24%	13 0.36	13:15	8 47%	9 0.73	13:15	8 47%	9 0.73
13:30	1 5%	19 0.06	13:30	5 25%	12 0.45	13:30	5 25%	12 0.45	13:30	5 25%	12 0.45
13:45	1 5%	19 0.06	13:45	6 35%	11 0.55	13:45	5 25%	12 0.45	13:45	5 25%	12 0.45
14:00	1 5%	19 0.06	14:00	7 41%	10 0.64	14:00	5 25%	12 0.45	14:00	5 25%	12 0.45
14:15	3 18%	17 0.19	14:15	7 41%	10 0.64	14:15	6 35%	11 0.55	14:15	6 35%	11 0.55
14:30	2 10%	18 0.13	14:30	6 35%	11 0.55	14:30	8 47%	9 0.73	14:30	8 47%	9 0.73
14:45	0 0%	20 0.00	14:45	6 35%	11 0.55	14:45	8 47%	9 0.73	14:45	8 47%	9 0.73
15:00	1 5%	19 0.06	15:00	6 35%	11 0.55	15:00	8 47%	9 0.73	15:00	8 47%	9 0.73
15:15	0 0%	20 0.00	15:15	6 35%	11 0.55	15:15	9 53%	8 0.82	15:15	9 53%	8 0.82
15:30	0 0%	20 0.00	15:30	5 25%	12 0.45	15:30	10 59%	7 0.91	15:30	10 59%	7 0.91
15:45	1 5%	19 0.06	15:45	5 25%	12 0.45	15:45	10 59%	7 0.91	15:45	10 59%	7 0.91
16:00	1 5%	19 0.06	16:00	5 25%	12 0.45	16:00	8 47%	9 0.73	16:00	8 47%	9 0.73
16:15	2 10%	18 0.13	16:15	5 25%	12 0.45	16:15	8 47%	9 0.73	16:15	8 47%	9 0.73
16:30	4 20%	16 0.25	16:30	4 24%	13 0.36	16:30	7 41%	10 0.64	16:30	7 41%	10 0.64
16:45	5 25%	15 0.31	16:45	4 24%	13 0.36	16:45	8 47%	9 0.73	16:45	8 47%	9 0.73
17:00	5 25%	15 0.31	17:00	5 25%	12 0.45	17:00	7 41%	10 0.64	17:00	7 41%	10 0.64
17:15	6 30%	14 0.38	17:15	6 35%	11 0.55	17:15	6 35%	11 0.55	17:15	6 35%	11 0.55
17:30	7 35%	13 0.44	17:30	6 35%	11 0.55	17:30	4 24%	13 0.36	17:30	4 24%	13 0.36
17:45	6 30%	14 0.38	17:45	6 35%	11 0.55	17:45	5 25%	12 0.45	17:45	5 25%	12 0.45
18:00	8 40%	12 0.50	18:00	7 41%	10 0.64	18:00	5 25%	12 0.45	18:00	5 25%	12 0.45
18:15	7 35%	13 0.44	18:15	7 41%	10 0.64	18:15	5 25%	12 0.45	18:15	5 25%	12 0.45
18:30	9 45%	11 0.56	18:30	7 41%	10 0.64	18:30	5 25%	12 0.45	18:30	5 25%	12 0.45
18:45	7 35%	13 0.44	18:45	8 47%	9 0.73	18:45	4 24%	13 0.36	18:45	4 24%	13 0.36
19:00	8 40%	12 0.50	19:00	7 41%	10 0.64	19:00	3 18%	14 0.27	19:00	3 18%	14 0.27
19:15	8 40%	12 0.50	19:15	6 35%	11 0.55	19:15	3 18%	14 0.27	19:15	3 18%	14 0.27
19:30	8 40%	12 0.50	19:30	6 35%	11 0.55	19:30	2 10%	15 0.18	19:30	2 10%	15 0.18
19:45	7 35%	13 0.44	19:45	8 47%	9 0.73	19:45	1 5%	16 0.09	19:45	1 5%	16 0.09
20:00	6 30%	14 0.38	20:00	7 41%	10 0.64	20:00	2 12%	15 0.18	20:00	2 12%	15 0.18
20:15	6 30%	14 0.38	20:15	7 41%	10 0.64	20:15	3 18%	14 0.27	20:15	3 18%	14 0.27
20:30	5 25%	15 0.31	20:30	7 41%	10 0.64	20:30	3 18%	14 0.27	20:30	3 18%	14 0.27
20:45	6 30%	14 0.38	20:45	7 41%	10 0.64	20:45	4 24%	13 0.36	20:45	4 24%	13 0.36
21:00	6 30%	14 0.38	21:00	7 41%	10 0.64	21:00	4 24%	13 0.36	21:00	4 24%	13 0.36
21:15	6 30%	14 0.38	21:15	7 41%	10 0.64	21:15	4 24%	13 0.36	21:15	4 24%	13 0.36
21:30	6 30%	14 0.38	21:30	7 41%	10 0.64	21:30	4 24%	13 0.36	21:30	4 24%	13 0.36
21:45	6 30%	14 0.38	21:45	7 41%	10 0.64	21:45	4 24%	13 0.36	21:45	4 24%	13 0.36
22:00	6 30%	14 0.38	22:00	7 41%	10 0.64	22:00	5 25%	12 0.45	22:00	5 25%	12 0.45
22:15	6 30%	14 0.38	22:15	7 41%	10 0.64	22:15	5 25%	12 0.45	22:15	5 25%	12 0.45
22:30	6 30%	14 0.38	22:30								