

# **401 SHEPHERD STREET WEST RESIDENTIAL / COMMERCIAL REDEVELOPMENT WINDSOR, ON PARKING STUDY**

**Prepared by:**



**RC SPENCER ASSOCIATES INC.**  
**Consulting Engineers**

**Windsor:** 800 University Avenue W. - Windsor ON N9A 5R9  
**Leamington:** 18 Talbot Street W. - Leamington ON N8H 1M4  
**Chatham-Kent:** 49 Raleigh Street - Chatham ON N7M 2M6

**401 SHEPHERD STREET WEST RESIDENTIAL / COMMERCIAL REDEVELOPMENT,  
WINDSOR, ON  
PARKING STUDY (JUNE 2025)**

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## INTRODUCTION AND BACKGROUND

An existing strip plaza on Shepherd Street West, in Windsor, Ontario, is proposed for redevelopment. The subject property is located on the south side of Shepherd Street West, between York Street and Church Street, and is currently unoccupied. It encompasses municipal numbers 401 to 431 Shepherd Street West. Shepherd Street West / East is a collector roadway which begins at Janette Avenue at the west and ends at Kildare Road at the east. Church Street and York Street are local roadways.

The redevelopment is currently designed to accommodate five residential units and a commercial unit of approximately 1,100 sq. ft. No parking spaces were provided for the prior retail use, and there is no space to accommodate any new parking spaces. The site plan is provided in **Appendix A**.

The City's zoning bylaw (*minimum 1.25 parking spaces per unit*) requires 6 resident spaces for the 5 units and 4.5 spaces for the commercial unit (*1 per 22.5 sq. m. or 242.188 sq. ft.*), for a total of 10 parking spaces. Accordingly, the site plan falls short of the required parking supply, so a variance is required for the lack of parking spaces.

## ITE PARKING GENERATION MANUAL VS. WINDSOR BYLAW REQUIREMENTS

The Institute of Transportation Engineers (ITE) Parking Generation Manual reports parking demand studies and statistics from various land uses across North America. The applicable land use codes are referenced in **Appendix B**. Since the City of Windsor does not allow parking requirements to be calculated using a "per bedroom / per unit" base (as provided in the updated 6<sup>th</sup> Edition), the 5<sup>th</sup> Edition of the ITE manual was referenced (because it provides calculations "per unit" for a low-rise building). For Multi-family Housing (Low-Rise) – Land Use Code 220, peak parking demand is estimated at a rate of 1.21 spaces per unit. As noted, the developer is planning for five residential units. Accordingly, the ITE's average rate suggests that a minimum of 6.1 on-site parking spaces will suffice for this land use.

For the commercial unit in this development, the most appropriate land use code is Strip Retail Plaza (Land Use Code 822), as taken from the 6<sup>th</sup> Edition of the ITE manual; peak parking demand is estimated at a rate of 2.79 spaces per 1000 sq. ft. GLA. Since the developer is planning for one commercial unit totalling approximately 1,100 sq. ft., the ITE's average rate suggests that a minimum of 3.1 parking spaces will suffice for this land use.

As stated in the City's zoning bylaw, "If the calculation of the number of required parking spaces results in a number containing a fraction, the number shall be rounded DOWN to the nearest whole number". Applying this to the ITE calculations suggests that the subject development's peak parking demand should not exceed 9 parking spaces.

Since no parking is available on-site, an on-street parking inventory and evaluation was undertaken to determine the supply and demand currently experienced within a 200m walking distance of the development. The limits and the evaluation periods were determined in correspondence with the City. It was determined that an evaluation of all on-street parking during the hours of 6:00 p.m. to 10:00 p.m. (inclusive), on a Friday and a Saturday evening, would be sufficient to evaluate the existing on-street supply and demand. Mapping of the study area (along with the complete evaluation tables and pertinent correspondence is provided in **Appendix C**. It should be noted that most streets within the study area alternate sides of the street for parking on alternate months. An inventory of the possible parking spaces was taken, including the availability on both sides of these affected streets; however, when determining the overall availability, the most "conservative" side was when calculating the utilization percentages. For example, on the section of Church Street included in the study, on alternate months, there are 33 spaces available or 23 spaces available. For the purpose of this study, it was assumed that the same demand would be seen throughout the year; therefore, the supply was based upon the spaces available on the side of the road with the fewer parking spaces.

The following table summarizes the current supply and demand.

Scenario		Total Parking Utilization: 23 May 2025 (Friday)					Total Parking Utilization: 31 May 2025 (Saturday)				
		Parking Spaces: 155 * MINIMUM*					Parking Spaces: 155 * MINIMUM*				
		6:00 p.m.	7:00 p.m.	8:00 p.m.	9:00 p.m.	10:00 p.m.	6:00 p.m.	7:00 p.m.	8:00 p.m.	9:00 p.m.	10:00 p.m.
Street Parking	Cap.	G	G	G	G	G	G	G	G	G	G
Bruce Ave. (Wahketa St. - 1537 Bruce Ave.)	23	14	15	14	16	15	17	18	18	16	16
York St. (Wahketa St. - 1537 York St.)	32	18	19	21	25	27	20	20	18	23	25
Church St. (Wahketa St. - 1541 Church St.)	23	17	18	22	19	20	21	18	20	22	23
Dougall Ave. (Wahketa St. - 1525 Dougall Ave)	24	17	18	18	19	21	23	23	19	19	18
Wahketa St. (Bruce Ave. - Dougall Ave.)	25	18	16	18	20	21	19	20	21	21	21
Shepherd St. W. (Janette Ave. - Victoria Ave.)	28	13	14	15	18	16	13	15	17	17	15
Total Utilized:		97 (62%)	100 (65%)	108 (70%)	117 (74%)	120 (77%)	113 (73%)	114 (74%)	113 (73%)	118 (76%)	118 (76%)



The highest demand for parking was late in the evening on both a Friday and a Saturday; 77% and 76% of the available spaces were utilized at 10:00 p.m., respectively. Therefore, 23% (35 parking spaces) of the available spaces were free during the busiest observed time. It was also observed that 18 of the available 28 spaces were filled on Shepherd Street West itself (during the most critical existing parking scenario). Therefore, it is the engineers' opinion that the 35 unutilized spaces (within a 200m walking distance) should be more than sufficient to meet the the subject development's peak parking demand, which is about 10 spaces per the City by-law.

The City of Windsor specifically requested that attention be paid to any illegally parked vehicles and to the alleyways provided to service the rear of the homes along each north / south street. A few vehicles were observed to be parked illegally; these vehicles were included in the analysis. Photographs were taken during the evaluation periods. The following photographs, captured during the Friday count period, depict the width and condition of the alleys.



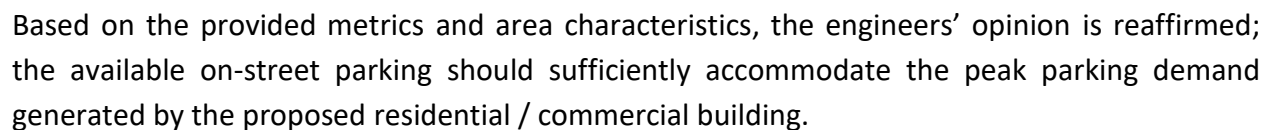


The following photographs, captured during the Saturday count period (each hour between 7:00 p.m. and 10:00 p.m.), show the availability of parking immediately adjacent to the development on Shepherd Street West.



Sidewalks are provided on both sides of all streets within the 200m walking distance of the site. Although commercial / retail establishments within walking distance are limited (with a convenience store on the north side of Shepherd Street West being the closest commercial land use), venues such as fast-food, pharmacy, etc., are less than 500m from the site along Ouellette Avenue and Tecumseh Road West.

Transit and active transportation options were also evaluated. Currently, Windsor Transit provides Route 6 stops along Bruce Avenue and Dougall Avenue, including one stop approximately 100m from the site in each direction. Additional transit routes / connections are also provided in the area. The below Windsor Transit map depicts the routes available around the site; the site is identified with a red box:



An existing strip plaza on Shepherd Street West, in Windsor, ON, is proposed for redevelopment; it encompasses municipal numbers 401 to 431 Shepherd Street West. The redevelopment is currently designed to accommodate five residential units and one commercial unit of approximately 1,100 sq. ft. No parking spaces were provided for the prior retail use, and there is no space to accommodate new parking spaces. The City's zoning bylaw (*minimum 1.25 parking spaces per unit*) requires a combined total of 10 parking spaces for the resident spaces and the commercial unit (*1 per 22.5 sq. m. or 242.188 sq. ft.*); however, the ITE Parking Generation Manual references suggest that a minimum parking supply of 9 spaces could sufficiently accommodate the subject redevelopment proposal.

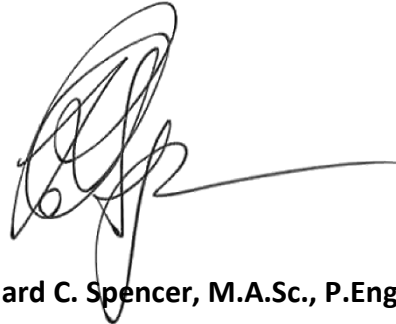
Based on the provided metrics and area characteristics (as well as the observed on-street parking surplus of 35 spaces during the critical peak parking period), it is the engineers' opinion that the available on-street parking supply should sufficiently accommodate the peak parking demand generated by the proposed residential / commercial building.

All of which is respectfully submitted,

**RC Spencer Associates Inc.**



**Aaron D. Blata, M.Eng., P.Eng., PTOE, RSP1**  
Consulting Engineer, Road Safety  
Professional Traffic Operations Engineer  
Associate / Leamington Office Manager

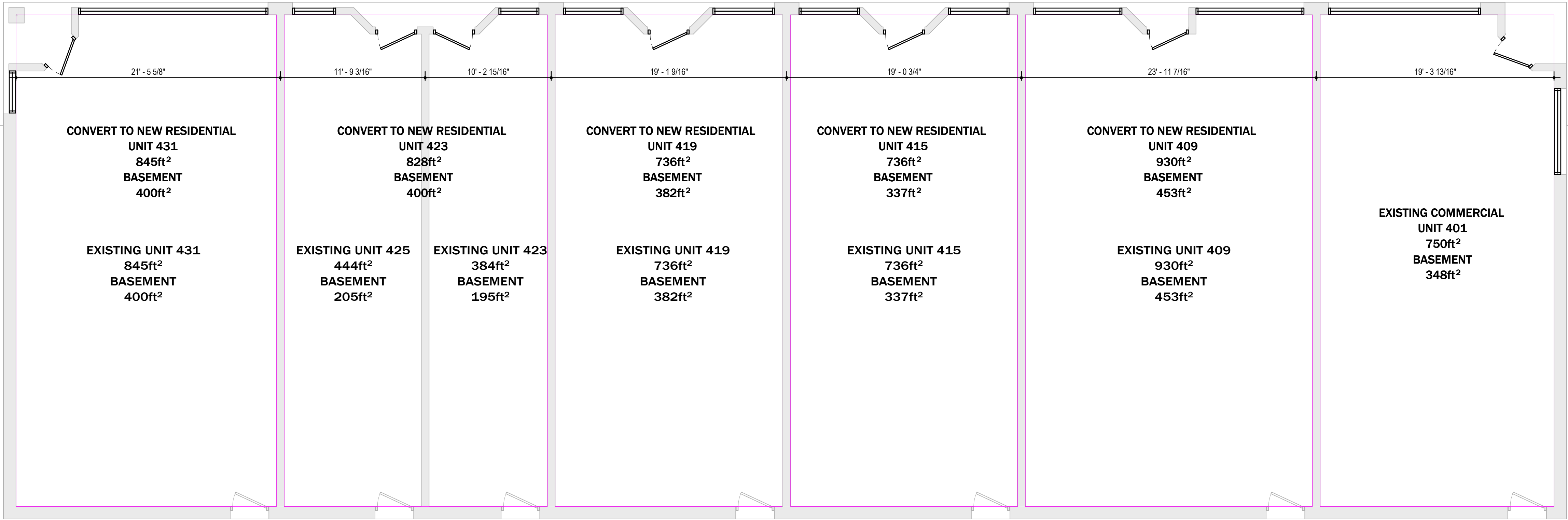


**Richard C. Spencer, M.A.Sc., P.Eng., PE**  
Professional & Consulting Engineer &  
Fellow ITE Member  
President / Windsor Office Manager



## **Appendix A**

# **SITE PLAN**



1  
A200  
FIRST FLOOR PLAN  
SCALE: 3/16" = 1'-0"

Revisions

Revision Date	Revision Description
Drawn	Preliminary
B SMITH	Construction
Checked	Record
B SMITH	
Approved	Do not scale
B SMITH	Use figured dimensions only
Bidpak Number	

Job Number

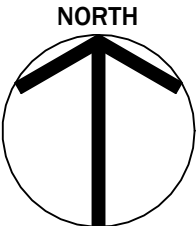
00-000

Title

FLOOR PLANS

Sheet

A200



## **Appendix B**

# **ITE PARKING GENERATION MANUAL – 5<sup>th</sup> & 6<sup>TH</sup> EDITION REFERENCES**

# Multifamily Housing (Low-Rise)

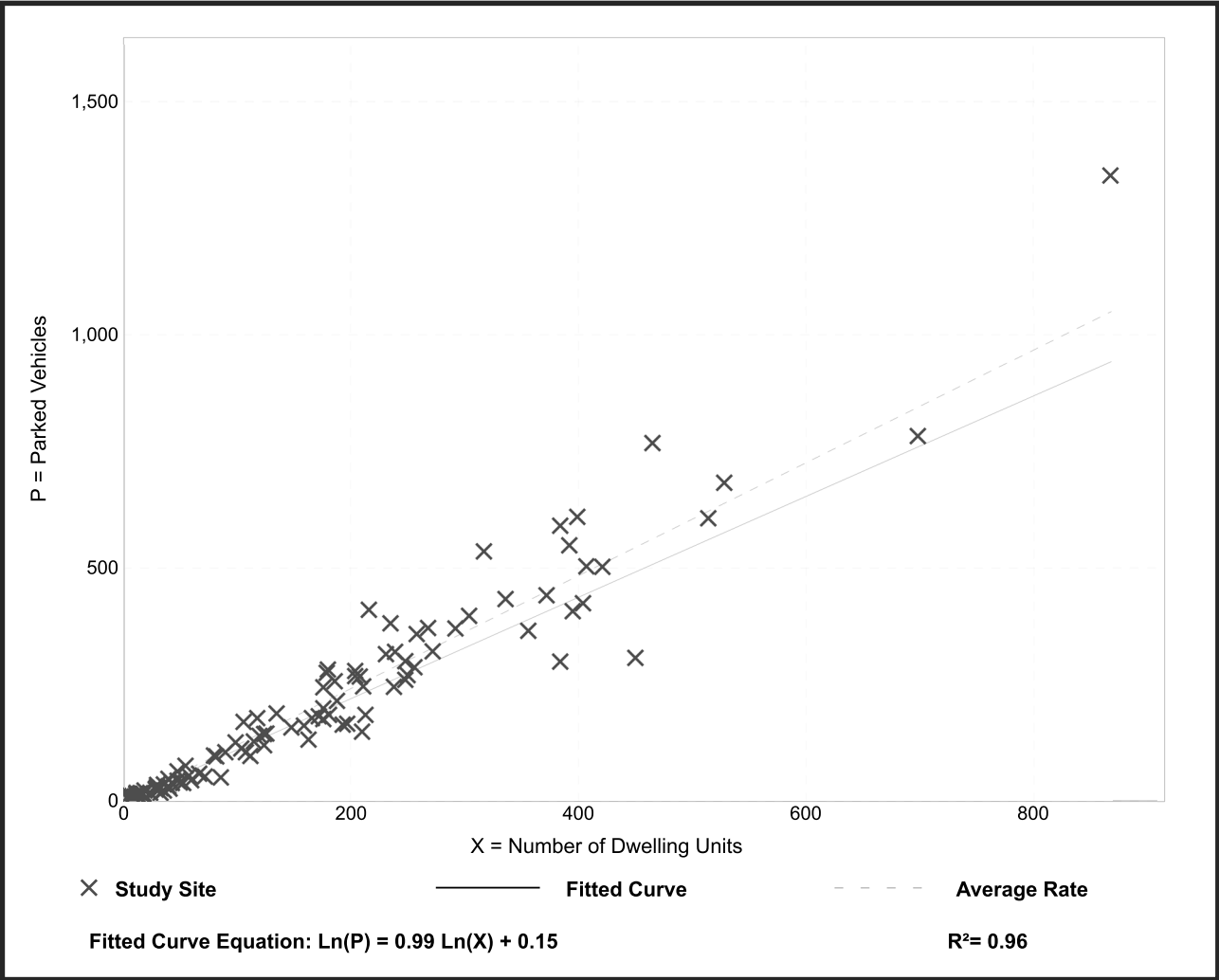
(220)

Peak Period Parking Demand vs: Dwelling Units  
On a: Weekday (Monday - Friday)  
Setting/Location: General Urban/Suburban (no nearby rail transit)  
Peak Period of Parking Demand: 11:00 p.m. - 6:00 a.m.  
Number of Studies: 119  
Avg. Num. of Dwelling Units: 156

## Peak Period Parking Demand per Dwelling Unit

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
1.21	0.58 - 2.50	1.03 / 1.52	1.16 - 1.26	0.27 (22%)

## Data Plot and Equation





# Strip Retail Plaza (< 40k)

## (822)

Peak Period Parking Demand vs: 1000 Sq. Ft. GLA

On a: Weekday (Monday - Thursday)

Setting/Location: General Urban/Suburban

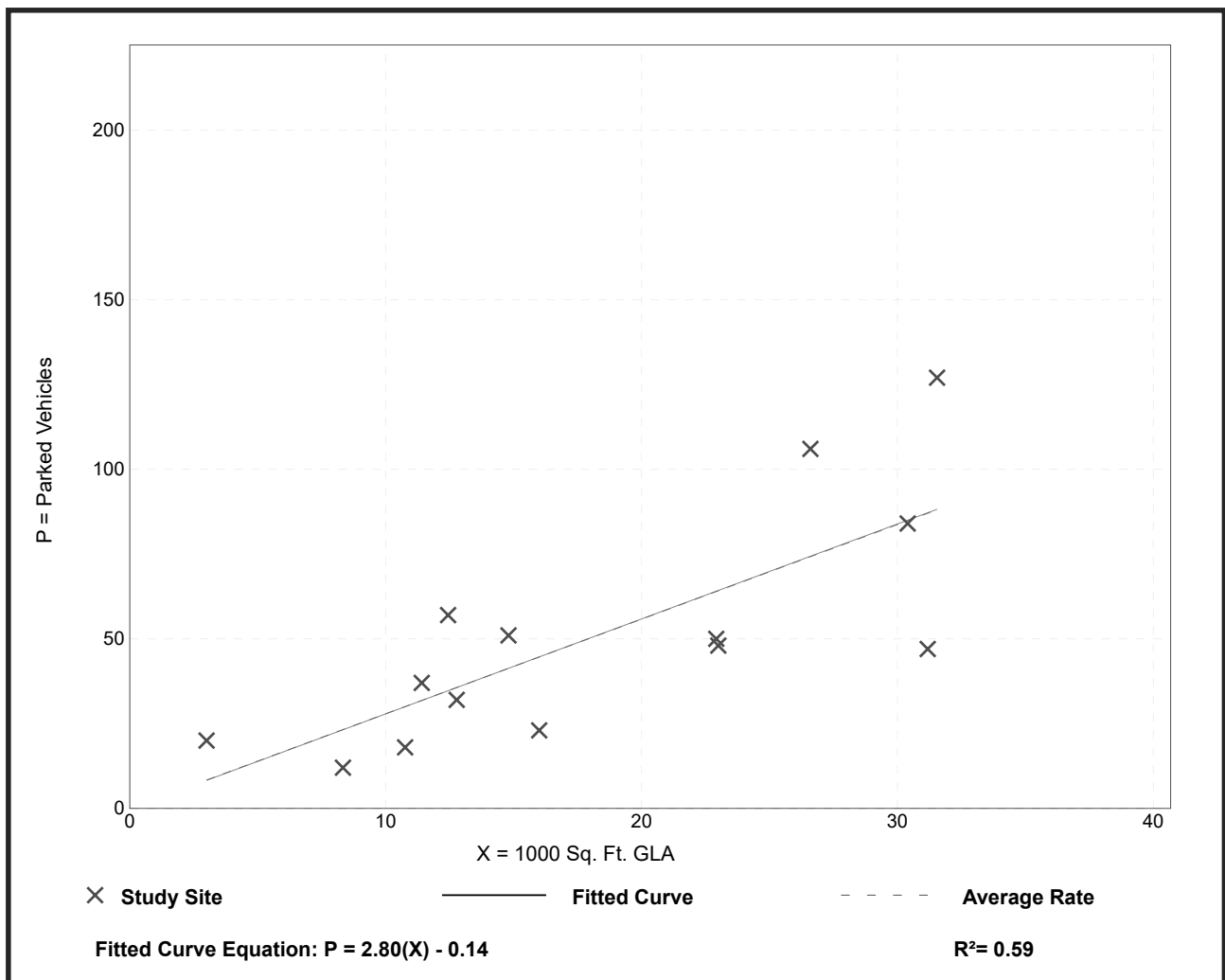
Number of Studies: 14

Avg. 1000 Sq. Ft. GLA: 18

### Peak Period Parking Demand per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
2.79	1.44 - 6.67	2.07 / 4.44	***	1.14 (41%)

### Data Plot and Equation



**Proposed Site Development Parking Generation**

**Project:** 401 Shepherd Street West

**Site:** Windsor, Ontario

**Assumed Land Use:** Multifamily Housing (Low-Rise) - ITE No. 220

**Peak Period Parking Demand vs:** Dwelling Units

**ITE Parking Generation Data collected on a:** Weekday

**AM Peak Hour:**  = Average Rate

Assumed Land Use: Multifamily Housing (Low-Rise) - ITE No. 220		
	Dwelling Units	Peak Parking Required
Weekday	5	6.1

---

**Assumed Land Use:** Strip Retail Plaza- ITE No. 822

**Peak Period Parking Demand vs:** 1000 sq. ft. GLA

**ITE Parking Generation Data collected on a:** Weekday

**AM Peak Hour:**  = Average Rate

Assumed Land Use: Strip Retail Plaza- ITE No. 822		
	1000 sq. ft. GLA	Peak Parking Required
Weekday	1.1	3.1

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## **Appendix C**

# **STUDY AREA PARKING COUNTS CORRESPONDENCE WITH OFFICIALS**







## 401 Shepherd Street West Parking Utilization

Scenario	BRUCE AVE. (WAHKETA ST. - 1537 BRUCE AVE.)										
	Parking Type										Total
	General (G): 23 minimum					Accessible (A): 0					23
	6:00 p.m.		7:00 p.m.		8:00 p.m.		9:00 p.m.		10:00 p.m.		Max % Usage
	G	A	G	A	G	A	G	A	G	A	
Friday (23 May 2025)	14	0	15	0	14	0	16	0	15	0	70%
Saturday (31 May 2025)	17	0	18	0	18	0	16	0	16	0	78%

Scenario	YORK ST. (WAHKETA ST. - 1537 YORK ST.)										
	Parking Type										Total
	General (G): 32 minimum					Accessible (A): 0					32
	6:00 p.m.		7:00 p.m.		8:00 p.m.		9:00 p.m.		10:00 p.m.		Max % Usage
	G	A	G	A	G	A	G	A	G	A	
Friday (23 May 2025)	18	0	19	0	21	0	25	0	27	0	84%
Saturday (31 May 2025)	20	0	20	0	18	0	23	0	25	0	78%

Scenario	CHURCH ST. (WAHKETA ST. - 1541 CHURCH ST.)										
	Parking Type										Total
	General (G): 23 minimum					Accessible (A): 0					23
	6:00 p.m.		7:00 p.m.		8:00 p.m.		9:00 p.m.		10:00 p.m.		Max % Usage
	G	A	G	A	G	A	G	A	G	A	
Friday (23 May 2025)	17	0	18	0	22	0	19	0	20	0	96%
Saturday (31 May 2025)	21	0	18	0	20	0	22	0	23	0	100%



Scenario	DOUGALL AVENUE (WAHKETA ST. - 1525 DOUGALL AVE.)										
	Parking Type										Total
	General (G): 24 minimum					Accessible (A): 0					24
	6:00 p.m.		7:00 p.m.		8:00 p.m.		9:00 p.m.		10:00 p.m.		Max % Usage
	G	A	G	A	G	A	G	A	G	A	
Friday (23 May 2025)	17	0	18	0	18	0	19	0	21	0	88%
Saturday (31 May 2025)	23	0	23	0	19	0	19	0	18	0	96%

Scenario	WAHKETA ST. (BRUCE AVE. - DOUGALL AVE.)										
	Parking Type										Total
	General (G): 25 minimum					Accessible (A): 0					25
	6:00 p.m.		7:00 p.m.		8:00 p.m.		9:00 p.m.		10:00 p.m.		Max % Usage
	G	A	G	A	G	A	G	A	G	A	
Friday (23 May 2025)	18	0	16	0	18	0	20	0	21	0	84%
Saturday (31 May 2025)	19	0	20	0	21	0	21	0	21	0	84%

Scenario	SHEPHERD ST. W. (JANETTE AVE. - VICTORIA AVE.)										
	Parking Type										Total
	General (G): 28 minimum					Accessible (A): 0					28
	6:00 p.m.		7:00 p.m.		8:00 p.m.		9:00 p.m.		10:00 p.m.		Max % Usage
	G	A	G	A	G	A	G	A	G	A	
Friday (23 May 2025)	13	0	14	0	15	0	18	0	16	0	64%
Saturday (31 May 2025)	13	0	15	0	17	0	17	0	15	0	61%



## Totals

Scenario		Total Parking Utilization: 23 May 2025					Total Parking Utilization: 31 May 2025				
		Parking Spaces:					Parking Spaces:				
		General (G): 155 * MINIMUM*					General (G): 155 * MINIMUM*				
		6:00 p.m.	7:00 p.m.	8:00 p.m.	9:00 p.m.	10:00 p.m.	6:00 p.m.	7:00 p.m.	8:00 p.m.	9:00 p.m.	10:00 p.m.
Street Parking	Cap.	G	G	G	G	G	G	G	G	G	G
Bruce Ave. (Wahketa St. - 1537 Bruce Ave.)	23	14	15	14	16	15	17	18	18	16	16
York St. (Wahketa St. - 1537 York St.)	32	18	19	21	25	27	20	20	18	23	25
Church St. (Wahketa St. - 1541 Church St.)	23	17	18	22	19	20	21	18	20	22	23
Dougall Ave. (Wahketa St. - 1525 Dougall Ave.)	24	17	18	18	19	21	23	23	19	19	18
Wahketa St. (Bruce Ave. - Dougall Ave.)	25	18	16	18	20	21	19	20	21	21	21
Shepherd St. W. (Janette Ave. - Victoria Ave.)	28	13	14	15	18	16	13	15	17	17	15
Total Utilized:		97	100	108	117	120	113	114	113	118	118
		62%	65%	70%	74%	77%	73%	74%	73%	76%	76%



Good morning, Ellie.



Could you please review the attached study area graphic which shows all street parking within a radius of 200m of the site? All streets and alleys will be observed. All parked vehicles will be counted, whether legally or illegally parked, during the hours of 6 to 10 pm on a Friday and a Saturday.

Upon City approval we will schedule our count program.

Thank you,

**Cheryl Morden**

*Executive Assistant to Aaron D. Blata*

**RC SPENCER ASSOCIATES INC.**

18 Talbot St. W. | Leamington, ON N8H 1M4

**Office:** (519) 324-0606 ext. 1143

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**From:** Mehrilou, Elara <[EMehrilou@citywindsor.ca](mailto:EMehrilou@citywindsor.ca)>

**Sent:** May 20, 2025 3:35 PM

**To:** 'cmorden@rcspencer.ca' <[cmorden@rcspencer.ca](mailto:cmorden@rcspencer.ca)>

**Cc:** [ablata@rcspencer.ca](mailto:ablata@rcspencer.ca); [rcspencer@rcspencer.ca](mailto:rcspencer@rcspencer.ca)

**Subject:** RE: 401 Shepherd St. Windsor Parking Study TOR

Good afternoon, Cheryl,

- Friday and a Saturday are good for conducting the study. However, count should not be undertaken during holidays, or all days of the week leading up to or following holidays and should occur during the season or time of year appropriate to the development.
- Illegal parking must be included on the count report including but limited the parking on alley, parking on a no-parking zone, parking closer than 15m from an intersection if no-parking sign is not posted, and illegal encroached parking.
- Please consider no more than 200 m as walking distance and adjust the study area accordingly. The proposed boundary needs to be revised.
- One-hour interval between 6PM to 10PM is good.

Sincerely,

*Elara Mehr. E*

**Ellie MehriLou MEng. | Transportation Planner I**



**OFFICE OF COMMISSIONER OF INFRASTRUCTURE SERVICES**

Public Work Operation - Transportation Planning

1266 McDougall Ave | Windsor, ON | N8X 3M7

519-255-6100 ext. 6037

[EMehrilou@citywindsor.ca](mailto:EMehrilou@citywindsor.ca)

[www.citywindsor.ca](http://www.citywindsor.ca)



**Think GREEN before printing this email!**

---

**From:** [cmorden@rcspencer.ca](mailto:cmorden@rcspencer.ca) <[cmorden@rcspencer.ca](mailto:cmorden@rcspencer.ca)>

**Sent:** Tuesday, May 20, 2025 12:57 PM

**To:** Mehrilou, Elara <[EMehrilou@citywindsor.ca](mailto:EMehrilou@citywindsor.ca)>

**Cc:** [ablata@rcspencer.ca](mailto:ablata@rcspencer.ca); [rcspencer@rcspencer.ca](mailto:rcspencer@rcspencer.ca)

**Subject:** 401 Shepherd St. Windsor Parking Study TOR

**CAUTION:** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning, Ellie.

RC Spencer Associates Inc. has been retained to complete a parking study for 401 Shepherd Street. A parking study has been

required by the City to determine the outcome of a zoning bylaw application. The site currently accommodates a commercial building. The developer would like to retain the commercial land use aspect and add five residential units.

In an email dated 11 April 2025, you stated that a physical count on an evening for at least one weekend and one weekday to present the existing parking situation in the area should be undertaken. Additionally, the study is expected to address how the change of commercial to residential will affect the parking situation. The specific scope was to be determined by contacting City transportation.

We suggest that a study be conducted for a **Friday and a Saturday** of all on-street parking within “walking distance” of the site. We are proposing a supply / demand study of all on-street parking bordered by Janette on the west, Ellis on the north, Victoria on the east, and Hannah on the south. Vehicles will be counted every hour between 6pm and 10pm as part of the on-site review rotation. We will also comment on the proximity of the available spaces to the site.

Could you please confirm that this approach will satisfy the City? If there are any other requirements, please provide comment as well.

Thank you,

**Cheryl Morden**

*Executive Assistant to Aaron D. Blata*

**RC SPENCER ASSOCIATES INC.**

18 Talbot St. W. | Leamington, ON N8H 1M4

**Office:** (519) 324-0606 ext. 1143



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