



May 9, 2018  
04-18-0180

Deane Strongitharm, MCIP  
CitySpaces Consulting  
5<sup>th</sup> Floor, 844 Courtenay Street  
Victoria, BC  
V8Z 1C4

VIA E-MAIL: [dstrongitharm@cityspaces.ca](mailto:dstrongitharm@cityspaces.ca)

Dear: Deane,

**Re: 415 / 435 Michigan Street Infill Development  
Parking Study – Peer Review**

CitySpaces Consulting engaged Bunt & Associates Engineering Ltd. (Bunt) to conduct a peer review of the parking study conducted by Watt Consulting Group (Watt) for the 24-unit townhouse infill development at 415 / 435 Michigan Street. This letter summarizes the results of the peer review which focused on evaluating the appropriateness of the methods used in the study, the accuracy of the calculations and resulting recommendations, and the comparison with additional parking demand data collected by Bunt. Bunt was provided Watt's study (dated February 23, 2018) and additional information from Watt and CitySpaces Consulting as needed to complete the peer review.

## 1. FINDINGS

Watt's methodology and calculations were generally acceptable; however the following issues were identified:

1. Section 3.1 presents the parking requirement based on the Draft Schedule C Regulations based on the development being located in the "Other Areas" and a "Village/Centre" and being designated as a strata building. If the development qualifies as a rental building, the parking requirement would be approximately 10% lower.
2. Resident and visitor parking demands were not differentiated. While this would be a more difficult task for the on-street parking observations, residents are assigned on-site parking spaces which would allow for differentiation with on-site parking.

3. Section 4.1.1 indicates that on-site parking demand was observed during one Saturday at 2 pm and three weeknights at 9 pm. Peak resident parking demand typically occurs at around 4 or 5 am. As this is not a convenient and potentially safe time of day for staff to work, Watt could have considered increasing the 9 pm parking demand by a proportionate factor based on a reputable source to adjust the data accordingly (i.e. ITE Parking Generation Manual). Alternatively, the number of parking stalls assigned to residents could have been obtained from the property owner to understand the theoretical demand conservatively assuming all assigned spaces contained vehicles. Bunt was advised by the property owner that 103 parking stalls are currently assigned to residents (and 2 assigned to property managers) from the 180 currently occupied apartments. Therefore the current demand for on-site parking for residents is 0.57 vehicles per occupied unit which is slightly less than the peak demand rate observed by Watt (0.59 vehicles per occupied unit) for residents and visitors; however it is not known how many visitor vehicles were accounted for in the 0.59 rate.
4. The total future on-site parking demand is calculated in Section 4.3. The calculation includes a line item for visitor parking demand (for the 24 townhouses) however the parking demand rates utilized in the first two line items (Bachelor Units at 0.56 and Two-Bedroom Units at 1.07) already include visitor parking demand. The visitor parking demand line item (2 vehicles) should be removed from the calculation which would change the total on-site parking demand to 138 vehicles which equals the on-site parking supply.

## 2. DATA COMPARISON

Bunt collected additional parking demand data at the same times used in the Watt study as a means of determining their appropriateness. The summary of the data collected is provided in **Table 1**.

**Table 1: Parking Demand (vehicles)**

DAY & TIME	ON-SITE	ON-STREET				415 / 435 MICHIGAN TOTAL
		RESIDENTIAL	90-MINUTE	TOTAL	SITE RELATED PARKING	
Wednesday, May 2, 2018 @ 9:00 pm	86	54	6	60	24	110
Thursday, May 3, 2018 @ 9:00 pm	86	69	4	73	29	115
Saturday, May 5, 2018 @ 2:00 pm	69	60	6	66	26	95

Note 1: Assumed to be 40% of total on-street parking demand

The peak on-site and on-street demand period occurred on Thursday, May 3, 2018 at 9:00 pm. At this time there were 86 vehicles parked on-site and 73 on Michigan Street between Menzies Street and Oswego Street (of which, 29 vehicles were attributed to 415/435 Michigan Street), representing a total demand of 115 vehicles related to 415 / 435 Michigan Street. During the observations, 180

of the apartments were occupied and there were 125 functional parking stalls due to construction activities occupying a portion of the parking lot. Therefore the peak on-site parking occupancy was 69%, the on-site parking demand rate was 0.48 vehicles per occupied unit and the total parking demand rate was 0.64 vehicles per occupied unit. These results are approximately 10% lower than those in the Watt study which would lower the total on-site parking demand calculated by Watt in Section 4.3. The variation in results is reasonable given variable nature of parking demands.

### 3. RECOMMENDED FUTURE PARKING DEMAND CALCULATION

The following calculations present Bunt's recommended process for determining the total future on-site parking demand based on the information obtained by Bunt. The three differences between these calculations and the calculations in the Watt study are: (1) demand data collected on different dates, (2) using the number of parking stalls rented to residents and provided to property managers in lieu of on-site parking occupancy counts, and (3) the removal of the visitor parking demand line item as it is already captured in the demand rates.

#### *Peak parking demand per existing occupied unit*

Peak parking demand per existing occupied unit = (peak on-site + peak off-site demand) / occupied units

Peak parking demand per existing occupied unit =  $(103 + 29) / 180$

Peak parking demand per existing occupied unit = 0.73

#### *Parking demand per unit type*

Estimated bachelor parking demand per occupied unit = 0.56

Estimated two-bedroom parking demand per occupied unit = 1.07

#### *Forecasted future on-site demand*

Proposed new bachelor units = 0.56 vehicles per unit x 12 units = 7 vehicles

Proposed new two-bedroom units = 1.07 vehicles per unit x 12 units = 13 vehicles

Existing peak on-site parking demand = 103 (residents) + 2 (property managers) = 105 vehicles

Vacant units = 0.73 vehicles per unit x 15 units = 11 vehicles

Total on-site parking demand = 136 vehicles

As shown above, based on the data obtained by Bunt, the peak total on-site parking demand is forecasted to be 136 vehicles which is two vehicles less than the site's typical supply of 138 spaces. Almost the entire 138 space parking lot will be occupied by resident-assigned parking spaces, with minimal space available for visitor parking on-site.

#### 4. SUMMARY

As the methods used in Watt's study are generally acceptable and Bunt's revised calculations generate similar results, Bunt agrees that no additional vehicle parking needs to be built to facilitate the 24-unit townhouse development.

Yours truly,  
**Bunt & Associates**



Simon Button, P.Eng., M.Eng.  
Transportation Engineer



Tyler Thomson, MURB, MCIP, RPP, PTP  
Associate | Transportation Planner

cc. Ashley Burke, Starlight Investments