

TRAFFIC GENERATION & PARKING DEMAND STUDY

363 Ontario Street Apartments

363 Ontario Street

CITY OF ALBANY
COUNTY OF ALBANY
STATE OF NEW YORK

Applicant: Jankow Companies

Prepared by:



Hershberg & Hershberg

18 Locust Street
Albany, NY 12203-2908
Phone 518-459-3096
Fax 518-459-5683
Email hhershberg@aol.com

September 26, 2017
Revised September 28, 2017

INTRODUCTION:

Hershberg & Hershberg, Consulting Engineers and Land Surveyors, were retained by Jankow Companies (hereinafter the “Applicant”) with an address of PO Box 1366, Guilderland, NY 12084 as site engineer for the construction of a mixed-use development plan to be known as 363 Ontario Street Apartments. This report is for the consideration of the City of Albany Planning Board and the Board of Zoning Appeals.

TRAFFIC GENERATION:

The following tables define estimated traffic movements for the proposed use and quantifies each movement based upon Land Use Codes (source: Trip Generation 9th Edition as published by the Institute of Transportation Engineers). LUC 223 is for Mid Rise Apartments. Under this LUC the average apartment has 1.9 bedrooms per apartment unit where this project has 60% are one bedroom units and 40 per cent are 2 bedrooms units making the average unit size 1.4 bedrooms. The Trip Generation Manual doesn’t have a per cent adjustment to correct for this difference. The number of units in this project (110) is also close to the number in the average size of project studied (120). However, because of the relatively low impact of this project no adjustment is applied. Also traffic is divided between those exiting on Warren Street and those exiting on Park Avenue. The resulting traffic generation should be considered to be conservative.

Land Use Code	Quantity	Average Total Trip Ends	Entering	Exiting
223	110 Dwelling Units	32	10	22

Fig. No. 1
Proposed AM Peak Hour of Adjacent Street Traffic
Note: This utilizes the Fitted Curve Equation of $0.41(X) - 13.06$

Land Use Code	Quantity	Average Total Trip Ends	Entering	Exiting
223	110 Dwelling Units	42	24	18

Fig. No. 2

Proposed PM Peak Hour of Adjacent Street Traffic

Note: This utilizes the Fitted Curve Equation of $0.48(X) - 11.07$

PARKING GENERATION:

The following table defines estimated required parking for the proposed use and based upon Land Use Codes (source: Parking Generation 4th Edition as published by the Institute of Transportation Engineers). LUC 221 is for Low/Mid Rise Apartments, Location Urban. Under this LUC the average apartment has 1.9 bedrooms per apartment unit where this project has 1.4 bedrooms per apartment unit. The Parking Generation Manual shows that parking demand when the average apartment has less than 1.5 bedrooms per apartment unit should be 92% of the parking determined as per the LUC formula.

Land Use Code	Quantity	Average Peak Parking Demand	Adjusted Parking Demand (92%)
221	110 Dwelling Units	105	97

Fig. No. 3

Proposed Parking Demand

Note: This utilizes the Fitted Curve Equation of $0.92(X) + 4$

To further verify the adequacy of parking this is checked against the 95% Confidence Interval which includes 95% of all studies reviewed for this LUC. That has a peak average parking demand of 1.33 vehicles per unit. At that rate under the LUC at 1.9 bedrooms per apartment this would require 146 parking spaces. When adjusted for projects where the average apartment has less than 1.5 bedrooms per apartment unit (92% of

the parking determined as per the LUC formula) this would require 135 parking spaces. At 1.2 bedrooms per apartment a further reduction below 135 parking spaces would be appropriate. The proposed parking is 143 parking spaces which leaves excess spaces for retail users.

CONCLUSION:

The proposed project will have minimal impact on the traffic in adjacent streets. The 143 parking spaces proposed are adequate to meet the parking demand from the proposed use even when considered at the upper level of the 95% Confidence Interval.



A handwritten signature in black ink, appearing to read "D. Hershberg", written over a horizontal line.

Prepared by:

HERSHBERG & HERSHBERG
Daniel R. Hershberg, P.E. & L.S.

Appendix 1

Traffic Generation

Land Use Code 223

from ITE Trip Generation 9th Edition

Mid-Rise Apartment (223)

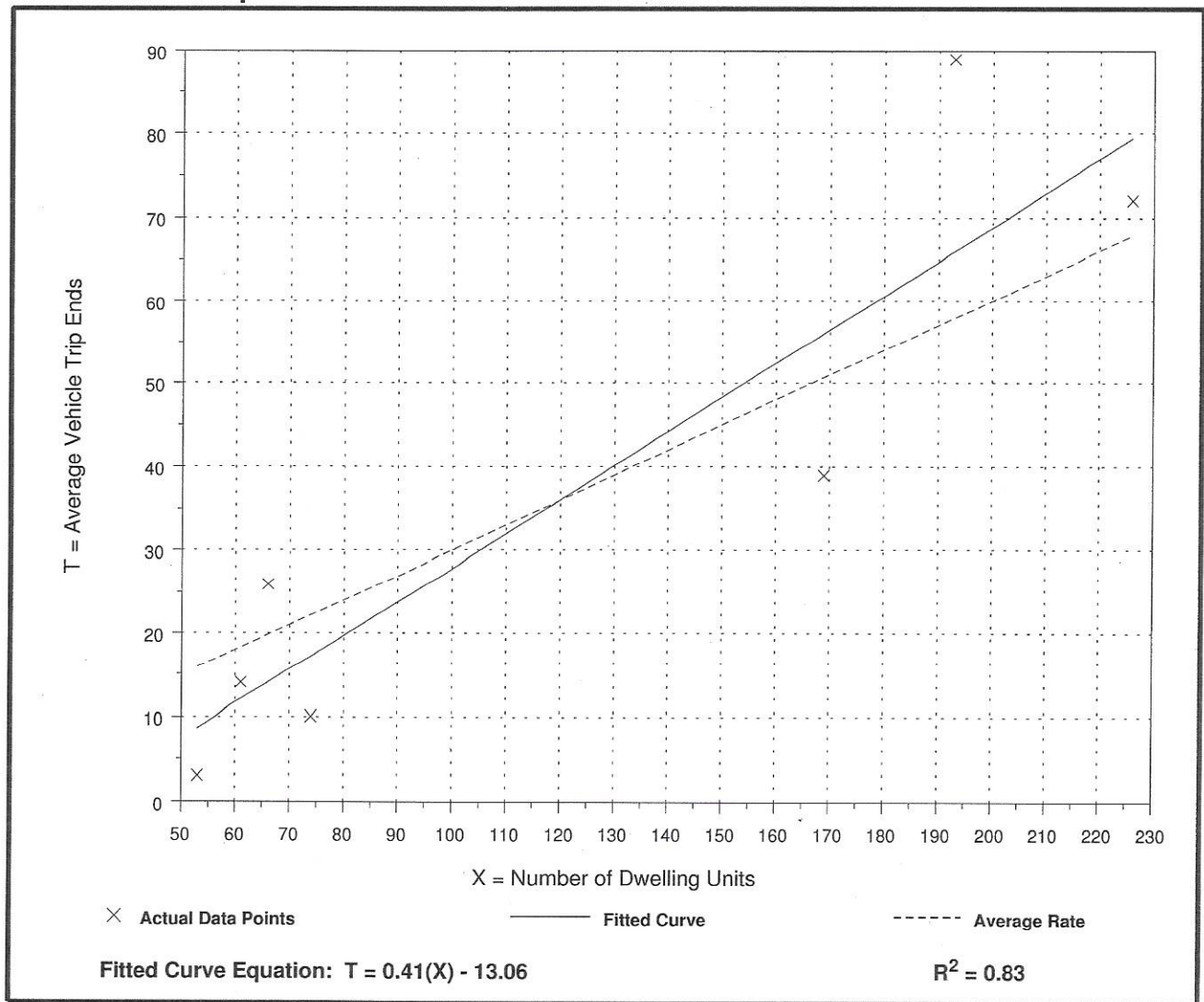
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Number of Studies: 7
Avg. Number of Dwelling Units: 120
Directional Distribution: 31% entering, 69% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.30	0.06 - 0.46	0.56

Data Plot and Equation



Mid-Rise Apartment (223)

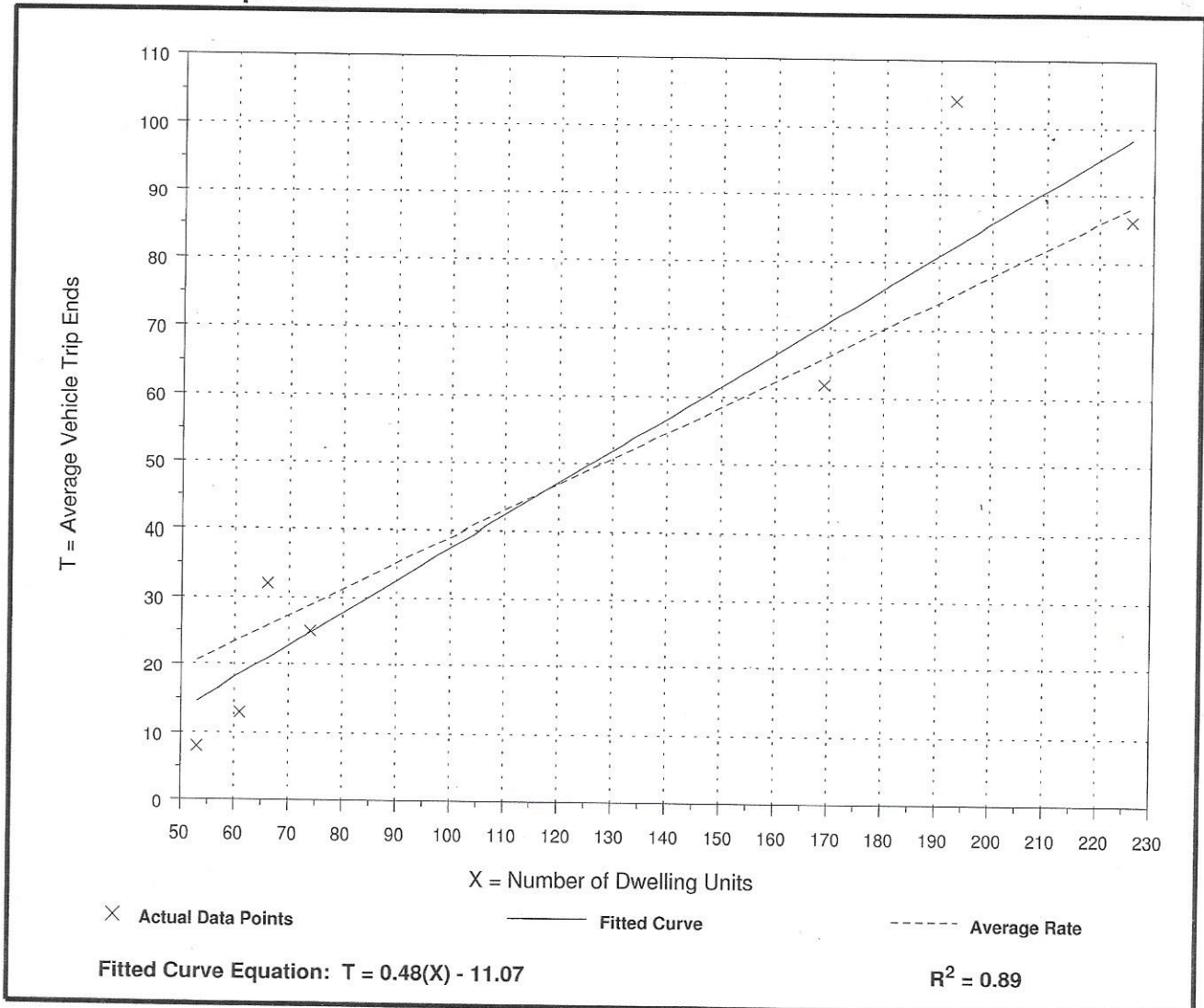
Average Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Number of Studies: 7
 Avg. Number of Dwelling Units: 120
 Directional Distribution: 58% entering, 42% exiting

Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.39	0.15 - 0.54	0.63

Data Plot and Equation



Appendix 2

Parking Generation

Land Use Code 221

from ITE Parking Generation 4th Edition

Land Use: 221

Low/Mid-Rise Apartment

Description

Low/mid-rise apartments are rental dwelling units located within the same building with at least three other dwelling units: for example, quadraplexes and all types of apartment buildings. The study sites in this land use have one, two, three, or four levels. High-rise apartment (Land Use 222) is a related use.

Database Description

The database consisted of a mix of suburban and urban sites. Parking demand rates at the suburban sites differed from those at urban sites and, therefore, the data were analyzed separately.

- Average parking supply ratio: 1.4 parking spaces per dwelling unit (68 study sites). This ratio was the same at both the suburban and urban sites.
- Suburban site data: average size of the dwelling units at suburban study sites was 1.7 bedrooms, and the average parking supply ratio was 0.9 parking spaces per bedroom (three study sites).
- Urban site data: average size of the dwelling units was 1.9 bedrooms with an average parking supply ratio of 1.0 space per bedroom (11 study sites).

Saturday parking demand data were only provided at two suburban sites. One site with 1,236 dwelling units had a parking demand ratio of 1.33 vehicles per dwelling unit based on a single hourly count between 10:00 and 11:00 p.m. The other site with 55 dwelling units had a parking demand ratio of 0.92 vehicles per dwelling unit based on counts between the hours of 12:00 and 5:00 a.m.

Sunday parking demand data were only provided at two urban sites. One site with 15 dwelling units was counted during consecutive hours between 1:00 p.m. and 5:00 a.m. The peak parking demand ratio at this site was 1.00 vehicle per dwelling unit. The peak parking demand occurred between 12:00 and 5:00 a.m. The other site with 438 dwelling units had a parking demand ratio of 1.10 vehicles per dwelling unit based on a single hourly count between 11:00 p.m. and 12:00 a.m.

Four of the urban sites were identified as affordable housing.

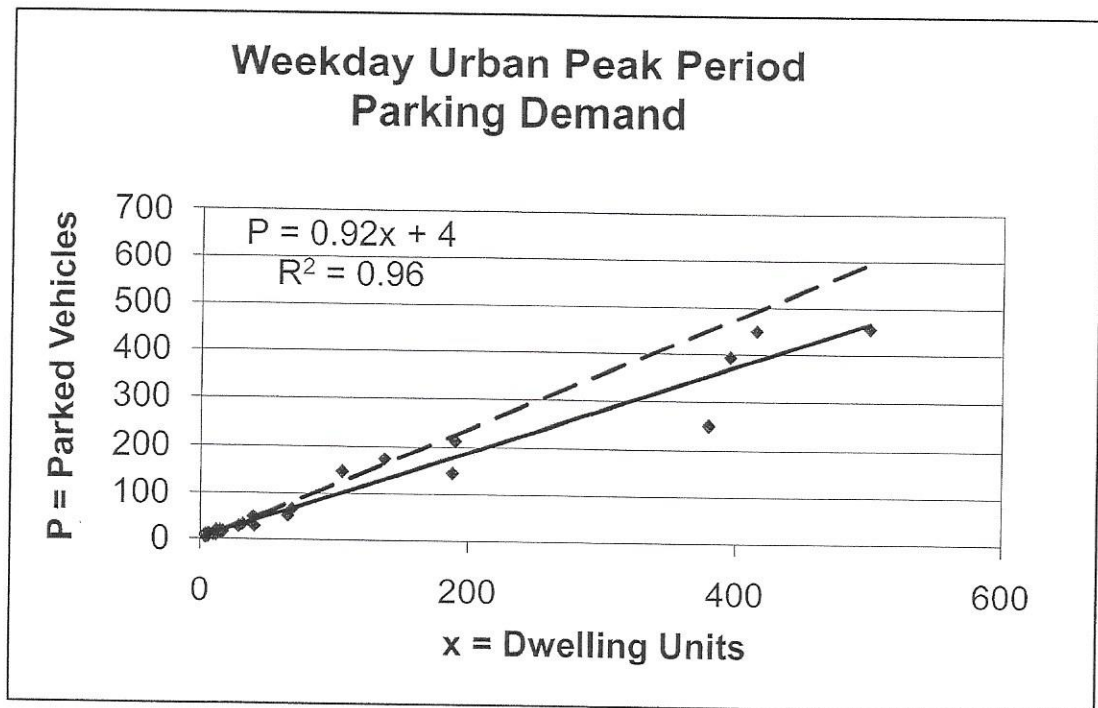
Several of the suburban study sites provided data regarding the number of bedrooms in the apartment complex. Although these data represented only a subset of the complete database for this land use, they demonstrated a correlation between number of bedrooms and peak parking demand. Study sites with an average of less than 1.5 bedrooms per dwelling unit in the apartment complex reported peak parking demand at 92 percent of the average peak parking demand for all study sites with bedroom data. Study sites with less than 2.0 but greater than or equal to 1.5 bedrooms per dwelling unit reported peak parking demand at 98 percent of the average. Study sites with an average of 2.0 or greater bedrooms per dwelling unit reported peak parking demand at 13 percent greater than the average.

For the urban study sites, the parking demand data consisted of single or discontinuous hourly counts and therefore a time-of-day distribution was not produced. The following table presents a time-of-day distribution of parking demand at the suburban study sites.

Land Use: 221 Low/Mid-Rise Apartment

Average Peak Period Parking Demand vs. Dwelling Units On a: Weekday Location: Urban

Statistic	Peak Period Demand
Peak Period	10:00 p.m.–5:00 a.m.
Number of Study Sites	40
Average Size of Study Sites	70 dwelling units
Average Peak Period Parking Demand	1.20 vehicles per dwelling unit
Standard Deviation	0.42
Coefficient of Variation	35%
95% Confidence Interval	1.07–1.33 vehicles per dwelling unit
Range	0.66–2.50 vehicles per dwelling unit
85th Percentile	1.61 vehicles per dwelling unit
33rd Percentile	0.93 vehicles per dwelling unit



◆ Actual Data Points — Fitted Curve - - - Average Rate