

February 1, 2023

Salisbury Planning Board
c/o Lisa Person, Planning Director
Salisbury Town Hall – 5 Beach Road
Salisbury, MA 01952

**RE: Traffic Memo
Site Development Plans
14, 16 & 18 North End Boulevard, Salisbury, Massachusetts**

Dear Members of the Commission:

On behalf of the applicant, 18 NE Blvd LLC, The Morin-Cameron Group, Inc. (MCG) hereby submits this Traffic Memo for a proposed townhouse development to be located at 14, 16 & 18 North End Boulevard in Salisbury, Massachusetts. The project includes the construction of two (2) residential buildings containing a total of eleven (11) townhomes. The access and egress will be through a single driveway on North End Boulevard just south of the Old Town Way in the vicinity of the existing curb cut. This Traffic memo evaluates the safety of the proposed driveway and estimate the traffic to be generated by the proposed redevelopment.

Trip Generation

The Institute of Transportation Engineers (ITE) publication Trip Generation Manual, 11th Edition – Volume 3, is leading source for trip generation information for various land uses throughout the United States. Trip rates from the ITE Land Use Code (LUC) 220 – Single-family attached housing – was conservatively utilized to estimate the trips generated by the proposed development during the weekday and weekend morning and evening peak hours. The single-family attached housing includes any single-family housing that shares a wall with an adjoining dwelling unit, including townhomes and duplexes. A trip data are attached to this document, calculations and a summary of the ITE Trip Generation is noted below:

$\text{Average Rate (by ITE)} \times \text{Number of Dwellings} = \text{Average Trip number}$

Average Weekday Daily:

Average Rate = 7.20

Number of dwellings = 11

Average trip number = $7.20 \times 11 \Rightarrow$ Average trip number = 79

Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.:

Average Rate = 0.48

Number of dwellings = 11

Average trip number = $0.48 \times 11 \Rightarrow$ Average trip number = 5Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.:

Average Rate = 0.57

Number of dwellings = 11

Average trip number = $0.57 \times 11 \Rightarrow$ Average trip number = 6Saturday Entire Day:

Average Rate = 8.76

Number of dwellings = 11

Average trip number = $8.76 \times 11 \Rightarrow$ Average trip number = 96Sunday Entire Day:

Average Rate = 7.17

Number of dwellings = 11

Average trip number = $7.17 \times 11 \Rightarrow$ Average trip number = 78

Time Period/Direction	ITE LUC 215
Average Weekday Daily	79 vehicle trips
Weekday AM Peak Hour	
Enter	1 vehicle trips
Exit	4 vehicle trips
Total	5 vehicle trips
Weekday PM Peak Hour	
Enter	4 vehicle trips
Exit	2 vehicle trips
Total	6 vehicle trips
Saturday Entire Day	
Enter	48 vehicle trips
Exit	48 vehicle trips
Total	96 vehicle trips
Sunday Entire Day	
Enter	39 vehicle trips
Exit	39 vehicle trips
Total	78 vehicle trips

The number of vehicle trips depicted in the table hereon is calculated based on the number of dwellings. According to those calculations, the proposed development is anticipated to generate and average of 79 new vehicle trips during a weekday. During the peak hours, 1 new car every 12 minutes or 5 trips in the AM peak hour, 6 new trips or 1 car every 10 min in the PM peak hour. During weekend days, 96 daily trips on Saturday and 78 daily trips on Sunday.

Sight Distance

To identify possible safety hazards associated with site access and egress, MCG has prepared a sight distance evaluation at the driveway location has been conducted. To determine if the available sight distances for vehicles exiting the site are adequate. The available sight distances were compared with minimum requirements established by the American Association of Highway and Transportation Officials (AASHTO) – “A policy On Geometric Design of Highways and Streets; 2018”.

Stopping Sight Distance (SSD) is the minimum distance required for a vehicle traveling at a certain speed to safely stop before reaching a stationary object in the road. It is measured from an eye height of 3.5 feet to an object height of 2 feet above the street level.

The SSD at the proposed driveway was measured and compared to minimum requirements as established by AASHTO based on the posted speed limit of 20 miles per hour (MPH). See table below.

Location/Direction	Required	Measured
North End Boulevard		
North of Driveway	115 feet	>115 feet
South of Driveway	115 feet	>115 feet

As shown on table, the available SSD meets or exceeds AASHTO's minimum and desirable recommendations for safe operations at the site driveway.

Conclusion

The results of the trip generation estimate indicated that the proposed townhome development is anticipated to generate a negligible change on the public network with only 1 new car every 12 minutes in the AM peak hour and 6 new trips or 1 car every 10 min in the PM peak hour; averaging 79 vehicle trips during a weekday. During the weekend entire day, 96 daily trips on Saturday and 78 daily trips on Sunday. These minimal increases will not be noticeable in the adjacent roadway network. Sight lines at the proposed driveway will exceeds AASHTO recommendations for safe operations, indicating no safety issues exists at the proposed driveway.

Should you have any questions or require additional information, please contact the undersigned at (978) 373-0310.

Sincerely,

THE MORIN-CAMERON GROUP, INC.



Scott P. Cameron, PE
Principal



Enclosures

Cc: 18 NE Blvd LLC
Salisbury Planning Board
Conservation Commission

Land Use: 215

Single-Family Attached Housing

Description

Single-family attached housing includes any single-family housing unit that shares a wall with an adjoining dwelling unit, whether the walls are for living space, a vehicle garage, or storage space.

Additional Data

The database for this land use includes duplexes (defined as a single structure with two distinct dwelling units, typically joined side-by-side and each with at least one outside entrance) and townhouses/rowhouses (defined as a single structure with three or more distinct dwelling units, joined side-by-side in a row and each with an outside entrance).

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in British Columbia (CAN), California, Georgia, Illinois, Maryland, Massachusetts, Minnesota, New Jersey, Ontario (CAN), Oregon, Pennsylvania, South Dakota, Utah, Virginia, and Wisconsin.

Source Numbers

168, 204, 211, 237, 305, 306, 319, 321, 357, 390, 418, 525, 571, 583, 638, 735, 868, 869, 870, 896, 912, 959, 1009, 1046, 1056, 1058, 1077

Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 22

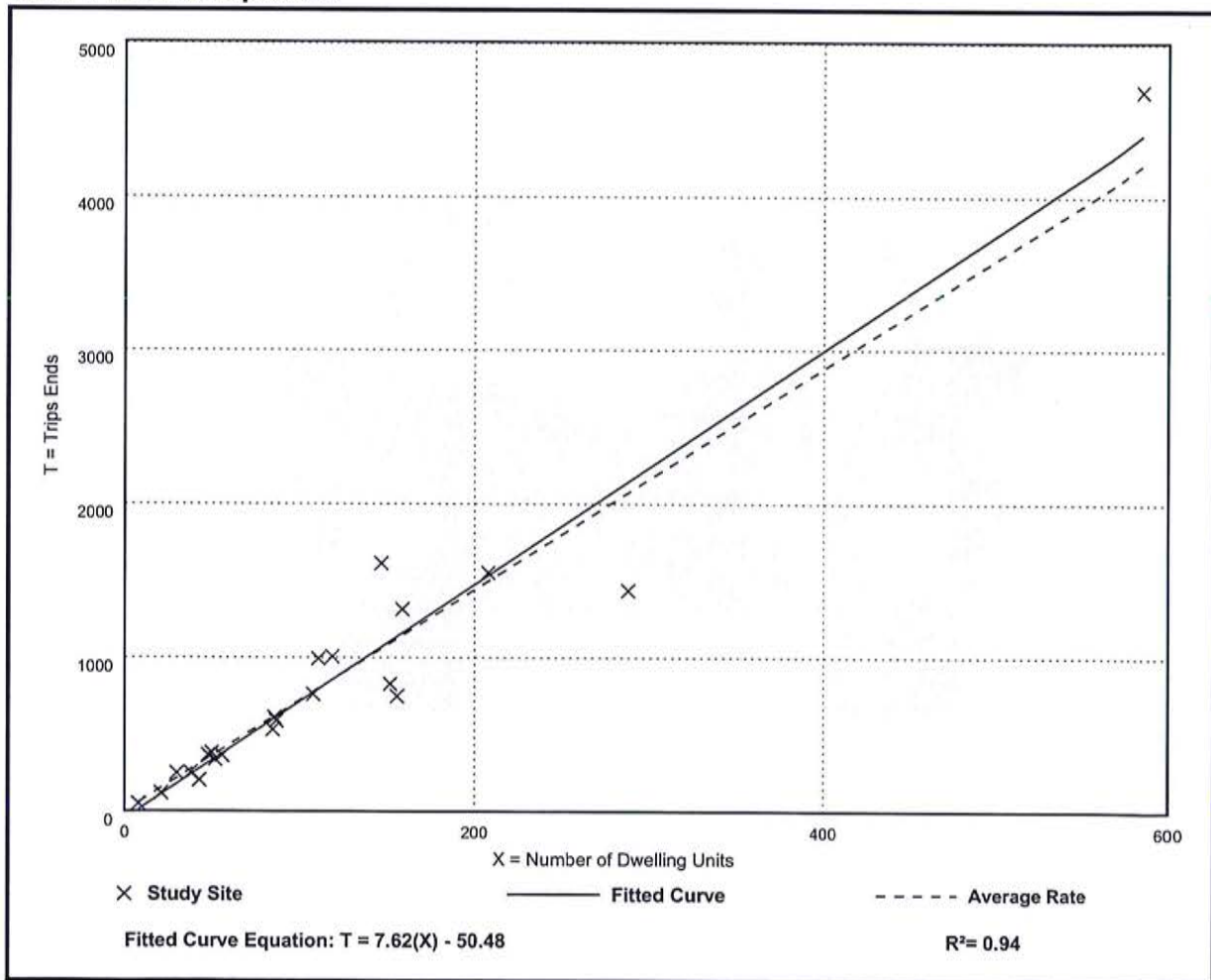
Avg. Num. of Dwelling Units: 120

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
7.20	4.70 - 10.97	1.61

Data Plot and Equation



Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 46

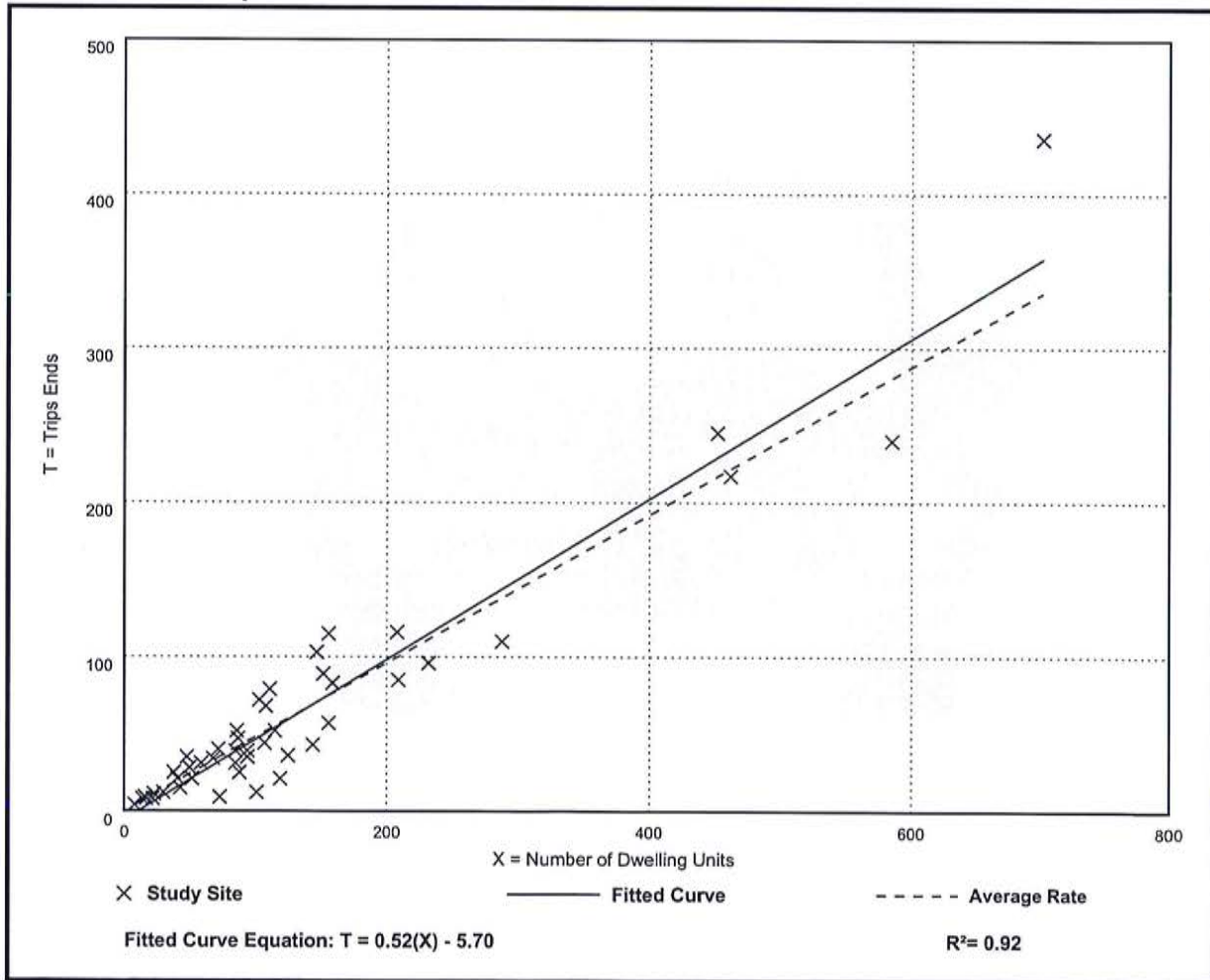
Avg. Num. of Dwelling Units: 135

Directional Distribution: 31% entering, 69% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.48	0.12 - 0.74	0.14

Data Plot and Equation



Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 51

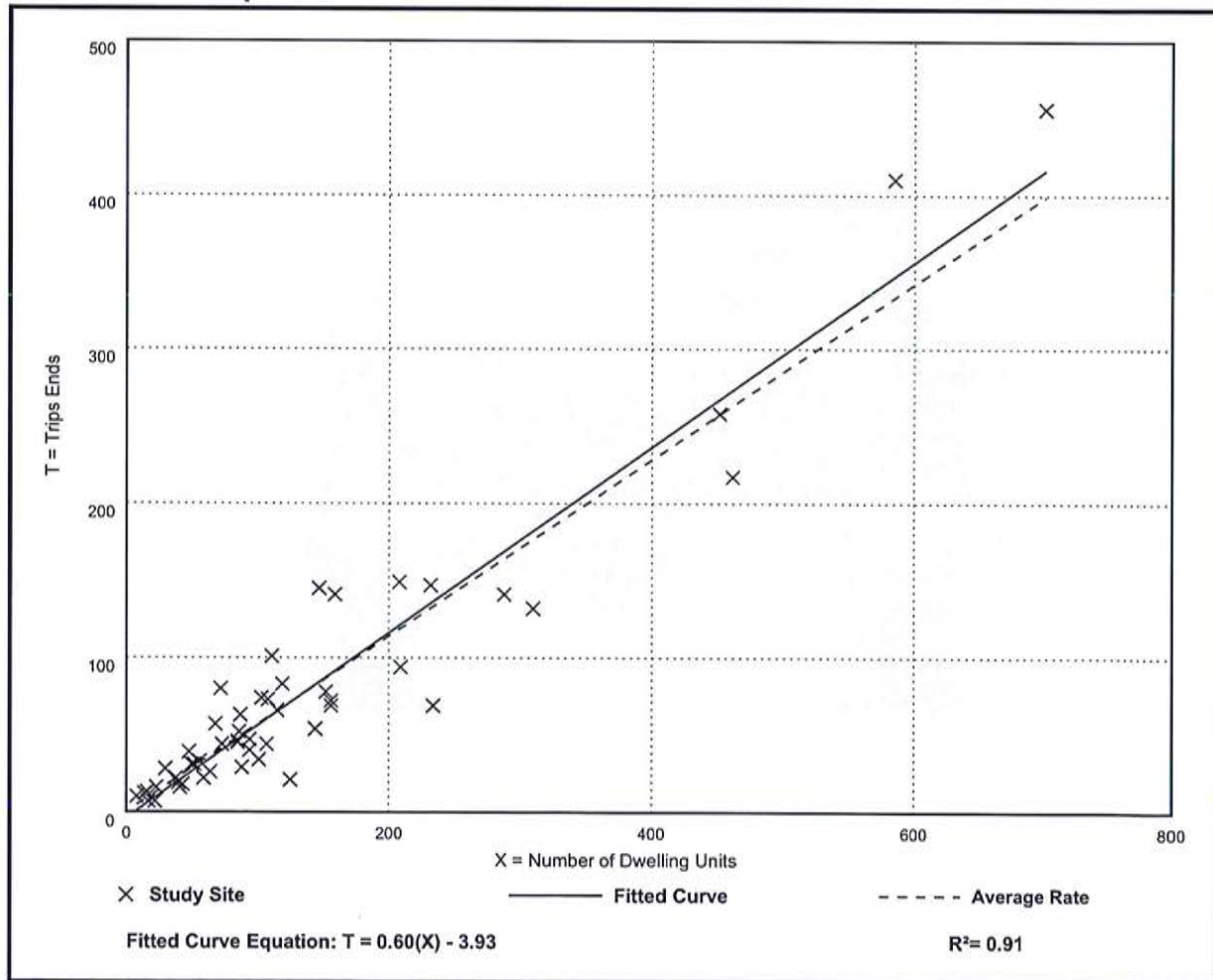
Avg. Num. of Dwelling Units: 136

Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.57	0.17 - 1.25	0.18

Data Plot and Equation



Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units
On a: Saturday

Setting/Location: General Urban/Suburban

Number of Studies: 5

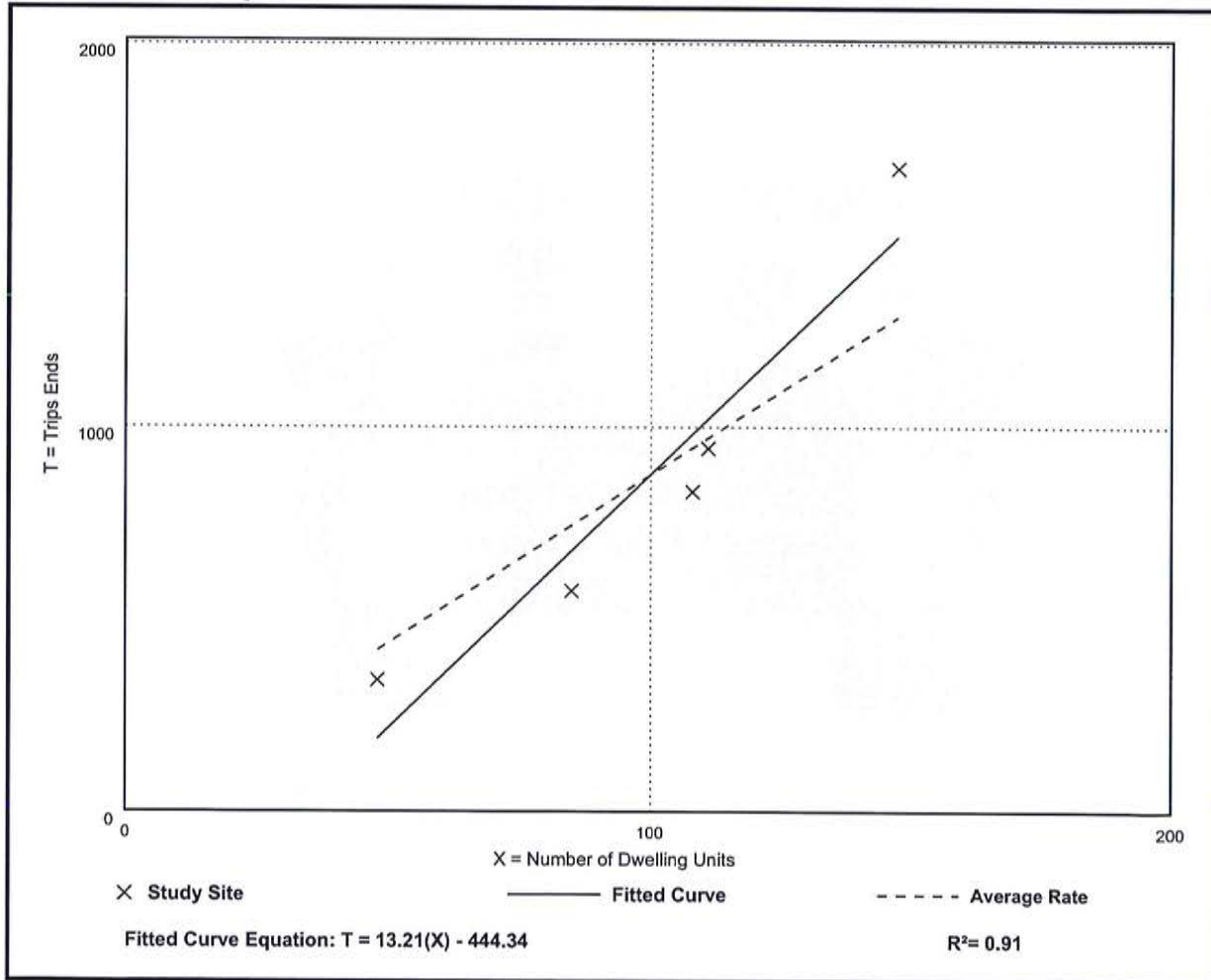
Avg. Num. of Dwelling Units: 100

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
8.76	6.75 - 11.40	2.02

Data Plot and Equation



Single-Family Attached Housing (215)

Vehicle Trip Ends vs: Dwelling Units
On a: Sunday

Setting/Location: General Urban/Suburban

Number of Studies: 5

Avg. Num. of Dwelling Units: 100

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
7.17	5.52 - 8.41	1.34

Data Plot and Equation

