

Proposed Residential Redevelopment
South Kingstown, Rhode Island

Champagne Heights

TRAFFIC IMPACT STUDY



CROSSMAN ENGINEERING

Civil • Transportation • Environmental • Site Planning •
Surveying • Permitting

Proposed Residential Redevelopment

Champagne Heights
South Kingstown, Rhode Island

TRAFFIC IMPACT STUDY

Prepared for:

Ms. Laura Lee Costello, Executive Director
SKHA Services & Development Corporation
364 Curtis Corner Road
South Kingstown, RI 02879

Prepared by:

CROSSMAN ENGINEERING

October 2024



October 14, 2024

Ms. Laura Lee Costello, Executive Director
SKHA Services & Development Corporation
364 Curtis Corner Road
South Kingstown, RI 02879

RE: Proposed Land Redevelopment Project
Champagne Heights
364 Curtis Corner Road
South Kingstown, RI

Dear Ms. Costello:

Crossman Engineering, in accordance with our scope of services, has completed a traffic impact study for a proposed residential redevelopment project in the Town of South Kingstown, Rhode Island. The property is located to the west of the former Curtis Corner Middle School site along the southerly side of Curtis Corner Road and has been partially developed as the *Champagne Heights* apartment complex. The 10.5-acre parcel contains multiple structures, including nine apartment buildings and a single community building for residents and management offices.

Based upon our discussions, it is our understanding that the existing partially developed lot will be redeveloped to include a mixture of small residential apartment buildings in a townhouse style neighborhood setting. A small community space and office component is also proposed in the existing renovated building at the main entrance to the site. Access to the property will be provided from the existing site access road intersection with Curtis Corner Road.

The study included herein, was conducted to determine the adequacy of the existing servicing roadways to accommodate anticipated traffic to be generated by the residential redevelopment project. An analysis of potential impacts to the roadway capacity and safety has been completed and is discussed in the following report.

Very truly yours,
Crossman Engineering

Paul J. Bannon
Senior Project Director

TABLE OF CONTENTS

1.0	Introduction.....	1
2.0	Project Area.....	3
3.0	Existing Conditions	3
	3.1 Roadways	3
	3.2 Intersections.....	5
	3.3 Traffic Data	6
4.0	Safety Analysis.....	7
5.0	Impact Analysis.....	10
	5.1 Trip Generation.....	10
	5.2 Future Traffic Conditions.....	13
	5.3 Operational Analysis	13
6.0	Conclusions and Recommendations	17

APPENDICES

- Appendix A: Traffic Volume Data
- Appendix B: Traffic Crash Data
- Appendix C: Trip Generation
- Appendix D: Operational Analysis

LIST OF TABLES

TABLE 1 – Trip Generation Estimate.....	12
TABLE 2 – Highway Capacity Criteria.....	15
TABLE 3 – Level of Service Summary (Existing Conditions)	15
TABLE 4 – Level of Service Summary (Future Conditions).....	16

LIST OF FIGURES

FIGURE 1 – Project Vicinity Map	2
FIGURE 2 – Project Location Map.....	4
FIGURE 3 – Existing Traffic Volumes.....	8
FIGURE 4 – Site Plan	11
FIGURE 5– Future Traffic Volumes	14

1.0 INTRODUCTION

The objective of the following study is to assess the potential traffic impacts associated with a proposed residential redevelopment project, *Champagne Heights*, in the Town of South Kingstown, Rhode Island. The project is located on a property along the southerly side of Curtis Corner Road between South Road and Kingstown Road (Route 108). The existing 40-unit public housing apartment complex that was initially constructed in the mid 1970's, will be redeveloped and expanded to contain a total of 85 apartments in 34 new buildings. The site will be redesigned in multiple phases into a small neighborhood containing duplex and triplex units. The new apartments will be constructed in the existing undeveloped portion of the site, allowing for tenant relocation before the existing nine buildings are razed to allow construction of the remaining units. Access/egress to the neighborhood will be provided from the existing access road intersection with Curtis Corner Road. Refer to the Figure 1, Project Vicinity Map, on the following page for the project location within the community.

The study summarized herein focused on both traffic flow efficiency and safety along Curtis Corner Road in the immediate site vicinity. The impacts associated with the site related traffic have been defined and evaluated in accordance with standard traffic engineering guidelines and procedures.

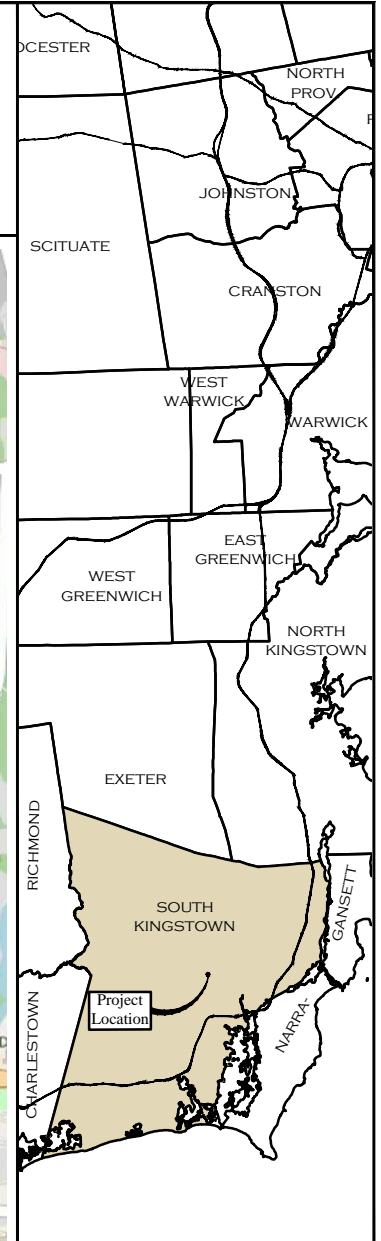
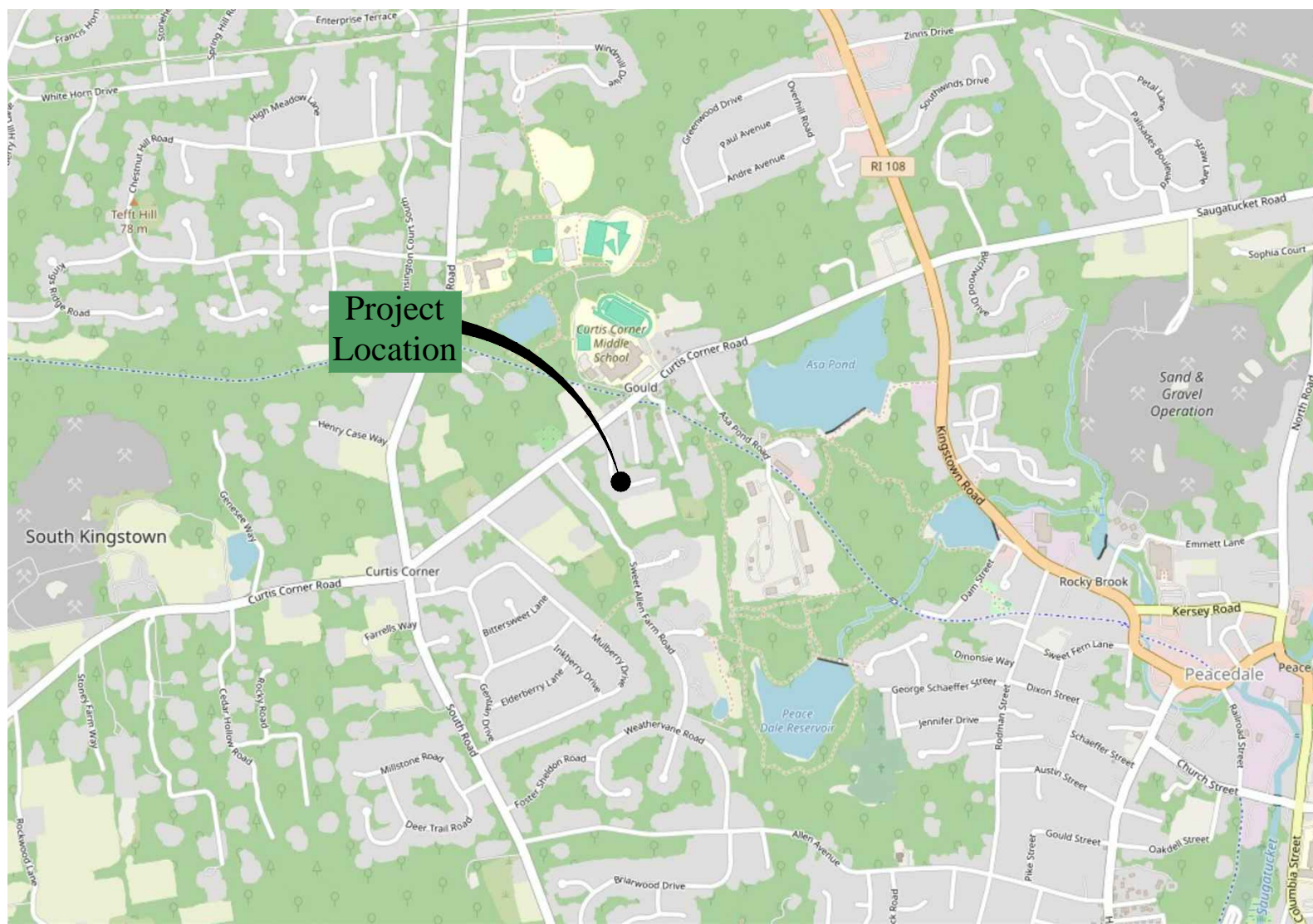
The traffic engineering study completed for this project included the following:

- A traffic counting program to define the existing traffic patterns and operational characteristics along the servicing roadways. The data collection included an Automatic Traffic Recorder (ATR) count on Curtis Corner Road and peak hour Turning Movement Counts (TMC) at the Curtis Corner Road intersections with Kingstown Road and the existing site access road. Record data from the RIDOT and from previous traffic studies completed along Curtis Corner Road were also reviewed.
- An inventory of the physical roadway characteristics of Curtis Corner Road to determine the adequacy of the existing roadway geometric features in reference to access, safety, and operations.
- Analysis of crash records obtained from the South Kingstown Police Department to determine if there are any safety concerns relative to the frequency, severity, or pattern of crashes in the project area.
- An estimate of future traffic volumes for the proposed residential redevelopment was determined through the use of data from the *Trip Generation Manual*, an informational report published by the Institute of Transportation Engineers (ITE) and existing count data for the property.
- Evaluation and analysis of the traffic safety and operations for the future vehicular and pedestrian traffic conditions and development of recommendations where necessary, that would be required to maintain safe and efficient conditions in the project area.



Champagne Heights

SOUTH KINGSTOWN, RHODE ISLAND



 TOWN / CITY LOCATION

LOCUS MAP
NO SCALE

2.0 PROJECT AREA

As noted in the previous section, the subject site is situated along the southerly side of Curtis Corner Road to the west of Kingstown Road (Route 108) within the town owned *Champagne Heights* apartment complex. The 10.5-acre lot is partially developed with nine residential public housing apartment buildings that are operated by the South Kingstown Housing Authority. Access to the redeveloped property that will contain 85 apartments in all new buildings will be provided from the existing site access road intersection with Curtis Corner Road. Figure 2 on the following page depicts the general project area, and the boundary lines of the subject property.

Land use in the immediate area can be described as a mixture of residential, commercial and government properties. Immediately abutting the subject property to the north across Curtis Corner Road is the former *Curtis Corner Middle School* with a contiguous 52-acre town owned recreational and open space parcel that includes athletic fields for South Kingstown High School. The school building is currently vacant and will be razed to allow for redevelopment of the recreational complex for community and high school athletic programs. The William C. O'Neill Bike Path also extends through the town property in a general east-west orientation through the community. To the east are individual residential properties, Asa Pond and the South Kingstown Police Department. To the immediate west along Curtis Corner Road is a vehicle repair and sales business and small residential neighborhoods off of intersecting side streets. Further to the south along Route 108 in the *Peace Dale Village*, are commercial properties including restaurants, gas stations, auto part stores, and small commercial plazas. Further north along Route 138 is the *University of Rhode Island* Kingston campus.

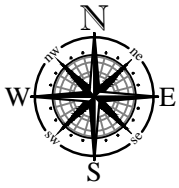
Curtis Corner Road will serve as the primary access route to the proposed redeveloped residential neighborhood, with the existing access road providing immediate local access to parking areas associated with each of the apartment units. Based upon the good operating characteristics of this roadway, and the relatively low amount of additional traffic anticipated with the new apartments during peak daily traffic conditions, a study impact area was defined for this project. The limits of our analysis focused on Curtis Corner Road between Kingstown Road (Route 108) and South Road.

3.0 EXISTING CONDITIONS

3.1 ROADWAYS

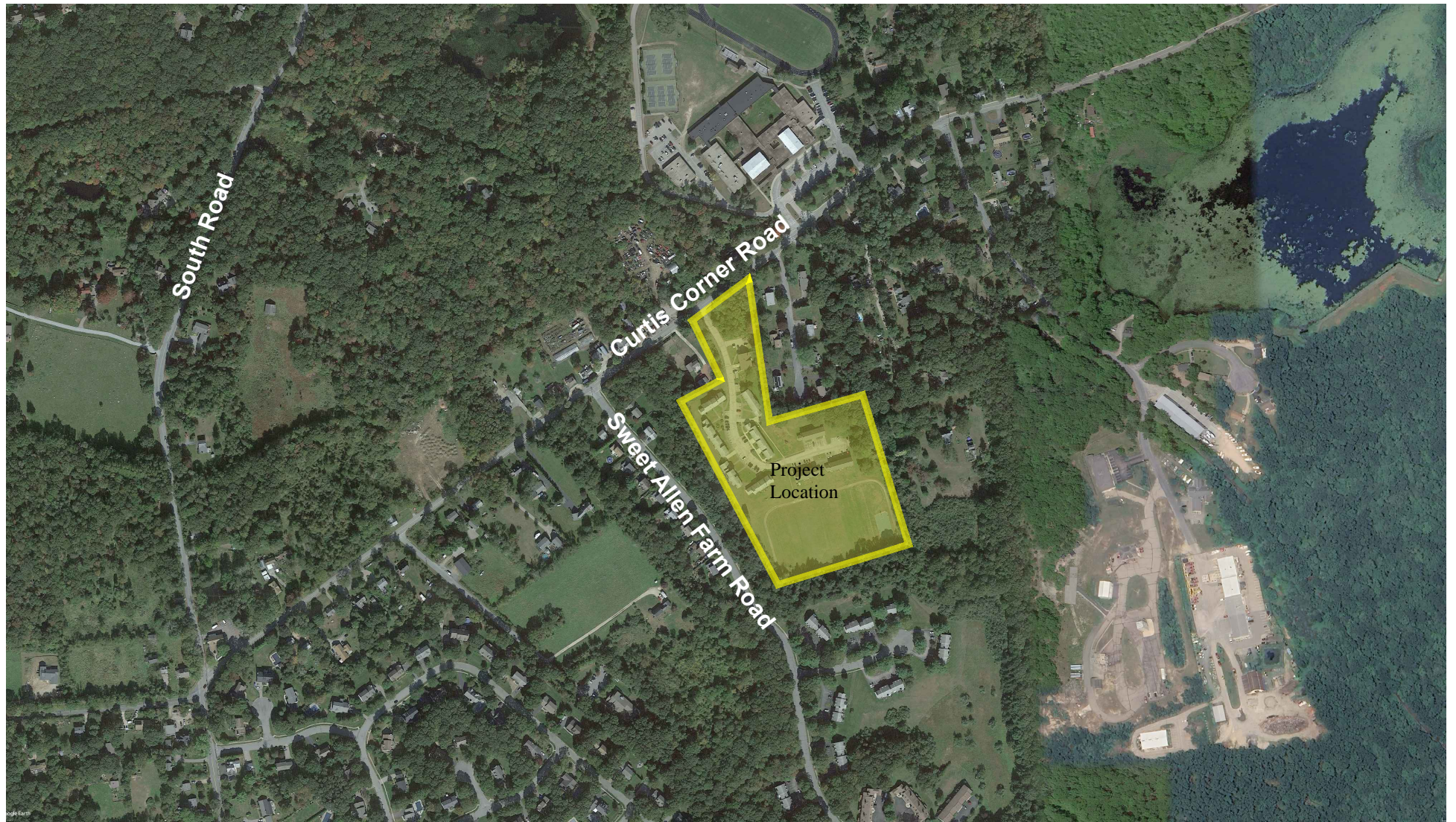
Curtis Corner Road

Curtis Corner Road is classified as a major collector road, running in an east/west direction extending from Kingstown Road (Route 108) to the east to Ministerial Road to the west. The roadway extends further east from Route 108 as Saugatucket Road to Tower Hill Road (Route 1). In the project area, Curtis Corner Road is approximately 26 feet wide with a 13-foot travel lane in each direction separated by double yellow centerline pavement markings. No shoulder markings are present along the roadway in the project area.



Champagne Heights

SOUTH KINGSTOWN, RHODE ISLAND



Cement concrete curbing and sidewalks are available only along the northerly side of the road between Route 108 and the middle school, switching to the south side at the William C. O'Neill Bike Path. The sidewalk continues along the southerly side of the road to the Sweet Allen Farm neighborhood, where further west to Ministerial Road, no sidewalks are available as the roadway is more rural in character.

The pavement surface can be classified as being in fair condition with visible minor block cracking and crack sealing. Sporadic cobra-head light fixtures on utility poles are provided along the northerly side of the roadway to the west of the site access road and on the southerly side of the road to the east of the middle



school for nighttime illumination of the corridor. The speed limit is posted at 25 mph with a school zone speed limit posted at 20 mph along the *Curtis Corner Middle School* frontage. The photograph above depicts the physical characteristics of Curtis Corner Road looking west from the existing site access road.

3.2 INTERSECTIONS

Curtis Corner Road/Saugatucket Road at Kingstown Road (Route 108)

Curtis Corner Road and Saugatucket Road intersect Route 108 to form a 4-Way, signalized intersection. The Route 108 northbound and southbound approaches provide a separate left turn lane and a shared thru/right turn lane. The Curtis Corner Road eastbound and Saugatucket Road westbound approaches provide a single all-purpose lane. Marked crosswalks with curb ramps are provided across all approaches to the intersection.



The adjacent photograph depicts the typical characteristics of the intersection looking west approaching from Saugatucket Road. The traffic signal system is in

good condition as it was reconstructed within the last ten years. The layout of the equipment consists of mast arm mounted signal heads with in-road vehicle loop detection. A combination of pole and pedestal

mounted pedestrian signal heads with countdown timers and pedestrian push buttons are present at the intersection for pedestrian accommodations.

The intersection was determined to operate in a fully actuated mode consisting of three phases. Route 108 northbound and southbound movements are serviced in two phases including an advanced protected left, followed by left/through/right concurrent movements. The Curtis Corner Road eastbound and Saugatucket Road westbound approaches are serviced under a single permitted phase.

Curtis Corner Road at Champagne Heights Site Access Road

The existing Champagne Heights site access road intersects Curtis Corner Road to form an unsignalized, three-way junction. Curtis Corner Road forms the east and west legs, while the site roadway forms the northern leg. The eastbound movements are serviced with a single through/right turn lane. The westbound approach consists of one left/through travel lane. The northbound approach is comprised of a single left/right turn lane as seen in the adjacent photograph looking north to Curtis Corner Road.



Sidewalks are provided on the southern quadrants with accessible ramps, though they appear not to be ADA compliant. A sidewalk extends from the intersection along the westerly side of the site roadway into the property. A crosswalk extends across the access road. The minor approach does not have a stop sign though a stop line is provided adjacent to the crosswalk. It is recommended with the expansion of apartment complex, that a new stop sign be installed on the minor approach to enforce the stop condition and alert motorist of the junction.

3.3 TRAFFIC DATA

Existing traffic flow characteristics for this area were developed from a traffic counting program conducted by Crossman and review of record data available from previous studies completed in the area and from the RIDOT. The data collection effort included 5-day Automatic Traffic Recorder (ATR) count on Curtis Corner Road, and peak hour (7:00-9:00 AM and 3:00-6:00 PM) Manual Turning Movement Counts (TMC) at the Curtis Corner Road intersections with Kingstown Road and the Site Access Road during the weekday morning and afternoon peak periods in September 2024.

Based upon the ATR count program, Curtis Corner Road west of Kingstown Road was found to service approximately 4,250 vehicles per day (vpd) on an average weekday. On a typical weekday, traffic volumes

begin to increase at 6:00 AM, with a morning peak hour of approximately 325 vehicles occurring between 8:00 and 9:00 AM. After 9:00 AM, the volumes decreased to the mid-200 vehicles per hour (vph), before increasing to the afternoon peak after 3:00 PM. The afternoon peak hour varied by day but generally occurred between the hours of 4:00 and 5:00 PM with an average peak hour volume of approximately 425 vph. This information was compared to record count data obtained in 2019 along this same section of Curtis Corner Road, and as expected due to the closure of Curtis Corner Middle School, daily volumes have decreased by approximately 550 vpd from 4,800 vpd previously recorded, to the current daily volume noted.

In addition to the ATR counts, Crossman completed manual turning movement counts at the study intersections referenced along Curtis Corner Road. Data was collected during the peak weekday periods from 7:00 to 9:00 AM and 3:00 to 6:00 PM when the proposed site and surrounding roadways would service the highest combined peak volume of traffic. Figure 3 on the following page depicts the daily peak hour turning movement volumes for the morning and afternoon peak periods at the study intersections. The manual traffic counts were found to be consistent with the ATR data.

A review of RIDOT Seasonal Adjustment factors was also completed to determine average traffic conditions along the study roadways. It was determined that the data obtained on a weekday during the most recent count period represent slightly higher than average traffic conditions. Based on these factors, count data was not adjusted lower to represent average traffic conditions for our study, therefore a conservative analysis of traffic operations was completed. Complete count information can be found in the Appendix.

4.0 SAFETY ANALYSIS

In order to determine if there are any limiting factors affecting safety relating to access to the proposed residential project, the physical characteristics of Curtis Corner Road in the project area were investigated. These limiting factors would potentially include horizontal or vertical roadway geometric changes or roadside obstructions that limit sight distances for vehicles traveling along the road or entering the road from a side street or driveway location. In this instance, the *Stopping Sight Distance* requirement is a design standard necessary to permit turning vehicles to safely enter and exit the development at the existing access road intersection Curtis Corner Road. In addition to the review of physical roadway features, a review of record crash data from the South Kingstown Police Department was also completed to determine if there was a frequency, severity, or pattern of crashes in the project area that requires mitigation.

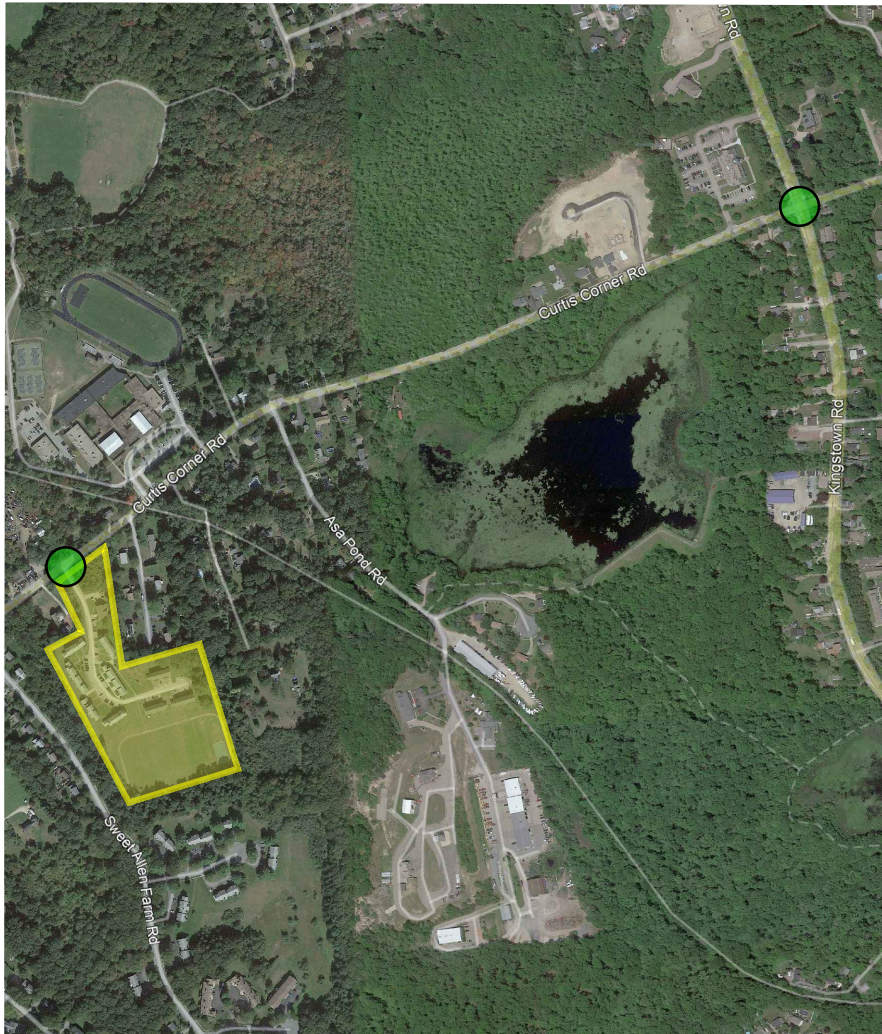
STOPPING SIGHT DISTANCE

Stopping Sight Distance (SSD) is the minimum distance that a driver travelling along a roadway at or near the design speed, requires in order to adequately perceive, react and safely come to a stop prior to reaching an object in its travel path and avoid a collision. The available and required SSD are a function

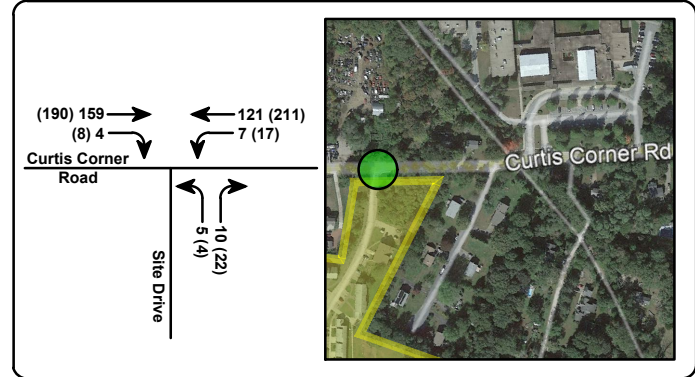


Champagne Heights

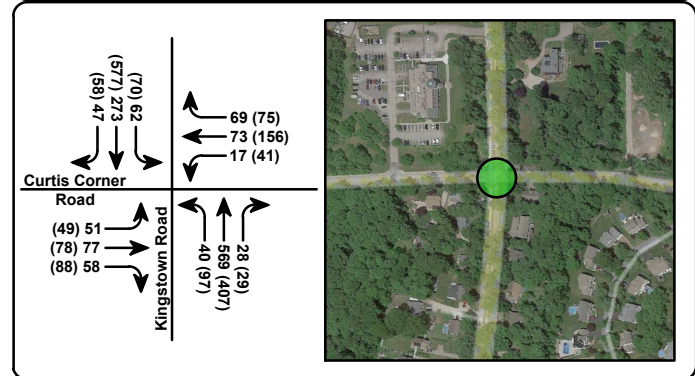
SOUTH KINGSTOWN, RHODE ISLAND



Curtis Corner Road at Site Drive



Curtis Corner Road at Kingstown Road (Rte. 108)



of the roadway geometry and design speed respectively, and are factored in when determining the appropriate and safe location of a site driveway or roadway intersection.

A review of the horizontal and vertical curvature of Curtis Corner Road along the property frontage determined that the roadway can be described as generally straight and level within the project area extending west from the Kingstown Road controlled junction to South Road. There is one minor horizontal curve located in the vicinity of Asa Pond Road. These features can be seen in the adjacent photograph looking east along the property frontage seen on the right.



Based upon the roadway geometry as described and the available sight distances measured through field analysis at the study intersection, a review of the required stopping sight distance was undertaken to ensure safe operations. The *required* SSD is based upon the speed of traffic travelling along the roadway and this value is compared to the available or *measured* SSD to determine if this safety measure is satisfied. In determining the required SSD, the design speed of the roadway must be established. The most recent edition of the American Association of State Highway and Transportation Officials' (AASHTO's) publication *A Policy on Geometric Design of Highways and Streets*, Table 3-1 is referenced in determining the required stopping sight distances, which is based on the design speeds for the roadway.

One method of determining the design speed of a roadway is referenced in the *RIDOT Highway Design Manual*. On roadways with a posted speed limit less than 40 mph, the design speed is estimated to be the posted speed limit, plus 5 mph in urban areas, and plus 10 mph in rural areas. To determine if the minimum requirements for safe SSDs were met in this study, a design speed of 30 mph was utilized for evaluating the stopping sight distances on Curtis Corner Road.

In addition to evaluating the SSD based upon the posted *speed limit* and resultant *design speed*, to be conservative at the Curtis Corner Road site access road location, actual speed data was obtained to determine the 85th percentile speed for drivers travelling along Curtis Corner Road to the west of Kingstown Road. The 85th percentile speed represents the speed at which 85 percent of drivers are travelling at or slower, and is utilized when available in the analysis of required sight distances. Based on speed data obtained as part of the data collection program, the 85th percentile speed of traffic travelling along Curtis Corner Road with a posted speed limit of 25 mph, was determined to be 40 miles per hour for eastbound and 37 mph westbound vehicles.

Based upon the roadway geometry as defined for Curtis Corner Road, the sight distances available at the existing site access road intersection were determined to be in excess of 700 feet to the east and west of the junction. These values are greater than the required safe stopping sight distance (SSD) of 155 feet based on the posted speed of 25 mph, and the 200 feet for the AASHTO requirements for design speed of 30 mph established per RIDOT policy, and the 272 feet to the east and 305 feet to the west required for the actual travel speeds recorded in the site vicinity.

Also, as part of the safety analysis, a review of crash statistics within the study area was completed. Data was obtained from the Town of South Kingstown Police Department for an industry standard three-year period (2019, 2022, and 2023) to determine if any location in the immediate vicinity of the development experienced a high frequency or pattern of crashes. Due to the COVID-19 pandemic, the 2020 and 2021 data were not requested as traffic patterns and volumes were notably impacted and not representative of average traffic conditions. A total of 6 crashes occurred in the project area over the three-year study period, with no injuries or fatalities.

Summarizing the data, two crashes occurred at the Curtis Corner Road signalized intersection with Kingstown Road, two crashes occurred at the site access road intersection, and two were mid-block single vehicle crashes. All of the crashes were minor property damage only incidents with varying factors where no particular type or pattern of crash occurred. An average of two crashes per year indicates a low crash frequency for a study area that includes a signalized intersection.

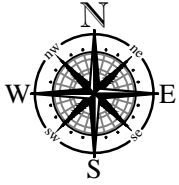
Based upon the historical accident data obtained from the local police, and a review of existing roadway operations, geometry, physical features, and the proposed redevelopment plan, it does not appear that any significant physical safety deficiencies presently exist along the servicing roadways or at the major junctions requiring mitigation other than installing a stop sign at the existing site access road intersection.

5.0 IMPACT ANALYSIS

5.1 TRIP GENERATION

To determine the traffic impact of a proposed development, estimates of anticipated traffic to be generated by a particular land use must be calculated. As previously discussed, the proposed residential project consists of constructing 34 residential townhouse style buildings of differing sizes including duplex and triplex apartment units. Access and egress to the property will be provided from the existing access road at its intersection with Curtis Corner Road. Figure 4 on the following page depicts the proposed redevelopment plan.

For this study, estimated traffic volumes for the residential redevelopment project were based on the use of trip generation data obtained from the *Trip Generation Manual*, an informational report published by the Institute of Transportation Engineers (ITE), a national professional organization for traffic and transportation engineers. The data provided in the ITE report are based on extensive traffic studies for



Champagne Heights

SOUTH KINGSTOWN, RHODE ISLAND



numerous types of land uses (residential, commercial, industrial, etc.). This data has been found to be very reliable and provides a sound basis for estimating future trips to new development projects. For the proposed 85 residential units, Land Use Code 215 Single Family Attached Housing was reviewed for applicability in developing an estimate of site related vehicles trips.

In addition to this method, traffic data was obtained for the existing *Champagne Heights* 40-unit apartment complex to provide a comparison of the ITE estimated site generated traffic volumes for this type of land use. The ITE manual suggests that if a similar or more appropriate land use is available in the region of study, data could be obtained to confirm ITE rates, or to use the independent study rates if they are more applicable. Therefore, for this study, data was obtained at the existing *Champagne Heights* site access road intersection with Curtis Corner Road. Data was collected during the morning and afternoon peaks when the proposed site use would generate its greatest hourly volumes over the course of a typical day.

Comparison of the actual trip rates at the *Champagne Heights* apartment complex, with the trip estimate using ITE rates for the residential apartment use, determined that the public housing residential use typically generates higher peak hour trips than a standard residential apartment complex. This can be attributed to the higher number of children that were found to reside in the existing apartment complex that is more geared toward families which is atypical of standard apartment unit developments that do not have family-oriented amenities and accommodations.

Table 1 provides a summary of the peak hour volumes estimated for the proposed apartment complex project utilizing the ITE factors and factors calculated for the existing *Champagne Heights* apartment complex. The appropriate worksheets from the manual and independent study calculations are included in the Appendix, along with the trip estimate calculations.

TABLE 1 – Trip Generation Estimate

	<u>Description</u>	<u>Enter</u>	<u>Exit</u>	<u>Total</u>
<u>AM PEAK HOUR</u>				
ITE Land Use Code 215	Single Family Attached	13	28	41
Independent Study	Champagne Heights	23	32	55
<u>PM PEAK HOUR</u>				
ITE Land Use Code 215	Single Family Attached	28	21	49
Independent Study	Champagne Heights	53	56	109

5.2 FUTURE TRAFFIC CONDITIONS

In order to properly assess the impacts of a development, future traffic conditions of area roadways should be estimated for the period when the development is constructed and fully occupied. Typically, the expansion of base traffic is calculated when a project is to be constructed over an extended period (3 to 5 years). In all instances, area growth that may affect capacity results should be considered. For this project, a conservative annual growth rate of 1.0 percent for a five-year design horizon was utilized for the future background traffic growth of the servicing roadways, in addition to known site-specific developments that are being considered by the Town of South Kingstown.

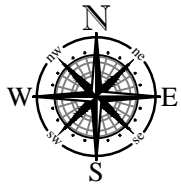
Planning data available from the town was reviewed to determine if there were any development projects in the immediate area would contribute substantive volumes along the Curtis Corner Road corridor. Many of the projects that are under review or have been approved are minor in nature and the one percent growth rate would account for the potential minor volume of additional traffic. One of the known future development potentials in the immediate site vicinity is *The Village at Curtis Corner* project presently under construction. Most of the units are built and occupied but to be conservative all the estimated traffic for the development obtained from the traffic study completed for that project was added to base traffic obtained for Curtis Corner Road. For the future build conditions analysis, the estimated site-specific trips for the full redevelopment of *Champagne Heights* were added to the design year base volumes to establish the future 2029 Build traffic periods.

In developing the intersection volumes to be analyzed under build conditions, Crossman reviewed the data obtained at the existing site driveway intersection with Curtis Corner Road. Future estimated site traffic was distributed consistent with existing site driveway traffic patterns. The volumes were then distributed throughout the network based on existing traffic patterns at the major junctions. Figure 5 on the following page depicts the estimated future traffic volumes at the study intersections.

5.3 OPERATIONAL ANALYSIS

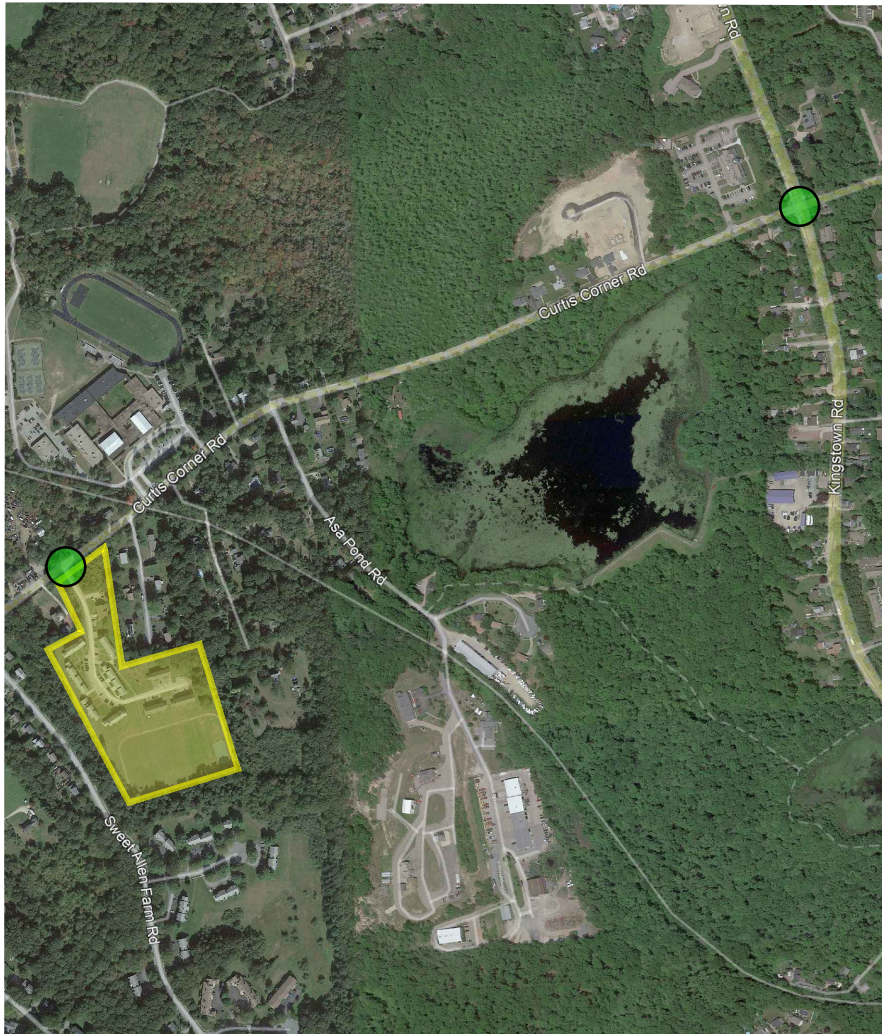
The key to any traffic impact analysis is the evaluation of roadway operations during peak traffic periods on the servicing roadway system. This condition would occur when the site-generated traffic, combined with the traffic volumes on the main roadway, result in the highest one-hour volume serviced along a roadway segment, or through an intersection. Review of record traffic data found that the weekday morning and afternoon peak hours would represent this worst-case combination of site-generated traffic with the servicing roadway peak traffic period.

The Highway Capacity Manual methodology provides the most accurate means of evaluating traffic capacity and delays for roadways and intersections. The results of this procedure are expressed in terms of Level of Service (LOS). Level of Service is a qualitative measure of traffic flow efficiency based on anticipated vehicle delays. For example, LOS "A" represents the best condition with little or no delay, while LOS "F" indicates that the roadway/intersection is at full capacity resulting in extended vehicle delay

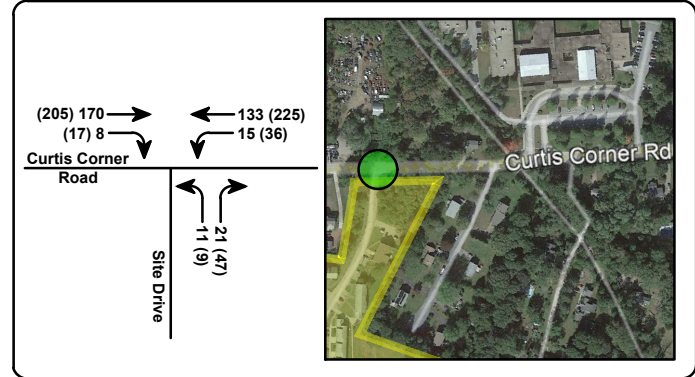


Champagne Heights

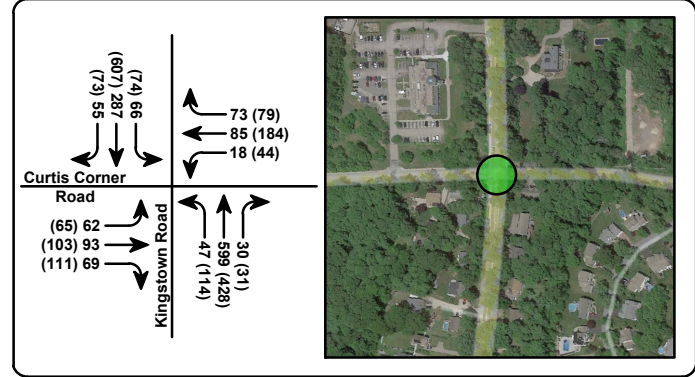
SOUTH KINGSTOWN, RHODE ISLAND



Curtis Corner Road at Site Drive



Curtis Corner Road at Kingstown Road (Rte. 108)



and potential queuing. Table 2 outlines the Level of Service delay criteria presented in the Highway Capacity Manual for signalized and unsignalized intersections.

TABLE 2 – Highway Capacity Criteria

Level of Service	Unsignalized Delay Per Vehicle (sec)	Signalized Delay Per Vehicle (sec)
A	<10	<10
B	>10 and <15	>10 and <20
C	>15 and <25	>20 and <35
D	>25 and <35	>35 and <55
E	>35 and <50	>55 and <80
F	>50	>80

The Curtis Corner Road intersections with Kingstown Road (Route 108) and the site access road were analyzed for the weekday morning and afternoon peak hours. The capacity analysis worksheets are included in the Appendix and Tables 3 and 4 summarize the results of the analyses for existing and future build conditions.

TABLE 3 – Level of Service Summary (Existing Conditions)

Location / Movement	2024 EXISTING CONDITIONS							
	AM Peak Hour				PM Peak Hour			
	LOS	Delay	95 th % Queue Length (veh.)	v/c	LOS	Delay	95 th % Queue Length (veh.)	v/c
<i>Curtis Corner Road at Kingstown Road (S)</i>								
Curtis Corner Road EB	C	28.4	6	0.56	C	29.9	8	0.58
Saugatucket Road WB	C	22.7	5	0.43	C	33.9	10	0.66
Route 108 NB Left	A	5.4	1	0.07	A	8.6	2	0.30
Route 108 NB Thru/Right	C	23.6	16	0.80	B	16.5	11	0.53
Route 108 SB Left	A	6.0	1	0.18	A	6.9	2	0.15
Route 108 SB Thru/Right	B	11.6	7	0.39	C	24.0	18	0.78
Overall Intersection	B	20.0	-	-	C	22.9	-	-
<i>Curtis Corner Road at Site Access Road (U)</i>								
Curtis Corner WB Left	A	7.6	0	0.01	A	7.7	0	0.01
Site Access Road NB	A	9.6	1	0.02	A	9.9	1	0.04
Overall Intersection	A	0.6	-	-	A	0.9	-	-

(S) – Signalized

(U) – Unsignalized

Table 3 on the previous page depicts the current operating conditions at the study intersections. As can be seen in the table, the signalized intersection of Curtis Corner Road with Kingstown Road currently operates overall at a good LOS C or better during the daily peak hours analyzed. All critical movements operate at LOS D or better for the signalized intersection which is considered an acceptable design condition for peak traffic periods. At the unsignalized intersection of Curtis Corner Road with the Champagne Heights site access road, all critical movements currently operate at LOS A or better with typically one to two vehicles queued on the minor approach during the peak daily traffic conditions.

TABLE 4 – Level of Service Summary (Future Conditions)

Location / Movement	2029 FUTURE BUILD CONDITIONS							
	AM Peak Hour				PM Peak Hour			
	LOS	Delay	95 th % Queue Length (veh.)	v/c	LOS	Delay	95 th % Queue Length (veh.)	v/c
<i>Curtis Corner Road at Kingstown Road (S)</i>								
Curtis Corner Road EB	C	32.6	7	0.65	D	40.1	11	0.75
Saugatucket Road WB	C	23.9	6	0.45	D	37.4	12	0.71
Route 108 NB Left	A	6.4	1	0.09	B	11.8	2	0.41
Route 108 NB Thru/Right	C	26.8	21	0.82	B	18.5	13	0.55
Route 108 SB Left	A	7.4	2	0.21	A	8.4	2	0.17
Route 108 SB Thru/Right	B	13.0	8	0.41	C	29.1	23	0.82
Overall Intersection	C	22.6	-	-	C	27.7	-	-
<i>Curtis Corner Road at Site Access Road (U)</i>								
Curtis Corner WB Left	A	7.6	0	0.01	A	7.8	1	0.03
Site Access Road NB	A	9.9	1	0.05	B	10.4	1	0.08
Overall Intersection	A	1.2	-	-	A	1.6	-	-

(S) – Signalized
(U) – Unsignalized

Table 4 presents the future design period taking into consideration base traffic growth along the servicing roadways while also adding in the new trips generated by the proposed residential redevelopment expansion project. The results of the signalized analysis determined that the Curtis Corner Road intersection with Kingstown Road will continue to operate overall in an acceptable manner at a good LOS C during the daily peak hours of traffic similar to existing operations with only minor increases in delays for many of the movements.

The unsignalized intersection of Curtis Corner Road at the Site Access Road was also reviewed where existing geometrics and control will be maintained. As can be seen in the table, under future build conditions, the junction will continue to operate with all movements operating at a good LOS B or better with delays of approximately 10 seconds. Typically, only one to two vehicles would be queued on the approach waiting to turn onto the main roadway resulting in acceptable delays of minor approach access road traffic, and no congestion.

6.0 CONCLUSIONS AND RECOMMENDATIONS

In summary, the study has shown that the proposed residential redevelopment project access and circulation plan has been designed to provide a level of traffic safety and efficiency on the servicing roadway system. The safety of the study intersections of Curtis Corner Road with Kingstown Road and the Site Access Road were reviewed for geometry and sight distances. The study intersections were determined to provide sufficient sight distances in accordance with AASHTO criteria for visibility and decision making of drivers attempting to enter/exit main street traffic from the development. Analysis of the crash data along the servicing roadway determined there was no frequency or severity of crashes within the study area requiring safety enhancements.

Pedestrian accessibility will be enhanced throughout the development with interconnecting sidewalks between buildings that will also link to the Curtis Corner Road sidewalk system that connects to the bike path to the immediate east of the subject property. As noted, the access road intersection includes a crosswalk for a defined pedestrian path and it will be replaced with new high visibility markings as part of the site roadway upgrade. The only recommendation that should be addressed is the installation of a stop sign on the existing minor site access road approach to Curtis Corner Road.

The results of the operational analysis determined that the estimated increase in traffic during the daily peak periods resulting from the proposed residential project will have a minor impact on overall traffic operations along the servicing roadways and intersections, particularly during the daily morning and afternoon peak hours when the residential neighborhood would generate the highest daily traffic volumes. Existing intersections will maintain a good level of service with a minor increase in delays and acceptable operations. The existing site access road intersection is estimated to operate in a safe and efficient manner.

Therefore, based upon the data collected on the servicing roadways, the analysis completed as part of this study including recommendations, the proposed residential redevelopment project was determined to have adequate and safe access to a public street, and will not have an adverse impact on public safety and welfare in the study area.

APPENDIX

-
- A. Traffic Volume Data
 - B. Traffic Crash Data
 - C. Trip Generation
 - D. Operational Analysis

APPENDIX A – Traffic Volume Data

Automatic Traffic Recorder Count

Curtis Corner Road

Intersection Turning Movement Count

Curtis Corner Road at Kingstown Road (Route 108)

Curtis Corner Road at Site Access Road

A

Automatic Traffic Recorder Count

Curtis Corner Road

Curtis Corner Road

Traffic Volumes

Transportation Data Corporation

Mario Perone, mperone1@verizon.net

tel (781)587-0086 cell (781)439-4999

Curtis Corner Road
west of Vespa Lane
City, State: S. Kingstown, RI
Client: Crossman/P. Bannon

05858Avolume
Site Code: 2881

Start Time	9/23/2024 Mon	9/24/2024 Tue	9/25/2024 Wed	9/26/2024 Thu	9/27/2024 Fri	9/28/2024 Sat	9/29/2024 Sun	Week Average
12:00 AM	6	13	10	10	12	*	*	10
01:00	2	4	10	6	3	*	*	5
02:00	3	3	2	4	5	*	*	3
03:00	8	3	4	7	6	*	*	6
04:00	12	13	14	12	13	*	*	13
05:00	39	29	46	44	34	*	*	38
06:00	116	110	102	111	107	*	*	109
07:00	279	291	316	301	310	*	*	299
08:00	308	306	350	322	317	*	*	321
09:00	255	279	243	267	268	*	*	262
10:00	238	236	231	239	289	*	*	247
11:00	280	258	242	230	242	*	*	250
12:00 PM	230	278	262	260	310	*	*	268
01:00	267	304	273	252	331	*	*	285
02:00	290	336	326	314	382	*	*	330
03:00	378	390	395	349	391	*	*	381
04:00	422	472	445	364	380	*	*	417
05:00	345	394	394	275	339	*	*	349
06:00	287	307	234	199	297	*	*	265
07:00	145	209	212	149	139	*	*	171
08:00	87	102	102	86	130	*	*	101
09:00	50	66	65	55	67	*	*	61
10:00	42	33	38	35	61	*	*	42
11:00	17	12	21	12	41	*	*	21
Total	4106	4448	4337	3903	4474	0	0	4253
Percentage	96.5%	104.6%	102.0%	91.7%	105.2%	0.0%	0.0%	
AM Peak	08:00	08:00	08:00	08:00	08:00	-	-	-
Vol.	308	306	350	322	317	-	-	-
PM Peak	16:00	16:00	16:00	16:00	15:00	-	-	-
Vol.	422	472	445	364	391	-	-	-

Transportation Data Corporation

Mario Perone, mperone1@verizon.net

tel (781)587-0086 cell (781)439-4999

Curtis Corner Road
west of Vespa Lane
City, State: S. Kingstown, RI
Client: Crossman/P. Bannon

05858Avolume
Site Code: 2881

Start Time	9/23/2024		9/24/2024		9/25/2024		9/26/2024		9/27/2024		Weekday Average		9/28/2024		9/29/2024	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
12:00 AM	3	3	4	9	3	7	3	7	3	9	3	7	*	*	*	*
01:00	0	2	2	2	4	6	3	3	0	3	2	3	*	*	*	*
02:00	1	2	2	1	1	1	0	4	4	1	2	2	*	*	*	*
03:00	6	2	3	0	4	0	6	1	3	3	4	1	*	*	*	*
04:00	7	5	9	4	9	5	8	4	10	3	9	4	*	*	*	*
05:00	31	8	23	6	34	12	32	12	26	8	29	9	*	*	*	*
06:00	76	40	73	37	65	37	78	33	64	43	71	38	*	*	*	*
07:00	158	121	177	114	162	154	169	132	169	141	167	132	*	*	*	*
08:00	164	144	168	138	177	173	163	159	173	144	169	152	*	*	*	*
09:00	130	125	129	150	140	103	134	133	145	123	136	127	*	*	*	*
10:00	121	117	139	97	117	114	121	118	166	123	133	114	*	*	*	*
11:00	143	137	120	138	118	124	114	116	116	126	122	128	*	*	*	*
12:00 PM	100	130	129	149	118	144	133	127	165	145	129	139	*	*	*	*
01:00	128	139	139	165	141	132	126	126	148	183	136	149	*	*	*	*
02:00	134	156	134	202	142	184	140	174	168	214	144	186	*	*	*	*
03:00	167	211	163	227	171	224	172	177	174	217	169	211	*	*	*	*
04:00	178	244	194	278	189	256	181	183	181	199	185	232	*	*	*	*
05:00	155	190	183	211	164	230	121	154	168	171	158	191	*	*	*	*
06:00	161	126	171	136	114	120	95	104	148	149	138	127	*	*	*	*
07:00	59	86	128	81	114	98	61	88	62	77	85	86	*	*	*	*
08:00	21	66	35	67	32	70	30	56	53	77	34	67	*	*	*	*
09:00	18	32	16	50	32	33	23	32	18	49	21	39	*	*	*	*
10:00	20	22	11	22	17	21	18	17	25	36	18	24	*	*	*	*
11:00	8	9	3	9	5	16	2	10	17	24	7	14	*	*	*	*
Total	1989	2117	2155	2293	2073	2264	1933	1970	2206	2268	2071	2182	0	0	0	0
Day	4106		4448		4337		3903		4474		4253		0		0	
AM Peak	08:00	08:00	07:00	09:00	08:00	08:00	07:00	08:00	08:00	08:00	08:00	08:00	-	-	-	-
Vol.	164	144	177	150	177	173	169	159	173	144	169	152	-	-	-	-
PM Peak	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	15:00	16:00	16:00	-	-	-	-
Vol.	178	244	194	278	189	256	181	183	181	217	185	232	-	-	-	-

Comb. Total	4106	4448	4337	3903	4474	4253	0	0
ADT	ADT 4,254	AADT 4,254						

Vehicle Speed Data

Transportation Data Corporation

Mario Perone, mperone1@verizon.net
tel (781)587-0086 cell (781)439-4999

Curtis Corner Road
west of Vespa Lane
City, State: S. Kingstown, RI
Client: Crossman/P. Bannon
Eastbound

05858Aspeed
Site Code: 2881

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	Total
09/23/24	0	0	0	1	0	2	0	0	0	0	0	0	0	3
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	3	2	0	1	0	0	0	0	0	6
04:00	0	0	0	2	0	4	1	0	0	0	0	0	0	7
05:00	0	0	0	3	7	12	9	0	0	0	0	0	0	31
06:00	0	0	1	5	28	26	10	6	0	0	0	0	0	76
07:00	1	2	5	23	46	62	19	0	0	0	0	0	0	158
08:00	2	0	3	16	55	56	30	2	0	0	0	0	0	164
09:00	0	0	2	9	53	42	23	1	0	0	0	0	0	130
10:00	0	0	1	12	55	40	10	3	0	0	0	0	0	121
11:00	2	0	0	10	58	54	17	2	0	0	0	0	0	143
12 PM	0	0	0	10	26	43	21	0	0	0	0	0	0	100
13:00	1	0	0	10	44	49	19	5	0	0	0	0	0	128
14:00	4	0	0	7	45	53	17	7	1	0	0	0	0	134
15:00	4	0	2	11	66	56	23	4	1	0	0	0	0	167
16:00	0	0	2	5	53	77	37	4	0	0	0	0	0	178
17:00	1	0	0	12	57	63	18	3	1	0	0	0	0	155
18:00	0	0	1	20	55	54	22	8	1	0	0	0	0	161
19:00	0	0	2	12	26	11	7	0	1	0	0	0	0	59
20:00	1	0	0	4	7	5	4	0	0	0	0	0	0	21
21:00	0	0	1	4	4	7	1	0	0	1	0	0	0	18
22:00	0	0	0	2	10	6	2	0	0	0	0	0	0	20
23:00	0	0	0	2	2	3	1	0	0	0	0	0	0	8
Total	16	2	20	180	701	727	291	46	5	1	0	0	0	1989

Transportation Data Corporation

Mario Perone, mperone1@verizon.net
tel (781)587-0086 cell (781)439-4999

Curtis Corner Road
west of Vespa Lane
City, State: S. Kingstown, RI
Client: Crossman/P. Bannon
Eastbound

05858Aspeed
Site Code: 2881

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	Total
09/24/24	0	0	0	1	1	2	0	0	0	0	0	0	0	4
01:00	0	0	0	1	1	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	2	0	0	0	0	0	0	0	2
03:00	0	0	0	1	1	0	1	0	0	0	0	0	0	3
04:00	0	0	0	1	2	3	2	1	0	0	0	0	0	9
05:00	0	0	0	4	5	6	6	2	0	0	0	0	0	23
06:00	0	0	1	6	22	30	14	0	0	0	0	0	0	73
07:00	1	0	2	13	46	91	20	4	0	0	0	0	0	177
08:00	2	3	5	24	68	50	13	3	0	0	0	0	0	168
09:00	1	0	2	15	43	51	13	3	1	0	0	0	0	129
10:00	0	0	0	12	58	52	14	3	0	0	0	0	0	139
11:00	0	0	2	9	52	44	11	2	0	0	0	0	0	120
12 PM	1	0	1	13	52	36	21	5	0	0	0	0	0	129
13:00	1	0	0	8	38	70	17	4	1	0	0	0	0	139
14:00	0	0	0	7	47	52	24	2	2	0	0	0	0	134
15:00	4	0	0	18	49	61	26	4	0	1	0	0	0	163
16:00	0	0	0	6	51	97	35	5	0	0	0	0	0	194
17:00	2	0	0	15	57	76	22	10	0	1	0	0	0	183
18:00	2	0	0	12	74	59	18	3	3	0	0	0	0	171
19:00	0	0	0	21	45	49	10	1	1	0	0	0	1	128
20:00	0	0	0	2	20	9	3	1	0	0	0	0	0	35
21:00	0	0	0	5	3	6	2	0	0	0	0	0	0	16
22:00	0	0	0	0	5	3	3	0	0	0	0	0	0	11
23:00	0	0	0	0	1	2	0	0	0	0	0	0	0	3
Total	14	3	13	194	741	851	275	53	8	2	0	0	1	2155

Transportation Data Corporation

Mario Perone, mperone1@verizon.net
tel (781)587-0086 cell (781)439-4999

Curtis Corner Road
west of Vespa Lane
City, State: S. Kingstown, RI
Client: Crossman/P. Bannon
Eastbound

05858Aspeed
Site Code: 2881

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	Total
09/25/24	0	0	0	1	0	1	1	0	0	0	0	0	0	3
01:00	0	0	0	0	1	1	1	1	0	0	0	0	0	4
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
03:00	0	0	0	1	2	1	0	0	0	0	0	0	0	4
04:00	0	0	0	1	3	4	1	0	0	0	0	0	0	9
05:00	0	0	1	3	9	13	5	3	0	0	0	0	0	34
06:00	0	0	0	6	25	24	8	2	0	0	0	0	0	65
07:00	0	0	4	12	44	70	32	0	0	0	0	0	0	162
08:00	5	4	1	16	59	62	24	6	0	0	0	0	0	177
09:00	0	1	1	11	69	45	11	2	0	0	0	0	0	140
10:00	0	0	0	14	48	39	14	2	0	0	0	0	0	117
11:00	0	0	0	9	42	45	19	3	0	0	0	0	0	118
12 PM	0	0	1	8	40	48	19	1	0	1	0	0	0	118
13:00	1	0	2	21	55	39	17	5	1	0	0	0	0	141
14:00	1	0	1	4	57	49	24	5	1	0	0	0	0	142
15:00	2	0	5	11	64	64	20	4	1	0	0	0	0	171
16:00	2	0	0	18	60	76	27	5	1	0	0	0	0	189
17:00	1	0	3	16	39	77	24	3	1	0	0	0	0	164
18:00	1	0	2	13	42	43	10	2	1	0	0	0	0	114
19:00	1	0	1	17	62	21	10	2	0	0	0	0	0	114
20:00	0	0	2	6	14	7	1	1	0	1	0	0	0	32
21:00	0	0	0	1	7	15	8	1	0	0	0	0	0	32
22:00	0	0	0	2	8	6	1	0	0	0	0	0	0	17
23:00	0	0	0	0	2	1	1	0	1	0	0	0	0	5
Total	14	5	24	191	753	751	278	48	7	2	0	0	0	2073

Transportation Data Corporation

Mario Perone, mperone1@verizon.net
tel (781)587-0086 cell (781)439-4999

Curtis Corner Road
west of Vespa Lane
City, State: S. Kingstown, RI
Client: Crossman/P. Bannon
Eastbound

05858Aspeed
Site Code: 2881

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	Total
09/26/24	0	0	0	0	0	0	3	0	0	0	0	0	0	3
01:00	0	0	0	0	1	0	0	1	1	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	2	1	1	2	0	0	0	0	0	0	6
04:00	0	0	0	0	2	4	2	0	0	0	0	0	0	8
05:00	0	0	1	5	7	9	7	3	0	0	0	0	0	32
06:00	0	0	1	12	25	30	7	2	1	0	0	0	0	78
07:00	3	0	0	21	53	68	22	2	0	0	0	0	0	169
08:00	1	0	0	24	52	56	22	7	1	0	0	0	0	163
09:00	1	0	4	16	34	51	22	4	2	0	0	0	0	134
10:00	0	0	0	9	47	35	24	4	2	0	0	0	0	121
11:00	1	0	1	6	38	44	20	4	0	0	0	0	0	114
12 PM	1	1	0	14	48	40	27	2	0	0	0	0	0	133
13:00	2	0	1	11	36	50	19	7	0	0	0	0	0	126
14:00	1	0	1	3	49	48	29	9	0	0	0	0	0	140
15:00	1	1	2	29	59	52	24	4	0	0	0	0	0	172
16:00	3	0	0	12	68	56	32	10	0	0	0	0	0	181
17:00	2	0	0	7	36	52	18	6	0	0	0	0	0	121
18:00	2	0	2	15	33	32	9	2	0	0	0	0	0	95
19:00	1	0	3	5	21	20	7	3	0	0	1	0	0	61
20:00	0	0	0	3	12	8	7	0	0	0	0	0	0	30
21:00	0	0	0	0	12	9	2	0	0	0	0	0	0	23
22:00	0	0	0	2	11	1	3	0	0	0	1	0	0	18
23:00	0	0	0	0	1	0	1	0	0	0	0	0	0	2
Total	19	2	16	196	646	666	309	70	7	0	2	0	0	1933

Transportation Data Corporation

Mario Perone, mperone1@verizon.net
tel (781)587-0086 cell (781)439-4999

Curtis Corner Road
west of Vespa Lane
City, State: S. Kingstown, RI
Client: Crossman/P. Bannon
Eastbound

05858Aspeed
Site Code: 2881

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	Total
09/27/24	0	0	0	0	1	2	0	0	0	0	0	0	0	3
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	1	0	1	2	0	0	0	0	0	0	4
03:00	0	0	0	2	1	0	0	0	0	0	0	0	0	3
04:00	0	0	0	2	3	4	1	0	0	0	0	0	0	10
05:00	0	0	1	4	5	12	3	1	0	0	0	0	0	26
06:00	0	0	0	8	20	18	15	1	2	0	0	0	0	64
07:00	1	0	3	16	47	73	24	5	0	0	0	0	0	169
08:00	2	1	2	16	53	65	28	6	0	0	0	0	0	173
09:00	2	0	3	8	48	55	22	7	0	0	0	0	0	145
10:00	1	0	2	21	59	64	16	3	0	0	0	0	0	166
11:00	0	0	0	9	38	44	19	4	1	1	0	0	0	116
12 PM	4	0	3	14	59	65	15	4	0	1	0	0	0	165
13:00	1	1	4	19	54	42	24	3	0	0	0	0	0	148
14:00	3	0	3	19	45	65	28	5	0	0	0	0	0	168
15:00	2	0	0	10	56	79	19	8	0	0	0	0	0	174
16:00	4	0	2	16	60	71	23	4	0	0	1	0	0	181
17:00	6	0	0	5	55	71	27	3	0	1	0	0	0	168
18:00	1	0	0	12	40	67	27	0	1	0	0	0	0	148
19:00	0	0	0	7	27	21	3	3	1	0	0	0	0	62
20:00	0	0	0	8	19	18	7	1	0	0	0	0	0	53
21:00	0	0	0	2	11	4	1	0	0	0	0	0	0	18
22:00	0	0	0	2	10	8	4	1	0	0	0	0	0	25
23:00	0	0	1	3	5	6	2	0	0	0	0	0	0	17
Total	27	2	24	204	716	855	310	59	5	3	1	0	0	2206
Grand Total	90	14	97	965	3557	3850	1463	276	32	8	3	0	1	10356

15th Percentile : 30 MPH
50th Percentile : 35 MPH
85th Percentile : 40 MPH
95th Percentile : 44 MPH

Statistics Mean Speed(Average) : 36 MPH
10 MPH Pace Speed : 31-40 MPH
Number in Pace : 7407
Percent in Pace : 71.5%
Number of Vehicles > 25 MPH : 10155
Percent of Vehicles > 25 MPH : 98.1%

Transportation Data Corporation

Mario Perone, mperone1@verizon.net
tel (781)587-0086 cell (781)439-4999

Curtis Corner Road
west of Vespa Lane
City, State: S. Kingstown, RI
Client: Crossman/P. Bannon
Westbound

05858Aspeed
Site Code: 2881

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	Total
09/23/24	0	0	0	1	1	1	0	0	0	0	0	0	0	3
01:00	0	0	0	0	1	1	0	0	0	0	0	0	0	2
02:00	0	0	0	0	1	1	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	1	1	0	0	0	0	0	0	2
04:00	0	0	0	2	1	2	0	0	0	0	0	0	0	5
05:00	0	0	0	3	1	3	1	0	0	0	0	0	0	8
06:00	1	0	0	9	16	11	1	1	1	0	0	0	0	40
07:00	0	0	4	18	64	33	0	2	0	0	0	0	0	121
08:00	3	1	1	19	86	29	5	0	0	0	0	0	0	144
09:00	0	1	4	20	68	28	3	1	0	0	0	0	0	125
10:00	0	0	1	23	59	31	2	1	0	0	0	0	0	117
11:00	1	0	0	29	62	41	3	1	0	0	0	0	0	137
12 PM	0	0	0	21	65	40	3	1	0	0	0	0	0	130
13:00	1	0	0	21	66	44	7	0	0	0	0	0	0	139
14:00	1	0	3	31	62	49	9	1	0	0	0	0	0	156
15:00	1	2	3	39	101	54	11	0	0	0	0	0	0	211
16:00	2	0	0	41	135	62	4	0	0	0	0	0	0	244
17:00	4	0	0	24	94	56	11	1	0	0	0	0	0	190
18:00	1	0	1	19	64	38	3	0	0	0	0	0	0	126
19:00	0	0	2	22	44	15	3	0	0	0	0	0	0	86
20:00	0	0	0	11	38	17	0	0	0	0	0	0	0	66
21:00	0	0	0	8	18	3	1	2	0	0	0	0	0	32
22:00	0	0	3	8	5	6	0	0	0	0	0	0	0	22
23:00	0	0	0	1	3	5	0	0	0	0	0	0	0	9
Total	15	4	22	370	1055	571	68	11	1	0	0	0	0	2117

Transportation Data Corporation

Mario Perone, mperone1@verizon.net
tel (781)587-0086 cell (781)439-4999

Curtis Corner Road
west of Vespa Lane
City, State: S. Kingstown, RI
Client: Crossman/P. Bannon
Westbound

05858Aspeed
Site Code: 2881

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	Total
09/24/24	0	0	1	2	4	2	0	0	0	0	0	0	0	9
01:00	0	0	0	0	1	1	0	0	0	0	0	0	0	2
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	1	3	0	0	0	0	0	0	0	0	4
05:00	0	0	0	2	4	0	0	0	0	0	0	0	0	6
06:00	0	0	0	9	11	13	4	0	0	0	0	0	0	37
07:00	1	0	2	19	59	24	8	1	0	0	0	0	0	114
08:00	2	0	1	35	59	36	4	1	0	0	0	0	0	138
09:00	1	0	1	24	80	36	8	0	0	0	0	0	0	150
10:00	0	2	1	18	49	23	3	0	0	1	0	0	0	97
11:00	0	0	2	22	72	35	6	1	0	0	0	0	0	138
12 PM	2	0	0	23	88	32	4	0	0	0	0	0	0	149
13:00	2	0	0	15	91	54	2	1	0	0	0	0	0	165
14:00	0	0	4	41	103	46	8	0	0	0	0	0	0	202
15:00	3	0	9	36	110	60	7	1	1	0	0	0	0	227
16:00	7	0	0	19	139	97	15	1	0	0	0	0	0	278
17:00	1	0	0	17	99	77	14	3	0	0	0	0	0	211
18:00	0	0	0	16	70	39	9	2	0	0	0	0	0	136
19:00	2	0	1	19	47	10	2	0	0	0	0	0	0	81
20:00	0	0	1	17	31	15	3	0	0	0	0	0	0	67
21:00	0	0	1	9	33	6	0	1	0	0	0	0	0	50
22:00	0	0	0	6	13	3	0	0	0	0	0	0	0	22
23:00	0	0	0	2	3	4	0	0	0	0	0	0	0	9
Total	21	2	24	352	1170	613	97	12	1	1	0	0	0	2293

Transportation Data Corporation

Mario Perone, mperone1@verizon.net
tel (781)587-0086 cell (781)439-4999

Curtis Corner Road
west of Vespa Lane
City, State: S. Kingstown, RI
Client: Crossman/P. Bannon
Westbound

05858Aspeed
Site Code: 2881

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	Total
09/25/24	0	0	1	2	2	1	1	0	0	0	0	0	0	7
01:00	0	0	0	1	3	1	0	0	1	0	0	0	0	6
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	2	3	0	0	0	0	0	0	0	0	5
05:00	0	0	2	1	4	2	3	0	0	0	0	0	0	12
06:00	1	0	1	6	19	8	2	0	0	0	0	0	0	37
07:00	2	0	0	29	85	35	3	0	0	0	0	0	0	154
08:00	2	0	2	43	88	34	4	0	0	0	0	0	0	173
09:00	0	0	0	18	59	23	3	0	0	0	0	0	0	103
10:00	2	0	2	15	59	35	1	0	0	0	0	0	0	114
11:00	0	0	0	29	67	25	2	1	0	0	0	0	0	124
12 PM	2	0	1	20	84	31	4	2	0	0	0	0	0	144
13:00	1	0	0	21	70	36	4	0	0	0	0	0	0	132
14:00	3	1	2	25	96	56	1	0	0	0	0	0	0	184
15:00	2	0	0	29	116	69	8	0	0	0	0	0	0	224
16:00	1	1	2	28	144	71	9	0	0	0	0	0	0	256
17:00	5	0	5	25	108	70	16	1	0	0	0	0	0	230
18:00	2	0	0	30	59	23	4	2	0	0	0	0	0	120
19:00	1	0	1	37	47	12	0	0	0	0	0	0	0	98
20:00	1	0	0	11	40	16	1	1	0	0	0	0	0	70
21:00	0	0	0	5	23	5	0	0	0	0	0	0	0	33
22:00	0	0	1	2	14	1	2	1	0	0	0	0	0	21
23:00	0	0	0	3	9	4	0	0	0	0	0	0	0	16
Total	25	2	20	382	1200	558	68	8	1	0	0	0	0	2264

Transportation Data Corporation

Mario Perone, mperone1@verizon.net
tel (781)587-0086 cell (781)439-4999

Curtis Corner Road
west of Vespa Lane
City, State: S. Kingstown, RI
Client: Crossman/P. Bannon
Westbound

05858Aspeed
Site Code: 2881

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	Total
09/26/24	0	0	1	3	0	2	0	1	0	0	0	0	0	7
01:00	0	0	0	0	1	1	1	0	0	0	0	0	0	3
02:00	0	0	0	1	2	1	0	0	0	0	0	0	0	4
03:00	0	0	0	0	0	1	0	0	0	0	0	0	0	1
04:00	0	0	0	1	3	0	0	0	0	0	0	0	0	4
05:00	0	0	0	2	7	3	0	0	0	0	0	0	0	12
06:00	1	0	1	8	16	5	2	0	0	0	0	0	0	33
07:00	1	0	0	20	66	36	7	2	0	0	0	0	0	132
08:00	3	0	9	31	75	37	2	1	1	0	0	0	0	159
09:00	2	0	1	19	69	37	5	0	0	0	0	0	0	133
10:00	1	0	1	19	63	27	7	0	0	0	0	0	0	118
11:00	1	0	1	14	61	34	5	0	0	0	0	0	0	116
12 PM	0	0	0	19	60	40	8	0	0	0	0	0	0	127
13:00	2	0	0	21	67	30	6	0	0	0	0	0	0	126
14:00	3	0	3	31	72	57	7	1	0	0	0	0	0	174
15:00	2	0	2	26	76	60	11	0	0	0	0	0	0	177
16:00	1	0	0	19	100	55	8	0	0	0	0	0	0	183
17:00	3	0	1	18	75	51	6	0	0	0	0	0	0	154
18:00	0	0	2	18	48	33	2	1	0	0	0	0	0	104
19:00	0	0	0	23	45	17	3	0	0	0	0	0	0	88
20:00	0	0	0	14	33	8	1	0	0	0	0	0	0	56
21:00	0	0	1	11	17	2	1	0	0	0	0	0	0	32
22:00	0	0	1	4	11	1	0	0	0	0	0	0	0	17
23:00	0	0	0	5	3	1	0	1	0	0	0	0	0	10
Total	20	0	24	327	970	539	82	7	1	0	0	0	0	1970

Transportation Data Corporation

Mario Perone, mperone1@verizon.net
tel (781)587-0086 cell (781)439-4999

Curtis Corner Road
west of Vespa Lane
City, State: S. Kingstown, RI
Client: Crossman/P. Bannon
Westbound

05858Aspeed
Site Code: 2881

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	Total
09/27/24	0	0	0	3	2	4	0	0	0	0	0	0	0	9
01:00	0	0	0	1	2	0	0	0	0	0	0	0	0	3
02:00	0	0	0	1	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	3	0	0	0	0	0	0	0	0	3
04:00	0	0	0	1	2	0	0	0	0	0	0	0	0	3
05:00	0	0	0	4	1	3	0	0	0	0	0	0	0	8
06:00	0	0	3	8	18	12	1	1	0	0	0	0	0	43
07:00	0	0	3	24	60	49	5	0	0	0	0	0	0	141
08:00	1	0	3	27	58	47	7	1	0	0	0	0	0	144
09:00	0	0	1	22	62	33	4	1	0	0	0	0	0	123
10:00	1	0	2	21	74	23	2	0	0	0	0	0	0	123
11:00	3	0	1	20	58	37	7	0	0	0	0	0	0	126
12 PM	2	0	4	26	72	37	4	0	0	0	0	0	0	145
13:00	4	0	0	33	94	43	8	0	1	0	0	0	0	183
14:00	3	0	4	34	108	58	7	0	0	0	0	0	0	214
15:00	2	0	5	31	114	58	5	2	0	0	0	0	0	217
16:00	2	0	0	22	115	48	12	0	0	0	0	0	0	199
17:00	2	0	0	16	87	57	8	0	0	1	0	0	0	171
18:00	2	1	0	30	74	38	4	0	0	0	0	0	0	149
19:00	0	0	1	20	42	12	2	0	0	0	0	0	0	77
20:00	1	0	0	24	37	14	1	0	0	0	0	0	0	77
21:00	0	0	1	14	22	11	1	0	0	0	0	0	0	49
22:00	0	0	1	11	16	6	1	0	1	0	0	0	0	36
23:00	0	0	1	7	8	5	3	0	0	0	0	0	0	24
Total	23	1	30	400	1129	595	82	5	2	1	0	0	0	2268
Grand Total	104	9	120	1831	5524	2876	397	43	6	2	0	0	0	10912

15th Percentile : 28 MPH
50th Percentile : 33 MPH
85th Percentile : 37 MPH
95th Percentile : 39 MPH

Statistics Mean Speed(Average) : 34 MPH
10 MPH Pace Speed : 31-40 MPH
Number in Pace : 8400
Percent in Pace : 77.0%
Number of Vehicles > 25 MPH : 10679
Percent of Vehicles > 25 MPH : 97.9%

A

Intersection Turning Movement Counts

Curtis Corner Road at Kingstown Road (Route 108)

Curtis Corner Road at Site Access Road

Curtis Corner Road at Kingstown Road (Route 108)

Transportation Data Corporation

N/S: Kingstown Road (Route 108)
 E/W: Saugatucket/Curtis Corner Road
 City, State: S. Kingstown, RI
 Client: Crossman/P. Bannon

File Name : 05858A
 Site Code : 2881
 Start Date : 9/24/2024
 Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses

Start Time	Kingstown Road (Route 108) Southbound					Saugatucket Road Westbound					Kingstown Road (Route 108) Northbound					Curtis Corner Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	15	59	9	0	83	2	7	12	0	21	5	71	14	0	90	3	19	15	0	37	231
07:15 AM	15	67	6	1	89	6	15	21	0	42	8	133	8	0	149	8	29	12	0	49	329
07:30 AM	15	42	7	0	64	8	15	31	0	54	11	135	2	0	148	18	22	7	0	47	313
07:45 AM	13	75	10	0	98	6	14	12	0	32	17	121	8	0	146	7	22	17	0	46	322
Total	58	243	32	1	334	22	51	76	0	149	41	460	32	0	533	36	92	51	0	179	1195
08:00 AM	14	73	14	0	101	2	15	13	0	30	10	116	5	0	131	14	24	13	0	51	313
08:15 AM	13	70	12	0	95	2	12	21	0	35	14	151	8	0	173	13	15	14	0	42	345
08:30 AM	18	68	10	1	97	7	17	15	0	39	5	132	6	0	143	16	18	15	0	49	328
08:45 AM	17	62	11	1	91	6	29	20	0	55	11	170	9	0	190	8	20	16	0	44	380
Total	62	273	47	2	384	17	73	69	0	159	40	569	28	0	637	51	77	58	0	186	1366
Grand Total	120	516	79	3	718	39	124	145	0	308	81	1029	60	0	1170	87	169	109	0	365	2561
Apprch %	16.7	71.9	11	0.4		12.7	40.3	47.1	0		6.9	87.9	5.1	0		23.8	46.3	29.9	0		
Total %	4.7	20.1	3.1	0.1	28	1.5	4.8	5.7	0	12	3.2	40.2	2.3	0	45.7	3.4	6.6	4.3	0	14.3	
Cars & Peds	115	502	76	3	696	37	118	130	0	285	79	1022	58	0	1159	84	168	100	0	352	2492
% Cars & Peds	95.8	97.3	96.2	100	96.9	94.9	95.2	89.7	0	92.5	97.5	99.3	96.7	0	99.1	96.6	99.4	91.7	0	96.4	97.3
Trucks & Buses	5	14	3	0	22	2	6	15	0	23	2	7	2	0	11	3	1	9	0	13	69
% Trucks & Buses	4.2	2.7	3.8	0	3.1	5.1	4.8	10.3	0	7.5	2.5	0.7	3.3	0	0.9	3.4	0.6	8.3	0	3.6	2.7

Transportation Data Corporation

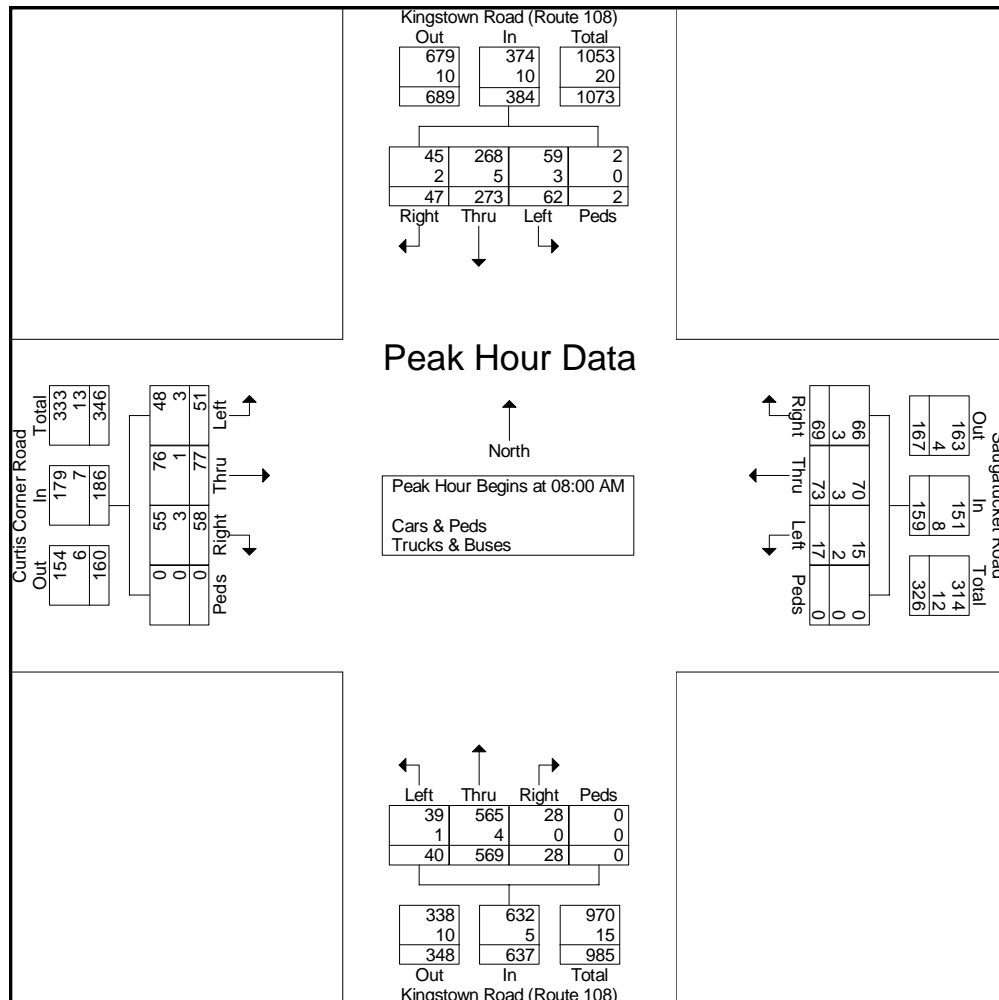
N/S: Kingstown Road (Route 108)
 E/W: Saugatucket/Curtis Corner Road
 City, State: S. Kingstown, RI
 Client: Crossman/P. Bannon

File Name : 05858A
 Site Code : 2881
 Start Date : 9/24/2024
 Page No : 2

Start Time	Kingstown Road (Route 108) Southbound					Saugatucket Road Westbound					Kingstown Road (Route 108) Northbound					Curtis Corner Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	

Peak Hour for Entire Intersection Begins at 08:00 AM

08:00 AM	14	73	14	0	101	2	15	13	0	30	10	116	5	0	131	14	24	13	0	51	313
08:15 AM	13	70	12	0	95	2	12	21	0	35	14	151	8	0	173	13	15	14	0	42	345
08:30 AM	18	68	10	1	97	7	17	15	0	39	5	132	6	0	143	16	18	15	0	49	328
08:45 AM	17	62	11	1	91	6	29	20	0	55	11	170	9	0	190	8	20	16	0	44	380
Total Volume	62	273	47	2	384	17	73	69	0	159	40	569	28	0	637	51	77	58	0	186	1366
% App. Total	16.1	71.1	12.2	0.5		10.7	45.9	43.4	0		6.3	89.3	4.4	0		27.4	41.4	31.2	0		
PHF	.861	.935	.839	.500	.950	.607	.629	.821	.000	.723	.714	.837	.778	.000	.838	.797	.802	.906	.000	.912	.899
Cars & Peds	59	268	45	2	374	15	70	66	0	151	39	565	28	0	632	48	76	55	0	179	1336
% Cars & Peds	95.2	98.2	95.7	100	97.4	88.2	95.9	95.7	0	95.0	97.5	99.3	100	0	99.2	94.1	98.7	94.8	0	96.2	97.8
Trucks & Buses	3	5	2	0	10	2	3	3	0	8	1	4	0	0	5	3	1	3	0	7	30
% Trucks & Buses	4.8	1.8	4.3	0	2.6	11.8	4.1	4.3	0	5.0	2.5	0.7	0	0	0.8	5.9	1.3	5.2	0	3.8	2.2



Transportation Data Corporation

N/S: Kingstown Road (Route 108)
 E/W: Saugatucket/Curtis Corner Road
 City, State: S. Kingstown, RI
 Client: Crossman/P. Bannon

File Name : 05858AA
 Site Code : 2881
 Start Date : 9/24/2024
 Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses

Start Time	Kingstown Road (Route 108) Southbound					Saugatucket Road Westbound					Kingstown Road (Route 108) Northbound					Curtis Corner Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
03:00 PM	17	115	6	0	138	10	20	22	0	52	21	103	11	0	135	9	16	15	0	40	365
03:15 PM	11	118	5	0	134	5	26	24	0	55	18	104	12	0	134	7	11	25	0	43	366
03:30 PM	22	145	14	0	181	3	43	25	0	71	21	98	6	0	125	8	18	20	0	46	423
03:45 PM	17	171	12	0	200	15	31	17	0	63	19	104	10	0	133	10	19	21	0	50	446
Total	67	549	37	0	653	33	120	88	0	241	79	409	39	0	527	34	64	81	0	179	1600
04:00 PM	18	142	8	0	168	11	28	19	0	58	16	111	7	0	134	9	25	22	2	58	418
04:15 PM	21	132	13	0	166	9	38	19	0	66	23	116	9	0	148	4	16	19	0	39	419
04:30 PM	16	136	15	1	168	13	43	19	0	75	21	109	8	0	138	18	24	21	2	65	446
04:45 PM	17	148	14	1	180	7	46	25	0	78	30	93	9	0	132	10	17	23	0	50	440
Total	72	558	50	2	682	40	155	82	0	277	90	429	33	0	552	41	82	85	4	212	1723
05:00 PM	16	161	16	0	193	12	29	12	0	53	23	89	3	0	115	17	21	25	8	71	432
05:15 PM	17	158	14	0	189	5	31	14	0	50	14	95	7	0	116	7	19	15	3	44	399
05:30 PM	12	151	7	0	170	11	19	12	0	42	11	100	2	0	113	4	14	25	0	43	368
05:45 PM	14	110	14	0	138	10	20	20	0	50	18	86	6	0	110	11	20	17	0	48	346
Total	59	580	51	0	690	38	99	58	0	195	66	370	18	0	454	39	74	82	11	206	1545
Grand Total	198	1687	138	2	2025	111	374	228	0	713	235	1208	90	0	1533	114	220	248	15	597	4868
Apprch %	9.8	83.3	6.8	0.1		15.6	52.5	32	0		15.3	78.8	5.9	0		19.1	36.9	41.5	2.5		
Total %	4.1	34.7	2.8	0	41.6	2.3	7.7	4.7	0	14.6	4.8	24.8	1.8	0	31.5	2.3	4.5	5.1	0.3	12.3	
Cars & Peds	197	1680	137	2	2016	111	371	226	0	708	234	1197	86	0	1517	113	219	247	15	594	4835
% Cars & Peds	99.5	99.6	99.3	100	99.6	100	99.2	99.1	0	99.3	99.6	99.1	95.6	0	99	99.1	99.5	99.6	100	99.5	99.3
Trucks & Buses	1	7	1	0	9	0	3	2	0	5	1	11	4	0	16	1	1	1	0	3	33
% Trucks & Buses	0.5	0.4	0.7	0	0.4	0	0.8	0.9	0	0.7	0.4	0.9	4.4	0	1	0.9	0.5	0.4	0	0.5	0.7

Transportation Data Corporation

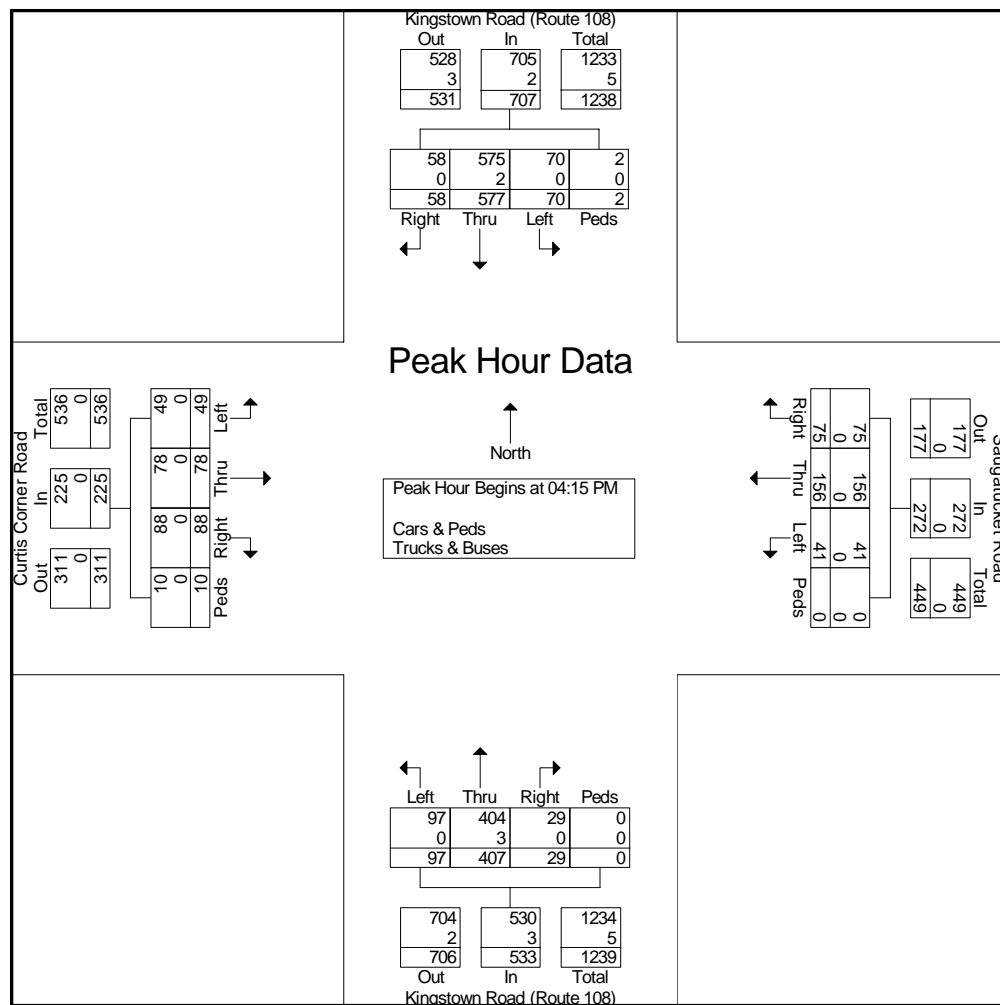
N/S: Kingstown Road (Route 108)
 E/W: Saugatucket/Curtis Corner Road
 City, State: S. Kingstown, RI
 Client: Crossman/P. Bannon

File Name : 05858AA
 Site Code : 2881
 Start Date : 9/24/2024
 Page No : 2

Start Time	Kingstown Road (Route 108) Southbound					Saugatucket Road Westbound					Kingstown Road (Route 108) Northbound					Curtis Corner Road Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	

Peak Hour for Entire Intersection Begins at 04:15 PM

04:15 PM	21	132	13	0	166	9	38	19	0	66	23	116	9	0	148	4	16	19	0	39	419
04:30 PM	16	136	15	1	168	13	43	19	0	75	21	109	8	0	138	18	24	21	2	65	446
04:45 PM	17	148	14	1	180	7	46	25	0	78	30	93	9	0	132	10	17	23	0	50	440
05:00 PM	16	161	16	0	193	12	29	12	0	53	23	89	3	0	115	17	21	25	8	71	432
Total Volume	70	577	58	2	707	41	156	75	0	272	97	407	29	0	533	49	78	88	10	225	1737
% App. Total	9.9	81.6	8.2	0.3		15.1	57.4	27.6	0		18.2	76.4	5.4	0		21.8	34.7	39.1	4.4		
PHF	.833	.896	.906	.500	.916	.788	.848	.750	.000	.872	.808	.877	.806	.000	.900	.681	.813	.880	.313	.792	.974
Cars & Peds	70	575	58	2	705	41	156	75	0	272	97	404	29	0	530	49	78	88	10	225	1732
% Cars & Peds	100	99.7	100	100	99.7	100	100	100	0	100	100	99.3	100	0	99.4	100	100	100	100	100	99.7
Trucks & Buses	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	5
% Trucks & Buses	0	0.3	0	0	0.3	0	0	0	0	0	0	0.7	0	0	0.6	0	0	0	0	0	0.3



Curtis Corner Road at Site Access Road

Transportation Data Corporation

S: #364 Champagne Heights
 E/W: Curtis Corner Road
 City, State: S. Kingstown, RI
 Client: Crossman/P. Bannon

File Name : 05858B
 Site Code : 2881
 Start Date : 9/24/2024
 Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses - Bikes by Direction

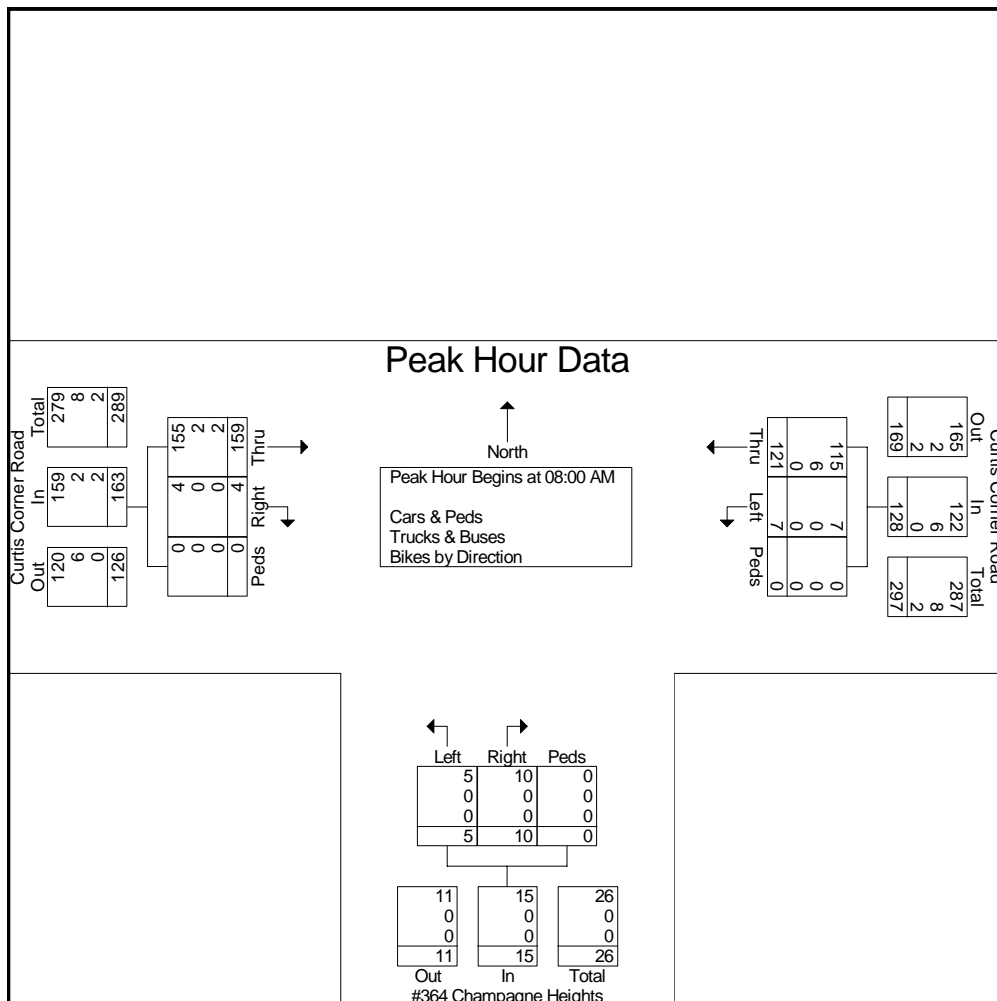
Start Time	Curtis Corner Road Westbound				#364 Champagne Heights Northbound				Curtis Corner Road Eastbound				Int. Total
	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	
07:00 AM	2	12	0	14	0	3	0	3	35	2	0	37	54
07:15 AM	0	11	0	11	3	2	0	5	50	1	0	51	67
07:30 AM	2	32	0	34	0	3	1	4	44	0	0	44	82
07:45 AM	1	31	0	32	1	4	0	5	47	0	0	47	84
Total	5	86	0	91	4	12	1	17	176	3	0	179	287
08:00 AM	2	27	0	29	0	1	0	1	36	1	0	37	67
08:15 AM	2	27	0	29	3	5	0	8	46	0	0	46	83
08:30 AM	1	36	0	37	1	3	0	4	39	2	0	41	82
08:45 AM	2	31	0	33	1	1	0	2	38	1	0	39	74
Total	7	121	0	128	5	10	0	15	159	4	0	163	306
Grand Total	12	207	0	219	9	22	1	32	335	7	0	342	593
Apprch %	5.5	94.5	0		28.1	68.8	3.1		98	2	0		
Total %	2	34.9	0	36.9	1.5	3.7	0.2	5.4	56.5	1.2	0	57.7	
Cars & Peds	12	198	0	210	9	22	1	32	324	7	0	331	573
% Cars & Peds	100	95.7	0	95.9	100	100	100	100	96.7	100	0	96.8	96.6
Trucks & Buses	0	9	0	9	0	0	0	0	7	0	0	7	16
% Trucks & Buses	0	4.3	0	4.1	0	0	0	0	2.1	0	0	2	2.7
Bikes by Direction	0	0	0	0	0	0	0	0	4	0	0	4	4
% Bikes by Direction	0	0	0	0	0	0	0	0	1.2	0	0	1.2	0.7

Transportation Data Corporation

S: #364 Champagne Heights
 E/W: Curtis Corner Road
 City, State: S. Kingstown, RI
 Client: Crossman/P. Bannon

File Name : 05858B
 Site Code : 2881
 Start Date : 9/24/2024
 Page No : 2

Start Time	Curtis Corner Road Westbound				#364 Champagne Heights Northbound				Curtis Corner Road Eastbound				Int. Total
	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	2	27	0	29	0	1	0	1	36	1	0	37	67
08:15 AM	2	27	0	29	3	5	0	8	46	0	0	46	83
08:30 AM	1	36	0	37	1	3	0	4	39	2	0	41	82
08:45 AM	2	31	0	33	1	1	0	2	38	1	0	39	74
Total Volume	7	121	0	128	5	10	0	15	159	4	0	163	306
% App. Total	5.5	94.5	0		33.3	66.7	0		97.5	2.5	0		
PHF	.875	.840	.000	.865	.417	.500	.000	.469	.864	.500	.000	.886	.922
Cars & Peds	7	115	0	122	5	10	0	15	155	4	0	159	296
% Cars & Peds	100	95.0	0	95.3	100	100	0	100	97.5	100	0	97.5	96.7
Trucks & Buses	0	6	0	6	0	0	0	0	2	0	0	2	8
% Trucks & Buses	0	5.0	0	4.7	0	0	0	0	1.3	0	0	1.2	2.6
Bikes by Direction	0	0	0	0	0	0	0	0	2	0	0	2	2
% Bikes by Direction	0	0	0	0	0	0	0	0	1.3	0	0	1.2	0.7



Transportation Data Corporation

S: #364 Champagne Heights
 E/W: Curtis Corner Road
 City, State: S. Kingstown, RI
 Client: Crossman/P. Bannon

File Name : 05858BB
 Site Code : 2881
 Start Date : 9/24/2024
 Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses - Bikes by Direction

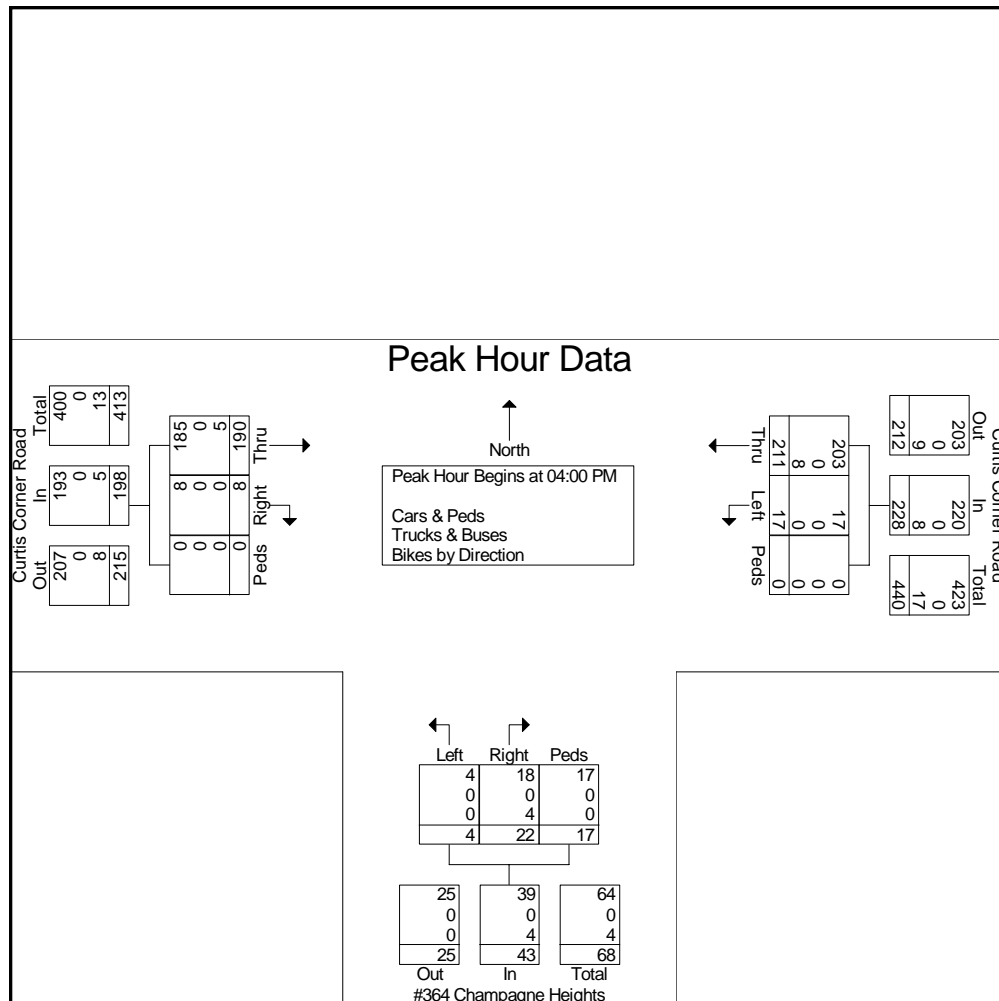
Start Time	Curtis Corner Road Westbound				#364 Champagne Heights Northbound				Curtis Corner Road Eastbound				Int. Total
	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	
03:00 PM	2	31	0	33	1	4	0	5	24	0	0	24	62
03:15 PM	2	34	0	36	0	2	0	2	34	0	0	34	72
03:30 PM	4	58	0	62	0	3	24	27	42	1	2	45	134
03:45 PM	3	55	0	58	2	3	16	21	42	2	0	44	123
Total	11	178	0	189	3	12	40	55	142	3	2	147	391
04:00 PM	4	52	0	56	2	3	14	19	29	3	0	32	107
04:15 PM	8	49	0	57	0	9	2	11	37	3	0	40	108
04:30 PM	0	63	0	63	0	5	0	5	57	2	0	59	127
04:45 PM	5	47	0	52	2	5	1	8	67	0	0	67	127
Total	17	211	0	228	4	22	17	43	190	8	0	198	469
05:00 PM	4	44	0	48	1	1	0	2	50	1	0	51	101
05:15 PM	4	46	0	50	3	0	2	5	41	0	0	41	96
05:30 PM	0	36	0	36	1	3	1	5	45	3	0	48	89
05:45 PM	3	33	0	36	0	2	1	3	28	0	0	28	67
Total	11	159	0	170	5	6	4	15	164	4	0	168	353
Grand Total	39	548	0	587	12	40	61	113	496	15	2	513	1213
Apprch %	6.6	93.4	0		10.6	35.4	54		96.7	2.9	0.4		
Total %	3.2	45.2	0	48.4	1	3.3	5	9.3	40.9	1.2	0.2	42.3	
Cars & Peds	37	532	0	569	12	35	61	108	478	15	2	495	1172
% Cars & Peds	94.9	97.1	0	96.9	100	87.5	100	95.6	96.4	100	100	96.5	96.6
Trucks & Buses	0	3	0	3	0	0	0	0	3	0	0	3	6
% Trucks & Buses	0	0.5	0	0.5	0	0	0	0	0.6	0	0	0.6	0.5
Bikes by Direction	2	13	0	15	0	5	0	5	15	0	0	15	35
% Bikes by Direction	5.1	2.4	0	2.6	0	12.5	0	4.4	3	0	0	2.9	2.9

Transportation Data Corporation

S: #364 Champagne Heights
 E/W: Curtis Corner Road
 City, State: S. Kingstown, RI
 Client: Crossman/P. Bannon

File Name : 05858BB
 Site Code : 2881
 Start Date : 9/24/2024
 Page No : 2

Start Time	Curtis Corner Road Westbound				#364 Champagne Heights Northbound				Curtis Corner Road Eastbound				Int. Total
	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	4	52	0	56	2	3	14	19	29	3	0	32	107
04:15 PM	8	49	0	57	0	9	2	11	37	3	0	40	108
04:30 PM	0	63	0	63	0	5	0	5	57	2	0	59	127
04:45 PM	5	47	0	52	2	5	1	8	67	0	0	67	127
Total Volume	17	211	0	228	4	22	17	43	190	8	0	198	469
% App. Total	7.5	92.5	0		9.3	51.2	39.5		96	4	0		
PHF	.531	.837	.000	.905	.500	.611	.304	.566	.709	.667	.000	.739	.923
Cars & Peds	17	203	0	220	4	18	17	39	185	8	0	193	452
% Cars & Peds	100	96.2	0	96.5	100	81.8	100	90.7	97.4	100	0	97.5	96.4
Trucks & Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks & Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
Bikes by Direction	0	8	0	8	0	4	0	4	5	0	0	5	17
% Bikes by Direction	0	3.8	0	3.5	0	18.2	0	9.3	2.6	0	0	2.5	3.6



APPENDIX B – Traffic Crash Data

January through December 2019 and January 2022 through December 2023

Curtis Corner Road

ACCIDENT SUMMARY

ACCIDENT No.	DATE TIME	WEATHER	ROAD COND	ACC TYPE	TRAFF CONT	COLL INVOL	COLL TYPE	VEHICLE 1			VEHICLE 2		VEHICLE 3		VEHICLE 4		KABCO
								DIR	VEH ACT	COLL WITH	DIR	VEH ACT	DIR	VEH ACT	DIR	VEH ACT	
1	10/23/2019 12:45 PM	CLEAR	DRY	PROP DAMAGE	SIGNAL	VEH/VEH	BROADSIDE	N	STRAIGHT	VEH	W	STRAIGHT					O
2	06/09/2022 3:19 PM	CLEAR	DRY	PROP DAMAGE	NONE	VEH/PED	ANGLE	W	LEFT TURN	PED	E	STRAIGHT					O
3	06/28/2022 10:13 PM	CLEAR	DRY	PROP DAMAGE	NONE	VEH	OFF-ROAD	E	STRAIGHT	WALL	—	—					O
4	10/09/2022 12:04 AM	CLEAR	DRY	PROP DAMAGE	NONE	VEH	ANGLE	W	STRAIGHT	DEER	—	—					O
5	10/23/2022 6:52 PM	RAIN	WET	PROP DAMAGE	SIGNAL	VEH/VEH	REAR-END	S	STOPPED	VEH	S	STRAIGHT					O
6	05/26/2023 4:38 PM	CLEAR	DRY	PROP DAMAGE	STOP	VEH/VEH	ANGLE	N	STOPPED	VEH	W	TURNING					O

Crash Severity

- K = Fatal Injury
- A = Suspected Serious Injury
- B = Suspected Minor Injury
- C = Possible Injury
- O = No Apparent Injury

Crash Analysis

All Intersections and Segments

		2019	2022	2023	Total	Percent
Collision Type						
Intersection		1	2	1	4	
Non-Intersection			2		2	
	Rear End		1		1	17%
	Angle		2	1	3	50%
	Head On				0	0%
	Single Vehicle Crash				0	0%
	Sideswipe, Same Direction				0	0%
	Sideswipe, Opposite Direction				0	0%
	Broadside	1			1	17%
	Off-Road		1		1	17%
	Total	1	4	1	6	100%
Accident Severity						
	Property Damage Only	1	4	1	6	100%
	Injury				0	0%
	Fatal				0	0%
	Not Reported				0	0%
Light Condition						
	Day	1	2	1	4	67%
	Night				0	0%
	Dusk/Dawn				0	0%
	Dark, Lighted Roadway		2		2	33%
	Dark, Roadway Not Lighted				0	0%
	Not Reported				0	0%
Road Condition						
	Dry	1	3	1	5	83%
	Wet		1		1	17%
	Snow				0	0%
	Ice				0	0%
	Not Reported				0	0%
Hour of Day						
	6:00 AM -9:00 AM				0	0%
	9:00 AM -3:00 PM	1			1	17%
	3:00 PM -6:00 PM		2	1	3	50%
	6:00 PM -6:00 AM		2		2	33%
	Total Accidents:	1	4	1	6	

APPENDIX C – Trip Generation

ITE Trip Generation Summary

ITE Land Use Code

ITE Land Use Code 215 – Single-Family Attached Housing

C

Trip Generation Summary

Independent Study – Champagne Heights

Independent Variable (X) = Dwelling Units

X = 85

AM Peak

Directional Distribution 33% Entering, 67% Exiting

$T = 0.65 (X)$

$T = 0.65 (85)$

$T = 55$

Enter: 23

Exit: 32

Total 55

PM Peak

Directional Distribution 56% Entering, 44% Exiting

$T = 1.28 (X)$

$T = 1.28 (85)$

$T = 109$

Enter: 53

Exit: 56

Total 109

Independent Study Calculations

Independent Variable (X) = Dwelling Units
(Existing Champagne Heights Apartments - 40 units)

X = 40

AM Peak

Directional Distribution 42% Entering, 58% Exiting

$T = R (X)$

$R = 26/(40)$

$R = 0.65$

Enter: 11

Exit: 15

Total 26 Trips*

PM Peak

Directional Distribution 49% Entering, 51% Exiting

$T = R (X)$

$R = 51/(40)$

$R = 1.28$

Enter: 25

Exit: 26

Total 51 Trips*

Note:

* Existing Site Trips Based on September 24, 2024 traffic count program

C

ITE Land Use Code

ITE Land Use Code 215 – Single-Family Attached Housing

ITE Land Use Code 215 – Single-Family Attached Housing

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

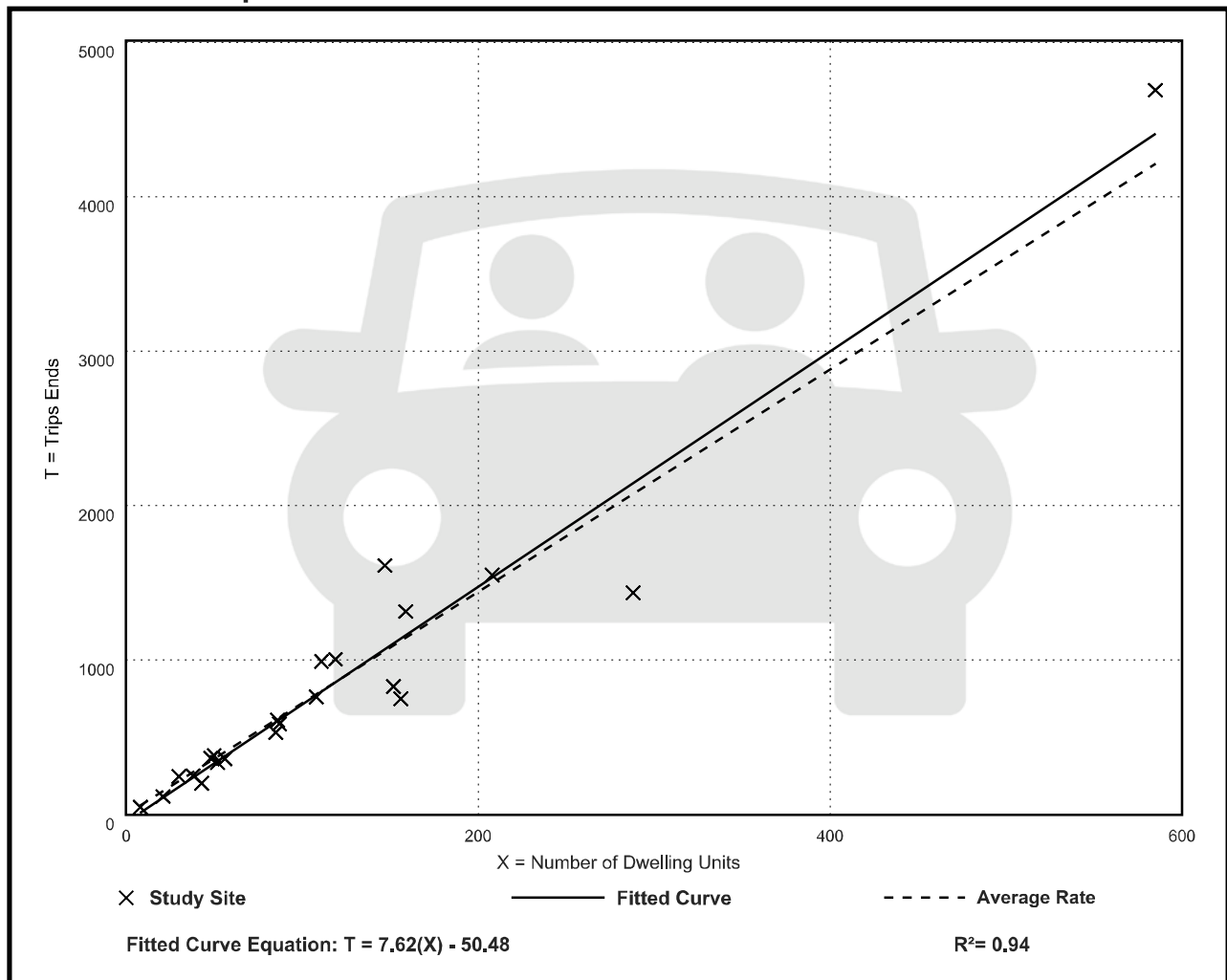
Avg. Num. of Dwelling Units: 120

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

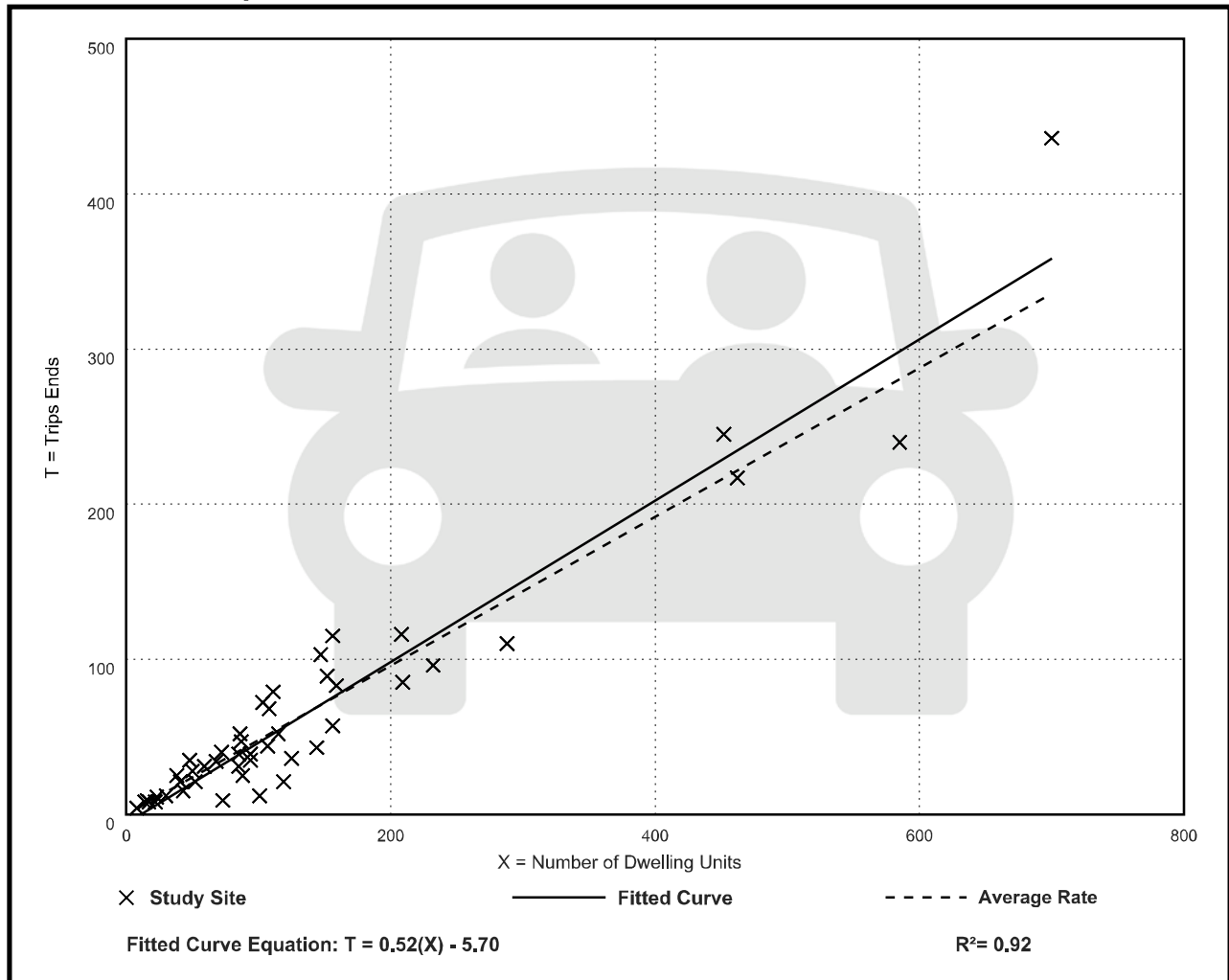
Avg. Num. of Dwelling Units: 135

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

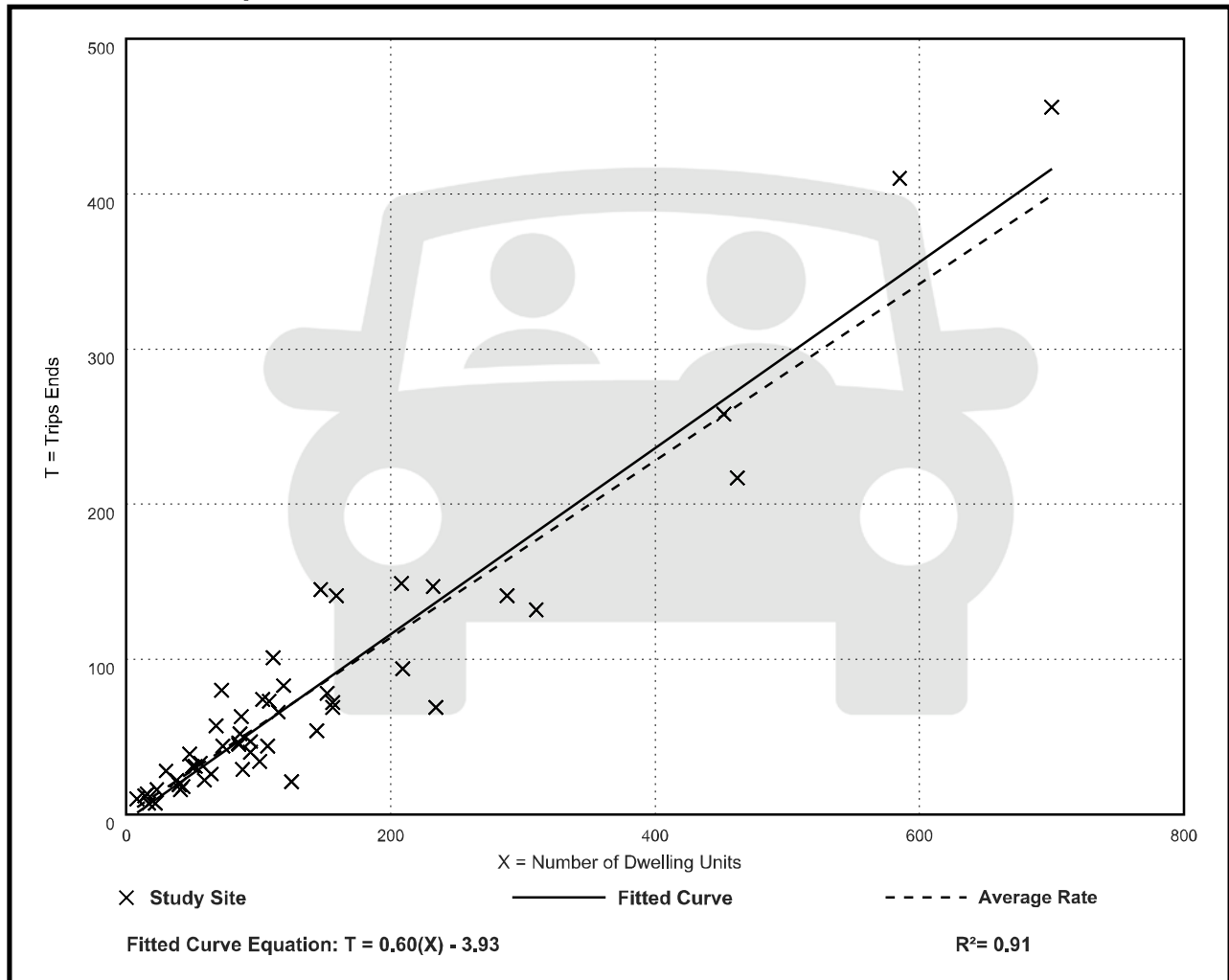
Avg. Num. of Dwelling Units: 136

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



APPENDIX D – Operational Analysis

Existing Conditions

Curtis Corner Road at Kingstown Road (Route 108)

Curtis Corner Road at Site Access Road

Future Build Conditions

Curtis Corner Road at Kingstown Road (Route 108)

Curtis Corner Road at Site Access Road

D

Existing Weekday AM / PM Peak Hour

Curtis Corner Road at Kingstown Road (Route 108)

Curtis Corner Road at Site Access Road

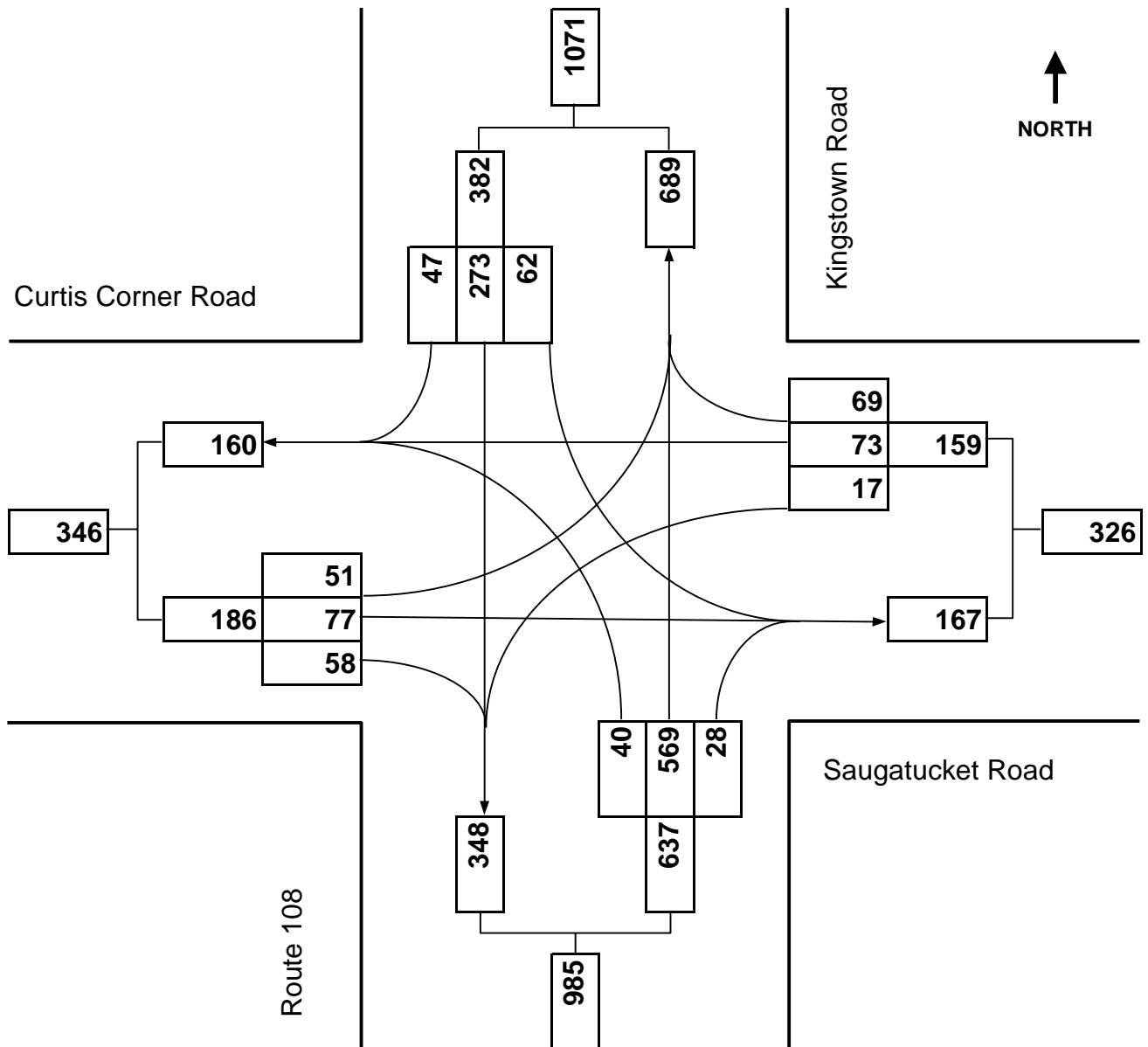
Curtis Corner Road at Kingstown Road (Route 108)



Turning Movement Diagram

Major Street: Kingstown Road
City/Town: South Kingstown
Reference No.: 2881
Existing: AM Peak Hour

Minor Street: Curtis Corner Road
Day of Week: Weekday
Peak Period: 8:00 - 9:00 AM
Future: n/a



Champagne Heights

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	77	58	17	73	69	40	569	28	62	273	47
Future Volume (vph)	51	77	58	17	73	69	40	569	28	62	273	47
Satd. Flow (prot)	0	1761	0	0	1744	0	1770	1850	0	1770	1822	0
Flt Permitted		0.874			0.961		0.537			0.184		
Satd. Flow (perm)	0	1560	0	0	1684	0	1000	1850	0	343	1822	0
Satd. Flow (RTOR)		23			40			3			12	
Lane Group Flow (vph)	0	209	0	0	179	0	45	670	0	70	360	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		3			3		1	6		5	2	
Permitted Phases	3			3			6			2		
Total Split (s)	30.0	30.0		30.0	30.0		19.0	46.0		19.0	46.0	
Total Lost Time (s)		4.5			4.5		4.5	5.0		4.5	5.0	
Act Effct Green (s)		14.1			14.1		32.9	27.8		35.6	31.1	
Actuated g/C Ratio		0.23			0.23		0.54	0.45		0.58	0.51	
v/c Ratio		0.56			0.43		0.07	0.80		0.18	0.39	
Control Delay (s/veh)		28.4			22.7		5.4	23.6		6.0	11.6	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		28.4			22.7		5.4	23.6		6.0	11.6	
LOS		C			C		A	C		A	B	
Approach Delay (s/veh)		28.4			22.7			22.5			10.7	
Approach LOS		C			C			C			B	
Queue Length 50th (ft)		63			45		5	207		8	83	
Queue Length 95th (ft)		152			118		18	407		26	167	
Internal Link Dist (ft)		1043			396			297			764	
Turn Bay Length (ft)							100			75		
Base Capacity (vph)		746			814		815	1278		590	1272	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.28			0.22		0.06	0.52		0.12	0.28	

Intersection Summary

Cycle Length: 95
 Actuated Cycle Length: 61.3
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay (s/veh): 20.0
 Intersection Capacity Utilization 69.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 6: Curtis Corner & Route 108



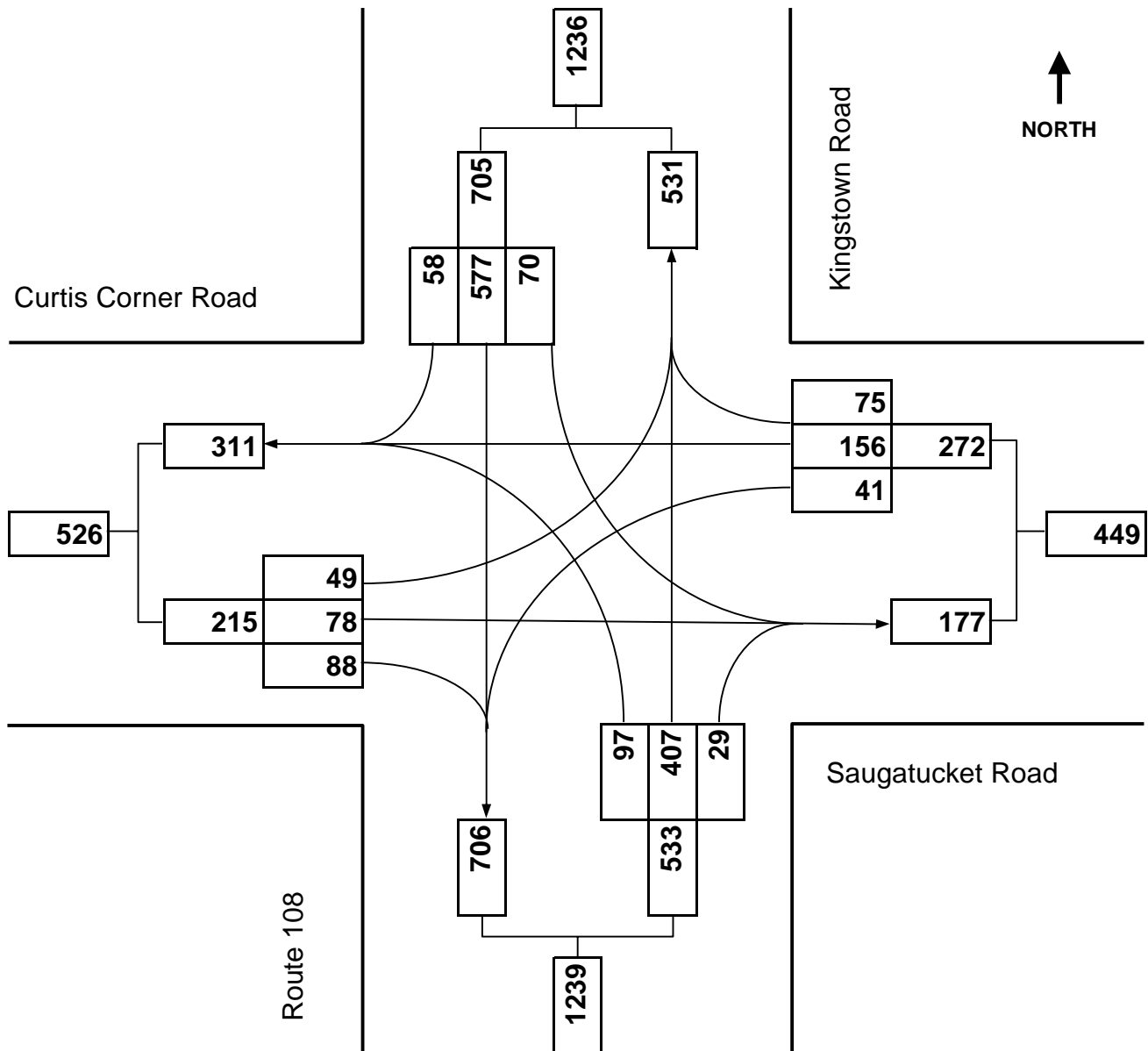
Existing Conditions
 Timing Plan: AM Peak Hour



Turning Movement Diagram

Major Street: Kingstown Road
City/Town: South Kingstown
Reference No.: 2881
Existing: PM Peak Hour

Minor Street: Curtis Corner Road
Day of Week: Weekday
Peak Period: 4:00 - 5:00 PM
Future: n/a



Champagne Heights

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Traffic Volume (vph)	49	78	88	41	156	75	97	407	29	70	577	58
Future Volume (vph)	49	78	88	41	156	75	97	407	29	70	577	58
Satd. Flow (prot)	0	1776	0	0	1815	0	1805	1864	0	1805	1857	0
Flt Permitted		0.823			0.922		0.184			0.375		
Satd. Flow (perm)	0	1478	0	0	1687	0	350	1864	0	712	1857	0
Satd. Flow (RTOR)		32			17			5			7	
Lane Group Flow (vph)	0	234	0	0	297	0	105	474	0	76	690	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		3			3		1	6		5	2	
Permitted Phases	3			3			6			2		
Total Split (s)	30.0	30.0		30.0	30.0		19.0	56.0		19.0	56.0	
Total Lost Time (s)		4.5			4.5		4.5	5.0		4.5	5.0	
Act Effct Green (s)		18.7			18.7		40.6	34.8		40.1	34.5	
Actuated g/C Ratio		0.26			0.26		0.56	0.48		0.55	0.48	
v/c Ratio		0.58			0.66		0.30	0.53		0.15	0.78	
Control Delay (s/veh)		29.9			33.9		8.6	16.5		6.9	24.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		29.9			33.9		8.6	16.5		6.9	24.0	
LOS		C			C		A	B		A	C	
Approach Delay (s/veh)		29.9			33.9			15.1			22.3	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)		80			115		17	145		12	253	
Queue Length 95th (ft)		192			252		41	265		31	460	
Internal Link Dist (ft)		1043			396			297			756	
Turn Bay Length (ft)							100			75		
Base Capacity (vph)		598			671		535	1352		673	1345	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.39			0.44		0.20	0.35		0.11	0.51	

Intersection Summary

Cycle Length: 105
 Actuated Cycle Length: 72.4
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay (s/veh): 22.9
 Intersection Capacity Utilization 70.0%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 6: Curtis Corner & Route 108



Existing Conditions
 Timing Plan: PM Peak Hour

Curtis Corner Road at Site Access Road



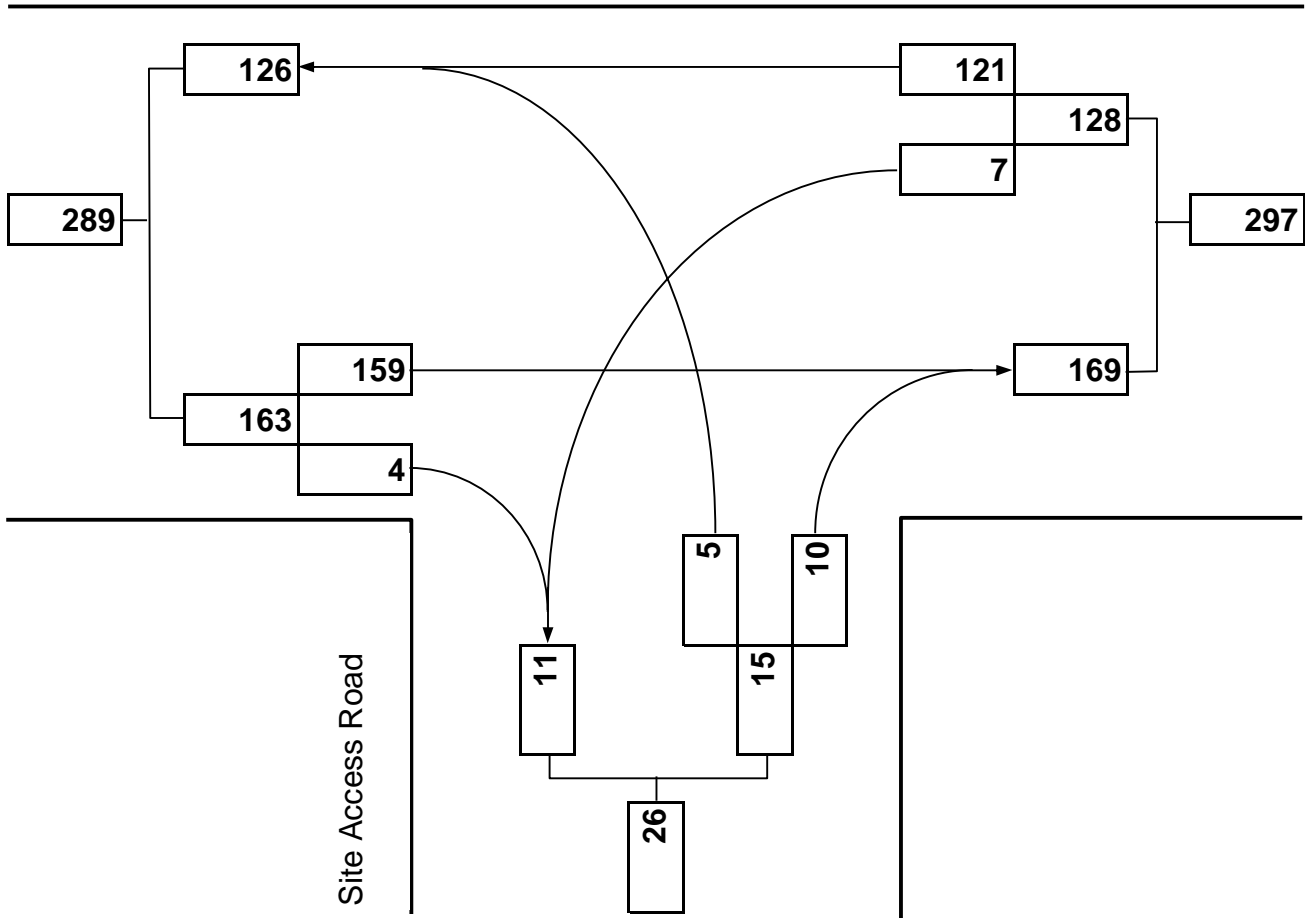
Turning Movement Diagram

Major Street:	Curtis Corner Road
City/Town:	South Kingstown
Reference No.:	2881
Existing:	AM Peak

Minor Street:	Site Access Road
Day of Week:	Weekday
Peak Period:	8:00 - 9:00 AM
Future:	n/a



Curtis Corner Road



Champagne Heights

Intersection

Int Delay, s/veh 0.6

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	W		T			T
Traffic Vol, veh/h	5	10	159	4	7	121
Future Vol, veh/h	5	10	159	4	7	121
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	5	11	173	4	8	132

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	322	175	0	0	177	0
Stage 1	175	-	-	-	-	-
Stage 2	147	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	676	874	-	-	1411	-
Stage 1	860	-	-	-	-	-
Stage 2	886	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	672	874	-	-	1411	-
Mov Cap-2 Maneuver	672	-	-	-	-	-
Stage 1	860	-	-	-	-	-
Stage 2	880	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s/v	9.63	0	0.41
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT
Capacity (veh/h)	-	-	794	98
HCM Lane V/C Ratio	-	-	0.021	0.005
HCM Control Delay (s/veh)	-	-	9.6	7.6
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0



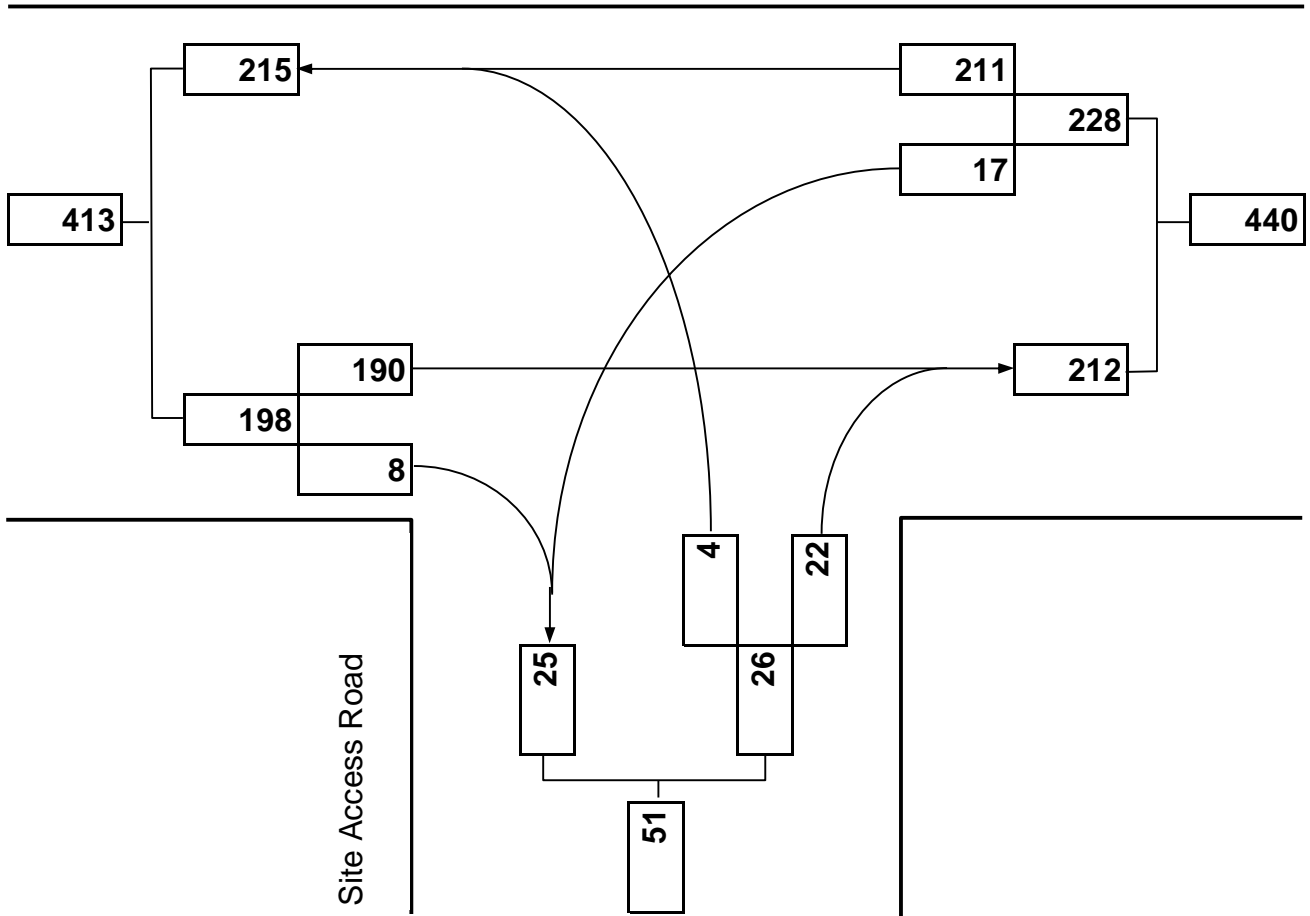
Turning Movement Diagram

Major Street:	Curtis Corner Road
City/Town:	South Kingstown
Reference No.:	2881
Existing:	PM Peak

Minor Street:	Site Access Road
Day of Week:	Weekday
Peak Period:	4:00 - 5:00 PM
Future:	n/a



Curtis Corner Road



Champagne Heights

Intersection

Int Delay, s/veh 0.9

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	4	22	190	8	17	211
Traffic Vol, veh/h	4	22	190	8	17	211
Future Vol, veh/h	4	22	190	8	17	211
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	24	207	9	18	229

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	477	211	0
Stage 1	211	-	-
Stage 2	266	-	-
Critical Hdwy	6.4	6.2	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	-
Pot Cap-1 Maneuver	550	834	-
Stage 1	829	-	-
Stage 2	783	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	542	834	-
Mov Cap-2 Maneuver	542	-	-
Stage 1	829	-	-
Stage 2	771	-	-

Approach	NW	NE	SW
HCM Control Delay, s/v	9.85	0	0.57
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT
Capacity (veh/h)	-	-	770	134
HCM Lane V/C Ratio	-	-	0.037	0.014
HCM Control Delay (s/veh)	-	-	9.9	7.7
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

D

Future Build Weekday AM / PM Peak Hour

Curtis Corner Road at Kingstown Road (Route 108)

Curtis Corner Road at Site Access Road

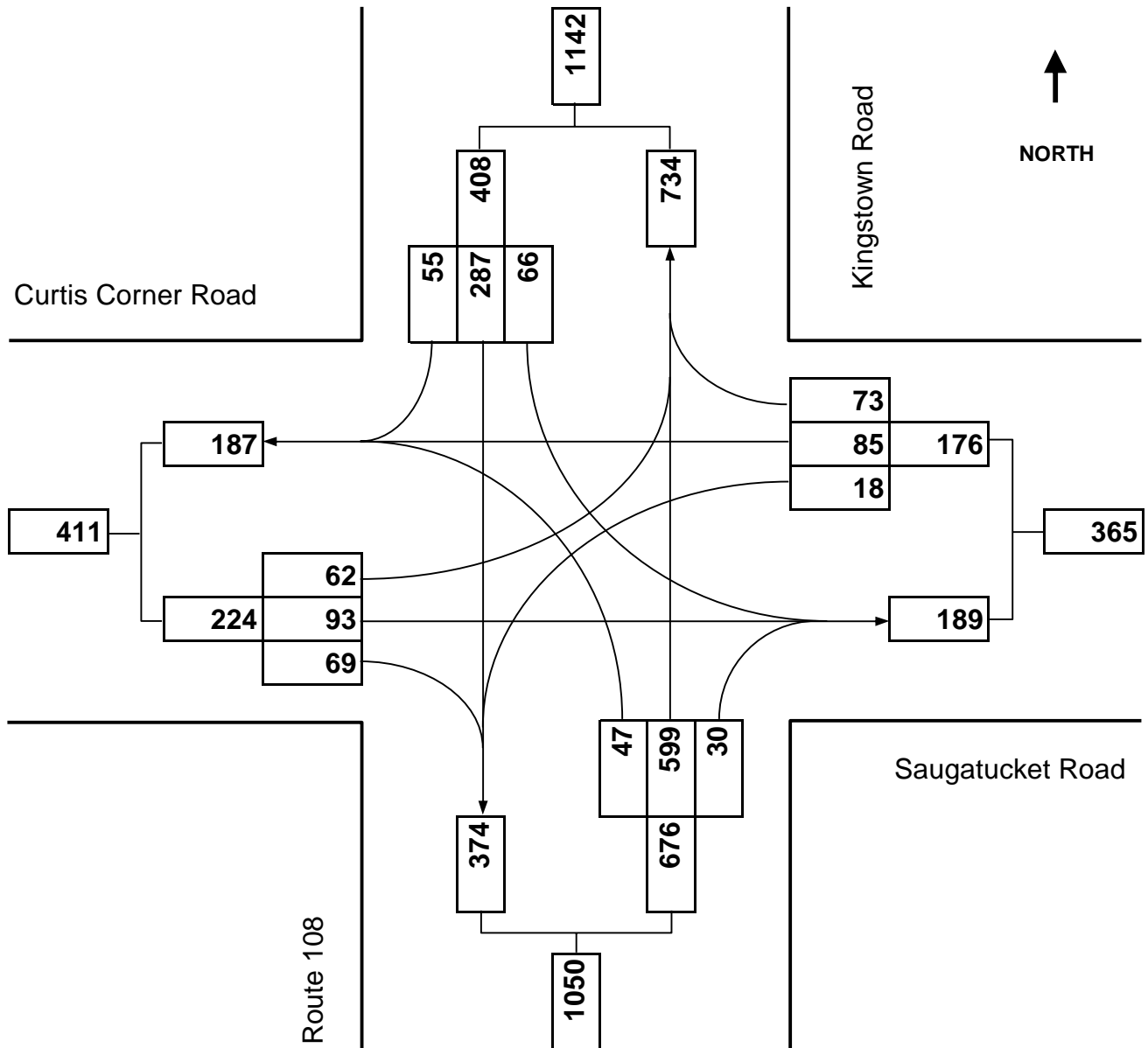
Curtis Corner Road at Kingstown Road (Route 108)



Turning Movement Diagram

Major Street: Kingstown Road
City/Town: South Kingstown
Reference No.: 2881
Existing: n/a

Minor Street: Curtis Corner Road
Day of Week: Weekday
Peak Period: AM Peak
Future: Build



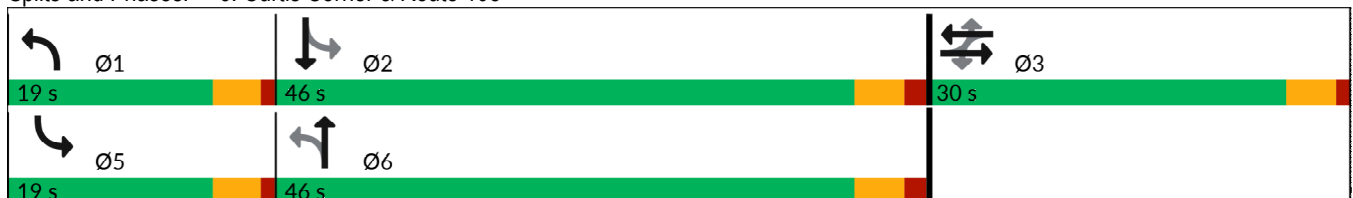
Champagne Heights

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	93	69	18	85	73	47	599	30	66	287	55
Future Volume (vph)	62	93	69	18	85	73	47	599	30	66	287	55
Satd. Flow (prot)	0	1760	0	0	1750	0	1770	1850	0	1770	1818	0
Flt Permitted		0.838			0.961		0.503			0.162		
Satd. Flow (perm)	0	1495	0	0	1690	0	937	1850	0	302	1818	0
Satd. Flow (RTOR)		23			37			3			13	
Lane Group Flow (vph)	0	252	0	0	198	0	53	707	0	74	384	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		3			3		1	6		5	2	
Permitted Phases	3			3			6			2		
Total Split (s)	30.0	30.0		30.0	30.0		19.0	46.0		19.0	46.0	
Total Lost Time (s)		4.5			4.5		4.5	5.0		4.5	5.0	
Act Effct Green (s)		16.7			16.7		36.9	31.7		39.7	35.0	
Actuated g/C Ratio		0.25			0.25		0.54	0.47		0.58	0.51	
v/c Ratio		0.65			0.45		0.09	0.82		0.21	0.41	
Control Delay (s/veh)		32.6			23.9		6.4	26.8		7.4	13.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		32.6			23.9		6.4	26.8		7.4	13.0	
LOS		C			C		A	C		A	B	
Approach Delay (s/veh)		32.6			23.9			25.3			12.1	
Approach LOS		C			C			C			B	
Queue Length 50th (ft)		93			61		8	255		11	101	
Queue Length 95th (ft)		186			132		24	#539		32	201	
Internal Link Dist (ft)		1043			396			297			764	
Turn Bay Length (ft)							100			75		
Base Capacity (vph)		646			737		766	1182		536	1181	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.39			0.27		0.07	0.60		0.14	0.33	

Intersection Summary

Cycle Length: 95
 Actuated Cycle Length: 68
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay (s/veh): 22.6
 Intersection LOS: C
 Intersection Capacity Utilization 75.8%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Curtis Corner & Route 108



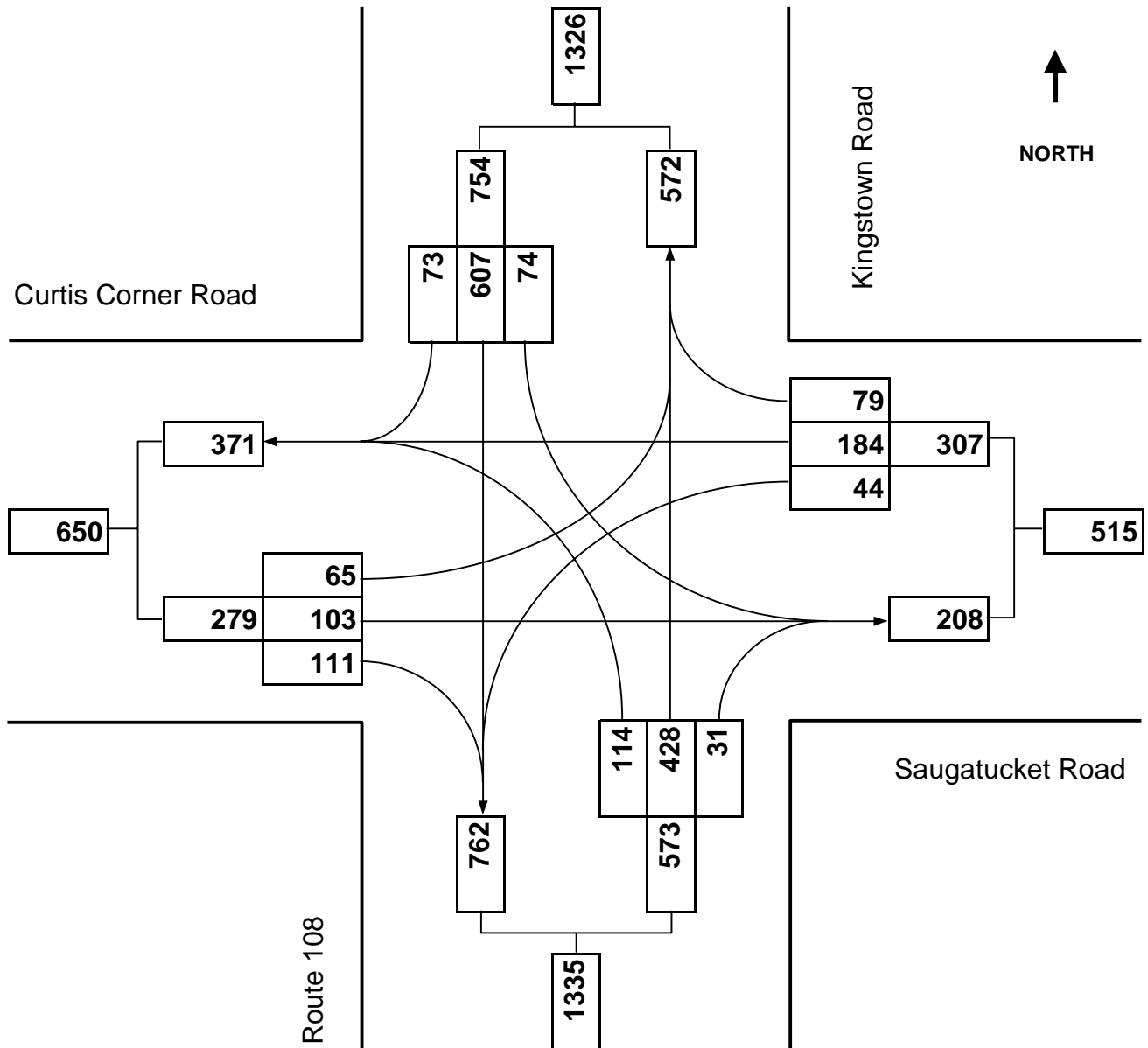
Future Build Conditions
 Timing Plan: AM Peak Hour



Turning Movement Diagram

Major Street:	Kingstown Road
City/Town:	South Kingstown
Reference No.:	2881
Existing:	n/a

Minor Street:	Curtis Corner Road
Day of Week:	Weekday
Peak Period:	PM Peak
Future:	Build



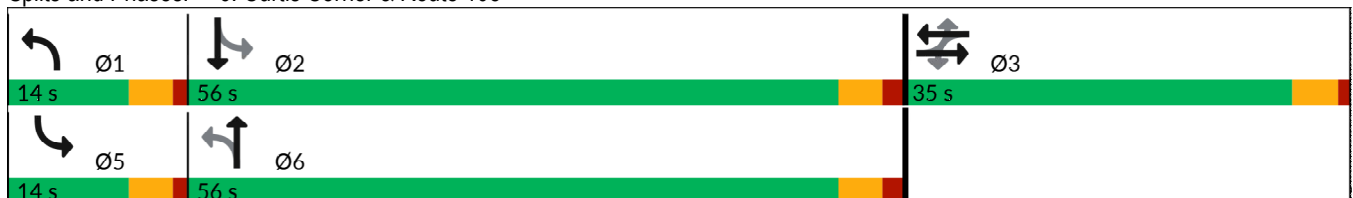
Champagne Heights

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Traffic Volume (vph)	65	103	111	44	184	79	114	428	31	74	607	73
Future Volume (vph)	65	103	111	44	184	79	114	428	31	74	607	73
Satd. Flow (prot)	0	1776	0	0	1821	0	1805	1864	0	1805	1853	0
Flt Permitted		0.760			0.896		0.143			0.353		
Satd. Flow (perm)	0	1366	0	0	1643	0	272	1864	0	671	1853	0
Satd. Flow (RTOR)		32			17			5			8	
Lane Group Flow (vph)	0	304	0	0	334	0	124	499	0	80	739	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		3			3		1	6		5	2	
Permitted Phases	3			3			6			2		
Total Split (s)	35.0	35.0		35.0	35.0		14.0	56.0		14.0	56.0	
Total Lost Time (s)		4.5			4.5		4.5	5.0		4.5	5.0	
Act Effct Green (s)		22.8			22.8		46.3	40.0		45.1	39.4	
Actuated g/C Ratio		0.28			0.28		0.57	0.49		0.55	0.48	
v/c Ratio		0.75			0.71		0.41	0.55		0.17	0.82	
Control Delay (s/veh)		40.1			37.4		11.8	18.5		8.4	29.1	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		40.1			37.4		11.8	18.5		8.4	29.1	
LOS		D			D		B	B		A	C	
Approach Delay (s/veh)		40.1			37.4			17.2			27.1	
Approach LOS		D			D			B			C	
Queue Length 50th (ft)		135			155		25	181		16	332	
Queue Length 95th (ft)		#275			291		55	317		38	579	
Internal Link Dist (ft)		1043			396			297			756	
Turn Bay Length (ft)							100			75		
Base Capacity (vph)		585			691		356	1236		531	1222	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.52			0.48		0.35	0.40		0.15	0.60	

Intersection Summary

Cycle Length: 105
 Actuated Cycle Length: 81.8
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay (s/veh): 27.7
 Intersection LOS: C
 Intersection Capacity Utilization 79.9%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 6: Curtis Corner & Route 108



Future Build Conditions
 Timing Plan: PM Peak Hour

Curtis Corner Road at Site Access Road



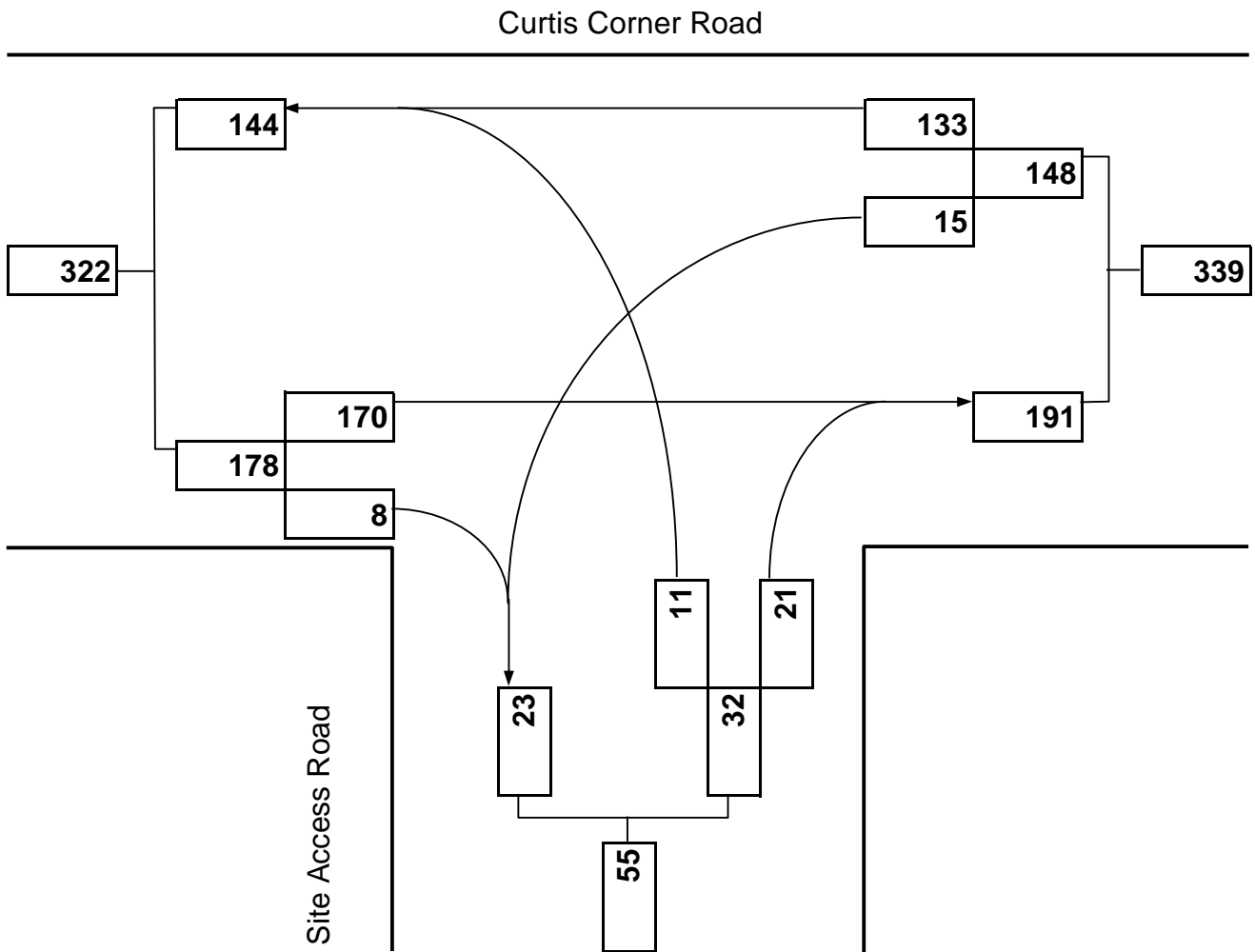
Turning Movement Diagram

Major Street:	Curtis Corner Road
City/Town:	South Kingstown
Reference No.:	2881
Existing:	n/a

Minor Street:	Site Access Road
Day of Week:	Weekday
Peak Period:	AM Peak
Future:	Build



NORTH



Champagne Heights

Intersection

Int Delay, s/veh 1.2

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	W		T			T
Traffic Vol, veh/h	11	21	170	8	15	133
Future Vol, veh/h	11	21	170	8	15	133
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	1	0	0	0
Mvmt Flow	12	23	185	9	16	145

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	366	189	0
Stage 1	189	-	-
Stage 2	177	-	-
Critical Hdwy	6.4	6.2	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	-
Pot Cap-1 Maneuver	637	858	-
Stage 1	848	-	-
Stage 2	858	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	629	858	-
Mov Cap-2 Maneuver	629	-	-
Stage 1	848	-	-
Stage 2	847	-	-

Approach	NW	NE	SW
HCM Control Delay, s/v	9.95	0	0.77
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT
Capacity (veh/h)	-	-	763	182
HCM Lane V/C Ratio	-	-	0.046	0.012
HCM Control Delay (s/veh)	-	-	9.9	7.6
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0



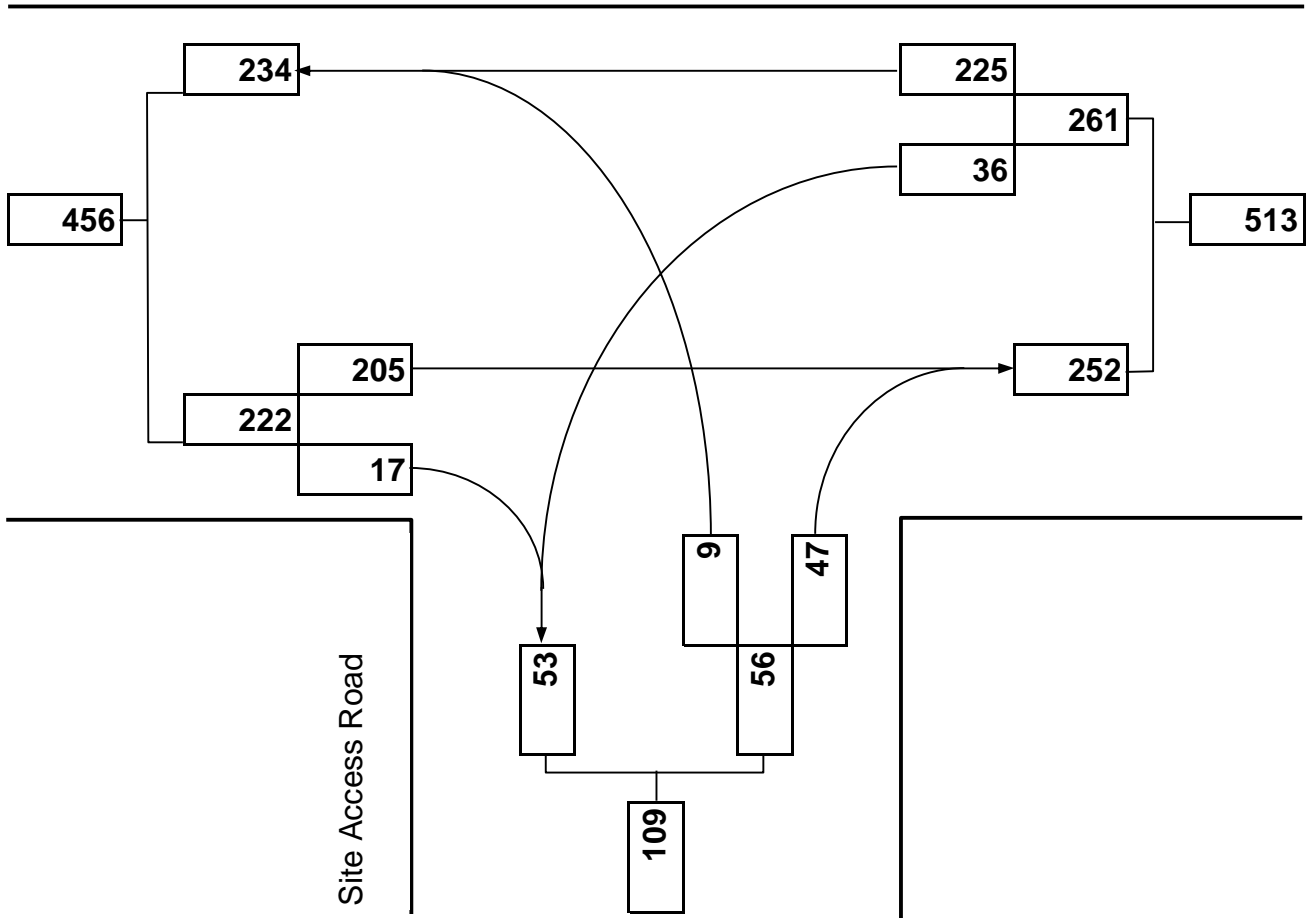
Turning Movement Diagram

Major Street:	Curtis Corner Road
City/Town:	South Kingstown
Reference No.:	2881
Existing:	n/a

Minor Street:	Site Access Road
Day of Week:	Weekday
Peak Period:	PM Peak
Future:	Build



Curtis Corner Road



Champagne Heights

Intersection

Int Delay, s/veh 1.6

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	W		T			T
Traffic Vol, veh/h	9	47	205	17	36	225
Future Vol, veh/h	9	47	205	17	36	225
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	10	51	223	18	39	245

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	555	232	0
Stage 1	232	-	-
Stage 2	323	-	-
Critical Hdwy	6.4	6.2	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	-
Pot Cap-1 Maneuver	496	812	-
Stage 1	811	-	-
Stage 2	738	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	479	812	-
Mov Cap-2 Maneuver	479	-	-
Stage 1	811	-	-
Stage 2	713	-	-

Approach	NW	NE	SW
HCM Control Delay, s/v10.37		0	1.07
HCM LOS	B		

Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT
Capacity (veh/h)	-	-	731	248
HCM Lane V/C Ratio	-	-	0.083	0.029
HCM Control Delay (s/veh)	-	-	10.4	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1