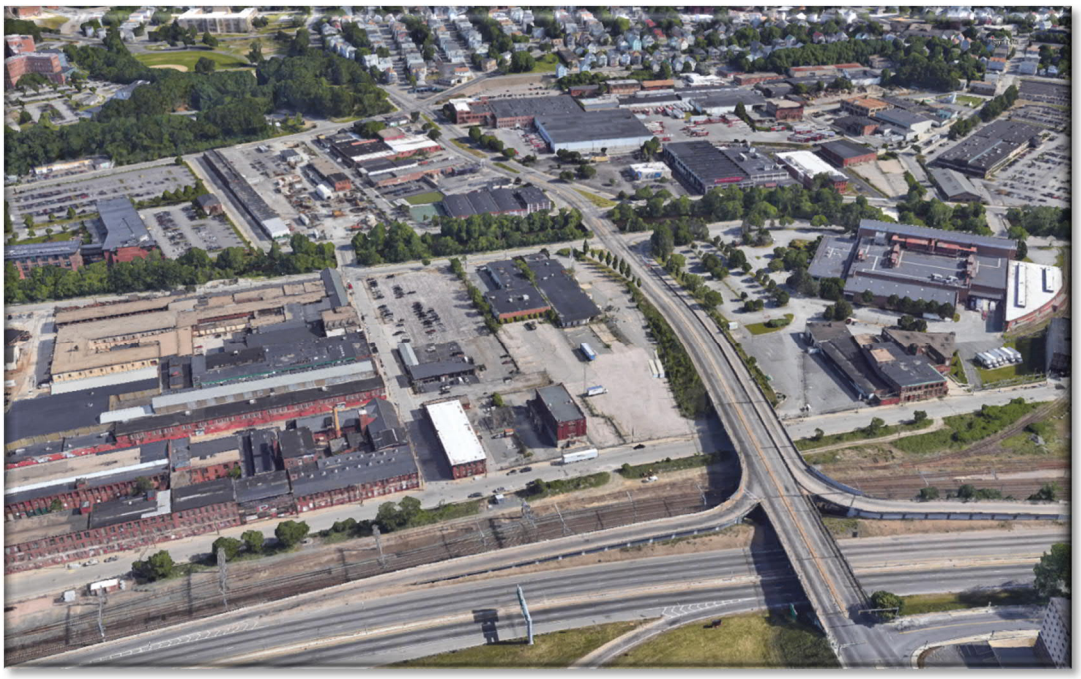
Providence, Rhode Island

# Proposed Commercial Redevelopment

*July 2018*
Revised December 2019
Revised August 2020
Revised November 2020

# TRAFFIC IMPACT STUDY



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# Proposed Commercial Redevelopment
Providence, Rhode Island

# TRAFFIC IMPACT STUDY

Prepared by: BETA GROUP, INC.

Prepared for: Mr. Michael Voccola
NMS Realty Trust
1140 Reservoir Avenue
Cranston, Rhode Island 02920

July 2018
Revised December 2019
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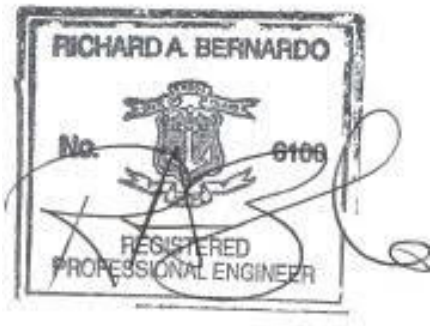

IMPROVING COMMUNITIES TOGETHER

July 25, 2018
Revised December 6, 2019
Revised August 21, 2020
Revised November 4, 2020

Mr. Michael Voccola
NMS Realty Trust
1140 Reservoir Avenue
Cranston, RI 02920

Re: Proposed Commercial Redevelopment
Dean Street and Kinsley Avenue
Providence, Rhode Island

Dear Mr. Voccola:

BETA Group, Inc., has completed an update to our revised August 2020 Traffic Impact Study in order to address changes made to the site redevelopment proposal that includes several commercial uses in the City of Providence, Rhode Island. The project is located on the westerly side of Dean Street between Kinsley Avenue and Harris Avenue. The parcel is defined by Assessor's Plat 26 Lot 234, AP 27 Lots 36 and 269, which together contain approximately four acres of land.

Based upon information provided by your office, and a review of the current site plan prepared by *DiPrete Engineering,* it is our understanding that the redevelopment project will include subdivision of the property into three commercial lots. Two of the lots will remain unchanged from the original proposal and include separate buildings containing a self-storage facility and small retail use. The third lot has been modified to eliminate the fast-food restaurant with a drive-through while maintaining the convenience market with gas station. Access and egress to the site will be provided from new driveways on Dean Street and Harris Avenue as originally proposed, and from two modified driveways on Kinsley Avenue with a common access across all parcels.

The study included herein, was conducted to determine the adequacy of the existing servicing roadways to accommodate anticipated traffic to be generated by the commercial 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,
BETA Group, Inc.

Paul J. Bannon
Senior Project Manager

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# 1.0 INTRODUCTION

The objective of the following study is to assess the potential traffic impacts associated with a proposed commercial redevelopment project in the City of Providence, Rhode Island. The subject property is situated on a parcel of land on the westerly side of Dean Street between Kinsley Avenue and Harris Avenue. Refer to the Figure 1, Project Vicinity Map, on the following page for the project location within the city.

The development proposal consists of the construction of four separate buildings containing a 5-story, 805-unit self-storage facility, a 6,500 square foot retail store, and a 5,500 square foot convenience store/gasoline station with sixteen (16) vehicle fueling positions. Parking for the self-storage facility (25), retail building (23), and convenience store/gasoline station (25) including six electric charging station will be provided adjacent to each building, yielding a total of 79 parking spaces for the development. Access and egress will be provided from new driveways on both Dean Street and Harris Avenue, and two modified driveways on Kinsley Avenue. All proposed commercial uses will be interconnected via an internal driveway linking the parking areas and to all proposed points of access to the adjacent roadways.

The study summarized herein focused on both traffic flow efficiency and safety along Dean Street, Kinsley Avenue, and Harris Avenue in the immediate vicinity of the subject property, and at the proposed driveways. 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 including Dean Street, Kinsley Avenue, and Harris Avenue. The data collection included manual turning movement counts (TMCs) at the intersections of Dean Street with Kinsley Avenue/Providence Place and with Pleasant Valley Parkway/Promenade Street and at the intersection of Kinsley Avenue with Acorn Street. Automated traffic recorded (ATR) counts were collected on Kinsley Avenue and Harris Avenue.
- An inventory of the physical roadway characteristics of Dean Street, Kinsley Avenue, and Harris Avenue in the project area to determine the adequacy of the existing roadway geometric features in reference to safety and operations.
- An analysis of accident records obtained from the Providence 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 commercial development was calculated using data from the "Trip Generation" Manual, an informational report published by the Institute of Transportation Engineers (ITE).

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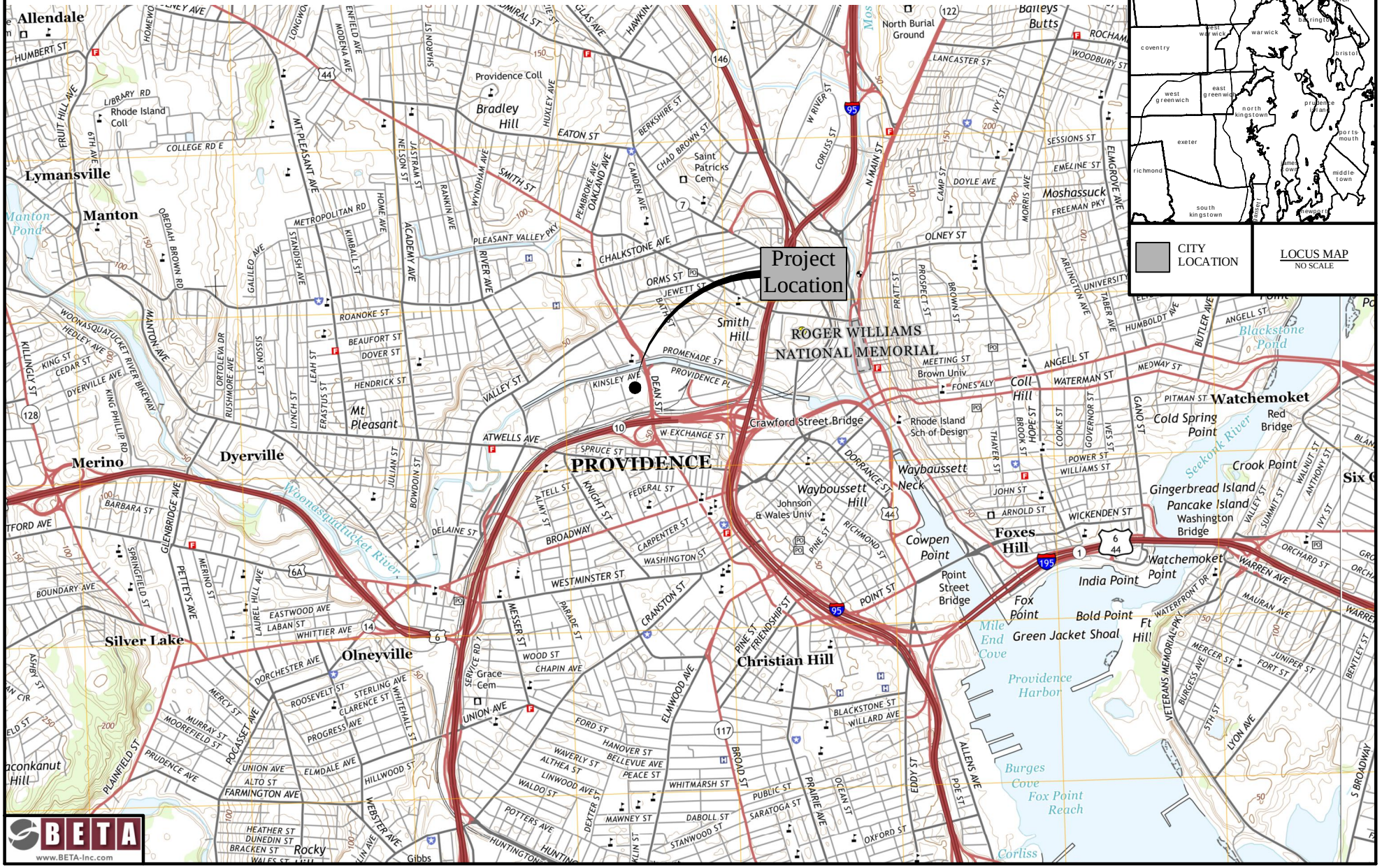
## Figure 1 - Project Vicinity Map

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- Evaluation and analysis of the traffic safety and operational issues for existing and future traffic conditions.
- Development of recommendations where necessary, that would be required to maintain safe and efficient traffic flow in the project area.

# 2.0 PROJECT AREA

As noted in the previous section, the subject property is situated on the westerly side of Dean Street between Harris Avenue to the south and Kinsley Avenue to the north. The property had previously contained a commercial building for *The Providence Journal* newspaper operation, which was razed several years ago, and has been for sale for commercial redevelopment for some time. 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 predominately commercial and industrial along Dean Street, Kinsley Avenue, and Harris Avenue. High density residential properties are situated to the east along Providence Place and Promenade Street. Immediately abutting the property to the west are industrial businesses including *Delta Auto Body* and *Capco Steel.* To the north, on the opposite side of Kinsley Avenue, is the *Woonasquatucket River*. To the east, on the opposite side of Dean Street, is *The Providence Journal*, a newspaper company. To the south, on the opposite side of Harris Avenue, are the *Amtrak* railway and Route 6/10 highway corridors. Further east along Providence Place is the *Providence Place Mall*.

Dean Street and Kinsley Avenue will serve as the primary access routes to the redeveloped property, with Harris Avenue providing a secondary access. Based upon the volume of traffic serviced along the immediate servicing roadways, and the minor volume of site-related traffic anticipated with the redevelopment project, a study impact area was defined for the project. The limits of our analysis focused on Dean Street, Kinsley Avenue, and Harris Avenue in the immediate vicinity of the property including the Dean Street intersection with Kinsley Avenue and the site driveway intersections.

# 3.0 EXISTING CONDITIONS

## 3.1 ROADWAYS

*Dean Street*

Dean Street is a north/south urban minor arterial between Kinsley Avenue/Providence Place to the north and Westminster Street to the south. It provides immediate local access to abutting properties but also links to higher order facilities including the Route 6/10 interchange to the south. In the project area, Dean Street is approximately 57 feet wide consisting of two 12-foot travel lanes and two 1-foot shoulders in each direction separated by a 5-foot wide raised concrete median.

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## Figure 2 - Project Area Map


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In addition, the I-95 northbound exit for *Providence Place Mall,* as part of the multi-exit ramp at Exit 22, runs on the easterly side of Dean Street, which is separated by a concrete barrier. In the project area, the pavement surface can be classified as being in good condition as it was recently resurfaced as part of the Pleasant Valley Parkway bridge replacement project.

Concrete curbing with a mixture of concrete and bituminous sidewalks are provided on the westerly side of Dean Street. Cobra-head light fixtures are located along both sides of the corridor for nighttime illumination. There is no posted speed limit in the project area and was assumed at 25 mph due to the urban nature of the area. The above photograph depicts the typical characteristics of Dean Street looking South with the subject property on the right.

*Kinsley Avenue*

Kinsley Avenue is an east/west urban major collector between Eagle Street to the west and Dean Street to the east. In the project area, Kinsley Avenue is approximately 34 feet wide consisting of one travel lane in each direction and a bicycle lane in the eastbound direction. The pavement surface can be classified as being in good condition as it was recently resurfaced as part of the bridge project as previously described. Granite curbing and cement concrete sidewalks are provided on both sides of Kinsley Avenue. Ornamental lighting has been provided along both sides of the corridor for nighttime illumination. There is no posted speed limit along the road and therefore was assumed to be 25 mph due to the urban nature of the area. The adjacent photograph depicts the typical characteristics of Kinsley Avenue looking east with the subject property on the right.

*Harris Avenue*

Harris Avenue is an east/west urban major collector between Broadway to the southwest and Providence Place to the east. In the project area, Harris Avenue is approximately 40 feet wide consisting of a single travel lane and a parking lane in each direction; however, no pavement markings are provided to delineate these lane uses. The pavement surface can be classified as being in fair condition with visible longitudinal cracking and patching. Granite curbing and cement concrete sidewalks are provided on both sides of Harris Avenue. Lighting on utility poles is located along the northerly side of the corridor. There is no posted speed limit in the project area and therefore was assumed to be 25 mph. The adjacent photograph depicts the typical characteristics of Harris Avenue looking east with the subject property on the left.

## 3.2 INTERSECTIONS

*Dean Street/Pleasant Valley Parkway at Kinsley Avenue/Providence Place/Promenade Street*

Dean Street/Pleasant Valley Parkway intersect Kinsley Avenue/Providence Place and Promenade Street to form an unconventional signalized four-way junction with the Woonasquatucket River running through the middle of the intersection. Dean Street and Pleasant Valley Parkway combine to form the north/south roadway with the Woonasquatucket River Bridge being the northerly limit of Dean Street as the road extends to the north as Pleasant Valley Parkway. Promenade Street intersects with Pleasant Valley Parkway on the north side of the bridge and Kinsley Avenue/ Providence Place intersect Dean Street on the south side of the bridge.

The Dean Street northbound approach at Kinsley Avenue provides a separate left turn lane, a thru lane, and a shared thru/right turn lane. The Dean Street/Pleasant Valley Parkway southbound approach on the bridge provides a separate left turn lane, a thru lane, a shared thru/right turn lane, and a bike lane. The Kinsley Avenue eastbound approach provides a shared left turn/thru lane, a bike lane, and a channelized yield-controlled right turn lane. Providence Place is a one-way eastbound roadway.

The Pleasant Valley Parkway northbound approach at Promenade Street provides a left/thru lane and a thru lane while the southbound approach provides two thru lanes and a short channelized right turn lane. Promenade Street is a one-way westbound roadway running along the northern bank of the

Woonasquatucket River. The Promenade Street westbound approach provides a left turn lane, a shared left turn/thru lane, and a channelized yield-controlled right turn lane.

As previously mentioned, this intersection was recently reconstructed as part of the Pleasant Valley Parkway bridge replacement project. The improvements made at the intersection in addition to the bridge included a new traffic signal system, roadway surface, pavement markings, signing, curbing, and sidewalks as depicted on the adjacent photograph looking east along Kinsley Avenue.

The intersection was determined to operate in a fully actuated mode utilizing a single controller operating in a three-phase manner to service the offset minor approaches. Phase 1 services the Dean Street and Pleasant Valley Parkway northbound/southbound through/right concurrent movements. Phase 2 services the Pleasant Valley Parkway northbound at the Promenade Street junction, and the Kinsley Avenue eastbound concurrent movements. Phase 3 services the Pleasant Valley Parkway southbound at the Kinsley Avenue junction, and the Promenade Street westbound concurrent movements. In addition, pedestrian accommodations are present at the intersection including curb ramps, marked pedestrian crosswalks, pedestrian signal heads with push buttons on all legs of the intersection, except for the north and south legs between both junctions.

*Kinsley Avenue at Acorn Street*

Kinsley Avenue intersects Acorn Street to form a four-way junction under all-way *Stop* control. All approaches to the intersection provide a single multipurpose lane. Granite curbing and cement concrete sidewalks are provided at the intersection including curb ramps. Marked pedestrian crosswalks are provided across all legs of the intersection except for the westbound approach. Lighting is provided on ornamental light poles for nighttime illumination of the intersection.

### 3.3 Traffic Flow Data

Existing traffic flow characteristics for this area were developed from a traffic counting program conducted by BETA including Manual Turning Movement Counts (TMC) and Automatic Traffic Recorder (ATR) counts in March and April 2018. Manual turning movement counts were conducted at the intersections of Pleasant Valley Parkway with Promenade Street and Dean Street with Providence Place/Kinsley Avenue, and at the intersection of Kinsley Avenue with Acorn Street. Data was collected on a weekday between 7:00 and 9:00 AM and 4:00 to 6:00 PM when the site and surrounding roadway service their highest daily traffic volumes.

The automatic traffic recorder counts (ATR) were conducted on Kinsley Avenue, between Acorn Street and Dean Street and on Harris Avenue, just west of Acorn Street. Based upon the ATR data obtained, Kinsley Avenue was found to service an Average Daily Traffic (ADT) volume of approximately 5,900 vehicles. On a typical weekday along Kinsley Avenue, traffic volumes begin to increase at 5:00 AM, with the morning commuter peak hour occurring between 8:00 and 9:00 AM. During this hour, an average of 590 vehicles was recorded. After 9:00 AM, volumes decrease to between 280 and 400 vehicles per hour until the late afternoon peak of 530 vehicles serviced between 4:00 and 5:00 PM.

Harris Avenue in the project area was found to service an Average Daily Traffic (ADT) volume of approximately 4,500 vehicles. On a typical weekday along Harris Avenue, traffic volumes begin to increase at 6:00 AM, with the morning commuter peak hour occurring between 8:00 and 9:00 AM. During this hour, an average of 330 vehicles was recorded. After 9:00 AM, volumes decrease to between 200 and 260 vehicles per hour until the late afternoon peak of 430 vehicles serviced between 5:00 and 6:00 PM.

The turning movement count data found that Dean Street services approximately 2,810 vehicles during the weekday morning peak hour between 8:00 and 9:00 AM with approximately 1,310 vehicles northbound and 1,500 vehicles southbound. During the same time period, Kinsley Avenue serviced approximately 630 vehicles with approximately 520 vehicles eastbound and 110 vehicles westbound. During the weekday afternoon peak hour between 4:30 and 5:30 PM, Dean Street serviced 3,300 vehicles with approximately 1,540 vehicles northbound and 1,760 vehicles southbound. During the same time period, Kinsley Avenue serviced 525 vehicles with approximately 450 vehicles eastbound and 75 vehicles westbound. Figure 3 on the following page depicts the daily peak hour turning movement volumes at the study intersection. Complete count information can be found in the Appendix.

## 4.0 Safety Analysis

To determine if there are any limiting factors affecting safety relating to access to the proposed commercial project, the physical characteristics of Dean Street, Kinsley Avenue, and Harris Avenue in the project area were investigated. These limiting factors would potentially include horizontal or vertical alignment 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 sight distance standard is necessary to permit turning vehicles to safely enter and exit the site driveways.

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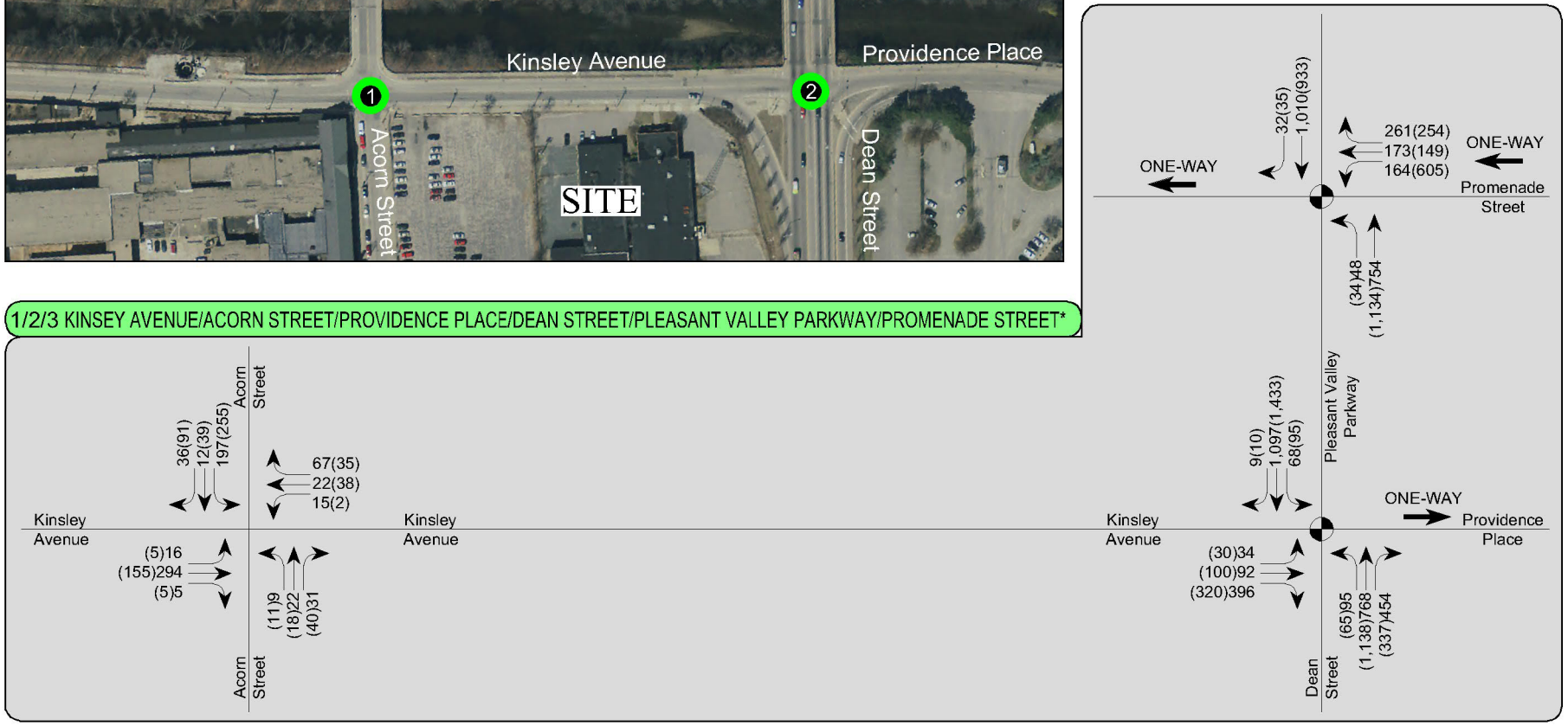
## Figure 3 - Existing Traffic Volumes


1/2/3 KINSEY AVENUE/ACORN STREET/PROVIDENCE PLACE/DEAN STREET/PLEASANT VALLEY PARKWAY/PROMENADE STREET*




*AM AND PM PEAK TRAFFIC VOLUMES ON KINSLEY AVENUE BETWEEN DEAN STREET AND ACORN STREET WERE BALANCED BASED ON AUTOMATIC TRAFFIC RECORDER (ATR) DATA COUNTS.

LEGEND:

- TURN MOVEMENT
- XXX AM PEAK VOLUMES (8:00 TO 9:00)
- (XXX) PM PEAK VOLUMES (4:30 TO 5:30)
- 1 STUDY INTERSECTION
- TRAFFIC SIGNAL

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The horizontal alignment of Dean Street in the project area can be described as relatively straight with a gradual curve along the subject property frontage. The vertical alignment can be described as generally level north of Kinsley Avenue across the Woonasquatucket River Bridge and with a gradual incline along the site property frontage heading south from Kinsley Avenue to a crest vertical curve at the Route 6/10 bridge overpass. Based upon the existing roadway geometry as described, the available sight distance at the proposed right in/out site driveway location on Dean Street was determined to be greater than 500 feet through the signalized junction with Promenade Street to the north. This value is greater than AASHTO's recommended minimum sight distance of 155 feet based on the prima facie speed limit of 25 mph and is sufficient for speeds in excess of 40 mph. It should be noted that speeds are highly variable due to the signal-controlled Kinsley Avenue and Promenade Street junctions, where vehicles are turning onto Dean Street at a low speed or accelerating from a stop condition.

Reviewing the existing right turn movement from Kinsley Avenue, the available sight distance from the yield line on the channelized right turn ramp at Dean Street was determined to be greater than 350 feet through the signalized junction with Promenade Street to the north. As previously noted, the high type ramp design for the right turn intersects Dean Street at skewed angle, hindering sight lines for drivers turning onto Dean Street from Kinsley Avenue. This angle forces a driver to either use their driver's side mirror while encroaching into the southbound travel lane for proper positioning, or physically turning their bodies to see the necessary distance to the north to determine if vehicles are approaching. This requirement can be difficult for elderly or physically impaired drivers to accomplish sufficiently to permit safe movements or efficient movements onto Dean Street. This condition could result in drivers being overcautious and not taking advantage of available gaps, or not yielding properly to oncoming traffic which was observed. The intersecting angle of the ramp is shown in the adjacent photograph.

The horizontal and vertical alignment of Kinsley Avenue in the project area can be described as generally straight and level, allowing sight distances in excess of 500 feet through the all-way *Stop* controlled intersection with Acorn Street to the west of both driveways and 250 feet through the signalized junction with Dean Street to the east from the proposed eastern driveway. The defined roadway geometry results in values that are greater than the 155-foot minimum stopping sight distance required according to AASTHO criteria for the prima facie speed limit of 25 mph. It is important to note that speeds are highly

variable due to the controlled junctions at Dean Street and Acorn Street, where vehicles are turning onto Kinsley Avenue at a low speed or slowing to the stop line at the controlled junctions.

The horizontal and vertical alignment of Harris Avenue in the project area can be described as generally straight and level, allowing sight distances at Harris Avenue in excess of 500 feet to the east and west of the proposed site access driveway intersection. The defined roadway geometry results in values that are greater than the 155-foot minimum stopping sight distance required according to AASTHO criteria for the prima facie speed limit of 25 mph, and the 360 feet based on the observed speeds between 40 and 45 mph. It should be noted that parking on the northerly side of Harris Avenue may create an obstruction that limits sight distance for vehicles exiting the proposed site driveway onto Harris Avenue if restrictions were not implemented adjacent to the new driveway. In an effort to enhance safety and limit vehicles parking in the vicinity of the proposed site driveway intersection, in accordance with the City of Providence regulations, parking restriction signs should be placed a minimum of 25 feet east and west of the proposed site driveway prohibiting parking on the northerly side of Harris Avenue along the property frontage.

Also, as part of our analysis, a review of accident statistics was completed. Data was reviewed from the City of Providence Police Department at the intersection of Dean Street with Kinsley Avenue with emphasis on the Kinsley Avenue channelized right turn ramp to determine if there were any safety concerns specific to this movement. Data was obtained for a two-year period as the bridge was under construction in 2015 and 2016 with different traffic patterns than current conditions. A review of the information at the study intersection found that a total of 33 crashes (avg. 17 per year) occurred over the study period (2017-2018), with 12 involving an injury. Summarizing the data, eight of the total crashes (approximately 25%) occurred at the Kinsley Avenue channelized right turn lane with five rear end crashes, two side-swipe collisions, and an angle type collision. The rear end accidents at this approach can be attributed to the skewed angle that limits sight lines for motorists yielding to Dean Street southbound through traffic, coupled with the wide turn ramp style design that allows for higher approach speeds. A summary of the crash data is provided in the Attachments for reference.

A review of the historical accident data obtained from the local police, combined with a field review of the intersection operations, and review of existing roadway geometry and physical features, determined that traffic related safety enhancements could be considered at this intersection to improve overall operations and safety. As noted, the sight line visibility and higher approach speed concerns identified at the Kinsley Avenue channelized right turn approach could be mitigated with a reconfiguration of the right turn ramp to be more consistent with an urban low speed environment. This is reconfiguration is appropriate as the roadways and intersection accommodate pedestrians and separate bike lanes along Kinsley Avenue and Dean Street through the signalized intersection.

Based upon these considerations where vehicular, pedestrian and bicycle safety can be enhanced through minor geometric changes, it is recommended that the Kinsley Avenue channelized right turn be modified with a smaller turning radius to enhance sight lines while mitigating approach speeds and improving pedestrian and bicycle interactions. The control of the right turn should be maintained as

yield conditions separate from signal control in order to provide the most efficient operations for the movement. It should also be noted that in tightening up the intersection, the design will also increase the distance between the driveway and the adjacent intersection to approximately 200 feet. This design creates ample separation between the Kinsley Avenue channelized right turn and the proposed site driveway on Dean Street. In addition, to restrict left turn entering the site at the proposed restricted right in/out driveway on Dean Street, it is recommended to extend the existing northbound left turn restriction on Dean Street be extended by approximately 140 feet northerly using pavement markings and vertical devices (flexible delineators or similar) across from the proposed right turn in/out driveway on Dean Street.

It should also be noted that this design recommendation would be a permanent condition based upon recently developed plans by the City of Providence for the *Woonasquatucket River Greenway* project that proposes to modify Kinsley Avenue to include a dedicated bike lane that will require the road to be converted to one-way eastbound along the subject property frontage including maintaining the existing geometry of the right turn from Kinsley Avenue and eliminating the Dean Street northbound left turn traffic at the intersection with Promenade Street.

This change will eliminate the ability of northbound traffic on Dean Street to access the site forcing vehicles to go through two traffic signals and loop back to the south using Promenade Street and Acorn Street. In order to mitigate this adverse impact, a long-term alternative plan has been developed to allow direct left turns from Dean Street within the existing left turn lane for the traffic signal at Kinsley Avenue. This option will greatly improve operations in this area by allowing a movement that would exist regardless under the original design and reduce the resultant additional vehicle and pedestrian conflicts created by the left turn restrictions caused by changing Kinsley Avenue to one-way eastbound. In addition, under the City project, the Dean Street northbound left turn traffic at the intersection with Promenade Street will be eliminated forcing vehicles to turn right at the intersection with Kinsley Avenue/Providence Place and loop to the west using Providence Place and Bath Street.

# 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 redevelopment proposal consists of the construction of a 5-story, 805-unit self-storage building, a 6,500 square foot building for retail use, and a 5,500 square foot convenience store/gasoline station with 16 vehicle fueling positions. Access and egress are proposed from new driveways on Dean Street (restricted to right in/out), and Harris Avenue, and two modified driveways on Kinsley Avenue. Figure 4 on the following page depicts the site layout and access plan provided by *DiPrete Engineering.*

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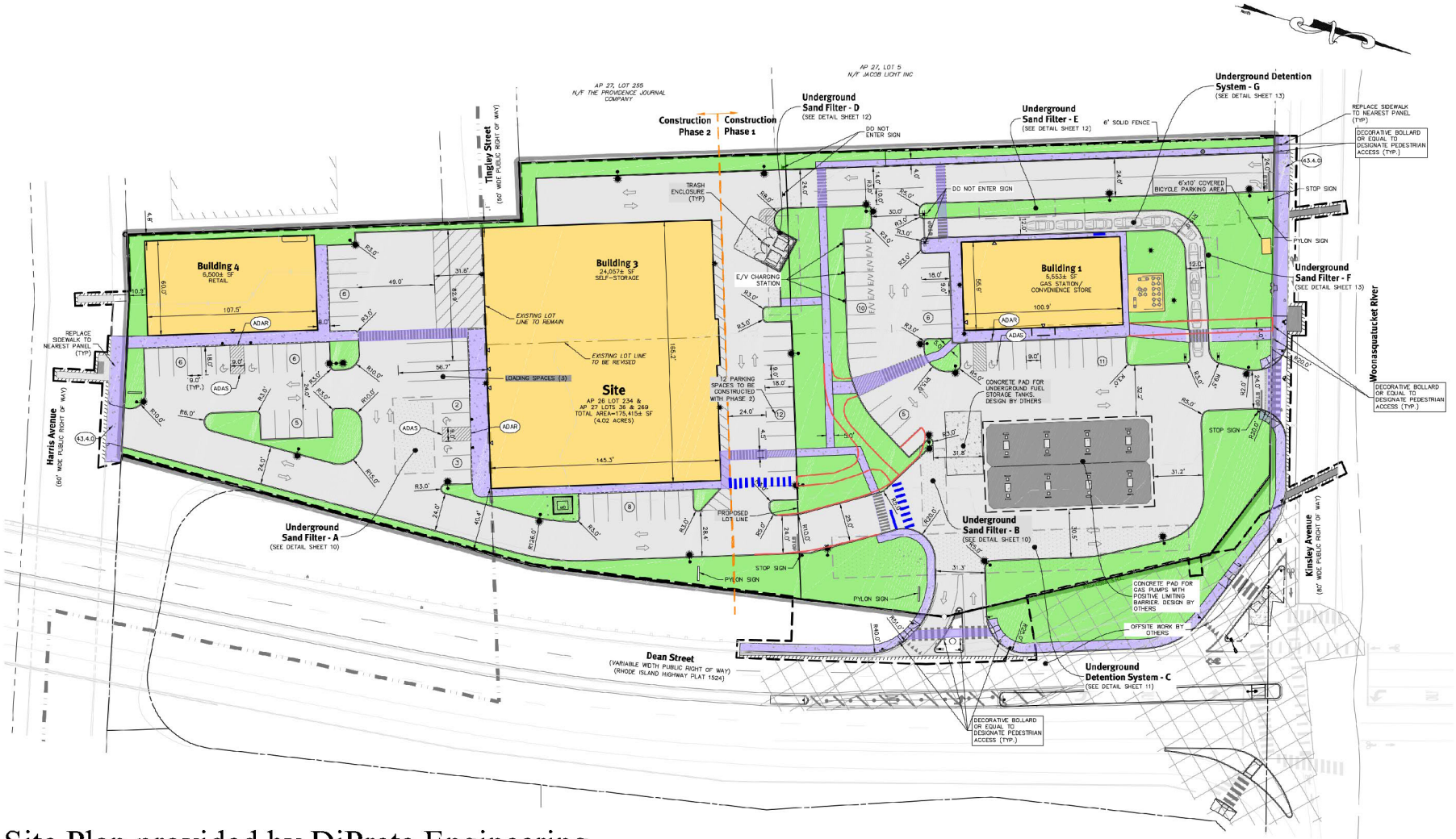
## Figure 4 - Site Layout




Site Plan provided by DiPrete Engineering

For this site, projected traffic volumes for the commercial project were based on the use of trip generation factors. These factors are taken 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 various 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 commercial project, Land Use Code 151 Mini-Warehouse, Land Use Code 820 Shopping Center, and Land Use Code 960 Super Convenience Market/Gas Station were reviewed for applicability in developing an estimate of site related vehicles trips.

The appropriate worksheets from the manual are included in the Appendix, along with the trip estimate calculations. Table 1 below summarizes the estimated trip volumes calculated for this project for the morning and afternoon peak traffic conditions.

TABLE 1 – Trip Generation Estimate

| | Description | Enter | Exit | Total |
|---|---|---|---|---|
| *AM Peak Hour* | | | | |
| ITE Land Use Code 151 | Mini-Warehouse | 6 | 5 | 11 |
| ITE Land Use Code 820 | Shopping Center | 4 | 2 | 6 |
| ITE Land Use Code 960 | Super Convenience Market/Gas Station | 225 | 225 | 450 |
| | Total | 235 | 232 | 467 |
| *PM Peak Hour* | | | | |
| ITE Land Use Code 151 | Mini-Warehouse | 8 | 8 | 16 |
| ITE Land Use Code 820 | Shopping Center | 12 | 13 | 25 |
| ITE Land Use Code 960 | Super Convenience Market/Gas Station | 185 | 184 | 368 |
| | Total | 205 | 205 | 410 |

It is important to note that the compatibility of uses, where a single site trip is generated for the multiple uses being proposed, is referred to as "internal-capture" where a driver would potentially visit two or more of the proposed uses within the proposed development. Consequently, these internal trips capture would allow reduction of the total trips generated by a multiple use development. In addition, to the internal capture potential, it is estimated that between 40% and 60% of trips generated by the proposed convenience store/gasoline station will not be new to the servicing roadways. The ITE manual provides information on what is referred to as "pass-by" trips, or those trips associated with the site that are already on the servicing roadways and turn into and out of a business and continue to their destination. Therefore, these pass-by vehicles would not be "added" to the adjacent servicing roadway but would be

diverted vehicles in to and out of the new development. However, to be conservative, no reduction for pass-by or internal-capture trips were considered in our analysis.

## 5.2 Future Traffic Volumes

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. The traffic growth estimate was based on comparison of current traffic volumes to historical traffic volumes in the project area, which has seen a minor increase, a review of recently approved projects by the City in the immediate area, and available statewide planning growth data.

For this project, a conservative annual growth rate of 1.0 percent was utilized. This rate was applied to the existing volumes to establish a future 2023 No-Build traffic condition on the servicing roadways. The proposed commercial project was then added to the No-Build condition to establish the future 2023 Build traffic condition. In addition, in coordination with the City, as noted earlier it was determined that the *Woonasquatucket River Greenway*, an urban trail, is proposed along the Kinsley Avenue corridor extending east through Providence Place to the downtown. The project proposes conversion of the current two-way traffic on Kinsley Avenue to one-way eastbound to accommodate the addition of a separated urban trail. In order to determine the potential impact of the proposed extension project to the site within the project area, the proposed alteration to the traffic circulation was analyzed as an alternative. Figure 5 on the following page depicts the estimated future build traffic volumes at the study intersections. Site distribution figures are also provided in the Appendix.

In developing the intersection volumes to be analyzed under build conditions, a directional distribution of the site traffic was estimated. The distribution was based on current traffic patterns along Dean Street and Kinsley Avenue. For the self-storage and retail components of the proposed development, it is estimated that 40% of the site traffic will arrive from and depart to the north, 20% will arrive from and depart to the south, 10% will arrive from and depart to the east, and 30% will arrive from and depart to the west during both the morning and afternoon peak hours. For the convenience store/gasoline station and fast-food restaurant with drive-through window components of the proposed development, it is estimated that 40% of the site traffic will arrive from the north and depart to the south, 20% will arrive from the south and depart to the north, 10% will arrive from the east and depart to the west, and 30% will arrive from the west and depart to the east during both the morning and afternoon peak hours.

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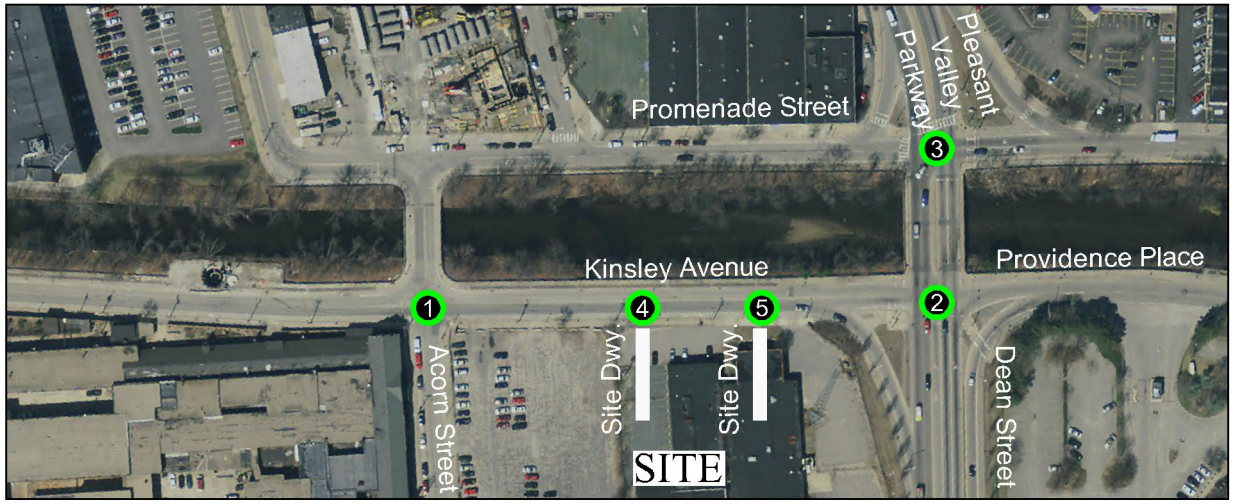
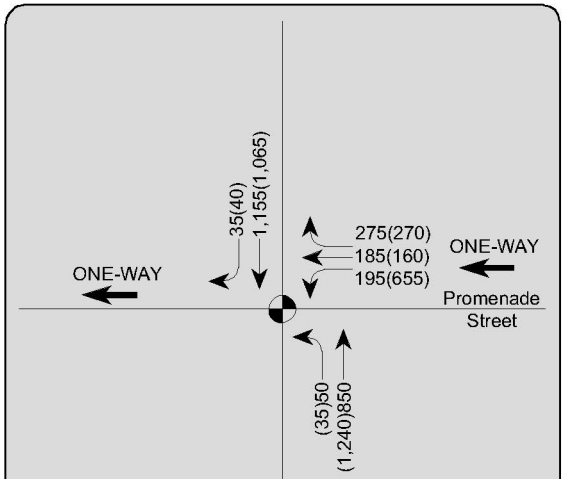
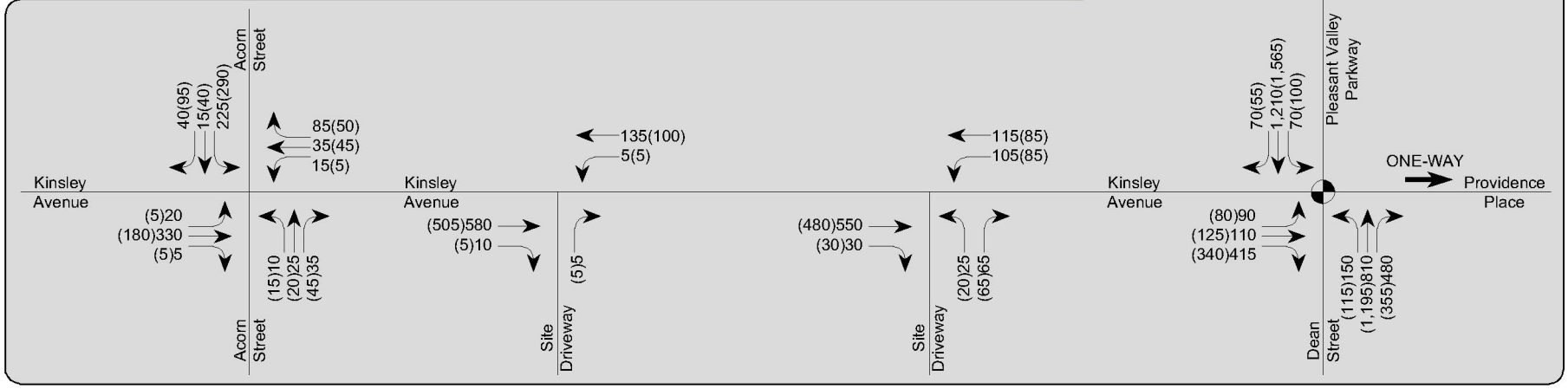
PROVIDENCE, RHODE ISLAND

## Figure 5 - Future Traffic Volumes




1/2/3/4/5 KINSEY AVE/ACORN ST/SITE DRIVEWAYS/PROVIDENCE PLACE/DEAN ST/PLEASANT VALLEY PARKWAY/PROMENADE ST




LEGEND:

- TURN MOVEMENT
- XXX AM PEAK VOLUMES (8:00 TO 9:00)
- (XXX) PM PEAK VOLUMES (4:30 TO 5:30)
- 1 STUDY INTERSECTION
- TRAFFIC SIGNAL

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## 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 situation 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 AM and PM peak hours would represent this worst-case combination of site-generated traffic with the servicing roadway peak traffic period.

The 2010 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 delays 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 Manual 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 Pleasant Valley Parkway intersection with Promenade Street and the Kinsley Avenue intersections with Dean Street, Acorn Street, and the site driveways were all analyzed for the weekday morning and afternoon peak hours. The capacity analysis worksheets are included in the Appendix and Tables 3 through 6 on the following pages summarize the results of the analyses.

Table 3 on the following page depicts the current conditions at the study intersections. As can be seen in the table, the signalized intersection of Dean Street/Pleasant Valley Parkway with Kinsley Avenue and Providence Place/Promenade Street operates at acceptable Level of Service D or better during both the AM and PM peak hours. Two movements during the AM peak hour and three movements during the PM peak hour were found to operate with greater delays due to the high peaking volumes during these periods. The Dean Street northbound left turn movement operates currently under permitted conditions resulting in delays in excess of 80 seconds, though due to the low turning volume, queueing is not extensive and typically the movement is serviced within the permitted phase and change interval. During the morning peak a maximum queue of seven vehicles was observed, with an average of three vehicles, which is consistent with the analysis.

TABLE 3 – Level of Service Summary (Existing Conditions)

| Location / Movement | 2018 EXISTING CONDITIONS | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | AM Peak Hour | | | | PM Peak Hour | | | |
| | LOS | Delay | 95th % Queue Length (veh.) | v/c | LOS | Delay | 95th % Queue Length (veh.) | v/c |
| *Dean Street at Kinsley Avenue/Providence Place (S)* [1] | | | | | | | | |
| Dean St. NB Left | F | 157.0 | 7 | 1.10 | F | 81.4 | 5 | 0.78 |
| Dean St. NB Thru/Right | B | 19.8 | 15 | 0.75 | E | 79.9 | 27 | 1.09 |
| Dean St. SB Left | A | 6.9 | 1 | 0.13 | A | 4.7 | 1 | 0.15 |
| Dean St. SB Thru/Right | A | 1.4 | 0 | 0.42 | A | 1.4 | 0 | 0.54 |
| Kinsley Ave. EB Left/Thru | D | 49.2 | 6 | 0.60 | D | 54.1 | 6 | 0.63 |
| Kinsley Ave. EB Right | F | 153.3 | 16 | 1.24 | F | 177.7 | 15 | 1.28 |
| OVERALL | D | 36.2 | - | - | D | 54.0 | - | - |
| *Pleasant Valley Parkway at Promenade Street (S)* [1] | | | | | | | | |
| Pleasant Valley Pkwy. NB | A | 2.0 | 1 | 0.44 | A | 3.3 | 1 | 0.69 |
| Pleasant Valley Pkwy. SB Thru | B | 19.5 | 12 | 0.62 | C | 25.1 | 12 | 0.67 |
| Pleasant Valley Pkwy. SB Right | A | 0.1 | 1 | 0.04 | A | 0.1 | 1 | 0.05 |
| Promenade St. WB Left | C | 30.0 | 5 | 0.38 | D | 35.7 | 12 | 0.73 |
| Promenade St. WB Left/Thru | C | 31.5 | 6 | 0.46 | C | 34.8 | 12 | 0.72 |
| Promenade St. WB Right | B | 13.4 | 4 | 0.52 | B | 18.7 | 6 | 0.47 |
| OVERALL | B | 14.5 | - | - | B | 18.8 | - | - |
| *Kinsley Avenue at Acorn Street (U)* | | | | | | | | |
| Kinsley Ave. EB | B | 12.4 | 3 | 0.48 | A | 10.0 | 1 | 0.26 |
| Kinsley Ave. WB | A | 8.9 | 1 | 0.16 | A | 8.8 | 1 | 0.12 |
| Acorn St. NB | A | 8.9 | 1 | 0.10 | A | 8.4 | 1 | 0.10 |
| Acorn St. SB | B | 11.7 | 2 | 0.39 | B | 13.1 | 4 | 0.54 |
| OVERALL | B | 11.4 | - | - | B | 11.4 | - | - |

*(S) – Signalized*
*(U) – Unsignalized*
[1] *Operates as a single intersection with one controller*

During the afternoon peak hour, the Dean Street northbound left lane, and thru/right lanes, and the Kinsley Avenue eastbound left/thru lane movements operate with greater delays at LOS F, E and LOS D where a maximum queue of 6, 27, and 6 vehicles were observed, respectively, which is consistent with the analysis. This queueing extends approximately 150, 675, and 150 feet, to the south and west respectively, during the busiest period of the day. The unsignalized Kinsley Avenue intersection with Acorn Street which is an *All-Way* Stop, operates efficiently with the critical movements experiencing minor delays of fewer than 14 seconds, representing LOS B or better during the daily peak hours of traffic.

TABLE 4 – Level of Service Summary (Future No-Build Conditions)

| Location / Movement | 2023 NO-BUILD CONDITIONS | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | AM Peak Hour | | | | PM Peak Hour | | | |
| | LOS | Delay | 95th % Queue Length (veh.) | v/c | LOS | Delay | 95th % Queue Length (veh.) | v/c |
| *Dean Street at Kinsley Avenue/Providence Place (S)*[1,2] | | | | | | | | |
| Dean St. NB Left | F | 199.7 | 5 | 1.23 | F | 94.9 | 5 | 0.86 |
| Dean St. NB Thru/Right | C | 21.8 | 15 | 0.80 | E | 55.3 | 26 | 1.03 |
| Dean St. SB Left | B | 10.5 | 1 | 0.18 | A | 7.8 | 1 | 0.20 |
| Dean St. SB Thru/Right | A | 1.8 | 1 | 0.49 | A | 1.6 | 1 | 0.60 |
| Kinsley Ave. EB Left/Thru | C | 34.3 | 5 | 0.36 | D | 40.9 | 6 | 0.48 |
| Kinsley Ave. EB Right | F | 87.3 | 17 | 1.05 | F | 111.3 | 15 | 1.11 |
| OVERALL | C | 29.1 | - | - | D | 37.7 | - | - |
| *Pleasant Valley Parkway at Promenade Street (S)* [1,2] | | | | | | | | |
| Pleasant Valley Pkwy. NB | A | 1.5 | 1 | 0.41 | A | 2.0 | 1 | 0.61 |
| Pleasant Valley Pkwy. SB Thru | C | 20.9 | 13 | 0.66 | C | 21.5 | 12 | 0.63 |
| Pleasant Valley Pkwy. SB Right | A | 0.1 | 1 | 0.05 | A | 0.7 | 1 | 0.05 |
| Promenade St. WB Left | D | 42.8 | 6 | 0.55 | F | 94.1 | 18 | 1.05 |
| Promenade St. WB Left/Thru | D | 49.3 | 9 | 0.70 | F | 90.3 | 18 | 1.03 |
| Promenade St. WB Right | B | 15.0 | 4 | 0.62 | C | 29.0 | 8 | 0.64 |
| OVERALL | B | 17.3 | - | - | C | 31.8 | - | - |
| *Kinsley Avenue at Acorn Street (U)* | | | | | | | | |
| Kinsley Ave. EB | B | 13.4 | 3 | 0.51 | B | 10.4 | 1 | 0.28 |
| Kinsley Ave. WB | A | 9.2 | 1 | 0.17 | A | 9.0 | 1 | 0.13 |
| Acorn St. NB | A | 9.2 | 1 | 0.12 | A | 8.6 | 1 | 0.12 |
| Acorn St. SB | B | 12.3 | 2 | 0.42 | B | 13.9 | 4 | 0.57 |
| OVERALL | B | 11.9 | - | - | B | 12.0 | - | - |

*(S) – Signalized*
*(U) – Unsignalized*
[1] *Operates as a single intersection with one controller*
[2] *Optimized Timings*

Table 4 above represents the future design period taking into considerations base traffic growth as noted earlier along the servicing roadways. The subject development is not included in this "No-Build" analysis scenario. As can be seen, the signalized intersection of Dean Street/Pleasant Valley Parkway with Kinsley Avenue/Providence Place/Promenade Street continues to operate overall at an acceptable LOS D or better during the morning and afternoon peak traffic conditions; however, with the additional traffic associated with background growth in this area, the critical movements experiences greater delays, though some movements improve through optimization of the phase timing. The unsignalized Kinsley Avenue intersection with Acorn Street will continue to operate efficiently with the critical movements

experiencing minor delays of fewer than 14 seconds, representing LOS B or better during the daily peak hours of traffic.

Table 5 on the following page presents the future conditions where the analysis found that the signalized intersection of Dean Street/Pleasant Valley Parkway with Kinsley Avenue/Providence Place/Promenade Street will operate overall in an acceptable manner at LOD D or better during the daily peak hours of traffic. All critical movements will operate at LOS D or better except for the Dean Street northbound left during the morning and afternoon peak periods, the Kinsley Avenue eastbound right during the morning peak period, and the Promenade Street westbound left and thru movements during the afternoon peak period. These critical movements will continue to operate at LOS F during the peak periods stated. The unsignalized Kinsley Avenue intersection with Acorn Street will operate efficiently with the critical movements experiencing minor delays of fewer than 16 seconds, representing LOS C or better during the daily peak hours of traffic.

Much of the delay increase during the peak periods is a direct result of background growth that may not be realized in the foreseeable future. Therefore, it is recommended that consideration of timing and/or phasing adjustments be coordinated with the RIDOT as traffic volumes increase in the immediate future to improve the efficiency of the intersection during the daily peak traffic conditions. It should be noted that this intersection was recently upgraded and designed to accommodate an additional signal head to control the northbound left turn lane which is currently operating in a permitted manner with no separate head. If at a future date this northbound left turn volume realizes greater delays and queueing resulting in an overflow of the dedicated turn bay, the new head can be installed to allow a protected/permitted left turn movement that would reduce delays and improve overall operations at the junction. This recommendation does not consider the change in Kinsley Avenue to one-way eastbound which would eliminate this movement at the signal and would be considered if necessary, only if the City project does not move forward.

In addition, as previously mentioned, it was determined that the *Woonasquatucket River Greenway*, an *urban trail*, is proposed along the Kinsley Avenue corridor through Providence Place and is scheduled to be constructed in the next two years. The project proposes conversion of the current two-way traffic on Kinsley Avenue to one-way eastbound to accommodate the addition of a separate urban trail on Kinsley Avenue as part of the extension of the *Woonasquatucket River Greenway*. Under this project, the Dean Street northbound left turn movement at the signalized intersection with Kinsley Avenue will be eliminated and redirected to the signalized intersection of Pleasant Valley Parkway with Promenade Street to the north. To address this change that would adversely impact the adjacent signalized intersection and create additional pedestrian and vehicle conflicts, the proposed site driveway on Dean Street is recommended to allow full entry access (change to allow left turns in that would currently use Kinsley Avenue), but remain restricted to right out only exiting vehicles. Converting Kinsley Street to one-way eastbound will also restrict the driveways on Kinsley Avenue to right in/out only movements as a result of the new traffic pattern proposed under the urban trail project. In order to determine the potential impact of the change to the site access within the project area, the proposed alteration to the traffic circulation was analyzed as a separate build “alternative” defined in Table 6.

TABLE 5 – Level of Service Summary (Future Build Conditions)

| Location / Movement | 2023 BUILD CONDITIONS | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | AM Peak Hour | | | | PM Peak Hour | | | |
| | LOS | Delay | 95th % Queue Length (veh.) | v/c | LOS | Delay | 95th % Queue Length (veh.) | v/c |
| *Dean Street at Kinsley Avenue/Providence Place (S)* [1,2] | | | | | | | | |
| Dean St. NB Left | F | * | 9 | 1.85 | F | * | 6 | 1.40 |
| Dean St. NB Thru/Right | C | 21.8 | 15 | 0.80 | E | 68.7 | 27 | 1.07 |
| Dean Street SB Left | A | 9.6 | 1 | 0.18 | A | 8.9 | 1 | 0.25 |
| Dean Street SB Thru/Right | A | 1.9 | 1 | 0.54 | A | 2.8 | 1 | 0.71 |
| Kinsley Ave. EB Left/Thru | D | 39.2 | 7 | 0.56 | C | 35.2 | 7 | 0.51 |
| Kinsley Ave. EB Right | F | * | 17 | 1.08 | D | 43.9 | 12 | 0.84 |
| OVERALL | D | 43.1 | - | - | D | 42.0 | - | - |
| *Pleasant Valley Parkway at Promenade Street (S)* [1,2] | | | | | | | | |
| Pleasant Valley Pkwy. NB | A | 1.6 | 1 | 0.44 | A | 2.3 | 1 | 0.58 |
| Pleasant Valley Pkwy. SB Thru | C | 22.0 | 14 | 0.71 | C | 24.3 | 14 | 0.71 |
| Pleasant Valley Pkwy. SB Right | A | 0.1 | 1 | 0.05 | A | 0.7 | 1 | 0.06 |
| Promenade St. WB Left | D | 47.5 | 8 | 0.65 | F | * | 21 | 1.39 |
| Promenade St. WB Left/Thru | D | 50.5 | 9 | 0.72 | F | * | 21 | 1.37 |
| Promenade St. WB Right | B | 18.8 | 5 | 0.65 | D | 41.1 | 9 | 0.78 |
| OVERALL | B | 18.6 | - | - | E | 64.3 | - | - |
| *Kinsley Avenue at Acorn Street (U)* | | | | | | | | |
| Kinsley Ave. EB | B | 14.9 | 4 | 0.57 | B | 11.1 | 2 | 0.32 |
| Kinsley Ave. WB | A | 9.8 | 1 | 0.22 | A | 9.5 | 1 | 0.16 |
| Acorn St. NB | A | 9.5 | 1 | 0.12 | A | 9.0 | 1 | 0.13 |
| Acorn St. SB | B | 13.5 | 3 | 0.47 | C | 16.2 | 5 | 0.63 |
| OVERALL | B | 13.2 | - | - | B | 13.4 | - | - |
| *Kinsley Avenue at Western Site Driveway (U)* | | | | | | | | |
| Kinsley Ave. WB | A | 8.8 | 0 | 0.01 | A | 8.5 | 0 | 0.01 |
| Site Dwy. NB | B | 12.6 | 0 | 0.01 | B | 11.8 | 0 | 0.01 |
| *Kinsley Avenue at Eastern Site Driveway (U)* | | | | | | | | |
| Kinsley Ave. WB | A | 9.3 | 1 | 0.12 | A | 8.9 | 1 | 0.09 |
| Site Dwy. NB | C | 17.6 | 1 | 0.26 | B | 14.7 | 1 | 0.20 |

*(S) – Signalized*
*(U) – Unsignalized*

[1] *Operates as a single junction with one controller*

[2] *Optimized Timings*

* *Delay greater than 80 seconds.*

TABLE 6 – Level of Service Summary (Future Build Conditions - Alternative)

| Location / Movement | 2023 BUILD CONDITIONS (ALTERNATIVE) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | AM Peak Hour | | | | PM Peak Hour | | | |
| | LOS | Delay | 95th % Queue Length (veh.) | v/c | LOS | Delay | 95th % Queue Length (veh.) | v/c |
| *Dean Street at Kinsley Avenue/Providence Place (S)* [1,2] | | | | | | | | |
| Dean St. NB Thru/Right | D | 49.5 | 21 | 1.01 | F | * | 28 | 1.10 |
| Dean Street SB Left | A | 8.1 | 1 | 0.15 | A | 6.9 | 1 | 0.19 |
| Dean Street SB Thru | A | 3.2 | 2 | 0.57 | A | 1.9 | 1 | 0.62 |
| Kinsley Ave. EB Left/Thru | C | 32.9 | 7 | 0.46 | E | 59.5 | 9 | 0.79 |
| Kinsley Ave. EB Right | E | 62.1 | 16 | 0.96 | F | * | 15 | 1.17 |
| OVERALL | C | 31.8 | - | - | D | 49.9 | - | - |
| *Pleasant Valley Parkway at Promenade Street (S)* [1,2] | | | | | | | | |
| Pleasant Valley Pkwy. NB | A | 3.1 | 1 | 0.35 | A | 8.1 | 1 | 0.55 |
| Pleasant Valley Pkwy. SB Thru | C | 34.1 | 17 | 0.87 | C | 23.6 | 13 | 0.70 |
| Pleasant Valley Pkwy. SB Right | A | 1.4 | 1 | 0.07 | A | 1.6 | 1 | 0.07 |
| Promenade St. WB Left | D | 37.5 | 7 | 0.52 | F | * | 21 | 1.10 |
| Promenade St. WB Left/Thru | E | 77.5 | 16 | 0.97 | F | * | 21 | 1.09 |
| Promenade St. WB Right | B | 14.5 | 5 | 0.57 | C | 26.1 | 7 | 0.60 |
| OVERALL | C | 28.2 | - | - | D | 39.3 | - | - |
| *Kinsley Avenue at Acorn Street (U)* | | | | | | | | |
| Kinsley Ave. EB | B | 13.7 | 4 | 0.54 | B | 10.7 | 2 | 0.31 |
| Acorn St. NB | A | 9.1 | 1 | 0.13 | A | 8.6 | 1 | 0.14 |
| Acorn St. SB | B | 12.9 | 3 | 0.49 | C | 15.4 | 5 | 0.65 |
| OVERALL | B | 12.8 | - | - | B | 13.4 | - | - |
| *Dean Street at Site Driveway (U)* | | | | | | | | |
| Dean St. NB Left | C | 17.7 | 1 | 0.16 | C | 21.9 | 1 | 0.19 |
| Site Dwy. EB Right | D | 29.6 | 3 | 0.49 | E | 35.3 | 3 | 0.49 |
| *Kinsley Avenue at Western Site Driveway (U)* | | | | | | | | |
| Site Dwy. NB | B | 12.6 | 1 | 0.01 | B | 11.8 | 1 | 0.01 |
| *Kinsley Avenue at Eastern Site Driveway (U)* | | | | | | | | |
| Site Dwy. NB | B | 13.5 | 1 | 0.14 | B | 12.6 | 1 | 0.13 |

*(S) – Signalized*
*(U) – Unsignalized*
[1] *Operates as a single junction with one controller*
[2] *Optimized Timings*
* *Delay greater than 80 seconds.*

The build alternative presented in Table 6 on the previous page along with the Kinsley Avenue directional change, takes into considerations both the base traffic growth along the servicing roadways and volumes generated by the proposed commercial redevelopment project. Under the proposed *Woonasquatucket River Greenway* project, combined with the changes in site access with restricted movements noted, the signalized junction of Dean Street/Pleasant Valley Parkway with Kinsley Avenue/Providence Place/Promenade Street will operate overall at an acceptable LOS D or better during the morning and afternoon peak periods. All critical movements will operate at LOS D or better except for the Dean Street northbound movement, Kinsley Avenue eastbound right, and Promenade Street westbound left and thru movements. During the afternoon peak period, these critical movements will continue to operate at LOS F. The unsignalized Kinsley Avenue intersection with Acorn Street continues to operate efficiently with the critical movements experiencing minor delays of fewer than 16 seconds, representing LOS C or better during the daily peak hours of traffic.

Traffic operations at the proposed full access in/right out only site driveway on Dean Street will result in minor delays for site related traffic with critical movements experiencing acceptable LOS E or better with no impacts to Dean Street through traffic during the daily morning and afternoon peak hours studied for this project. Typically, only one to two vehicles are expected to be waiting to turn left into the site from Dean Street which will be in an exclusive left turn lane that will no longer be needed for left turn access to Kinsley Avenue.

In regard to the minor site driveways on Kinsley Avenue, operations at both site driveways, which is restricted to right entering/exiting movements due to the proposed one-way eastbound movement along Kinsley Avenue, will also result in good operations with critical movements experiencing LOS B during both the daily morning and afternoon peak hours. Vehicles leaving the site destined to the north will safely exit onto Kinsley Avenue via a right turn and utilize the signalized access to Dean Street/Pleasant Valley Parkway. Typically, only one vehicle is expected to be waiting to exit at either of these site driveways on Kinsley Avenue during daily peak periods. These minor driveways have been designed to provide the geometry for the required stopping sight distances for safe access, and the appropriate length for vehicle stacking without interference from parking or turning vehicles, which should result in efficient operations, without excessive delays or driveway congestion.

## 6.0 Conclusions and Recommendations

In summary, the study has shown that the proposed site redevelopment project access design and site circulation plan has been carefully considered to provide a level of traffic safety and efficiency on the servicing roadway system, providing multiple points of access to the adjacent street system and internal connectivity between parcels, which together will minimize travel on the local roadways. The safety of the proposed access driveways on Kinsley Avenue and on Harris Avenue were reviewed for geometry and sight distances. The proposed driveway 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 proposed driveways with the proper parking restrictions as noted along the Harris Avenue frontage in the vicinity of the driveway.

An extensive review of the Dean Street access was also completed due to its proximity to high type ramp design of the right turn from Kinsley Avenue. Based upon our analysis of historical accident data obtained from the local police, field reviews of the intersection operations, and review of existing roadway geometry and physical features, it has been determined that traffic related safety enhancements could be considered at this location to improve overall operations and safety. As noted earlier in the report, the sight line visibility and higher approach speed concerns identified on the Kinsley Avenue channelized right turn approach could be mitigated with a reconfiguration of the right turn ramp to be more consistent with an urban low speed environment. This type of reconfiguration is much more appropriate today than when the intersection was originally constructed as part of the Route 6/10 interchange. The adjacent parcels are being redeveloped from manufacturing businesses adjacent to a limited access facility to more urban neighborhood businesses and residential apartments attracting pedestrian and bicycle activity along the corridors. This is exemplified with the recent upgrade of the intersection where pedestrian and bicycle accommodations including a separate bike lane along Kinsley Avenue, Providence Place and Dean Street/Pleasant Valley Parkway through the signalized intersection were added.

Summarizing our findings at this location, the study has shown that the current high speed design of the channelized right turn from Kinsley Avenue to southbound Dean Street should be modified to provide a more urban low speed design consistent with pedestrian and bicycle activity experienced in this area of the city, in addition to potentially reducing the number of yearly rear-end crashes resulting from the skewed intersection approach. Therefore, in order to provide enhanced public safety benefits for pedestrian and bicycle use of the intersection and adjacent roadways, it is recommended as part of the access design for this development project that the Kinsley Avenue channelized right turn be reconfigured with a smaller turning radius including providing a 75-foot separate channelized right turn lane from Kinsley Avenue to enhance sight lines while mitigating approach speeds. This conceptual design is shown in the Appendix for reference.

An additional concept plan has also been provided in the Appendix which depicts the access modifications necessary when the *Woonasquatucket River Greenway* project is constructed. The potential changes on Dean Street include creating a short northbound left turn lane for access into the subject property and converting the remainder of the existing northbound left turn lane at Kinsley Avenue into a raised median area. This modification will help differentiate the high type freeway interchange section of Dean Street at Route 6, to the low speed urban condition of Pleasant Valley Parkway. It allows for a refuge area for pedestrians and bicyclist crossing Dean Street and for enhanced landscape treatments that define the change in character of the environment in the vicinity of the Woonasquatucket River and Promenade Street.

The results of the operational analysis for the project determined that the estimated increase in traffic during the peak periods resulting from the proposed commercial project will have a minor effect on overall traffic operations along Dean Street, Kinsley Avenue, and Harris Avenue particularly during the daily morning and afternoon peak hours when the site services its greatest daily volumes under the current design proposal or if Kinsley Avenue becomes one-way and access modifications are made.

If the Kinsley Avenue one-way conversion is not implemented due to delays of the *Woonasquatucket River Greenway* project, it is recommended that signal timing optimization and/or phasing improvements be considered through coordination with the RIDOT as traffic volumes increase in the future at the signalized intersection of Dean Street with Pleasant Valley Parkway, Kinsley Avenue, Providence Place, and Promenade Street. As growth over the next decade may dictate additional measures, the option to provide a protected phase for the northbound left turn movement at the Kinsley Avenue intersection should be investigated, as it would address the current and future constraints experienced during the daily afternoon peak hour of traffic. As noted, this condition was designed into the recent signal reconstruction where a signal head for the left turn lane was considered in the signal design and can be implemented as volumes and operations dictate.

It is important to note that the safety mitigation recommended as part of the study would be incorporated into the current *Woonasquatucket River Greenway* extension project proposal, where the Kinsley Avenue channelized right turn will be maintained. In addition, the recommended option of providing a protected phase for the northbound left turn movement at the Dean Street intersection with Kinsley Avenue would not be necessary under the *Greenway* extension project proposal as this northbound left turn movement would be eliminated as a result of converting Kinsley Avenue from two-way traffic to a one-way eastbound movement, as previously discussed.

Therefore, based upon the data collected on the servicing roadways, the analysis completed as part of this study, along with the access design proposed, the commercial 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

E. Off-Site Improvement Plan

F. Build Alternative Plan (Woonasquatucket River Greenway)

# APPENDIX A – Traffic Volume Data

## Automatic Traffic Recorder Count

Kinsley Avenue

Harris Avenue

## Intersection Turning Movement Count

Dean Street at Kinsley Avenue/Providence Place

Pleasant Valley Parkway at Promenade Street

Kinsley Avenue at Acorn Street

# A

## Automatic Traffic Recorder Count

Kinsley Avenue

Harris Avenue

Kinsley Avenue

BETA Group, Inc.
6 Blackstone Valley Place
Lincoln, RI 02865

Project: Prop. Commercial Redevelopment
Site Code: 599901
Town/City: Providence, RI
Roadway: Kinsley Avenue
Location: 150' East of Acorn Street

| Start Time | 23-Apr-18 Mon | 24-Apr-18 Tue | 25-Apr-18 Wed | 26-Apr-18 Thu | 27-Apr-18 Fri | Weekday Average | 28-Apr-18 Sat | 29-Apr-18 Sun |
|---|---|---|---|---|---|---|---|---|
| 12:00 AM | * | * | 44 | 58 | 58 | 53 | 91 | 100 |
| 01:00 | * | * | 36 | 53 | 62 | 50 | 72 | 82 |
| 02:00 | * | * | 29 | 34 | 31 | 31 | 76 | 87 |
| 03:00 | * | * | 32 | 39 | 32 | 34 | 53 | 48 |
| 04:00 | * | * | 73 | 69 | 72 | 71 | 46 | 37 |
| 05:00 | * | * | 155 | 146 | 162 | 154 | 66 | 35 |
| 06:00 | * | * | 288 | 272 | 262 | 274 | 132 | 65 |
| 07:00 | * | * | 472 | 523 | 475 | 490 | 165 | 83 |
| 08:00 | * | * | **610** | **587** | **544** | 580 | 203 | 100 |
| 09:00 | * | * | 355 | 311 | 297 | 321 | 228 | 180 |
| 10:00 | * | * | 280 | 266 | 303 | 283 | **277** | 186 |
| 11:00 | * | * | 296 | 339 | 322 | 319 | 263 | **221** |
| 12:00 PM | * | 347 | 304 | 348 | 424 | 356 | 301 | 239 |
| 01:00 | * | 331 | 344 | 343 | 367 | 346 | **326** | 249 |
| 02:00 | * | 347 | 367 | 398 | 431 | 386 | 316 | 265 |
| 03:00 | * | **544** | 482 | 523 | **547** | 524 | 292 | 253 |
| 04:00 | * | 515 | **520** | **550** | 517 | 526 | 267 | **268** |
| 05:00 | * | 532 | 490 | 539 | 489 | 512 | 282 | 237 |
| 06:00 | * | 310 | 309 | 346 | 334 | 325 | 289 | 219 |
| 07:00 | * | 222 | 213 | 271 | 229 | 234 | 287 | 188 |
| 08:00 | * | 201 | 180 | 216 | 223 | 205 | 240 | 173 |
| 09:00 | * | 164 | 143 | 158 | 214 | 170 | 180 | 129 |
| 10:00 | * | 100 | 114 | 148 | 167 | 132 | 170 | 128 |
| 11:00 | * | 71 | 85 | 71 | 154 | 95 | 151 | 80 |
| Total | 0 | 3684 | 6221 | 6608 | 6716 | | 4773 | 3652 |
| Percentage | 0.0% | 56.9% | 96.1% | 102.1% | 103.8% | | 73.8% | 56.4% |
| AM Peak | | | 08:00 | 08:00 | 08:00 | | 10:00 | 11:00 |
| Vol. | | | 610 | 587 | 544 | | 277 | 221 |
| | | | | | | | | |
| PM Peak | | 15:00 | 16:00 | 16:00 | 15:00 | | 13:00 | 16:00 |
| Vol. | | 544 | 520 | 550 | 547 | | 326 | 268 |

BETA Group, Inc.
6 Blackstone Valley Place
Lincoln, RI 02865

Project: Prop. Commercial Redevelopment
Site Code: 599901
Town/City: Providence, RI
Roadway: Kinsley Avenue
Location: 150' East of Acorn Street

| Start Time | 30-Apr-18 Mon | 01-May-18 Tue | 02-May-18 Wed | 03-May-18 Thu | 04-May-18 Fri | Weekday Average | 05-May-18 Sat | 06-May-18 Sun |
|---|---|---|---|---|---|---|---|---|
| 12:00 AM | 58 | 67 | * | * | * | 62 | * | * |
| 01:00 | 42 | 39 | * | * | * | 40 | * | * |
| 02:00 | 24 | 34 | * | * | * | 29 | * | * |
| 03:00 | 35 | 35 | * | * | * | 35 | * | * |
| 04:00 | 64 | 77 | * | * | * | 70 | * | * |
| 05:00 | 147 | 156 | * | * | * | 152 | * | * |
| 06:00 | 249 | 273 | * | * | * | 261 | * | * |
| 07:00 | 491 | 521 | * | * | * | 506 | * | * |
| 08:00 | **600** | **609** | * | * | * | 604 | * | * |
| 09:00 | 322 | 499 | * | * | * | 410 | * | * |
| 10:00 | 238 | 389 | * | * | * | 314 | * | * |
| 11:00 | 251 | 357 | * | * | * | 304 | * | * |
| 12:00 PM | 362 | 342 | * | * | * | 352 | * | * |
| 01:00 | 306 | 396 | * | * | * | 351 | * | * |
| 02:00 | 345 | **433** | * | * | * | 389 | * | * |
| 03:00 | **547** | * | * | * | * | 547 | * | * |
| 04:00 | 516 | * | * | * | * | 516 | * | * |
| 05:00 | 497 | * | * | * | * | 497 | * | * |
| 06:00 | 286 | * | * | * | * | 286 | * | * |
| 07:00 | 218 | * | * | * | * | 218 | * | * |
| 08:00 | 157 | * | * | * | * | 157 | * | * |
| 09:00 | 153 | * | * | * | * | 153 | * | * |
| 10:00 | 111 | * | * | * | * | 111 | * | * |
| 11:00 | 95 | * | * | * | * | 95 | * | * |
| Total | 6114 | 4227 | 0 | 0 | 0 | | 0 | 0 |
| Percentage | 94.7% | 65.4% | 0.0% | 0.0% | 0.0% | | 0.0% | 0.0% |
| AM Peak | 08:00 | 08:00 | | | | | | |
| Vol. | 600 | 609 | | | | | | |
| PM Peak | 15:00 | 14:00 | | | | | | |
| Vol. | 547 | 433 | | | | | | |
| Total | | 7911 | 6221 | | | | | |

BETA Group, Inc.
6 Blackstone Valley Place
Lincoln, RI 02865

Project: Prop. Commercial Redevelopment
Site Code: 599901
Town/City: Providence, RI
Roadway: Kinsley Avenue
Location: 150' East of Acorn Street

| Start | 23-Apr-18 | | Tue | | Wed | | Thu | | Fri | | Sat | | Sun | | Week Average | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou |
| 12:00 AM | * | * | * | * | 32 | 12 | 46 | 12 | 48 | 10 | 78 | 13 | 81 | 19 | 57 | 13 |
| 01:00 | * | * | * | * | 31 | 5 | 48 | 5 | 56 | 6 | 58 | 14 | 62 | 20 | 51 | 10 |
| 02:00 | * | * | * | * | 27 | 2 | 28 | 6 | 26 | 5 | 71 | 5 | 76 | 11 | 46 | 6 |
| 03:00 | * | * | * | * | 27 | 5 | 31 | 8 | 25 | 7 | 44 | 9 | 37 | 11 | 33 | 8 |
| 04:00 | * | * | * | * | 62 | 11 | 60 | 9 | 61 | 11 | 39 | 7 | 35 | 2 | 51 | 8 |
| 05:00 | * | * | * | * | 137 | 18 | 133 | 13 | 147 | 15 | 60 | 6 | 31 | 4 | 102 | 11 |
| 06:00 | * | * | * | * | 244 | 44 | 234 | 38 | 219 | 43 | 124 | 8 | 61 | 4 | 176 | 27 |
| 07:00 | * | * | * | * | 409 | 63 | 456 | 67 | 391 | 84 | 149 | 16 | 74 | 9 | 296 | 48 |
| 08:00 | * | * | * | * | **517** | **93** | **460** | **127** | **432** | **112** | 181 | 22 | 89 | 11 | **336** | **73** |
| 09:00 | * | * | * | * | 269 | 86 | 245 | 66 | 244 | 53 | 205 | 23 | 163 | 17 | 225 | 49 |
| 10:00 | * | * | * | * | 236 | 44 | 222 | 44 | 244 | 59 | **237** | **40** | 137 | **49** | 215 | 47 |
| 11:00 | * | * | * | * | 249 | 47 | 287 | 52 | 265 | 57 | 228 | 35 | **193** | 28 | 244 | 44 |
| 12:00 PM | * | * | 273 | 74 | 250 | 54 | 282 | 66 | 339 | 85 | 238 | **63** | 205 | 34 | 264 | 63 |
| 01:00 | * | * | 262 | 69 | 265 | 79 | 278 | 65 | 277 | 90 | **277** | 49 | 205 | 44 | 261 | 66 |
| 02:00 | * | * | 306 | 41 | 307 | 60 | 326 | 72 | 362 | 69 | 275 | 41 | 220 | 45 | 299 | 55 |
| 03:00 | * | * | 456 | **88** | 453 | 29 | 449 | 74 | 428 | **119** | 248 | 44 | 202 | **51** | 373 | **68** |
| 04:00 | * | * | 456 | 59 | **465** | 55 | 430 | **120** | **463** | 54 | 235 | 32 | **234** | 34 | **380** | 59 |
| 05:00 | * | * | **466** | 66 | 406 | **84** | **463** | 76 | 418 | 71 | 219 | 63 | 198 | 39 | 362 | 66 |
| 06:00 | * | * | 260 | 50 | 264 | 45 | 283 | 63 | 264 | 70 | 249 | 40 | 182 | 37 | 250 | 51 |
| 07:00 | * | * | 193 | 29 | 179 | 34 | 210 | 61 | 198 | 31 | 231 | 56 | 160 | 28 | 195 | 40 |
| 08:00 | * | * | 175 | 26 | 153 | 27 | 178 | 38 | 187 | 36 | 206 | 34 | 146 | 27 | 174 | 31 |
| 09:00 | * | * | 134 | 30 | 124 | 19 | 115 | 43 | 164 | 50 | 145 | 35 | 112 | 17 | 132 | 32 |
| 10:00 | * | * | 87 | 13 | 99 | 15 | 116 | 32 | 142 | 25 | 145 | 25 | 115 | 13 | 117 | 20 |
| 11:00 | * | * | 58 | 13 | 66 | 19 | 59 | 12 | 131 | 23 | 123 | 28 | 58 | 22 | 82 | 20 |
| Lane | 0 | 0 | 3126 | 558 | 5271 | 950 | 5439 | 1169 | 5531 | 1185 | 4065 | 708 | 3076 | 576 | 4721 | 915 |
| Day | 0 | | 3684 | | 6221 | | 6608 | | 6716 | | 4773 | | 3652 | | 5636 | |
| AM Peak | | | | | 08:00 | 08:00 | 08:00 | 08:00 | 08:00 | 08:00 | 10:00 | 10:00 | 11:00 | 10:00 | 08:00 | 08:00 |
| Vol. | | | | | 517 | 93 | 460 | 127 | 432 | 112 | 237 | 40 | 193 | 49 | 336 | 73 |
| PM Peak | | | 17:00 | 15:00 | 16:00 | 17:00 | 17:00 | 16:00 | 16:00 | 15:00 | 13:00 | 12:00 | 16:00 | 15:00 | 16:00 | 15:00 |
| Vol. | | | 466 | 88 | 465 | 84 | 463 | 120 | 463 | 119 | 277 | 63 | 234 | 51 | 380 | 68 |

BETA Group, Inc.
6 Blackstone Valley Place
Lincoln, RI 02865

Project: Prop. Commercial Redevelopment
Site Code: 599901
Town/City: Providence, RI
Roadway: Kinsley Avenue
Location: 150' East of Acorn Street

| Start | 30-Apr-18 | | Tue | | Wed | | Thu | | Fri | | Sat | | Sun | | Week Average | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou |
| 12:00 AM | 47 | 11 | 53 | 14 | * | * | * | * | * | * | * | * | * | * | 50 | 12 |
| 01:00 | 38 | 4 | 37 | 2 | * | * | * | * | * | * | * | * | * | * | 38 | 3 |
| 02:00 | 22 | 2 | 29 | 5 | * | * | * | * | * | * | * | * | * | * | 26 | 4 |
| 03:00 | 30 | 5 | 30 | 5 | * | * | * | * | * | * | * | * | * | * | 30 | 5 |
| 04:00 | 53 | 11 | 62 | 15 | * | * | * | * | * | * | * | * | * | * | 58 | 13 |
| 05:00 | 134 | 13 | 139 | 17 | * | * | * | * | * | * | * | * | * | * | 136 | 15 |
| 06:00 | 219 | 30 | 236 | 37 | * | * | * | * | * | * | * | * | * | * | 228 | 34 |
| 07:00 | 416 | 75 | 440 | 81 | * | * | * | * | * | * | * | * | * | * | 428 | 78 |
| 08:00 | **489** | **111** | **488** | **121** | * | * | * | * | * | * | * | * | * | * | **488** | **116** |
| 09:00 | 257 | 65 | 414 | 85 | * | * | * | * | * | * | * | * | * | * | 336 | 75 |
| 10:00 | 199 | 39 | 344 | 45 | * | * | * | * | * | * | * | * | * | * | 272 | 42 |
| 11:00 | 212 | 39 | 309 | 48 | * | * | * | * | * | * | * | * | * | * | 260 | 44 |
| 12:00 PM | 298 | 64 | 267 | **75** | * | * | * | * | * | * | * | * | * | * | 282 | 70 |
| 01:00 | 238 | 68 | 329 | 67 | * | * | * | * | * | * | * | * | * | * | 284 | 68 |
| 02:00 | 278 | 67 | **370** | 63 | * | * | * | * | * | * | * | * | * | * | 324 | 65 |
| 03:00 | **475** | 72 | * | * | * | * | * | * | * | * | * | * | * | * | **475** | 72 |
| 04:00 | 437 | 79 | * | * | * | * | * | * | * | * | * | * | * | * | 437 | 79 |
| 05:00 | 417 | **80** | * | * | * | * | * | * | * | * | * | * | * | * | 417 | **80** |
| 06:00 | 254 | 32 | * | * | * | * | * | * | * | * | * | * | * | * | 254 | 32 |
| 07:00 | 185 | 33 | * | * | * | * | * | * | * | * | * | * | * | * | 185 | 33 |
| 08:00 | 127 | 30 | * | * | * | * | * | * | * | * | * | * | * | * | 127 | 30 |
| 09:00 | 122 | 31 | * | * | * | * | * | * | * | * | * | * | * | * | 122 | 31 |
| 10:00 | 89 | 22 | * | * | * | * | * | * | * | * | * | * | * | * | 89 | 22 |
| 11:00 | 77 | 18 | * | * | * | * | * | * | * | * | * | * | * | * | 77 | 18 |
| Lane | 5113 | 1001 | 3547 | 680 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5423 | 1041 |
| Day | 6114 | | 4227 | | 0 | | 0 | | 0 | | 0 | | 0 | | 6464 | |
| AM Peak | 08:00 | 08:00 | 08:00 | 08:00 | | | | | | | | | | | 08:00 | 08:00 |
| Vol. | 489 | 111 | 488 | 121 | | | | | | | | | | | 488 | 116 |
| PM Peak | 15:00 | 17:00 | 14:00 | 12:00 | | | | | | | | | | | 15:00 | 17:00 |
| Vol. | 475 | 80 | 370 | 75 | | | | | | | | | | | 475 | 80 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Comb. Total | 6114 | 7911 | 6221 | 6608 | 6716 | 4773 | 3652 | 12100 |
| ADT | ADT 5,894 | AADT 5,894 | | | | | | |

Harris Avenue

BETA Group, Inc.
6 Blackstone Valley Place
Lincoln, RI 02865

Project: Prop. Commercial Redevelopment
Site Code: 599902
Town/City: Providence, RI
Roadway: Harris Avenue
Location: 250' West of Acorn Street

| Start Time | 23-Apr-18 Mon | 24-Apr-18 Tue | 25-Apr-18 Wed | 26-Apr-18 Thu | 27-Apr-18 Fri | Weekday Average | 28-Apr-18 Sat | 29-Apr-18 Sun |
|---|---|---|---|---|---|---|---|---|
| 12:00 AM | * | * | * | * | * | * | 123 | 134 |
| 01:00 | * | * | * | * | * | * | 69 | 111 |
| 02:00 | * | * | * | * | * | * | 94 | 71 |
| 03:00 | * | * | * | * | * | * | 57 | 44 |
| 04:00 | * | * | * | * | * | * | 33 | 35 |
| 05:00 | * | * | * | * | * | * | 29 | 23 |
| 06:00 | * | * | * | * | * | * | 57 | 29 |
| 07:00 | * | * | * | * | * | * | 106 | 40 |
| 08:00 | * | * | * | * | * | * | 113 | 64 |
| 09:00 | * | * | * | * | * | * | 146 | 101 |
| 10:00 | * | * | * | * | * | * | **201** | 141 |
| 11:00 | * | * | * | * | * | * | 193 | **184** |
| 12:00 PM | * | * | * | * | 297 | 297 | 241 | 195 |
| 01:00 | * | * | * | * | 278 | 278 | 235 | **262** |
| 02:00 | * | * | * | * | 314 | 314 | 226 | 237 |
| 03:00 | * | * | * | * | 365 | 365 | 240 | 214 |
| 04:00 | * | * | * | * | 475 | 475 | 244 | 212 |
| 05:00 | * | * | * | * | **489** | 489 | **302** | 230 |
| 06:00 | * | * | * | * | 344 | 344 | 264 | 215 |
| 07:00 | * | * | * | * | 261 | 261 | 277 | 192 |
| 08:00 | * | * | * | * | 239 | 239 | 256 | 176 |
| 09:00 | * | * | * | * | 231 | 231 | 202 | 171 |
| 10:00 | * | * | * | * | 179 | 179 | 182 | 121 |
| 11:00 | * | * | * | * | 157 | 157 | 170 | 94 |
| Total | 0 | 0 | 0 | 0 | 3629 | | 4060 | 3296 |
| Percentage | 0.0% | 0.0% | 0.0% | 0.0% | 100.0% | | 111.9% | 90.8% |
| AM Peak | | | | | | | 10:00 | 11:00 |
| Vol. | | | | | | | 201 | 184 |
| PM Peak | | | | | 17:00 | | 17:00 | 13:00 |
| Vol. | | | | | 489 | | 302 | 262 |

BETA Group, Inc.
6 Blackstone Valley Place
Lincoln, RI 02865

Project: Prop. Commercial Redevelopment
Site Code: 599902
Town/City: Providence, RI
Roadway: Harris Avenue
Location: 250' West of Acorn Street

| Start Time | 30-Apr-18 Mon | 01-May-18 Tue | 02-May-18 Wed | 03-May-18 Thu | 04-May-18 Fri | Weekday Average | 05-May-18 Sat | 06-May-18 Sun |
|---|---|---|---|---|---|---|---|---|
| 12:00 AM | 77 | 77 | 79 | 96 | 103 | 86 | 113 | 131 |
| 01:00 | 33 | 48 | 39 | 70 | 53 | 49 | 92 | 147 |
| 02:00 | 20 | 31 | 25 | 27 | 36 | 28 | 83 | 83 |
| 03:00 | 31 | 35 | 30 | 41 | 23 | 32 | 39 | 57 |
| 04:00 | 39 | 36 | 52 | 43 | 58 | 46 | 41 | 37 |
| 05:00 | 43 | 58 | 68 | 69 | 65 | 61 | 33 | 31 |
| 06:00 | 114 | 109 | 105 | 90 | 87 | 101 | 57 | 35 |
| 07:00 | 308 | 333 | 308 | 311 | 247 | 301 | 79 | 47 |
| 08:00 | **350** | **362** | **340** | **312** | **281** | 329 | 119 | 87 |
| 09:00 | 226 | 249 | 198 | 222 | 210 | 221 | 156 | 122 |
| 10:00 | 209 | 210 | 190 | 186 | 183 | 196 | 186 | 213 |
| 11:00 | 195 | 206 | 207 | 195 | 189 | 198 | **214** | **265** |
| 12:00 PM | 259 | 266 | 225 | 235 | 257 | 248 | 259 | 271 |
| 01:00 | 228 | 259 | 262 | 259 | 248 | 251 | 226 | 314 |
| 02:00 | 259 | 291 | 233 | 266 | 275 | 265 | 249 | **346** |
| 03:00 | 327 | 305 | 291 | 296 | 333 | 310 | 254 | 318 |
| 04:00 | 363 | 325 | 404 | 376 | **401** | 374 | **275** | 256 |
| 05:00 | **469** | **433** | **446** | **410** | 378 | 427 | 261 | 222 |
| 06:00 | 344 | 288 | 308 | 333 | 313 | 317 | 268 | 203 |
| 07:00 | 229 | 258 | 234 | 249 | 265 | 247 | 229 | 160 |
| 08:00 | 177 | 230 | 225 | 227 | 240 | 220 | 252 | 137 |
| 09:00 | 149 | 192 | 195 | 185 | 212 | 187 | 210 | 120 |
| 10:00 | 124 | 130 | 171 | 114 | 197 | 147 | 211 | 107 |
| 11:00 | 87 | 108 | 131 | 90 | 141 | 111 | 167 | 94 |
| Total | 4660 | 4839 | 4766 | 4702 | 4795 | | 4073 | 3803 |
| Percentage | 98.1% | 101.8% | 100.3% | 98.9% | 100.9% | | 85.7% | 80.0% |
| AM Peak | 08:00 | 08:00 | 08:00 | 08:00 | 08:00 | | 11:00 | 11:00 |
| Vol. | 350 | 362 | 340 | 312 | 281 | | 214 | 265 |
| | | | | | | | | |
| PM Peak | 17:00 | 17:00 | 17:00 | 17:00 | 16:00 | | 16:00 | 14:00 |
| Vol. | 469 | 433 | 446 | 410 | 401 | | 275 | 346 |
| Total | | 4839 | 4766 | | | | | |

BETA Group, Inc.
6 Blackstone Valley Place
Lincoln, RI 02865

Project: Prop. Commercial Redevelopment
Site Code: 599902
Town/City: Providence, RI
Roadway: Harris Avenue
Location: 250' West of Acorn Street

| Start | 23-Apr-18 | | Tue | | Wed | | Thu | | Fri | | Sat | | Sun | | Week Average | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou |
| 12:00 AM | * | * | * | * | * | * | * | * | * | * | 5 | 118 | 11 | 123 | 8 | 120 |
| 01:00 | * | * | * | * | * | * | * | * | * | * | 3 | 66 | 15 | 96 | 9 | 81 |
| 02:00 | * | * | * | * | * | * | * | * | * | * | 6 | 88 | 15 | 56 | 10 | 72 |
| 03:00 | * | * | * | * | * | * | * | * | * | * | 1 | 56 | 5 | 39 | 3 | 48 |
| 04:00 | * | * | * | * | * | * | * | * | * | * | 0 | 33 | 5 | 30 | 2 | 32 |
| 05:00 | * | * | * | * | * | * | * | * | * | * | 2 | 27 | 1 | 22 | 2 | 24 |
| 06:00 | * | * | * | * | * | * | * | * | * | * | 3 | 54 | 4 | 25 | 4 | 40 |
| 07:00 | * | * | * | * | * | * | * | * | * | * | **8** | 98 | 7 | 33 | 8 | 66 |
| 08:00 | * | * | * | * | * | * | * | * | * | * | 2 | 111 | 8 | 56 | 5 | 84 |
| 09:00 | * | * | * | * | * | * | * | * | * | * | 1 | 145 | 12 | 89 | 6 | 117 |
| 10:00 | * | * | * | * | * | * | * | * | * | * | 8 | **193** | 22 | 119 | 15 | 156 |
| 11:00 | * | * | * | * | * | * | * | * | * | * | 7 | 186 | **34** | **150** | **20** | **168** |
| 12:00 PM | * | * | * | * | * | * | * | * | 56 | 241 | 15 | 226 | 48 | 147 | 40 | 205 |
| 01:00 | * | * | * | * | * | * | * | * | 69 | 209 | 47 | 188 | **62** | **200** | 59 | 199 |
| 02:00 | * | * | * | * | * | * | * | * | 57 | 257 | 51 | 175 | 59 | 178 | 56 | 203 |
| 03:00 | * | * | * | * | * | * | * | * | 90 | 275 | 39 | 201 | 48 | 166 | 59 | 214 |
| 04:00 | * | * | * | * | * | * | * | * | 107 | 368 | 39 | 205 | 44 | 168 | 63 | 247 |
| 05:00 | * | * | * | * | * | * | * | * | **110** | **379** | **64** | **238** | 47 | 183 | **74** | **267** |
| 06:00 | * | * | * | * | * | * | * | * | 38 | 306 | 50 | 214 | 40 | 175 | 43 | 232 |
| 07:00 | * | * | * | * | * | * | * | * | 34 | 227 | 53 | 224 | 26 | 166 | 38 | 206 |
| 08:00 | * | * | * | * | * | * | * | * | 22 | 217 | 56 | 200 | 18 | 158 | 32 | 192 |
| 09:00 | * | * | * | * | * | * | * | * | 17 | 214 | 27 | 175 | 21 | 150 | 22 | 180 |
| 10:00 | * | * | * | * | * | * | * | * | 12 | 167 | 24 | 158 | 16 | 105 | 17 | 143 |
| 11:00 | * | * | * | * | * | * | * | * | 11 | 146 | 25 | 145 | 7 | 87 | 14 | 126 |
| Lane | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 623 | 3006 | 536 | 3524 | 575 | 2721 | 609 | 3422 |
| Day | 0 | | 0 | | 0 | | 0 | | 3629 | | 4060 | | 3296 | | 4031 | |
| AM Peak | | | | | | | | | | | 07:00 | 10:00 | 11:00 | 11:00 | 11:00 | 11:00 |
| Vol. | | | | | | | | | | | 8 | 193 | 34 | 150 | 20 | 168 |
| PM Peak | | | | | | | | | 17:00 | 17:00 | 17:00 | 17:00 | 13:00 | 13:00 | 17:00 | 17:00 |
| Vol. | | | | | | | | | 110 | 379 | 64 | 238 | 62 | 200 | 74 | 267 |

BETA Group, Inc.
6 Blackstone Valley Place
Lincoln, RI 02865

Project: Prop. Commercial Redevelopment
Site Code: 599902
Town/City: Providence, RI
Roadway: Harris Avenue
Location: 250' West of Acorn Street

| Start | 30-Apr-18 | | Tue | | Wed | | Thu | | Fri | | Sat | | Sun | | Week Average | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou | Eastbou | Westbou |
| 12:00 AM | 11 | 66 | 11 | 66 | 9 | 70 | 22 | 74 | 33 | 70 | 18 | 95 | 28 | 103 | 19 | 78 |
| 01:00 | 1 | 32 | 6 | 42 | 5 | 34 | 10 | 60 | 8 | 45 | 24 | 68 | 27 | 120 | 12 | 57 |
| 02:00 | 1 | 19 | 4 | 27 | 2 | 23 | 2 | 25 | 1 | 35 | 28 | 55 | 21 | 62 | 8 | 35 |
| 03:00 | 3 | 28 | 4 | 31 | 8 | 22 | 6 | 35 | 2 | 21 | 5 | 34 | 8 | 49 | 5 | 31 |
| 04:00 | 7 | 32 | 4 | 32 | 6 | 46 | 4 | 39 | 9 | 49 | 8 | 33 | 6 | 31 | 6 | 37 |
| 05:00 | 14 | 29 | 10 | 48 | 11 | 57 | 16 | 53 | 14 | 51 | 4 | 29 | 8 | 23 | 11 | 41 |
| 06:00 | 23 | 91 | 26 | 83 | 20 | 85 | 13 | 77 | 6 | 81 | 20 | 37 | 16 | 19 | 18 | 68 |
| 07:00 | **62** | 246 | 65 | 268 | 83 | **225** | **45** | 266 | 38 | 209 | 21 | 58 | 9 | 38 | 46 | 187 |
| 08:00 | 57 | **293** | **71** | **291** | **145** | 195 | 42 | **270** | **46** | **235** | 29 | 90 | 23 | 64 | **59** | **205** |
| 09:00 | 40 | 186 | 40 | 209 | 46 | 152 | 44 | 178 | 42 | 168 | 31 | 125 | 29 | 93 | 39 | 159 |
| 10:00 | 34 | 175 | 40 | 170 | 59 | 131 | 39 | 147 | 20 | 163 | 35 | 151 | **54** | 159 | 40 | 157 |
| 11:00 | 31 | 164 | 34 | 172 | 42 | 165 | 31 | 164 | 35 | 154 | **59** | **155** | 50 | **215** | 40 | 170 |
| 12:00 PM | 39 | 220 | 50 | 216 | 26 | 199 | 36 | 199 | 36 | 221 | 52 | 207 | 45 | 226 | 41 | 213 |
| 01:00 | 36 | 192 | 38 | 221 | 15 | 247 | 38 | 221 | 32 | 216 | 39 | 187 | 54 | 260 | 36 | 221 |
| 02:00 | 42 | 217 | 51 | 240 | 17 | 216 | 34 | 232 | 35 | 240 | **66** | 183 | 62 | **284** | 44 | 230 |
| 03:00 | 62 | 265 | 70 | 235 | 19 | 272 | 29 | 267 | 17 | 316 | 64 | 190 | 52 | 266 | 45 | 259 |
| 04:00 | **65** | 298 | 60 | 265 | 14 | 390 | **57** | 319 | 22 | **379** | 65 | **210** | **76** | 180 | 51 | 292 |
| 05:00 | 62 | **407** | **85** | **348** | **37** | **409** | 46 | **364** | **54** | 324 | 56 | 205 | 44 | 178 | **55** | **319** |
| 06:00 | 60 | 284 | 50 | 238 | 35 | 273 | 34 | 299 | 39 | 274 | 61 | 207 | 36 | 167 | 45 | 249 |
| 07:00 | 32 | 197 | 26 | 232 | 23 | 211 | 29 | 220 | 38 | 227 | 38 | 191 | 10 | 150 | 28 | 204 |
| 08:00 | 20 | 157 | 30 | 200 | 14 | 211 | 17 | 210 | 25 | 215 | 49 | 203 | 26 | 111 | 26 | 187 |
| 09:00 | 18 | 131 | 35 | 157 | 7 | 188 | 28 | 157 | 19 | 193 | 36 | 174 | 28 | 92 | 24 | 156 |
| 10:00 | 14 | 110 | 17 | 113 | 15 | 156 | 21 | 93 | 8 | 189 | 34 | 177 | 24 | 83 | 19 | 132 |
| 11:00 | 10 | 77 | 10 | 98 | 12 | 119 | 20 | 70 | 16 | 125 | 39 | 128 | 21 | 73 | 18 | 99 |
| Lane | 744 | 3916 | 837 | 4002 | 670 | 4096 | 663 | 4039 | 595 | 4200 | 881 | 3192 | 757 | 3046 | 735 | 3786 |
| Day | 4660 | | 4839 | | 4766 | | 4702 | | 4795 | | 4073 | | 3803 | | 4521 | |
| AM Peak | 07:00 | 08:00 | 08:00 | 08:00 | 08:00 | 07:00 | 07:00 | 08:00 | 08:00 | 08:00 | 11:00 | 11:00 | 10:00 | 11:00 | 08:00 | 08:00 |
| Vol. | 62 | 293 | 71 | 291 | 145 | 225 | 45 | 270 | 46 | 235 | 59 | 155 | 54 | 215 | 59 | 205 |
| PM Peak | 16:00 | 17:00 | 17:00 | 17:00 | 17:00 | 17:00 | 16:00 | 17:00 | 17:00 | 16:00 | 14:00 | 16:00 | 16:00 | 14:00 | 17:00 | 17:00 |
| Vol. | 65 | 407 | 85 | 348 | 37 | 409 | 57 | 364 | 54 | 379 | 66 | 210 | 76 | 284 | 55 | 319 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Comb. Total | 4660 | 4839 | 4766 | 4702 | 8424 | 8133 | 7099 | 8552 |
| ADT | ADT 4,488 | AADT 4,488 | | | | | | |

# A

## Intersection Turning Movement Count

Dean Street at Kinsley Avenue/Providence Place

Pleasant Valley Parkway at Promenade Street

Kinsley Avenue at Acorn Street

Dean Street at Kinsley Avenue/Providence Place

| | |
|---|---|
| Client: | Amy Black |
| Project #: | 194_010_BETA |
| BTD #: | Location 2 |
| Location: | Providence, RI |
| Street 1: | Dean Street |
| Street 2: | Kinsley Avenue/Providence Place |
| Count Date: | 4/24/2018 |
| Day of Week: | Tuesday |
| Weather: | Partly Sunny, 65°F |

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## *TOTAL (CARS & TRUCKS)*

| | Dean Street Northbound | | | | | Dean Street Southbound | | | | Kinsley Avenue Eastbound | | | | Providence Place Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | Right (I-95) | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | |
| 7:00 AM | 14 | 194 | 67 | 129 | 0 | 3 | 237 | 2 | 0 | 4 | 7 | 75 | 0 | 0 | 0 | 0 | |
| 7:15 AM | 18 | 199 | 81 | 132 | 0 | 4 | 243 | 2 | 0 | 5 | 6 | 78 | 0 | 0 | 0 | 0 | |
| 7:30 AM | 21 | 195 | 92 | 134 | 0 | 8 | 254 | 3 | 0 | 6 | 11 | 86 | 0 | 0 | 0 | 0 | |
| 7:45 AM | 24 | 197 | 107 | 137 | 0 | 12 | 261 | 3 | 0 | 7 | 16 | 91 | 0 | 0 | 0 | 0 | |
| 8:00 AM | 26 | 196 | 118 | 139 | 0 | 16 | 274 | 2 | 0 | 8 | 21 | 98 | 0 | 0 | 0 | 0 | |
| 8:15 AM | 27 | 194 | 115 | 140 | 0 | 19 | 277 | 3 | 0 | 9 | 25 | 102 | 0 | 0 | 0 | 0 | |
| 8:30 AM | 24 | 190 | 112 | 135 | 0 | 17 | 275 | 3 | 0 | 9 | 24 | 99 | 0 | 0 | 0 | 0 | |
| 8:45 AM | 22 | 188 | 109 | 132 | 0 | 16 | 271 | 2 | 0 | 8 | 22 | 97 | 0 | 0 | 0 | 0 | |

| | Dean Street Northbound | | | | | Dean Street Southbound | | | | Kinsley Avenue Eastbound | | | | Providence Place Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | Right (I-95) | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | |
| 4:00 PM | 11 | 262 | 75 | 80 | 0 | 24 | 347 | 1 | 0 | 3 | 13 | 58 | 0 | 0 | 0 | 0 | |
| 4:15 PM | 9 | 273 | 80 | 89 | 0 | 25 | 361 | 2 | 0 | 4 | 14 | 60 | 0 | 0 | 0 | 0 | |
| 4:30 PM | 10 | 277 | 81 | 94 | 0 | 26 | 367 | 1 | 0 | 5 | 18 | 67 | 0 | 0 | 0 | 0 | |
| 4:45 PM | 10 | 286 | 85 | 103 | 0 | 24 | 371 | 2 | 0 | 6 | 21 | 71 | 0 | 0 | 0 | 0 | |
| 5:00 PM | 9 | 287 | 86 | 107 | 0 | 23 | 359 | 2 | 0 | 8 | 25 | 78 | 0 | 0 | 0 | 0 | |
| 5:15 PM | 10 | 288 | 85 | 105 | 0 | 22 | 336 | 1 | 0 | 9 | 28 | 81 | 0 | 0 | 0 | 0 | |
| 5:30 PM | 8 | 282 | 83 | 102 | 0 | 26 | 327 | 2 | 0 | 8 | 27 | 79 | 0 | 0 | 0 | 0 | |
| 5:45 PM | 9 | 280 | 84 | 98 | 0 | 23 | 324 | 1 | 0 | 7 | 25 | 77 | 0 | 0 | 0 | 0 | |

| **AM PEAK HOUR** | Dean Street Northbound | | | | | Dean Street Southbound | | | | Kinsley Avenue Eastbound | | | | Providence Place Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:00 AM | | | | | | | | | | | | | | | | | |
| to | Left | Thru | Right | Right (I-95) | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | |
| 9:00 AM | **99** | **768** | **454** | **546** | **0** | **68** | **1097** | **10** | **0** | **34** | **92** | **396** | **0** | **0** | **0** | **0** | |
| ***PHF*** | **0.97** | | | | **0.98** | | | | **0.96** | | | | **0.00** | | | | |
| ***HV %*** | **1.0%** | **0.3%** | **0.4%** | **0.2%** | **0.0%** | **1.5%** | **0.9%** | **0.0%** | **0.0%** | **0.0%** | **0.0%** | **0.5%** | **0.0%** | **0.0%** | **0.0%** | **0.0%** | |

| **PM PEAK HOUR** | Dean Street Northbound | | | | | Dean Street Southbound | | | | Kinsley Avenue Eastbound | | | | Providence Place Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4:30 PM | | | | | | | | | | | | | | | | | |
| to | Left | Thru | Right | Right (I-95) | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | |
| 5:30 PM | **39** | **1138** | **337** | **409** | **0** | **95** | **1433** | **6** | **0** | **28** | **92** | **297** | **0** | **0** | **0** | **0** | |
| ***PHF*** | **0.98** | | | | **0.97** | | | | **0.88** | | | | **0.00** | | | | |
| ***HV %*** | **0.0%** | **0.3%** | **0.0%** | **0.0%** | **0.0%** | **0.0%** | **0.3%** | **0.0%** | **0.0%** | **0.0%** | **0.0%** | **0.0%** | **0.0%** | **0.0%** | **0.0%** | **0.0%** | |

Note:

1. Dean Street Northbound Right (I-95) movements are vehicles traveling Dean Street Northbound, from I-95 Northbound, take right onto Providence Place.

| | |
|---|---|
| Client: | Amy Black |
| Project #: | 194_010_BETA |
| BTD #: | Location 2 |
| Location: | Providence, RI |
| Street 1: | Dean Street |
| Street 2: | Kinsley Avenue/Providence Place |
| Count Date: | 4/24/2018 |
| Day of Week: | Tuesday |
| Weather: | Partly Sunny, 65°F |

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## *TRUCKS*

| | Dean Street Northbound | | | | Dean Street Southbound | | | | Kinsley Avenue Eastbound | | | | Providence Place Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | Right (I-95) | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 7:00 AM | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 AM | 1 | 1 | 0 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 1 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 AM | 1 | 1 | 1 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |

| | Dean Street Northbound | | | | Dean Street Southbound | | | | Kinsley Avenue Eastbound | | | | Providence Place Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | Right (I-95) | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| **AM PEAK HOUR** | Dean Street Northbound | | | | Dean Street Southbound | | | | Kinsley Avenue Eastbound | | | | Providence Place Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7:15 AM | | | | | | | | | | | | | | | | |
| to | Left | Thru | Right | Right (I-95) | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 8:15 AM | **1** | **2** | **1** | **1** | **0** | **1** | **11** | **0** | **0** | **0** | **0** | **2** | **0** | **0** | **0** | **0** |
| ***PHF*** | **0.42** | | | | **0.60** | | | | **0.50** | | | | **0.00** | | | |

| **PM PEAK HOUR** | Dean Street Northbound | | | | Dean Street Southbound | | | | Kinsley Avenue Eastbound | | | | Providence Place Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4:15 PM | | | | | | | | | | | | | | | | |
| to | Left | Thru | Right | Right (I-95) | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 5:15 PM | **0** | **4** | **0** | **0** | **0** | **0** | **4** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| ***PHF*** | **1.00** | | | | **0.50** | | | | **0.00** | | | | **0.00** | | | |

| | |
|---|---|
| Client: | Amy Black |
| Project #: | 194_010_BETA |
| BTD #: | Location 2 |
| Location: | Providence, RI |
| Street 1: | Dean Street |
| Street 2: | Kinsley Avenue/Providence Place |
| Count Date: | 4/24/2018 |
| Day of Week: | Tuesday |
| Weather: | Partly Sunny, 65°F |

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## *PEDESTRIANS & BICYCLES*

| | Dean Street Northbound | | | | | Dean Street Southbound | | | | | Kinsley Avenue Eastbound | | | | | Providence Place Westbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | PED | | Left | Thru | Right | PED | | Left | Thru | Right | PED | | Left | Thru | Right | PED | |
| 7:00 AM | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 3 | | 0 | 0 | 0 | 0 | |
| 7:15 AM | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 0 | | 0 | 1 | 0 | 4 | | 0 | 0 | 0 | 0 | |
| 7:30 AM | 0 | 0 | 0 | 0 | | 0 | 1 | 0 | 0 | | 0 | 0 | 0 | 2 | | 0 | 0 | 0 | 1 | |
| 7:45 AM | 0 | 0 | 0 | 1 | | 0 | 1 | 0 | 0 | | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 0 | |
| 8:00 AM | 0 | 0 | 0 | 0 | | 0 | 1 | 0 | 0 | | 0 | 0 | 0 | 2 | | 0 | 0 | 0 | 0 | |
| 8:15 AM | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 2 | |
| 8:30 AM | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | |
| 8:45 AM | 0 | 0 | 0 | 0 | | 0 | 1 | 0 | 0 | | 0 | 2 | 0 | 2 | | 0 | 0 | 0 | 0 | |

| | Dean Street Northbound | | | | | Dean Street Southbound | | | | | Kinsley Avenue Eastbound | | | | | Providence Place Westbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | PED | | Left | Thru | Right | PED | | Left | Thru | Right | PED | | Left | Thru | Right | PED | |
| 4:00 PM | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 0 | |
| 4:15 PM | 0 | 0 | 0 | 2 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 2 | | 0 | 0 | 0 | 1 | |
| 4:30 PM | 0 | 0 | 0 | 1 | | 0 | 1 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | |
| 4:45 PM | 0 | 1 | 0 | 2 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 0 | |
| 5:00 PM | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 0 | |
| 5:15 PM | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | |
| 5:30 PM | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 2 | | 0 | 0 | 0 | 0 | |
| 5:45 PM | 0 | 0 | 0 | 3 | | 0 | 0 | 0 | 0 | | 0 | 2 | 0 | 1 | | 0 | 0 | 0 | 0 | |

| **AM PEAK HOUR**[1] | Dean Street Northbound | | | | | Dean Street Southbound | | | | | Kinsley Avenue Eastbound | | | | | Providence Place Westbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:00 AM | | | | | | | | | | | | | | | | | | | | |
| to | Left | Thru | Right | PED | | Left | Thru | Right | PED | | Left | Thru | Right | PED | | Left | Thru | Right | PED | |
| 9:00 AM | 0 | 0 | 0 | 2 | | 0 | 2 | 0 | 0 | | 0 | 2 | 0 | 5 | | 0 | 0 | 0 | 2 | |

| **PM PEAK HOUR**[1] | Dean Street Northbound | | | | | Dean Street Southbound | | | | | Kinsley Avenue Eastbound | | | | | Providence Place Westbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4:30 PM | | | | | | | | | | | | | | | | | | | | |
| to | Left | Thru | Right | PED | | Left | Thru | Right | PED | | Left | Thru | Right | PED | | Left | Thru | Right | PED | |
| 5:30 PM | 0 | 1 | 0 | 4 | | 0 | 1 | 0 | 0 | | 0 | 0 | 0 | 2 | | 0 | 0 | 0 | 0 | |

[1] *Peak hours corresponds to vehicular peak hours.*

Pleasant Valley Parkway at Promenade Street

| | |
|---|---|
| Client: | Amy Black |
| Project #: | 194_010_BETA |
| BTD #: | Location 1 |
| Location: | Providence, RI |
| Street 1: | Pleasant Valley Parkway/Dean Street |
| Street 2: | Promenade Street |
| Count Date: | 4/24/2018 |
| Day of Week: | Tuesday |
| Weather: | Partly Sunny, 65°F |

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## *TOTAL (CARS & TRUCKS)*

| | Dean Street Northbound | | | | Pleasant Valley Parkway Southbound | | | | Promenade Street Eastbound | | | | Promenade Street Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 7:00 AM | 0 | 11 | 187 | 0 | 0 | 0 | 213 | 6 | 0 | 0 | 0 | 0 | 0 | 29 | 30 | 64 |
| 7:15 AM | 0 | 14 | 190 | 0 | 0 | 0 | 216 | 7 | 0 | 0 | 0 | 0 | 0 | 33 | 34 | 66 |
| 7:30 AM | 0 | 12 | 189 | 0 | 0 | 0 | 229 | 8 | 0 | 0 | 0 | 0 | 0 | 36 | 37 | 65 |
| 7:45 AM | 0 | 13 | 191 | 0 | 0 | 0 | 237 | 8 | 0 | 0 | 0 | 0 | 0 | 39 | 41 | 67 |
| 8:00 AM | 0 | 12 | 192 | 0 | 0 | 0 | 250 | 9 | 0 | 0 | 0 | 0 | 0 | 42 | 45 | 66 |
| 8:15 AM | 0 | 13 | 190 | 0 | 0 | 0 | 258 | 8 | 0 | 0 | 0 | 0 | 0 | 41 | 44 | 65 |
| 8:30 AM | 0 | 11 | 188 | 0 | 0 | 0 | 255 | 7 | 0 | 0 | 0 | 0 | 0 | 40 | 43 | 63 |
| 8:45 AM | 0 | 10 | 186 | 0 | 0 | 0 | 251 | 7 | 0 | 0 | 0 | 0 | 0 | 38 | 42 | 61 |

| | Dean Street Northbound | | | | Pleasant Valley Parkway Southbound | | | | Promenade Street Eastbound | | | | Promenade Street Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 4:00 PM | 0 | 7 | 258 | 0 | 0 | 0 | 247 | 9 | 0 | 0 | 0 | 0 | 0 | 125 | 24 | 41 |
| 4:15 PM | 0 | 8 | 269 | 0 | 0 | 0 | 254 | 10 | 0 | 0 | 0 | 0 | 0 | 134 | 29 | 48 |
| 4:30 PM | 0 | 8 | 274 | 0 | 0 | 0 | 253 | 8 | 0 | 0 | 0 | 0 | 0 | 141 | 33 | 54 |
| 4:45 PM | 0 | 9 | 283 | 0 | 0 | 0 | 247 | 9 | 0 | 0 | 0 | 0 | 0 | 150 | 37 | 63 |
| 5:00 PM | 0 | 8 | 287 | 0 | 0 | 0 | 227 | 10 | 0 | 0 | 0 | 0 | 0 | 157 | 40 | 69 |
| 5:15 PM | 0 | 9 | 288 | 0 | 0 | 0 | 203 | 8 | 0 | 0 | 0 | 0 | 0 | 156 | 39 | 68 |
| 5:30 PM | 0 | 7 | 283 | 0 | 0 | 0 | 201 | 9 | 0 | 0 | 0 | 0 | 0 | 154 | 37 | 65 |
| 5:45 PM | 0 | 8 | 279 | 0 | 0 | 0 | 197 | 8 | 0 | 0 | 0 | 0 | 0 | 151 | 35 | 63 |

| **AM PEAK HOUR** 7:45 AM to 8:45 AM | Dean Street Northbound | | | | Pleasant Valley Parkway Southbound | | | | Promenade Street Eastbound | | | | Promenade Street Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| | **0** | **49** | **761** | **0** | **0** | **0** | **1000** | **32** | **0** | **0** | **0** | **0** | **0** | **162** | **173** | **261** |
| ***PHF*** | **0.99** | | | | **0.97** | | | | **0.00** | | | | **0.97** | | | |
| ***HV %*** | **0.0%** | **0.0%** | **0.1%** | **0.0%** | **0.0%** | **0.0%** | **0.4%** | **0.0%** | **0.0%** | **0.0%** | **0.0%** | **0.0%** | **0.0%** | **3.1%** | **0.6%** | **1.5%** |

| **PM PEAK HOUR** 4:30 PM to 5:30 PM | Dean Street Northbound | | | | Pleasant Valley Parkway Southbound | | | | Promenade Street Eastbound | | | | Promenade Street Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| | **0** | **34** | **1132** | **0** | **0** | **0** | **930** | **35** | **0** | **0** | **0** | **0** | **0** | **604** | **149** | **254** |
| ***PHF*** | **0.98** | | | | **0.92** | | | | **0.00** | | | | **0.95** | | | |
| ***HV %*** | **0.0%** | **0.0%** | **0.3%** | **0.0%** | **0.0%** | **0.0%** | **0.2%** | **0.0%** | **0.0%** | **0.0%** | **0.0%** | **0.0%** | **0.0%** | **0.3%** | **0.7%** | **1.2%** |

| | |
|---|---|
| Client: | Amy Black |
| Project #: | 194_010_BETA |
| BTD #: | Location 1 |
| Location: | Providence, RI |
| Street 1: | Pleasant Valley Parkway/Dean Street |
| Street 2: | Promenade Street |
| Count Date: | 4/24/2018 |
| Day of Week: | Tuesday |
| Weather: | Partly Sunny, 65°F |

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www.BostonTrafficData.com

## *TRUCKS*

| | Dean Street Northbound | | | | Pleasant Valley Parkway Southbound | | | | Promenade Street Eastbound | | | | Promenade Street Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 7:15 AM | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 8:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 |
| 8:45 AM | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |

| | Dean Street Northbound | | | | Pleasant Valley Parkway Southbound | | | | Promenade Street Eastbound | | | | Promenade Street Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 4:15 PM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 4:45 PM | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 5:00 PM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 5:30 PM | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| **AM PEAK HOUR** 7:15 AM to 8:15 AM | Dean Street Northbound | | | | Pleasant Valley Parkway Southbound | | | | Promenade Street Eastbound | | | | Promenade Street Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| | **0** | **0** | **2** | **0** | **0** | **0** | **4** | **0** | **0** | **0** | **0** | **0** | **0** | **8** | **1** | **3** |
| ***PHF*** | **0.50** | | | | **0.50** | | | | **0.00** | | | | **0.60** | | | |

| **PM PEAK HOUR** 4:15 PM to 5:15 PM | Dean Street Northbound | | | | Pleasant Valley Parkway Southbound | | | | Promenade Street Eastbound | | | | Promenade Street Westbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right |
| | **0** | **0** | **4** | **0** | **0** | **0** | **2** | **0** | **0** | **0** | **0** | **0** | **0** | **2** | **1** | **2** |
| ***PHF*** | **1.00** | | | | **0.50** | | | | **0.00** | | | | **0.63** | | | |

| | |
|---|---|
| Client: | Amy Black |
| Project #: | 194_010_BETA |
| BTD #: | Location 1 |
| Location: | Providence, RI |
| Street 1: | Pleasant Valley Parkway/Dean Street |
| Street 2: | Promenade Street |
| Count Date: | 4/24/2018 |
| Day of Week: | Tuesday |
| Weather: | Partly Sunny, 65°F |

BOSTON TRAFFIC DATA
PO BOX 1723, Framingham, MA 01701
Office: 978-746-1259
DataRequest@BostonTrafficData.com
www.BostonTrafficData.com

## *PEDESTRIANS & BICYCLES*

| | Dean Street Northbound | | | | | Pleasant Valley Parkway Southbound | | | | | Promenade Street Eastbound | | | | | Promenade Street Westbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | PED | | Left | Thru | Right | PED | | Left | Thru | Right | PED | | Left | Thru | Right | PED | |
| 7:00 AM | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 0 | |
| 7:15 AM | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 3 | | 0 | 1 | 0 | 0 | |
| 7:30 AM | 0 | 0 | 0 | 0 | | 0 | 1 | 0 | 0 | | 0 | 0 | 0 | 2 | | 0 | 0 | 0 | 1 | |
| 7:45 AM | 0 | 0 | 0 | 0 | | 0 | 1 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | |
| 8:00 AM | 0 | 0 | 0 | 0 | | 0 | 1 | 0 | 4 | | 0 | 0 | 0 | 3 | | 0 | 0 | 0 | 0 | |
| 8:15 AM | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 3 | | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 0 | |
| 8:30 AM | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 1 | |
| 8:45 AM | 0 | 0 | 0 | 0 | | 0 | 1 | 0 | 0 | | 0 | 0 | 0 | 2 | | 0 | 0 | 0 | 0 | |

| | Dean Street Northbound | | | | | Pleasant Valley Parkway Southbound | | | | | Promenade Street Eastbound | | | | | Promenade Street Westbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | PED | | Left | Thru | Right | PED | | Left | Thru | Right | PED | | Left | Thru | Right | PED | |
| 4:00 PM | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 2 | | 0 | 0 | 0 | 0 | |
| 4:15 PM | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 0 | |
| 4:30 PM | 0 | 0 | 0 | 0 | | 0 | 1 | 0 | 3 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 1 | |
| 4:45 PM | 0 | 1 | 0 | 0 | | 0 | 0 | 0 | 2 | | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 0 | |
| 5:00 PM | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 5 | | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 0 | |
| 5:15 PM | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 2 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | |
| 5:30 PM | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 1 | | 0 | 0 | 0 | 2 | | 0 | 0 | 0 | 0 | |
| 5:45 PM | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 2 | | 0 | 0 | 0 | 1 | | 0 | 1 | 0 | 0 | |

| **AM PEAK HOUR**[1] 7:45 AM to 8:45 AM | Dean Street Northbound | | | | | Pleasant Valley Parkway Southbound | | | | | Promenade Street Eastbound | | | | | Promenade Street Westbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | PED | | Left | Thru | Right | PED | | Left | Thru | Right | PED | | Left | Thru | Right | PED | |
| | 0 | 0 | 0 | 0 | | 0 | 2 | 0 | 7 | | 0 | 0 | 0 | 4 | | 0 | 0 | 0 | 1 | |

| **PM PEAK HOUR**[1] 4:30 PM to 5:30 PM | Dean Street Northbound | | | | | Pleasant Valley Parkway Southbound | | | | | Promenade Street Eastbound | | | | | Promenade Street Westbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | PED | | Left | Thru | Right | PED | | Left | Thru | Right | PED | | Left | Thru | Right | PED | |
| | 0 | 1 | 0 | 0 | | 0 | 1 | 0 | 12 | | 0 | 0 | 0 | 2 | | 0 | 0 | 0 | 1 | |

[1] *Peak hours corresponds to vehicular peak hours.*

Kinsley Avenue at Acorn Street

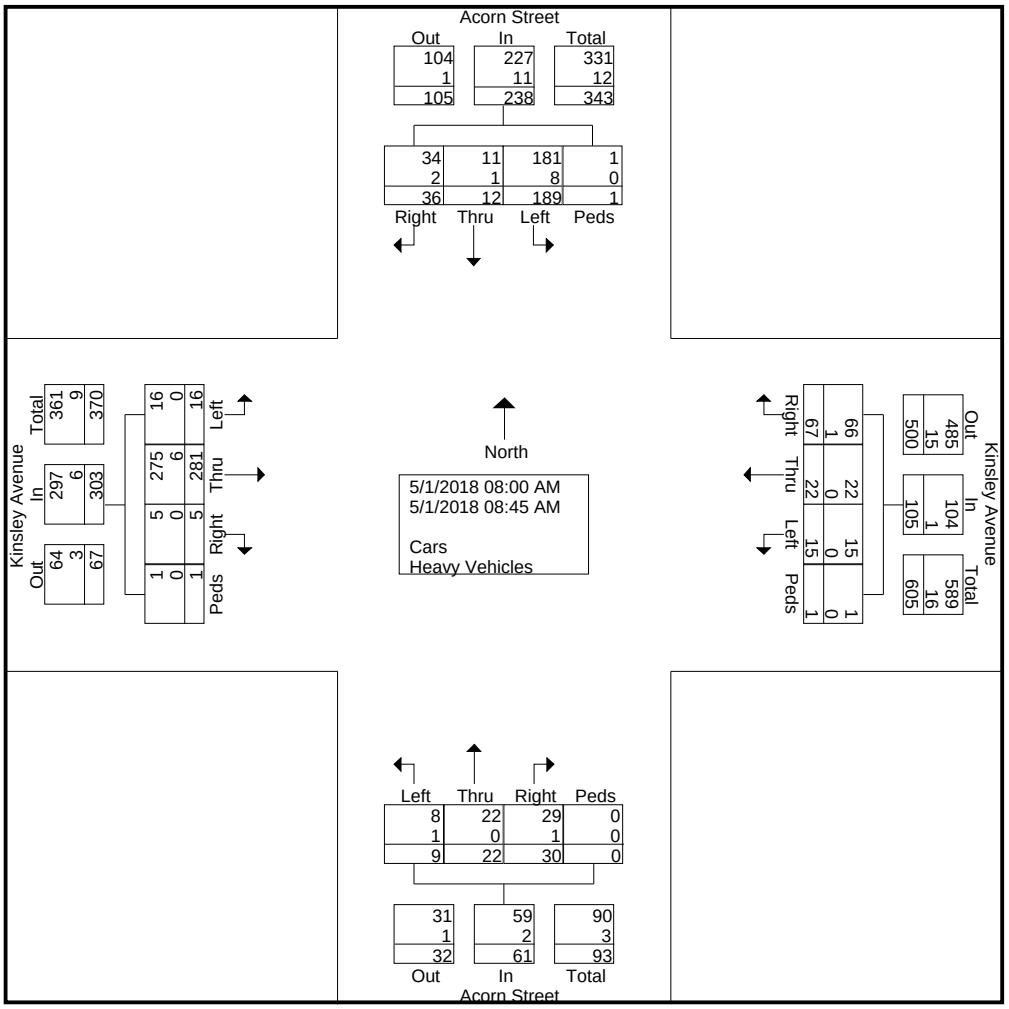
www.BETA-Inc.com
6 Blackstone Valley Place
Lincoln, RI 02865

Project: Prop. Commercial Redevelopment
Town/City: Providence, RI
Location: Kinsley Ave. at Acorn St.
Weather: Sunny/60's

File Name : Acorn at Kinsley AM
Site Code : 59991
Start Date : 5/1/2018


Groups Printed- Cars - Heavy Vehicles

| | Acorn Street Southbound | | | | | Kinsley Avenue Westbound | | | | | Acorn Street Northbound | | | | | Kinsley Avenue Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| 08:00 AM | 72 | 3 | 16 | 0 | 91 | 5 | 9 | 24 | 1 | 39 | 3 | 5 | 8 | 0 | 16 | 7 | 75 | 0 | 0 | 82 | 228 |
| 08:15 AM | 61 | 4 | 7 | 0 | 72 | 4 | 7 | 13 | 0 | 24 | 1 | 6 | 8 | 0 | 15 | 4 | 76 | 1 | 0 | 81 | 192 |
| 08:30 AM | 30 | 3 | 7 | 1 | 41 | 4 | 2 | 17 | 0 | 23 | 1 | 5 | 10 | 0 | 16 | 4 | 63 | 2 | 1 | 70 | 150 |
| 08:45 AM | 26 | 2 | 6 | 0 | 34 | 2 | 4 | 13 | 0 | 19 | 4 | 6 | 4 | 0 | 14 | 1 | 67 | 2 | 0 | 70 | 137 |
| Total | 189 | 12 | 36 | 1 | 238 | 15 | 22 | 67 | 1 | 105 | 9 | 22 | 30 | 0 | 61 | 16 | 281 | 5 | 1 | 303 | 707 |
| Grand Total | 189 | 12 | 36 | 1 | 238 | 15 | 22 | 67 | 1 | 105 | 9 | 22 | 30 | 0 | 61 | 16 | 281 | 5 | 1 | 303 | 707 |
| Apprch % | 79.4 | 5 | 15.1 | 0.4 | | 14.3 | 21 | 63.8 | 1 | | 14.8 | 36.1 | 49.2 | 0 | | 5.3 | 92.7 | 1.7 | 0.3 | | |
| Total % | 26.7 | 1.7 | 5.1 | 0.1 | 33.7 | 2.1 | 3.1 | 9.5 | 0.1 | 14.9 | 1.3 | 3.1 | 4.2 | 0 | 8.6 | 2.3 | 39.7 | 0.7 | 0.1 | 42.9 | |
| Cars | 181 | 11 | 34 | 1 | 227 | 15 | 22 | 66 | 1 | 104 | 8 | 22 | 29 | 0 | 59 | 16 | 275 | 5 | 1 | 297 | 687 |
| % Cars | 95.8 | 91.7 | 94.4 | 100 | 95.4 | 100 | 100 | 98.5 | 100 | 99 | 88.9 | 100 | 96.7 | 0 | 96.7 | 100 | 97.9 | 100 | 100 | 98 | 97.2 |
| Heavy Vehicles | 8 | 1 | 2 | 0 | 11 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 6 | 0 | 0 | 6 | 20 |
| % Heavy Vehicles | 4.2 | 8.3 | 5.6 | 0 | 4.6 | 0 | 0 | 1.5 | 0 | 1 | 11.1 | 0 | 3.3 | 0 | 3.3 | 0 | 2.1 | 0 | 0 | 2 | 2.8 |



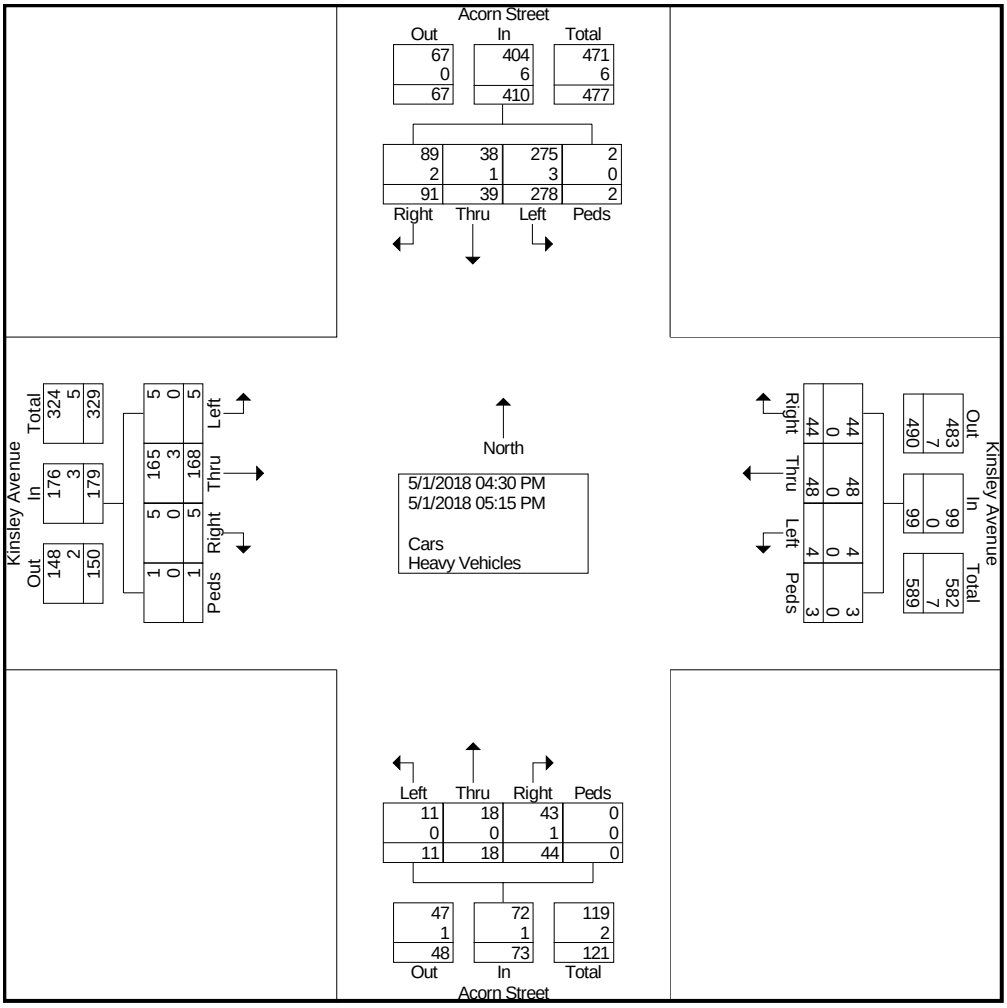
www.BETA-Inc.com
6 Blackstone Valley Place
Lincoln, RI 02865

Project: Prop. Commercial Redevelopment
Town/City: Providence, RI
Location: Kinsley Ave. at Acorn St.
Weather: Sunny/60's

File Name : Acorn at Kinsley PM
Site Code : 59992
Start Date : 5/1/2018
Page No : 1

Groups Printed- Cars - Heavy Vehicles

| | Acorn Street Southbound | | | | | Kinsley Avenue Westbound | | | | | Acorn Street Northbound | | | | | Kinsley Avenue Eastbound | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| 04:30 PM | 84 | 9 | 25 | 0 | 118 | 0 | 7 | 8 | 0 | 15 | 4 | 2 | 14 | 0 | 20 | 4 | 51 | 1 | 0 | 56 | 209 |
| 04:45 PM | 59 | 14 | 14 | 2 | 89 | 2 | 16 | 11 | 0 | 29 | 3 | 6 | 11 | 0 | 20 | 1 | 38 | 3 | 1 | 43 | 181 |
| Total | 143 | 23 | 39 | 2 | 207 | 2 | 23 | 19 | 0 | 44 | 7 | 8 | 25 | 0 | 40 | 5 | 89 | 4 | 1 | 99 | 390 |
| 05:00 PM | 73 | 5 | 28 | 0 | 106 | 1 | 11 | 10 | 0 | 22 | 3 | 6 | 15 | 0 | 24 | 0 | 49 | 1 | 0 | 50 | 202 |
| 05:15 PM | 62 | 11 | 24 | 0 | 97 | 1 | 14 | 15 | 3 | 33 | 1 | 4 | 4 | 0 | 9 | 0 | 30 | 0 | 0 | 30 | 169 |
| Grand Total | 278 | 39 | 91 | 2 | 410 | 4 | 48 | 44 | 3 | 99 | 11 | 18 | 44 | 0 | 73 | 5 | 168 | 5 | 1 | 179 | 761 |
| Apprch % | 67.8 | 9.5 | 22.2 | 0.5 | | 4 | 48.5 | 44.4 | 3 | | 15.1 | 24.7 | 60.3 | 0 | | 2.8 | 93.9 | 2.8 | 0.6 | | |
| Total % | 36.5 | 5.1 | 12 | 0.3 | 53.9 | 0.5 | 6.3 | 5.8 | 0.4 | 13 | 1.4 | 2.4 | 5.8 | 0 | 9.6 | 0.7 | 22.1 | 0.7 | 0.1 | 23.5 | |
| Cars | 275 | 38 | 89 | 2 | 404 | 4 | 48 | 44 | 3 | 99 | 11 | 18 | 43 | 0 | 72 | 5 | 165 | 5 | 1 | 176 | 751 |
| % Cars | 98.9 | 97.4 | 97.8 | 100 | 98.5 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 97.7 | 0 | 98.6 | 100 | 98.2 | 100 | 100 | 98.3 | 98.7 |
| Heavy Vehicles | 3 | 1 | 2 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 3 | 0 | 0 | 3 | 10 |
| % Heavy Vehicles | 1.1 | 2.6 | 2.2 | 0 | 1.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.3 | 0 | 1.4 | 0 | 1.8 | 0 | 0 | 1.7 | 1.3 |



# ATTACHMENT B – Traffic Crash Data

## Crash Summary

January 2017 through December 2018

(Dean Street at Kinsley Avenue)

## Crash Diagrams

Dean Street at Kinsley Avenue

## Crash Reports

Dean Street at Kinsley Avenue (Channelized EB Right Turn)

# B

## Crash Summary

Dean Street at Kinsley Avenue

# Crash Data Summary Table

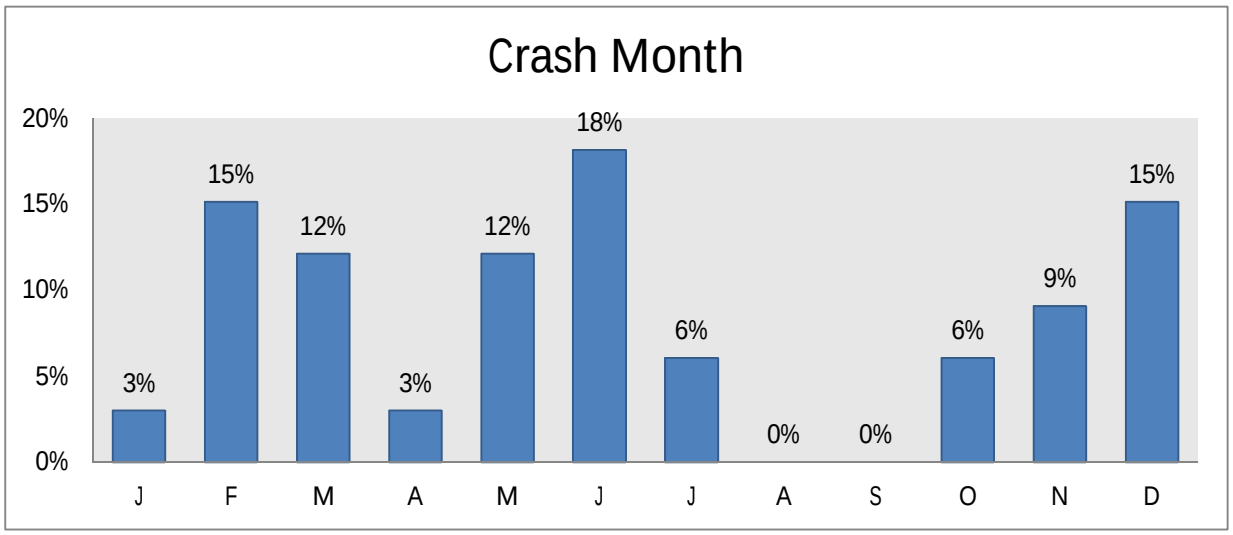
Dean Street at Kinsley Avenue

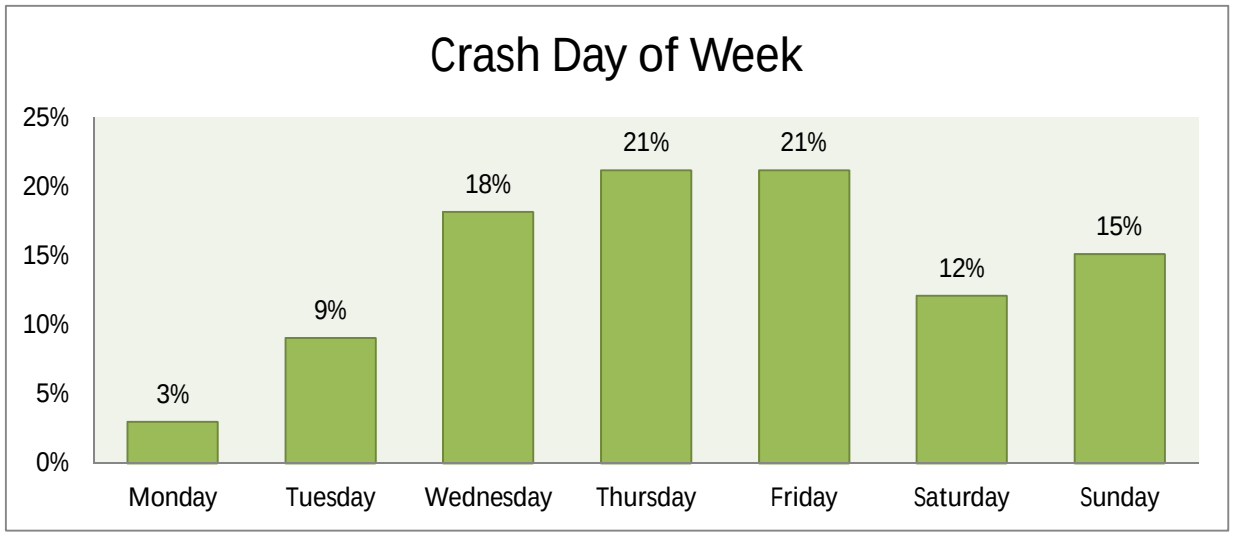
1/1/2017 - 12/31/2018

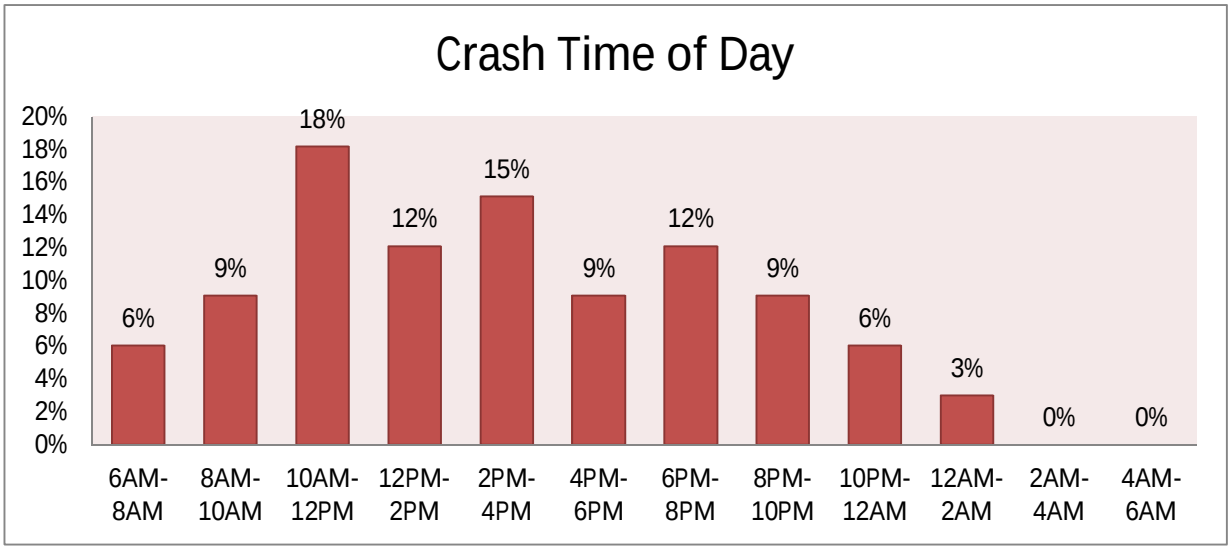
| Ref # | Crash Date | Day | Crash Time | Collision Type | Light Condition | Road Condition | Severity | Notes |
|---|---|---|---|---|---|---|---|---|
| 1 | 7/19/2018 | Thursday | 6:04 PM | Angle | Daylight | Dry | Injury | unclear report |
| 2 | 6/8/2017 | Thursday | 10:12 PM | Sideswipe, Same Direction | Dark - Lighted | Dry | Property | attempted illegal pass while turning right |
| 3 | 11/3/2017 | Friday | 10:25 AM | Sideswipe, Same Direction | Daylight | Dry | Property | |
| 4 | 3/19/2018 | Monday | 8:47 AM | Rear End | Daylight | Dry | Injury | stopped at yield sign |
| 5 | 12/29/2017 | Friday | 1:57 PM | Rear End | Daylight | Dry | Property | stopped at yield sign, looking at traffic to left |
| 6 | 2/27/2018 | Tuesday | 7:33 AM | Rear End | Daylight | Dry | Injury | stopped at yield sign, looking at traffic to left |
| 7 | 3/16/2018 | Friday | 8:48 AM | Rear End | Daylight | Dry | Property | stopped at yield sign, looking at traffic to left |
| 8 | 6/24/2018 | Sunday | 11:27 AM | Rear End | Daylight | Dry | Property | stopped at yield sign |
| 9 | 2/28/2018 | Wednesday | 11:58 AM | Rear End | Daylight | Dry | Property | Stopped at light south |
| 10 | 3/6/2018 | Tuesday | 10:18 AM | Rear End | Daylight | Dry | Injury | Stopped in traffic south |
| 11 | 11/8/2018 | Thursday | 8:53 AM | Rear End | Daylight | Dry | Injury | Slowed in traffic south |
| 12 | 2/2/2018 | Friday | 11:23 AM | Rear End | Daylight | Wet | Injury | Stopped at light south |
| 13 | 6/17/2018 | Sunday | 4:38 PM | Rear End | Daylight | Dry | Injury | |
| 14 | 12/22/2017 | Friday | 3:04 PM | Rear End | Daylight | Dry | Property | Stopped in traffic south |
| 15 | 6/17/2017 | Saturday | 12:54 PM | Sideswipe, Same Direction | Daylight | Dry | Property | construction |
| 16 | 1/31/2017 | Tuesday | 2:58 PM | Rear End | Daylight | Snow | Property | Slid on ice/ snow |
| 17 | 11/12/2017 | Sunday | 11:12 AM | Rear End | Daylight | Dry | Property | Stopped at light |
| 18 | 12/21/2017 | Thursday | 8:52 PM | Rear End | Dark - Lighted | Dry | Property | Stopped at light north |
| 19 | 10/24/2018 | Wednesday | 3:17 PM | Rear End | Daylight | Dry | Property | Stopped at light south |
| 20 | 2/17/2018 | Saturday | 5:26 PM | Angle | Dark - Lighted | Dry | Property | turning left onto kinsley west |
| 21 | 3/10/2018 | Saturday | 12:07 PM | Angle | Daylight | Dry | Injury | turning left onto kinsley east |
| 22 | 5/9/2018 | Wednesday | 9:31 PM | Angle | Dark - Lighted | Dry | Injury | speeding, turning left onto kinsley east |
| 23 | 6/10/2018 | Sunday | 3:41 PM | Angle | Daylight | Dry | Property | Ran red light |
| 24 | 5/17/2018 | Thursday | 5:00 PM | Rear End | Daylight | Dry | Property | |
| 25 | 5/11/2018 | Friday | 9:50 PM | Sideswipe, Same Direction | Dark - Lighted | Dry | Property | Both turning left onto dean st |
| 26 | 5/20/2018 | Sunday | 2:55 PM | Angle | Daylight | Dry | Property | turning left onto kinsley west |
| 27 | 7/19/2017 | Wednesday | 7:35 PM | Sideswipe, Same Direction | Dusk | Dry | Property | Both turning right onto kinsley east |
| 28 | 10/12/2017 | Thursday | 12:03 PM | Rear End | Daylight | Dry | Injury | vehicle waiting to turn left |
| 29 | 12/28/2017 | Thursday | 6:57 PM | Head-On | Dark - Lighted | Dry | Injury | turning left onto kinsley east |
| 30 | 6/30/2018 | Saturday | 1:24 AM | Rear End | Dark - Lighted | Dry | Property | Stopped at light north |
| 31 | 12/28/2018 | Friday | 6:03 PM | Angle | Dark - Lighted | Wet | Property | Changing lanes north |
| 32 | 2/14/2018 | Wednesday | 10:35 PM | Angle | Dark - Lighted | Dry | Property | Turning left onto Pleasant valley south |
| 33 | 4/25/2018 | Wednesday | 7:51 AM | Sideswipe, Same Direction | Daylight | Wet | Property | Changing lanes north |

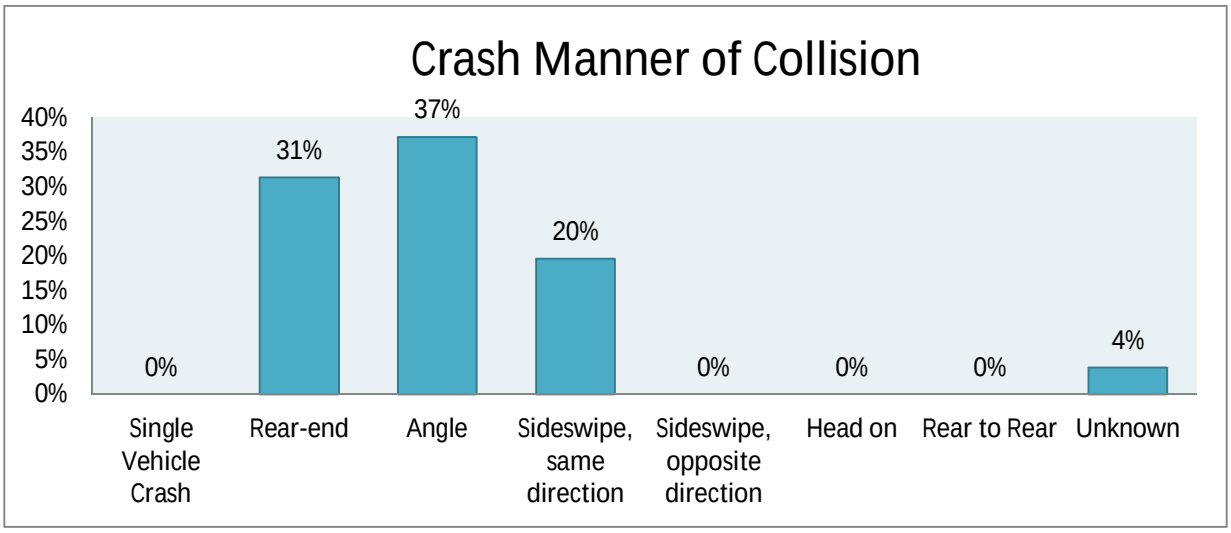
**Crash Data Summary Tables and Charts**

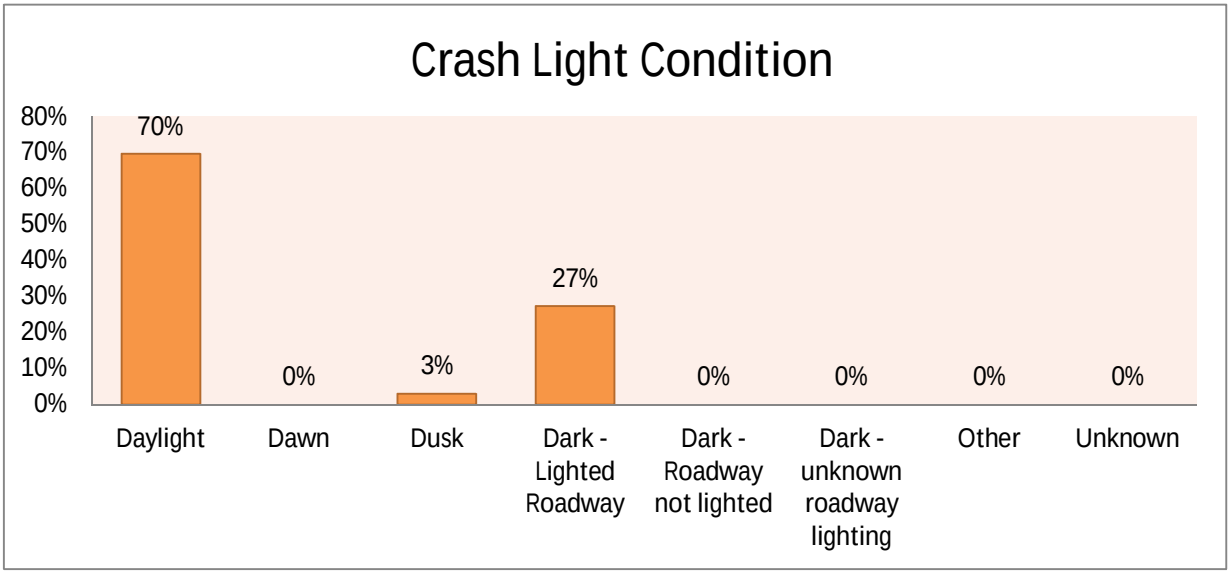
Dean Street at Kinsley Ave

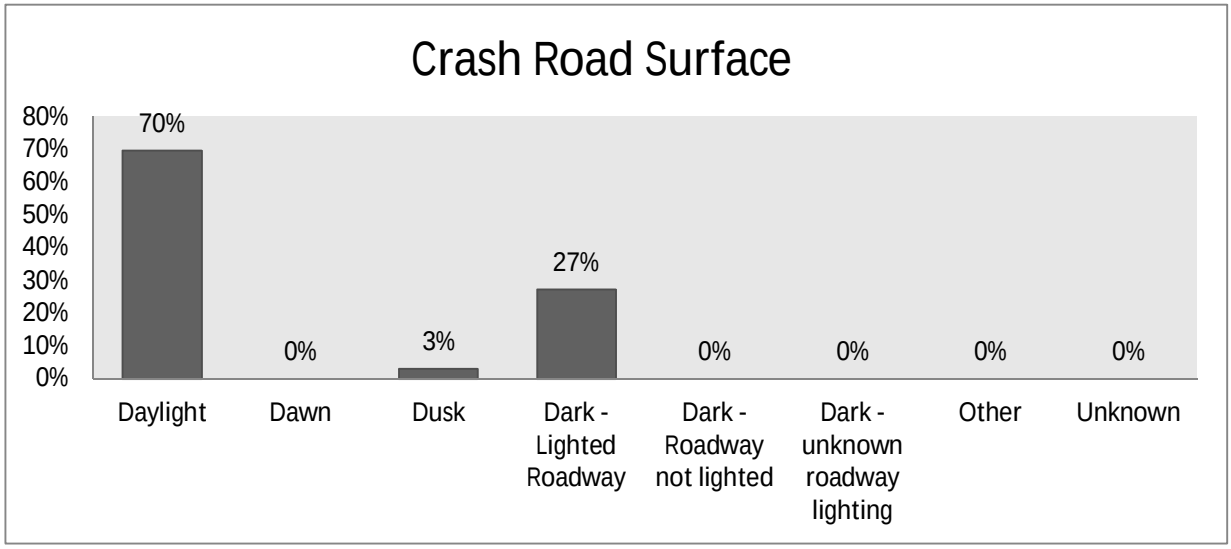



Crash Manner of Collision
40%
35%
30%
25%
20%
15%
10%
5%
0%
0%
31%
37%
20%
0%
0%
0%
4%
Single Vehicle Crash
Rear-end
Angle
Sideswipe, same direction
Sideswipe, opposite direction
Head on
Rear to Rear
Unknown


Crash Light Condition
80%
70%
60%
50%
40%
30%
20%
10%
0%
70%
0%
3%
27%
0%
0%
0%
0%
Daylight
Dawn
Dusk
Dark - Lighted Roadway
Dark - Roadway not lighted
Dark - unknown roadway lighting
Other
Unknown


Crash Road Surface
80%
70%
60%
50%
40%
30%
20%
10%
0%
70%
0%
3%
27%
0%
0%
0%
0%
Daylight
Dawn
Dusk
Dark - Lighted Roadway
Dark - Roadway not lighted
Dark - unknown roadway lighting
Other
Unknown

# Kinsley @ Dean St (Signal)

| | 2017 | 2018 | Total | Percent |
|---|---|---|---|---|
| **Collision Type** | | | | |
| Rear End | 5 | 8 | **13** | 52% |
| Angle | 0 | 7 | **7** | 28% |
| Head-On | 1 | 0 | **1** | 4% |
| Pedestrian | 0 | 0 | **0** | 0% |
| Sideswipe, Same Direction | 2 | 2 | **4** | 16% |
| Sideswipe, Opposite Direction | 0 | 0 | **0** | 0% |
| Collision with Object | 0 | 0 | **0** | 0% |
| **Accident Severity** | | | | |
| Property | 6 | 11 | **17** | 68% |
| Injury | 2 | 6 | **8** | 32% |
| Fatal | 0 | 0 | **0** | 0% |
| **Light Condition** | | | | |
| Daylight | 5 | 11 | **16** | 64% |
| Dawn | 0 | 0 | **0** | 0% |
| Dusk | 1 | 0 | **1** | 4% |
| Dark - Lighted | 2 | 6 | **8** | 32% |
| Dark - Not Lighted | 0 | 0 | **0** | 0% |
| Other | 0 | 0 | **0** | 0% |
| Unknown | 0 | 0 | **0** | 0% |
| **Road Condition** | | | | |
| Dry | 7 | 14 | **21** | 84% |
| Wet | 0 | 3 | **3** | 12% |
| Snow | 1 | 0 | **1** | 4% |
| Slush | 0 | 0 | **0** | 0% |
| Ice/Frost | 0 | 0 | **0** | 0% |
| Other | 0 | 0 | **0** | 0% |
| Unknown | 0 | 0 | **0** | 0% |
| **Hour of Day** | | | | |
| 6:00 AM - 9:00 AM | 0 | 2 | **2** | 8% |
| 9:00 AM - 3:00 PM | 4 | 5 | **9** | 36% |
| 3:00 PM - 6:00 PM | 1 | 5 | **6** | 24% |
| 6:00 PM - 6:00 AM | 3 | 5 | **8** | 32% |
| Total Accidents: | **8** | **17** | **25** | |

# Kinsley Channelized Right @ Dean St (Yield)

| | 2017 | 2018 | Total | Percent |
|---|---|---|---|---|
| **Collision Type** | | | | |
| Rear End | 1 | 4 | **5** | 63% |
| Angle | 0 | 1 | **1** | 13% |
| Head-On | 0 | 0 | **0** | 0% |
| Pedestrian | 0 | 0 | **0** | 0% |
| Sideswipe, Same Direction | 2 | 0 | **2** | 25% |
| Sideswipe, Opposite Direction | 0 | 0 | **0** | 0% |
| Collision with Object | 0 | 0 | **0** | 0% |
| **Accident Severity** | | | | |
| Property | 3 | 2 | **5** | 63% |
| Injury | 0 | 3 | **3** | 38% |
| Fatal | 0 | 0 | **0** | 0% |
| **Light Condition** | | | | |
| Daylight | 2 | 5 | **7** | 88% |
| Dawn | 0 | 0 | **0** | 0% |
| Dusk | 0 | 0 | **0** | 0% |
| Dark - Lighted | 1 | 0 | **1** | 13% |
| Dark - Not Lighted | 0 | 0 | **0** | 0% |
| Other | 0 | 0 | **0** | 0% |
| Unknown | 0 | 0 | **0** | 0% |
| **Road Condition** | | | | |
| Dry | 3 | 5 | **8** | 100% |
| Wet | 0 | 0 | **0** | 0% |
| Snow | 0 | 0 | **0** | 0% |
| Slush | 0 | 0 | **0** | 0% |
| Ice/Frost | 0 | 0 | **0** | 0% |
| Other | 0 | 0 | **0** | 0% |
| Unknown | 0 | 0 | **0** | 0% |
| **Hour of Day** | | | | |
| 6:00 AM - 9:00 AM | 0 | 3 | **3** | 38% |
| 9:00 AM - 3:00 PM | 2 | 1 | **3** | 38% |
| 3:00 PM - 6:00 PM | 0 | 0 | **0** | 0% |
| 6:00 PM - 6:00 AM | 1 | 1 | **2** | 25% |
| Total Accidents: | **3** | **5** | **8** | |

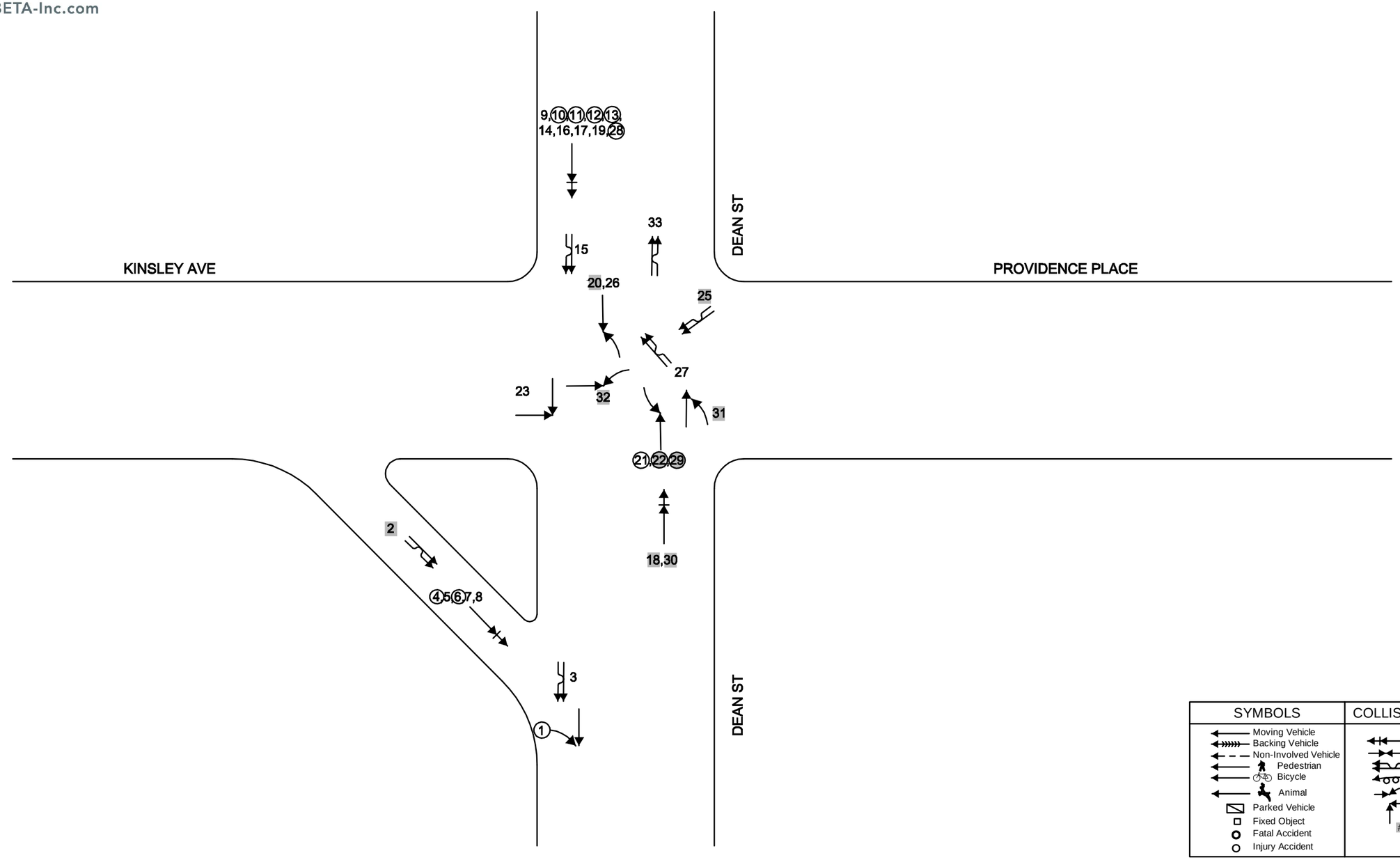
# B

## Crash Diagrams

Dean Street at Kinsley Avenue

www.BETA-Inc.com

# COLLISION DIAGRAM




| SYMBOLS | COLLISION TYPES |
|---|---|
| Moving Vehicle | Rear End |
| Backing Vehicle | Head On |
| Non-Involved Vehicle | Side Swipe |
| Pedestrian | Out of Control |
| Bicycle | Left Turn |
| Animal | Right Angle |
| Parked Vehicle | # Nighttime Crash |
| Fixed Object | |
| Fatal Accident | |
| Injury Accident | |

Intersection: Dean Street at Kinsley Avenue
Date Range: January 2017 - December 2018

# B

## Crash Reports

Dean Street at Kinsley Avenue (Channelized EB Right Turn)

# STATE OF RHODE ISLAND UNIFORM CRASH REPORT

| Reporting Agency Name | Report Number | Crash Date | Crash Time | Walk In Report | Parking Lot |
|---|---|---|---|---|---|
| **Providence** | **2017-00054452** | **06/08/2017** | **22:12** | ☐ | ☐ |

| City or Town Name | Street or Highway | | Exit # | # of Lanes | Posted Speed Limit |
|---|---|---|---|---|---|
| **Providence** | **DEAN ST** | ☐ On Ramp ☑ Off Ramp | | **3** | **25** ☐ N/A ☐ Unk |

| Nearest Intersection Street | Direction From Nearest Intersection to Crash Site | Distance From Nearest Inter. | Lattitude | Longitude |
|---|---|---|---|---|
| | ☑ At Inter. ☐ North ☐ South ☐ East ☐ West | **0** ☐ Feet ☑ Miles | **41.82881** | **-71.42658** |

| Unit ID | Driver's Last Name | First Name | M.I. | DOB |
|---|---|---|---|---|
| **1** | [redacted] | | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| [redacted] | **NEW BEDFORD** | **MA** | **02745** | | [redacted] | |

| Driver's License # | ☐ CDL | Lic. State |
|---|---|---|
| [redacted] | | **MA** |

| M/V Violation | M/V Violation | M/V Violation | M/V Violation |
|---|---|---|---|
| | | | |

| Driver/Owner Same | Owner's Last Name | First Name | M.I. |
|---|---|---|---|
| ☐ | [redacted] | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| [redacted] | **WESTPORT** | **MA** | **02790** | | [redacted] | |

| Insurance Company Name | ☐ No Ins. | Insurance Policy Number |
|---|---|---|
| [redacted] | | |

| Hit And Run |
|---|
| ☐ Yes, M/V & Driver Left Scene ☐ Yes, Driver Left Scene ☑ No ☐ Unk |

| Registration# | ☐ Not Reg. | State | Yr Reg. | VIN |
|---|---|---|---|---|
| [redacted] | | **MA** | | [redacted] |

| Veh Yr. | Make | Model | Color | Plate Type |
|---|---|---|---|---|
| **2016** | **LINCOLN** | **MKT SEDAN** | **BLACK** | **LIVERY** |

| Vehicle Travel Direction | | | | |
|---|---|---|---|---|
| ☐ Northbound | ☑ Southbound | ☐ Eastbound | ☐ Westbound | ☐ Not on Roadway ☐ Unk |

| Vehicle Towed? | Towing Company Name | Haz Mat Placard? |
|---|---|---|
| ☐ Yes ☑ No | | ☐ Yes ☑ No |

| Unit ID | Driver's Last Name | First Name | M.I. | DOB |
|---|---|---|---|---|
| **2** | [redacted] | | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| [redacted] | **CRANSTON** | **RI** | **02920** | | [redacted] | |

| Driver's License # | ☐ CDL | Lic. State |
|---|---|---|
| [redacted] | | **RI** |

| M/V Violation | M/V Violation | M/V Violation | M/V Violation |
|---|---|---|---|
| | | | |

| Driver/Owner Same | Owner's Last Name | First Name | M.I. |
|---|---|---|---|
| ☑ | | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| | | | | | | |

| Insurance Company Name | ☐ No Ins. | Insurance Policy Number |
|---|---|---|
| [redacted] | | [redacted] |

| Hit And Run |
|---|
| ☐ Yes, M/V & Driver Left Scene ☐ Yes, Driver Left Scene ☑ No ☐ Unk |

| Registration# | ☐ Not Reg. | State | Yr Reg. | VIN |
|---|---|---|---|---|
| [redacted] | | **RI** | | [redacted] |

| Veh Yr. | Make | Model | Color | Plate Type |
|---|---|---|---|---|
| **2015** | **SUBARU** | **WRX SEDAN** | **GRAY** | **PASSENGER** |

| Vehicle Travel Direction | | | | |
|---|---|---|---|---|
| ☐ Northbound | ☑ Southbound | ☐ Eastbound | ☐ Westbound | ☐ Not on Roadway ☐ Unk |

| Vehicle Towed? | Towing Company Name | Haz Mat Placard? |
|---|---|---|
| ☐ Yes ☑ No | | ☐ Yes ☑ No |

## Person Type

1 Driver, 2 Passenger, 3 Pedestrian, 4 Bicyclist, 5 Other Cyclist, 6 Witness, 7 Other Ped. (Wheelchair, Person in Building, Skater, Ped Conveyance, etc.), 8 Occupant of Motor Veh. not in Transport (Parked, etc.), 9 Occupant of Non-Motor Veh Transportation Device, 10 Unknown Type of Non-Motorist, 11 Unknown

**Unit ID:** 1 Unit 1, 2 Unit 2, 3 (etc.) or N/A
**Sex:** M Male, F Female, U Unk.
**Seat Position:** 13 Other Row (Bus), 14 Unk. Row, 15 Other Seat, 16 Unk. Seat
**Other Location:** 17 N/A, 18 Sleeper, 19 Other Enclosed Area, 20 Other Unenclosed Area, 21 Towed Unit, 22 Unknown
**Air Bag Deployed:** 1 N/A, 2 No, 3 Front, 4 Side, 5 Other, 6 Comb, 7 Unk.
**Ejected:** 1 No, 2 Partially, 3 Totally, 4 N/A, 5 Unk.
**Protection System:** 1 N/A, 2 None Used, 3 Shoulder & Lap, 4 Shoulder Only, 5 Lap Only, 6 Type Unknown, 7 Child - Forw. Facing, 8 Child - Rear Facing, 9 Booster Seat, 10 Child - Unk, 11 Helmet Used, 12 Other, 13 Unk.
**Injury:** 1 Complains of Pain, 2 Non-Incapacitating, 3 Incapacitating, 4 Fatal, 5 No Injury, 6 Unknown

| Name: Occupants - Witnesses - Pedestrians - Bicylists | Person Type | Unit ID | Sex | DOB | Seat Pos. | Air Bag Deployed | Ejected | Prot. System | Injury | Trans by Rescue |
|---|---|---|---|---|---|---|---|---|---|---|
| [redacted] | 1 | 1 | M | | 1 | 2 | 1 | 3 | 5 | ☐ Y ☑ N |
| | 1 | 2 | M | | 1 | 2 | 1 | 3 | 5 | ☐ Y ☑ N |
| | 2 | 2 | M | | 3 | 2 | 1 | 3 | 5 | ☐ Y ☑ N |

**Non-Vehicle Property Damage** ☐ State Property ☐ City/Town Property ☐ Private Property

| Owner | Address | | |
|---|---|---|---|
| | | | |

| Home Phone | Cell Phone | Work Phone | Damage Description |
|---|---|---|---|
| | | | |

| Reporting Officer Name | Reporting Officer Badge Number | Report Date |
|---|---|---|
| **Robert Heaton** | **539** | **06/09/2017** |

On Thursday, June 08, 2017 at approximately 2212 hrs, Vehicle #1 was being operated in an easterly direction on Kinsley Ave at the intersection with Dean St. Vehicle #1 then began to make a right turn from Kinsley Ave onto Dean St in a southerly direction. At this time the front right corner of Vehicle #1 came into collision with the left side of Vehicle #2, which was also making a right turn from Kinsley Ave onto Dean St in a southerly direction.

There were no injuries reported and no disinterested witnesses approached police.

The operator of Vehicle #1 [redacted] verbally reported to police that he was driving his vehicle in the right travel lane when Vehicle #2 tried to pass him on the right in the break down area on Dean St and it was at this time the left side of Vehicle #2 collided with the front left side o[redacted] vehicle.

The operator of Vehicle #2, [redacted] verbally reported to police that he was driving in the right travel lane while turning right onto Dean St when Vehicle #1 began to pass[redacted] on the left. According t[redacted] it was at this time that Vehicle #1 drifted from the left lane into the right lane and collided with [redacted] vehicle.

Vehicle #1 sustained damage to the front right fender, front bumper and was driven from the scene by the operator.

Vehicle #2 sustained damage to the rear left quarter panel, rear left door, front left door, rocker panel and was driven from the scene by the operator.

At the time of this investigation it was dark, the area was lit with artificial light, the weather was clear, the road surface was dry and free from defects and obstructions. The Pavement Markings was operating properly prior to the crash.

This crash report was created on 6/9/2017 by Robert Heaton badge #539.

{# - - - Do Not Delete - - - {*6/9/2017 1:36:40 AM*}#}

# STATE OF RHODE ISLAND UNIFORM CRASH REPORT

| Reporting Agency Name | Report Number | Crash Date | Crash Time | Walk In Report | Parking Lot |
|---|---|---|---|---|---|
| **Providence** | **2017-00015752** | **11/03/2017** | **10:25** | ☐ | ☐ |

| City or Town Name | Street or Highway | | Exit # | # of Lanes | Posted Speed Limit |
|---|---|---|---|---|---|
| **Providence** | **KINSLEY AVE** | ☐ On Ramp ☑ Off Ramp | | | **25** ☐ N/A ☐ Unk |

| Nearest Intersection Street | Direction From Nearest Intersection to Crash Site | Distance From Nearest Inter. | Lattitude | Longitude |
|---|---|---|---|---|
| | ☑ At Inter. ☐ North ☐ South ☐ East ☐ West | **0** ☐ Feet ☑ Miles | **41.82881** | **-71.42658** |

| Unit ID | Driver's Last Name | First Name | M.I. | DOB |
|---|---|---|---|---|
| **1** | [redacted] | | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| [redacted] | **MIDDLETOWN** | **RI** | **02842** | | | |

| Driver's License # | CDL | Lic. State |
|---|---|---|
| [redacted] | ☐ | **RI** |

| M/V Violation | M/V Violation | M/V Violation | M/V Violation |
|---|---|---|---|
| | | | |

| Driver/Owner Same | Owner's Last Name | First Name | M.I. |
|---|---|---|---|
| ☑ | | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| | | | | | | |

| Insurance Company Name | No Ins. | Insurance Policy Number |
|---|---|---|
| [redacted] | ☐ | [redacted] |

Hit And Run: ☐ Yes, M/V & Driver Left Scene ☐ Yes, Driver Left Scene ☑ No ☐ Unk

| Registration# | Not Reg. | State | Yr Reg. | VIN |
|---|---|---|---|---|
| [redacted] | ☐ | **RI** | | [redacted] |

| Veh Yr. | Make | Model | Color | Plate Type |
|---|---|---|---|---|
| **2005** | **FORD** | **F-150** | **WHITE** | **39** |

Vehicle Travel Direction: ☐ Northbound ☐ Southbound ☑ Eastbound ☐ Westbound ☐ Not on Roadway ☐ Unk

| Vehicle Towed? | Towing Company Name | Haz Mat Placard? |
|---|---|---|
| ☐ Yes ☑ No | | ☐ Yes ☑ No |

| Unit ID | Driver's Last Name | First Name | M.I. | DOB |
|---|---|---|---|---|
| **2** | [redacted] | | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| [redacted] | **CUMBERLAND** | **RI** | **02864** | | | |

| Driver's License # | CDL | Lic. State |
|---|---|---|
| [redacted] | ☐ | **RI** |

| M/V Violation | M/V Violation | M/V Violation | M/V Violation |
|---|---|---|---|
| | | | |

| Driver/Owner Same | Owner's Last Name | First Name | M.I. |
|---|---|---|---|
| ☐ | [redacted] | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| [redacted] | **CUMBERLAND** | **RI** | **02864** | | | |

| Insurance Company Name | No Ins. | Insurance Policy Number |
|---|---|---|
| [redacted] | ☐ | [redacted] |

Hit And Run: ☐ Yes, M/V & Driver Left Scene ☐ Yes, Driver Left Scene ☑ No ☐ Unk

| Registration# | Not Reg. | State | Yr Reg. | VIN |
|---|---|---|---|---|
| [redacted] | ☐ | **RI** | | [redacted] |

| Veh Yr. | Make | Model | Color | Plate Type |
|---|---|---|---|---|
| **2003** | **HONDA** | **CIVIC** | **BLUE** | **PASSENGER** |

Vehicle Travel Direction: ☐ Northbound ☑ Southbound ☐ Eastbound ☐ Westbound ☐ Not on Roadway ☐ Unk

| Vehicle Towed? | Towing Company Name | Haz Mat Placard? |
|---|---|---|
| ☐ Yes ☑ No | | ☐ Yes ☑ No |

## Person Type

1 Driver, 2 Passenger, 3 Pedestrian, 4 Bicyclist, 5 Other Cyclist, 6 Witness, 7 Other Ped. (Wheelchair, Person in Building, Skater, Ped Conveyance, etc.), 8 Occupant of Motor Veh. not in Transport (Parked, etc.), 9 Occupant of Non-Motor Veh Transportation Device, 10 Unknown Type of Non-Motorist, 11 Unknown

**Unit ID:** 1 Unit 1, 2 Unit 2, 3 (etc.) or N/A
**Sex:** M Male, F Female, U Unk.
**Seat Position:** 13 Other Row (Bus), 14 Unk. Row, 15 Other Seat, 16 Unk. Seat
**Other Location:** 17 N/A, 18 Sleeper, 19 Other Enclosed Area, 20 Other Unenclosed Area, 21 Towed Unit, 22 Unknown
**Air Bag Deployed:** 1 N/A, 2 No, 3 Front, 4 Side, 5 Other, 6 Comb, 7 Unk.
**Ejected:** 1 No, 2 Partially, 3 Totally, 4 N/A, 5 Unk.
**Protection System:** 1 N/A, 2 None Used, 3 Shoulder & Lap, 4 Shoulder Only, 5 Lap Only, 6 Type Unknown, 7 Child - Forw. Facing, 8 Child - Rear Facing, 9 Booster Seat, 10 Child - Unk, 11 Helmet Used, 12 Other, 13 Unk.
**Injury:** 1 Complains of Pain, 2 Non-Incapacitating, 3 Incapacitating, 4 Fatal, 5 No Injury, 6 Unknown

| Name: Occupants - Witnesses - Pedestrians - Bicylists | Person Type | Unit ID | Sex | DOB | Seat Pos. | Air Bag Deployed | Ejected | Prot. System | Injury | Trans by Rescue |
|---|---|---|---|---|---|---|---|---|---|---|
| [redacted] | 1 | 1 | M | | 1 | 2 | 1 | 3 | 5 | ☐ Y ☑ N |
| | 1 | 2 | M | | 1 | 2 | 1 | 3 | 5 | ☐ Y ☑ N |
| | | | | | | | | | | ☐ Y ☐ N |

**Non-Vehicle Property Damage** ☐ State Property ☐ City/Town Property ☐ Private Property

| Owner | Address | | |
|---|---|---|---|
| Home Phone | Cell Phone | Work Phone | Damage Description |

| Reporting Officer Name | Reporting Officer Badge Number | Report Date |
|---|---|---|
| **Joseph Iannucci** | **410** | **11/11/2017** |

Report Number
**2017-00015752**

## *STATE OF RHODE ISLAND UNIFORM CRASH REPORT*
### *Narrative/Diagram Supplemental*

On Friday, November 03, 2017 at approximately 10:25 hrs., Vehicle #1 was operated in a easterly direction on KINSLEY AVE when, at the intersection of DEAN ST , the Front Driver Side(11) of the vehicle came into collision with the Front Passenger Side(2) of Vehicle #2, which was traveling south on DEAN ST and Movements Essentially Straight Ahead.

There were no other injuries reported and no disinterested witnesses approached police.

Vehicle #1 sustained damage to the Front Driver Side(11) and was driven from the scene by the operator.

Vehicle #2 sustained damage to the Front Passenger Side(1) and was driven from the scene by the operator.

At the time of this investigation the weather was Clear, the road surface was Dry and the light condition was Daylight. The Traffic Control Signal was operating properly prior to the crash.

This crash report was created on 11/11/2017 by Joseph Iannucci badge #410.

{# - - - Do Not Delete - - - {*11/11/2017 4:56:10 PM*}#}

# STATE OF RHODE ISLAND UNIFORM CRASH REPORT

| Reporting Agency Name | Report Number | Crash Date | Crash Time | Walk In Report | Parking Lot |
|---|---|---|---|---|---|
| **Providence** | **2017-00136026** | **12/29/2017** | **13:57** | ☐ | ☐ |

| City or Town Name | Street or Highway | | Exit # | # of Lanes | Posted Speed Limit |
|---|---|---|---|---|---|
| **Providence** | **KINSLEY AVE** | ☐ On Ramp ☐ Off Ramp | | | **25** ☐ N/A ☐ Unk |

| Nearest Intersection Street | Direction From Nearest Intersection to Crash Site | Distance From Nearest Inter. | Lattitude | Longitude |
|---|---|---|---|---|
| | ☐ At Inter. ☑ North ☐ South ☐ East ☐ West | **420** ☑ Feet ☐ Miles | **41.82854** | **-71.42663** |

| Unit ID | Driver's Last Name | First Name | M.I. | DOB |
|---|---|---|---|---|
| **1** | [redacted] | | | |

| Address | City |
|---|---|
| [redacted] | **PROVIDENCE** |

| State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|
| **RI** | **02908** | [redacted] | | |

| Driver's License # | CDL | Lic. State |
|---|---|---|
| [redacted] | ☐ | **RI** |

| M/V Violation | M/V Violation | M/V Violation | M/V Violation |
|---|---|---|---|
| | | | |

| Driver/Owner Same | Owner's Last Name | First Name | M.I. |
|---|---|---|---|
| ☐ | [redacted] | | |

| Address | City |
|---|---|
| [redacted] | **PROVIDENCE** |

| State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|
| **RI** | **02909** | [redacted] | | |

| Insurance Company Name | No Ins. | Insurance Policy Number |
|---|---|---|
| [redacted] | ☐ | [redacted] |

Hit And Run: ☐ Yes, M/V & Driver Left Scene ☐ Yes, Driver Left Scene ☑ No ☐ Unk

| Registration# | Not Reg. | State | Yr Reg. | VIN |
|---|---|---|---|---|
| [redacted] | ☐ | **RI** | | [redacted] |

| Veh Yr. | Make | Model | Color | Plate Type |
|---|---|---|---|---|
| **2002** | **HONDA** | **CRV** | **BLACK** | **PASSENGER** |

Vehicle Travel Direction: ☐ Northbound ☐ Southbound ☑ Eastbound ☐ Westbound ☐ Not on Roadway ☐ Unk

| Vehicle Towed? | Towing Company Name | Haz Mat Placard? |
|---|---|---|
| ☐ Yes ☑ No | | ☐ Yes ☑ No |

| Unit ID | Driver's Last Name | First Name | M.I. | DOB |
|---|---|---|---|---|
| **2** | [redacted] | | | |

| Address | City |
|---|---|
| [redacted] | **PROVIDENCE** |

| State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|
| **RI** | **02908** | [redacted] | | |

| Driver's License # | CDL | Lic. State |
|---|---|---|
| [redacted] | ☐ | **RI** |

| M/V Violation | M/V Violation | M/V Violation | M/V Violation |
|---|---|---|---|
| | | | |

| Driver/Owner Same | Owner's Last Name | First Name | M.I. |
|---|---|---|---|
| ☑ | | | |

| Address | City |
|---|---|
| | |

| State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|
| | | | | |

| Insurance Company Name | No Ins. | Insurance Policy Number |
|---|---|---|
| [redacted] | ☐ | [redacted] |

Hit And Run: ☐ Yes, M/V & Driver Left Scene ☐ Yes, Driver Left Scene ☑ No ☐ Unk

| Registration# | Not Reg. | State | Yr Reg. | VIN |
|---|---|---|---|---|
| [redacted] | ☐ | **MA** | | [redacted] |

| Veh Yr. | Make | Model | Color | Plate Type |
|---|---|---|---|---|
| **2015** | **MERCEDES BENZ** | **GLA250** | **WHITE** | **PASSENGER** |

Vehicle Travel Direction: ☐ Northbound ☐ Southbound ☑ Eastbound ☐ Westbound ☐ Not on Roadway ☐ Unk

| Vehicle Towed? | Towing Company Name | Haz Mat Placard? |
|---|---|---|
| ☐ Yes ☑ No | | ☐ Yes ☑ No |

## Person Type

1 Driver, 2 Passenger, 3 Pedestrian, 4 Bicyclist, 5 Other Cyclist, 6 Witness, 7 Other Ped. (Wheelchair, Person in Building, Skater, Ped Conveyance, etc.), 8 Occupant of Motor Veh. not in Transport (Parked, etc.), 9 Occupant of Non-Motor Veh Transportation Device, 10 Unknown Type of Non-Motorist, 11 Unknown

**Unit ID:** 1 Unit 1, 2 Unit 2, 3 (etc.) or N/A

**Sex:** M Male, F Female, U Unk.

**Seat Position:** M; 1 2 3 / 4 5 6 / 7 8 9 / 10 11 12; 13 Other Row (Bus), 14 Unk. Row, 15 Other Seat, 16 Unk. Seat

**Other Location:** 17 N/A, 18 Sleeper, 19 Other Enclosed Area, 20 Other Unenclosed Area, 21 Towed Unit, 22 Unknown

**Air Bag Deployed:** 1 N/A, 2 No, 3 Front, 4 Side, 5 Other, 6 Comb, 7 Unk.

**Ejected:** 1 No, 2 Partially, 3 Totally, 4 N/A, 5 Unk.

**Protection System:** 1 N/A, 2 None Used, 3 Shoulder & Lap, 4 Shoulder Only, 5 Lap Only, 6 Type Unknown, 7 Child - Forw. Facing, 8 Child - Rear Facing, 9 Booster Seat, 10 Child - Unk, 11 Helmet Used, 12 Other, 13 Unk.

**Injury:** 1 Complains of Pain, 2 Non-Incapacitating, 3 Incapacitating, 4 Fatal, 5 No Injury, 6 Unknown

| Name: Occupants - Witnesses - Pedestrians - Bicylists | Person Type | Unit ID | Sex | DOB | Seat Pos. | Air Bag Deployed | Ejected | Prot. System | Injury | Trans by Rescue |
|---|---|---|---|---|---|---|---|---|---|---|
| [redacted] | 1 | 1 | F | | 1 | 2 | 1 | 3 | 5 | ☐ Y ☑ N |
| | 1 | 2 | F | | 1 | 2 | 1 | 3 | 5 | ☐ Y ☑ N |
| | | | | | | | | | | ☐ Y ☐ N |

**Non-Vehicle Property Damage** ☐ State Property ☐ City/Town Property ☐ Private Property

| Owner | Address |
|---|---|
| | |

| Home Phone | Cell Phone | Work Phone | Damage Description |
|---|---|---|---|
| | | | |

| Reporting Officer Name | Reporting Officer Badge Number | Report Date |
|---|---|---|
| **Fernando Lopez** | **156** | **12/29/2017** |

On Friday, December 29, 2017 at approximately 13:57 hrs., Vehicle #1 was operated in an easterly direction on Kinsley Ave when, at approximately 420 Feet North of intersection of Dean St, the front of the vehicle came into collision with the rear of Vehicle #2, which was stopped in traffic facing East on Kinsley Ave.

The operator of Vehicle #1 stated to Police that she thought Vehicle #2 had moved as she was looking to her left for traffic when her vehicle collided with Vehicle #2.

The operator of Vehicle #2 stated to Police that she was stopped at the yield sign prior to the collision.

A query on the license (RI License # [redacted]) to the operator of Vehicle #1, [redacted] (DOB [redacted]), came back expired.

There were no other injuries reported and no disinterested witnesses approached police.

Vehicle #1 sustained damage to the front and was driven from the scene by the owner, [redacted] (DOB [redacted]).

Vehicle #2 sustained damage to the rear and was driven from the scene by the operator.

The operator of Vehicle was given a court date of February 8, 2018 at the Rhode Island Sixth Division District Court for operating on an expired license.

At the time of this investigation the weather was clear, the road surface was dry and free of debris or obstructions. The light condition was daylight. The yield sign was operating properly prior to the crash.

This crash report was created on 12/29/2017 by Fernando Lopez badge #156.

# STATE OF RHODE ISLAND UNIFORM CRASH REPORT

| Reporting Agency Name | Report Number | Crash Date | Crash Time | Walk In Report | Parking Lot |
|---|---|---|---|---|---|
| **Providence** | **2018-00020696** | **02/27/2018** | **07:33** | ☐ | ☐ |

| City or Town Name | Street or Highway | On Ramp / Off Ramp | Exit # | # of Lanes | Posted Speed Limit |
|---|---|---|---|---|---|
| **Providence** | **KINSLEY AVE** | ☐ On Ramp ☐ Off Ramp | | | **25** ☐ N/A ☐ Unk |

| Nearest Intersection Street | Direction From Nearest Intersection to Crash Site | Distance From Nearest Inter. | Lattitude | Longitude |
|---|---|---|---|---|
| | ☐ At Inter. ☑ North ☐ South ☐ East ☐ West | **339** ☑ Feet ☐ Miles | **41.82848** | **-71.42658** |

| Unit ID | Driver's Last Name | First Name | M.I. | DOB |
|---|---|---|---|---|
| **1** | [redacted] | | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| [redacted] | **PROVIDENCE** | **RI** | **02908** | [redacted] | | |

| Driver's License # | CDL | Lic. State |
|---|---|---|
| [redacted] | ☐ | **RI** |

| M/V Violation | M/V Violation | M/V Violation | M/V Violation |
|---|---|---|---|
| **31-8-2** | | | |

| Driver/Owner Same | Owner's Last Name | First Name | M.I. |
|---|---|---|---|
| ☑ | | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| | | | | | | |

| Insurance Company Name | No Ins. | Insurance Policy Number |
|---|---|---|
| [redacted] | ☐ | [redacted] |

Hit And Run: ☐ Yes, M/V & Driver Left Scene ☐ Yes, Driver Left Scene ☑ No ☐ Unk

| Registration# | Not Reg. | State | Yr Reg. | VIN |
|---|---|---|---|---|
| [redacted] | ☐ | **RI** | | [redacted] |

| Veh Yr. | Make | Model | Color | Plate Type |
|---|---|---|---|---|
| **2007** | **HYUNDAI** | **SONATA** | **GREEN** | **PASSENGER** |

Vehicle Travel Direction: ☐ Northbound ☐ Southbound ☑ Eastbound ☐ Westbound ☐ Not on Roadway ☐ Unk

| Vehicle Towed? | Towing Company Name | Haz Mat Placard? |
|---|---|---|
| ☑ Yes ☐ No | **ALL CITY TOWING** | ☐ Yes ☑ No |

| Driver/Owner Same | Owner's Last Name | First Name | M.I. |
|---|---|---|---|
| ☐ | [redacted] | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| [redacted] | **PROVIDENCE** | **RI** | **02907** | | | |

| Insurance Company Name | No Ins. | Insurance Policy Number |
|---|---|---|
| [redacted] | ☐ | [redacted] |

Hit And Run: ☐ Yes, M/V & Driver Left Scene ☐ Yes, Driver Left Scene ☑ No ☐ Unk

| Registration# | Not Reg. | State | Yr Reg. | VIN |
|---|---|---|---|---|
| [redacted] | ☐ | **RI** | | [redacted] |

| Veh Yr. | Make | Model | Color | Plate Type |
|---|---|---|---|---|
| **2007** | **TOYOTA** | **AVALON** | **WHITE** | **PASSENGER** |

Vehicle Travel Direction: ☐ Northbound ☐ Southbound ☑ Eastbound ☐ Westbound ☐ Not on Roadway ☐ Unk

| Vehicle Towed? | Towing Company Name | Haz Mat Placard? |
|---|---|---|
| ☐ Yes ☑ No | | ☐ Yes ☑ No |

## Person Type

1 Driver, 2 Passenger, 3 Pedestrian, 4 Bicyclist, 5 Other Cyclist, 6 Witness, 7 Other Ped. (Wheelchair, Person in Building, Skater, Ped Conveyance, etc.), 8 Occupant of Motor Veh. not in Transport (Parked, etc.), 9 Occupant of Non-Motor Veh Transportation Device, 10 Unknown Type of Non-Motorist, 11 Unknown

**Unit ID:** 1 Unit 1, 2 Unit 2, 3 (etc.) or N/A

**Sex:** M Male, F Female, U Unk.

**Seat Position:** M; 1 2 3; 4 5 6; 7 8 9; 10 11 12

**Seat Position:** 13 Other Row (Bus), 14 Unk. Row, 15 Other Seat, 16 Unk. Seat

**Other Location:** 17 N/A, 18 Sleeper, 19 Other Enclosed Area, 20 Other Unenclosed Area, 21 Towed Unit, 22 Unknown

**Air Bag Deployed:** 1 N/A, 2 No, 3 Front, 4 Side, 5 Other, 6 Comb, 7 Unk.

**Ejected:** 1 No, 2 Partially, 3 Totally, 4 N/A, 5 Unk.

**Protection System:** 1 N/A, 2 None Used, 3 Shoulder & Lap, 4 Shoulder Only, 5 Lap Only, 6 Type Unknown, 7 Child - Forw. Facing, 8 Child - Rear Facing, 9 Booster Seat, 10 Child - Unk, 11 Helmet Used, 12 Other, 13 Unk.

**Injury:** 1 Complains of Pain, 2 Non-Incapacitating, 3 Incapacitating, 4 Fatal, 5 No Injury, 6 Unknown

| Name: Occupants - Witnesses - Pedestrians - Bicylists | Person Type | Unit ID | Sex | DOB | Seat Pos. | Air Bag Deployed | Ejected | Prot. System | Injury | Trans by Rescue |
|---|---|---|---|---|---|---|---|---|---|---|
| [redacted] | 1 | 1 | F | | 1 | 2 | 1 | 3 | 5 | ☐ Y ☑ N |
| | 1 | 2 | F | | 1 | 2 | 1 | 3 | 1 | ☐ Y ☑ N |
| | | | | | | | | | | ☐ Y ☐ N |

**Non-Vehicle Property Damage** ☐ State Property ☐ City/Town Property ☐ Private Property

| Owner | Address | | |
|---|---|---|---|
| Home Phone | Cell Phone | Work Phone | Damage Description |

| Reporting Officer Name | Reporting Officer Badge Number | Report Date |
|---|---|---|
| **Fernando Lopez** | **156** | **02/27/2018** |

On Tuesday, February 27, 2018 at approximately 07:33 hrs., Vehicle #1 was operated in an easterly direction on Kinsley Ave when, at approximately 339 Feet North of intersection of Dean St, the front of the vehicle came into collision with the rear of Vehicle #2, which was stopped in traffic facing East on Kinsley Ave.

The operator of Vehicle #1 stated to Police that he was behind Vehicle #2 looked to her left for other vehicles and couldn't stop in time to avoid the collision.

The operator of Vehicle #2 stated to Police that he was stopped at the yield sign prior to Vehicle #1 colliding with her vehicle.

The operator of Vehicle #2, [redacted] DOB [redacted]) suffered injuries. There were no other injuries reported and no disinterested witnesses approached police.

Vehicle #1 sustained damage to the front and was towed from the scene by All City Towing.

Vehicle #2 sustained damage to the rear and was driven from the scene by the operator.

The operator of Vehicle #1, [redacted] (DOB [redacted]), was issued Universal Traffic Summons # [redacted] for operating a motor vehicle when registration is suspended and assigned a court date of March 27, 2018 at the Rhode Island Traffic Tribunal (RITT).

Police seized the plates to Vehicle #1 and turned them over to the Rhode Island Department of Motor Vehicles (RI DMV).

At the time of this investigation the weather was clear, the road surface was wet and free of debris or obstructions. The light condition was daylight. The yield signs were properly displayed prior to the crash.

This crash report was created on 2/27/2018 by Fernando Lopez badge #156.

# STATE OF RHODE ISLAND UNIFORM CRASH REPORT

| Reporting Agency Name | Report Number | Crash Date | Crash Time | Walk In Report | Parking Lot |
|---|---|---|---|---|---|
| **Providence** | **2018-00026850** | **03/16/2018** | **08:48** | ☐ | ☐ |

| City or Town Name | Street or Highway | On Ramp / Off Ramp | Exit # | # of Lanes | Posted Speed Limit |
|---|---|---|---|---|---|
| **Providence** | **KINSLEY AVE** | ☐ On Ramp ☐ Off Ramp | | | **25** ☐ N/A ☐ Unk |

| Nearest Intersection Street | Direction From Nearest Intersection to Crash Site | Distance From Nearest Inter. | Lattitude | Longitude |
|---|---|---|---|---|
| | ☐ At Inter. ☑ North ☐ South ☐ East ☐ West | **265** ☑ Feet ☐ Miles | **41.82843** | **-71.42653** |

| Unit ID | Driver's Last Name | First Name | M.I. | DOB |
|---|---|---|---|---|
| **1** | [redacted] | | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| [redacted] | **North Dartmouth** | **MA** | **02747** | | [redacted] | |

| Driver's License # | Lic. State |
|---|---|
| [redacted] ☐ CDL | **MA** |

| M/V Violation | M/V Violation | M/V Violation | M/V Violation |
|---|---|---|---|
| | | | |

| Driver/Owner Same | Owner's Last Name | First Name | M.I. |
|---|---|---|---|
| ☑ | | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| | | | | | | |

| Insurance Company Name | Insurance Policy Number |
|---|---|
| [redacted] ☐ No Ins | [redacted] |

Hit And Run: ☐ Yes, M/V & Driver Left Scene ☐ Yes, Driver Left Scene ☑ No ☐ Unk

| Registration# | Not Reg. | State | Yr Reg. | VIN |
|---|---|---|---|---|
| [redacted] | | **MA** | | [redacted] |

| Veh Yr. | Make | Model | Color | Plate Type |
|---|---|---|---|---|
| **2006** | **GMC** | **Sierra** | **White** | **Commercial** |

Vehicle Travel Direction: ☐ Northbound ☑ Southbound ☐ Eastbound ☐ Westbound ☐ Not on Roadway ☐ Unk

| Vehicle Towed? | Towing Company Name | Haz Mat Placard? |
|---|---|---|
| ☐ Yes ☑ No | | ☐ Yes ☑ No |

| Unit ID | Driver's Last Name | First Name | M.I. | DOB |
|---|---|---|---|---|
| **2** | [redacted] | | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| [redacted] | **Providence** | **RI** | **02908** | | [redacted] | |

| Driver's License # | Lic. State |
|---|---|
| [redacted] ☐ CDL | **RI** |

| M/V Violation | M/V Violation | M/V Violation | M/V Violation |
|---|---|---|---|
| | | | |

| Driver/Owner Same | Owner's Last Name | First Name | M.I. |
|---|---|---|---|
| ☑ | | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| | | | | | | |

| Insurance Company Name | Insurance Policy Number |
|---|---|
| [redacted] ☐ No Ins. | [redacted] |

Hit And Run: ☐ Yes, M/V & Driver Left Scene ☐ Yes, Driver Left Scene ☑ No ☐ Unk

| Registration# | Not Reg. | State | Yr Reg. | VIN |
|---|---|---|---|---|
| [redacted] | | **RI** | | [redacted] |

| Veh Yr. | Make | Model | Color | Plate Type |
|---|---|---|---|---|
| **2005** | **TOYOTA** | **Camry** | **Red** | **Passenger** |

Vehicle Travel Direction: ☐ Northbound ☑ Southbound ☐ Eastbound ☐ Westbound ☐ Not on Roadway ☐ Unk

| Vehicle Towed? | Towing Company Name | Haz Mat Placard? |
|---|---|---|
| ☐ Yes ☑ No | | ☐ Yes ☑ No |

## Person Type

1 Driver, 2 Passenger, 3 Pedestrian, 4 Bicyclist, 5 Other Cyclist, 6 Witness, 7 Other Ped. (Wheelchair, Person in Building, Skater, Ped Conveyance, etc.), 8 Occupant of Motor Veh. not in Transport (Parked, etc.), 9 Occupant of Non-Motor Veh Transportation Device, 10 Unknown Type of Non-Motorist, 11 Unknown

**Unit ID:** 1 Unit 1, 2 Unit 2, 3 (etc.) or N/A

**Sex:** M Male, F Female, U Unk.

**Seat Position:** 13 Other Row (Bus), 14 Unk. Row, 15 Other Seat, 16 Unk. Seat

| M | | |
|---|---|---|
| 1 | 2 | 3 |
| 4 | 5 | 6 |
| 7 | 8 | 9 |
| 10 | 11 | 12 |

**Other Location:** 17 N/A, 18 Sleeper, 19 Other Enclosed Area, 20 Other Unenclosed Area, 21 Towed Unit, 22 Unknown

**Air Bag Deployed:** 1 N/A, 2 No, 3 Front, 4 Side, 5 Other, 6 Comb, 7 Unk.

**Ejected:** 1 No, 2 Partially, 3 Totally, 4 N/A, 5 Unk.

**Protection System:** 1 N/A, 2 None Used, 3 Shoulder & Lap, 4 Shoulder Only, 5 Lap Only, 6 Type Unknown, 7 Child - Forw. Facing, 8 Child - Rear Facing, 9 Booster Seat, 10 Child - Unk, 11 Helmet Used, 12 Other, 13 Unk.

**Injury:** 1 Complains of Pain, 2 Non-Incapacitating, 3 Incapacitating, 4 Fatal, 5 No Injury, 6 Unknown

| Name: Occupants - Witnesses - Pedestrians - Bicylists | Person Type | Unit ID | Sex | DOB | Seat Pos. | Air Bag Deployed | Ejected | Prot. System | Injury | Trans by Rescue |
|---|---|---|---|---|---|---|---|---|---|---|
| [redacted] | 1 | 1 | M | | 1 | 2 | 1 | 13 | 5 | ☐ Y ☑ N |
| | 1 | 2 | M | | 1 | 2 | 1 | 13 | 5 | ☐ Y ☑ N |
| | 2 | 2 | F | | 3 | 2 | 1 | 13 | 5 | ☐ Y ☑ N |

**Non-Vehicle Property Damage** ☐ State Property ☐ City/Town Property ☐ Private Property

| Owner | Address |
|---|---|
| | |

| Home Phone | Cell Phone | Work Phone | Damage Description |
|---|---|---|---|
| | | | |

| Reporting Officer Name | Reporting Officer Badge Number | Report Date |
|---|---|---|
| **Adam Chin** | **289** | **03/16/2018** |

On Friday, March 16, 2018 at approximately 08:48 hrs., Vehicle #1 was operated in a southerly direction on Kinsley Ave. when, at approximately 265 feet north of intersection of Dean St., the front(12) of the vehicle came into collision with the rear(6) of Vehicle #2, which was traveling south on Kinsley Ave. and movements essentially straight ahead. The operator of Vehicle #1 stated that he was merging on to Dean St. from Kinsley Ave. and as he was glancing back to assure that the lane of travel was clear, the front(12) of his vehicle struck the rear(6) of Vehicle #2. The operator of Vehicle #2 stated that he was awaiting to merge on to Dean St., when he was struck by the front(12) of Vehicle #1.

There were no other injuries reported and no disinterested witnesses approached police.

Vehicle #1 sustained no visible damage to the front(12) and was driven from the scene by the operator.

Vehicle #2 sustained damage to the rear(6) and was driven from the scene by the operator.

At the time of this investigation the weather was clear, the road surface was dry and the light condition was daylight.

This crash report was created on 3/16/2018 by Adam Chin badge #289.

{# - - - Do Not Delete - - - {*3/16/2018 10:01:03 AM*}#}

# STATE OF RHODE ISLAND UNIFORM CRASH REPORT

| Reporting Agency Name | Report Number | Crash Date | Crash Time | Walk In Report | Parking Lot |
|---|---|---|---|---|---|
| **Providence** | **2018-00027930** | **03/19/2018** | **08:47** | ☐ | ☐ |

| City or Town Name | Street or Highway | | Exit # | # of Lanes | Posted Speed Limit |
|---|---|---|---|---|---|
| **Providence** | **KINSLEY AVE** | ☐ On Ramp ☐ Off Ramp | | | **25** ☐ N/A ☐ Unk |

| Nearest Intersection Street | Direction From Nearest Intersection to Crash Site | Distance From Nearest Inter. | Lattitude | Longitude |
|---|---|---|---|---|
| | ☐ At Inter. ☑ North ☐ South ☐ East ☐ West | **508** ☑ Feet ☐ Miles | **41.82859** | **-71.42669** |

| Unit ID | Driver's Last Name | First Name | M.I. | DOB |
|---|---|---|---|---|
| **1** | [redacted] | | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| [redacted] | **PROVIDENCE** | **RI** | **02908** | [redacted] | | |

| Driver's License # | CDL | Lic. State |
|---|---|---|
| [redacted] | ☐ | **RI** |

| M/V Violation | M/V Violation | M/V Violation | M/V Violation |
|---|---|---|---|
| | | | |

| Driver/Owner Same | Owner's Last Name | First Name | M.I. |
|---|---|---|---|
| ☑ | | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| | | | | | | |

| Insurance Company Name | No Ins. | Insurance Policy Number |
|---|---|---|
| [redacted] | ☐ | [redacted] |

Hit And Run: ☐ Yes, M/V & Driver Left Scene ☐ Yes, Driver Left Scene ☑ No ☐ Unk

| Registration# | Not Reg. | State | Yr Reg. | VIN |
|---|---|---|---|---|
| [redacted] | ☐ | **RI** | | [redacted] |

| Veh Yr. | Make | Model | Color | Plate Type |
|---|---|---|---|---|
| **2004** | **TOYOTA** | **SEDAN** | **GREEN** | **PASSENGER** |

Vehicle Travel Direction: ☐ Northbound ☐ Southbound ☑ Eastbound ☐ Westbound ☐ Not on Roadway ☐ Unk

| Vehicle Towed? | Towing Company Name | Haz Mat Placard? |
|---|---|---|
| ☐ Yes ☑ No | | ☐ Yes ☑ No |

| Driver/Owner Same | Owner's Last Name | First Name | M.I. |
|---|---|---|---|
| ☑ | | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| | | | | | | |

| Insurance Company Name | No Ins. | Insurance Policy Number |
|---|---|---|
| [redacted] | ☐ | [redacted] |

Hit And Run: ☐ Yes, M/V & Driver Left Scene ☐ Yes, Driver Left Scene ☑ No ☐ Unk

| Registration# | Not Reg. | State | Yr Reg. | VIN |
|---|---|---|---|---|
| [redacted] | ☐ | **RI** | | [redacted] |

| Veh Yr. | Make | Model | Color | Plate Type |
|---|---|---|---|---|
| **2003** | **TOYOTA** | **HIGHLANDER** | **GRAY** | **PASSENGER** |

Vehicle Travel Direction: ☐ Northbound ☐ Southbound ☑ Eastbound ☐ Westbound ☐ Not on Roadway ☐ Unk

| Vehicle Towed? | Towing Company Name | Haz Mat Placard? |
|---|---|---|
| ☑ Yes ☐ No | **NATIONAL TOWING** | ☐ Yes ☑ No |

## Person Type

1 Driver, 2 Passenger, 3 Pedestrian, 4 Bicyclist, 5 Other Cyclist, 6 Witness, 7 Other Ped. (Wheelchair, Person in Building, Skater, Ped Conveyance, etc.), 8 Occupant of Motor Veh. not in Transport (Parked, etc.), 9 Occupant of Non-Motor Veh Transportation Device, 10 Unknown Type of Non-Motorist, 11 Unknown

**Unit ID:** 1 Unit 1, 2 Unit 2, 3 (etc.) or N/A

**Sex:** M Male, F Female, U Unk.

**Seat Position:** (M, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12)
13 Other Row (Bus), 14 Unk. Row, 15 Other Seat, 16 Unk. Seat

**Other Location:** 17 N/A, 18 Sleeper, 19 Other Enclosed Area, 20 Other Unenclosed Area, 21 Towed Unit, 22 Unknown

**Air Bag Deployed:** 1 N/A, 2 No, 3 Front, 4 Side, 5 Other, 6 Comb, 7 Unk.

**Ejected:** 1 No, 2 Partially, 3 Totally, 4 N/A, 5 Unk.

**Protection System:** 1 N/A, 2 None Used, 3 Shoulder & Lap, 4 Shoulder Only, 5 Lap Only, 6 Type Unknown, 7 Child - Forw. Facing, 8 Child - Rear Facing, 9 Booster Seat, 10 Child - Unk, 11 Helmet Used, 12 Other, 13 Unk.

**Injury:** 1 Complains of Pain, 2 Non-Incapacitating, 3 Incapacitating, 4 Fatal, 5 No Injury, 6 Unknown

| Name: Occupants - Witnesses - Pedestrians - Bicylists | Person Type | Unit ID | Sex | DOB | Seat Pos. | Air Bag Deployed | Ejected | Prot. System | Injury | Trans by Rescue |
|---|---|---|---|---|---|---|---|---|---|---|
| [redacted] | 1 | 1 | M | | 1 | 2 | 1 | 3 | 5 | ☐ Y ☑ N |
| | 2 | 1 | F | | 6 | 2 | 1 | 3 | 5 | ☐ Y ☑ N |
| | 1 | 2 | F | | 1 | 2 | 1 | 3 | 1 | ☑ Y ☐ N |

**Non-Vehicle Property Damage** ☐ State Property ☐ City/Town Property ☐ Private Property

| Owner | Address | | |
|---|---|---|---|
| | | | |

| Home Phone | Cell Phone | Work Phone | Damage Description |
|---|---|---|---|
| | | | |

| Reporting Officer Name | Reporting Officer Badge Number | Report Date |
|---|---|---|
| **Fernando Lopez** | **156** | **03/19/2018** |

On Monday, March 19, 2018 at approximately 08:47 hrs., Vehicle #1 was operated in an easterly direction on Kinsley Ave when, at approximately 508 Feet North of intersection of Dean St, the front of the vehicle came into collision with the rear of Vehicle #2, which was stopped in traffic facing East on Kinsley Ave.

The operator of Vehicle #1 stated to Police that he was behind Vehicle #2 prior to the collision.

The operator of Vehicle #2 stated to Police that she was stopped at the yield sign when Vehicle #1 collided with her vehicle.

The operator of Vehicle #2, [redacted] (DOB [redacted]) suffered injuries and was transported to Rhode Island Hospital (RIH) by Providence Fire Rescue #4 with Lt Mello in charge. There were no other injuries reported and no disinterested witnesses approached police.

Vehicle #1 sustained damage to the front and was driven from the scene by the operator.

Vehicle #2 sustained damage to the rear and was towed from the scene by National Towing.

At the time of this investigation the weather was clear, the road surface was dry and free of debris or obstructions. The light condition was daylight. The yield sign was properly displayed prior to the crash.

This crash report was created on 3/19/2018 by Fernando Lopez badge #156.

# STATE OF RHODE ISLAND UNIFORM CRASH REPORT

| Reporting Agency Name | Report Number | Crash Date | Crash Time | Walk In Report | Parking Lot |
|---|---|---|---|---|---|
| **Providence** | **2018-00064692** | **06/24/2018** | **11:27** | ☐ | ☐ |

| City or Town Name | Street or Highway | | Exit # | # of Lanes | Posted Speed Limit |
|---|---|---|---|---|---|
| **Providence** | **Kinsley Ave** | ☐ On Ramp ☐ Off Ramp | | | **25** ☐ N/A ☐ Unk |

| Nearest Intersection Street | Direction From Nearest Intersection to Crash Site | Distance From Nearest Inter. | Lattitude | Longitude |
|---|---|---|---|---|
| | ☑ At Inter. ☐ North ☐ South ☐ East ☐ West | ☑ Feet ☐ Miles | **41.82843** | **-71.42653** |

| Unit ID | Driver's Last Name | First Name | M.I. | DOB |
|---|---|---|---|---|
| **1** | [redacted] | | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| [redacted] | **Providence** | **RI** | **02903** | | [redacted] | |

| Driver's License # | ☐ CDL | Lic. State |
|---|---|---|
| [redacted] | | **RI** |

| M/V Violation | M/V Violation | M/V Violation | M/V Violation |
|---|---|---|---|
| | | | |

| Driver/Owner Same | Owner's Last Name | First Name | M.I. |
|---|---|---|---|
| ☑ | | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| | | | | | | |

| Insurance Company Name | ☐ No Ins. | Insurance Policy Number |
|---|---|---|
| [redacted] | | [redacted] |

Hit And Run: ☐ Yes, M/V & Driver Left Scene ☐ Yes, Driver Left Scene ☑ No ☐ Unk

| Registration# | ☐ Not Reg. | State | Yr Reg. | VIN |
|---|---|---|---|---|
| [redacted] | | **RI** | | [redacted] |

| Veh Yr. | Make | Model | Color | Plate Type |
|---|---|---|---|---|
| **2014** | **BMW** | **X1** | **White** | **Passenger** |

Vehicle Travel Direction: ☐ Northbound ☑ Southbound ☐ Eastbound ☐ Westbound ☐ Not on Roadway ☐ Unk

| Vehicle Towed? | Towing Company Name | Haz Mat Placard? |
|---|---|---|
| ☐ Yes ☑ No | | ☐ Yes ☑ No |

| Unit ID | Driver's Last Name | First Name | M.I. | DOB |
|---|---|---|---|---|
| **2** | [redacted] | | | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| [redacted] | **N. Scituate** | **RI** | **02857** | | [redacted] | |

| Driver's License # | ☐ CDL | Lic. State |
|---|---|---|
| [redacted] | | **RI** |

| M/V Violation | M/V Violation | M/V Violation | M/V Violation |
|---|---|---|---|
| | | | |

| Driver/Owner Same | Owner's Last Name | First Name | M.I. |
|---|---|---|---|
| ☐ | **Raso** | **Edward** | |

| Address | City | State | Zip | Home Phone | Cell Phone | Work Phone |
|---|---|---|---|---|---|---|
| **1187 Danielson Pike** | **N. Scituate** | **RI** | **02857** | | | |

| Insurance Company Name | ☐ No Ins. | Insurance Policy Number |
|---|---|---|
| [redacted] | | [redacted] |

Hit And Run: ☐ Yes, M/V & Driver Left Scene ☐ Yes, Driver Left Scene ☑ No ☐ Unk

| Registration# | ☐ Not Reg. | State | Yr Reg. | VIN |
|---|---|---|---|---|
| [redacted] | | **RI** | | [redacted] |

| Veh Yr. | Make | Model | Color | Plate Type |
|---|---|---|---|---|
| **2006** | **KIA** | **Sedona** | **Blue** | **Passenger** |

Vehicle Travel Direction: ☐ Northbound ☑ Southbound ☐ Eastbound ☐ Westbound ☐ Not on Roadway ☐ Unk

| Vehicle Towed? | Towing Company Name | Haz Mat Placard? |
|---|---|---|
| ☐ Yes ☑ No | | ☐ Yes ☑ No |

## Person Type

1 Driver, 2 Passenger, 3 Pedestrian, 4 Bicyclist, 5 Other Cyclist, 6 Witness, 7 Other Ped. (Wheelchair, Person in Building, Skater, Ped Conveyance, etc.), 8 Occupant of Motor Veh. not in Transport (Parked, etc.), 9 Occupant of Non-Motor Veh Transportation Device, 10 Unknown Type of Non-Motorist, 11 Unknown

**Unit ID:** 1 Unit 1, 2 Unit 2, 3 (etc.), or N/A

**Sex:** M Male, F Female, U Unk.

**Seat Position:** 13 Other Row (Bus), 14 Unk. Row, 15 Other Seat, 16 Unk. Seat

**Other Location:** 17 N/A, 18 Sleeper, 19 Other Enclosed Area, 20 Other Unenclosed Area, 21 Towed Unit, 22 Unknown

**Air Bag Deployed:** 1 N/A, 2 No, 3 Front, 4 Side, 5 Other, 6 Comb, 7 Unk.

**Ejected:** 1 No, 2 Partially, 3 Totally, 4 N/A, 5 Unk.

**Protection System:** 1 N/A, 2 None Used, 3 Shoulder & Lap, 4 Shoulder Only, 5 Lap Only, 6 Type Unknown, 7 Child - Forw. Facing, 8 Child - Rear Facing, 9 Booster Seat, 10 Child - Unk, 11 Helmet Used, 12 Other, 13 Unk.

**Injury:** 1 Complains of Pain, 2 Non-Incapacitating, 3 Incapacitating, 4 Fatal, 5 No Injury, 6 Unknown

| Name: Occupants - Witnesses - Pedestrians - Bicylists | Person Type | Unit ID | Sex | DOB | Seat Pos. | Air Bag Deployed | Ejected | Prot. System | Injury | Trans by Rescue |
|---|---|---|---|---|---|---|---|---|---|---|
| [redacted] | 1 | 1 | F | | 1 | 2 | 1 | 13 | 5 | ☐ Y ☑ N |
| | 1 | 2 | M | | 1 | 2 | 1 | 13 | 5 | ☐ Y ☑ N |
| | | | | | | | | | | ☐ Y ☐ N |

**Non-Vehicle Property Damage** ☐ State Property ☐ City/Town Property ☐ Private Property

| Owner | Address | | |
|---|---|---|---|
| Home Phone | Cell Phone | Work Phone | Damage Description |
| | | | |

| Reporting Officer Name | Reporting Officer Badge Number | Report Date |
|---|---|---|
| **Noel Field** | **260** | **06/24/2018** |

On Sunday, June 24, 2018, at approximately 1127 hours, Vehicle #1 was operated in a southerly direction turning from Kinsley Ave onto Dean St when, at the intersection of Dean St, the front of Vehicle #1 came into collision with the rear of Vehicle #2. Vehicle #2 was traveling from Kinsley Ave east and negotiating a curve turning/ merging onto Dean St south in the same way as Vehicle #1.

There were no injuries reported at the time of this investigation.

No disinterested witnesses approached police at the scene.

Vehicle #1 sustained damage to the front bumper assembly and was driven from the scene by the operator.

Vehicle #2 sustained damage to the rear bumper assembly and was driven from the scene by the operator.

At the time of this investigation the weather was cloudy, the road surface was dry and the light condition was daylight.

This crash report was created on 6/24/2018 by Noel Field FID #260.

{# - - - Do Not Delete - - - {*6/24/2018 12:43:59 PM*}#}

# APPENDIX C – Trip Generation

## ITE Trip Generation Summary

## Site Trip Distribution

Build Conditions

Build Alternative (*Woonasquatucket River Greenway Extension*)

## ITE Land Use Code

ITE Land Use Code 151 – Mini-Warehouse

ITE Lane Use Code 820 – Shopping Center

ITE Land Use Code 960 – Super Convenience Market/Gas Station

C

## ITE Trip Generation Summary

# Trip Generation Summary

Summary;

| | Description | Enter | Exit | Total |
|---|---|---|---|---|
| AM Peak Hour | | | | |
| ITE Land Use Code 151 | Mini-Warehouse | 6 | 5 | 11 |
| ITE Land Use Code 820 | Shopping Center | 4 | 2 | 6 |
| ITE Land Use Code 960 | Super Convience Market/Gas Station | 225 | 225 | 450 |
| | TOTAL | 235 | 232 | 467 |
| PM Peak Hour | | | | |
| ITE Land Use Code 151 | Mini-Warehouse | 8 | 8 | 16 |
| ITE Land Use Code 820 | Shopping Center | 12 | 13 | 25 |
| ITE Land Use Code 960 | Super Convience Market/Gas Station | 185 | 184 | 369 |
| | TOTAL | 205 | 205 | 410 |

## Calculations;

### ITE Land Use Code 151 Mini-Warehouse (805 Units)

Independent Variable (X) = Hundred Units X = 8.05

AM Peak Directional Distribution: 51% Entering 49% Exiting

| | | | | | |
|---|---|---|---|---|---|
| T | = | 1.39 x (X) | Enter: | 6 |
| T | = | 1.39 x 8.05 | Exit: | 5 |
| T | = | 11 | Total: | 11 |

PM Peak Directional Distribution: 50% Entering 50% Exiting

| | | | | | |
|---|---|---|---|---|---|
| T | = | 1.95 x (X) | Enter: | 8 |
| T | = | 1.95 x 8.05 | Exit: | 8 |
| T | = | 16 | Total: | 16 |

### ITE Land Use Code 820 Shopping Center (6,500 SF)

Independent Variable (X) = Thousand Gross Floor Area X = 6.5

AM Peak Directional Distribution: 62% Entering 38% Exiting

| | | | | | |
|---|---|---|---|---|---|
| T | = | 0.94 x (X) | Enter: | 4 |
| T | = | 0.94 x 6.5 | Exit: | 2 |
| T | = | 6 | Total: | 6 |

PM Peak Directional Distribution: 48% Entering 52% Exiting

| | | | | | |
|---|---|---|---|---|---|
| T | = | 3.81 x (X) | Enter: | 12 |
| T | = | 3.81 x 6.5 | Exit: | 13 |
| T | = | 25 | Total: | 25 |

## ITE Land Use Code 960 Super Convience Market/Gas Station (16 VFP)

Independent Variable (X) = Vehicle Fueling Positions (VFP) X = 16

AM Peak Directional Distribution: 50% Entering 50% Exiting

T = 28.08 x (X)
T = 28.08 x 16
T = 450

Enter: 225
Exit: 225
Total: 450

PM Peak Directional Distribution: 50% Entering 50% Exiting

T = 22.96 x (X)
T = 22.96 x 16
T = 369

Enter: 185
Exit: 184
Total: 369

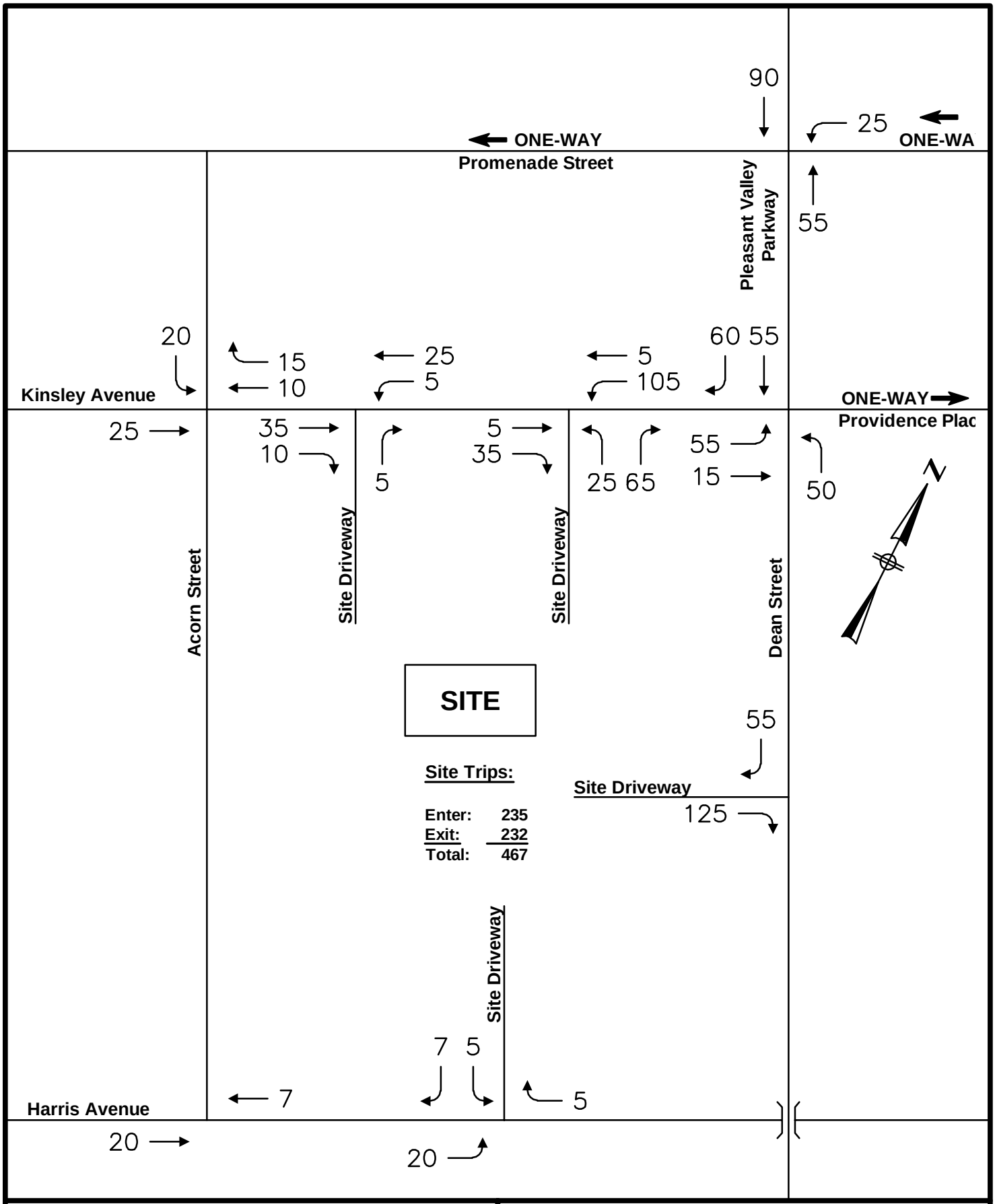
# C

## Site Trip Distribution

Build Conditions

Build Alternative (*Woonasquatucket River Greenway Extension*)

Build Conditions

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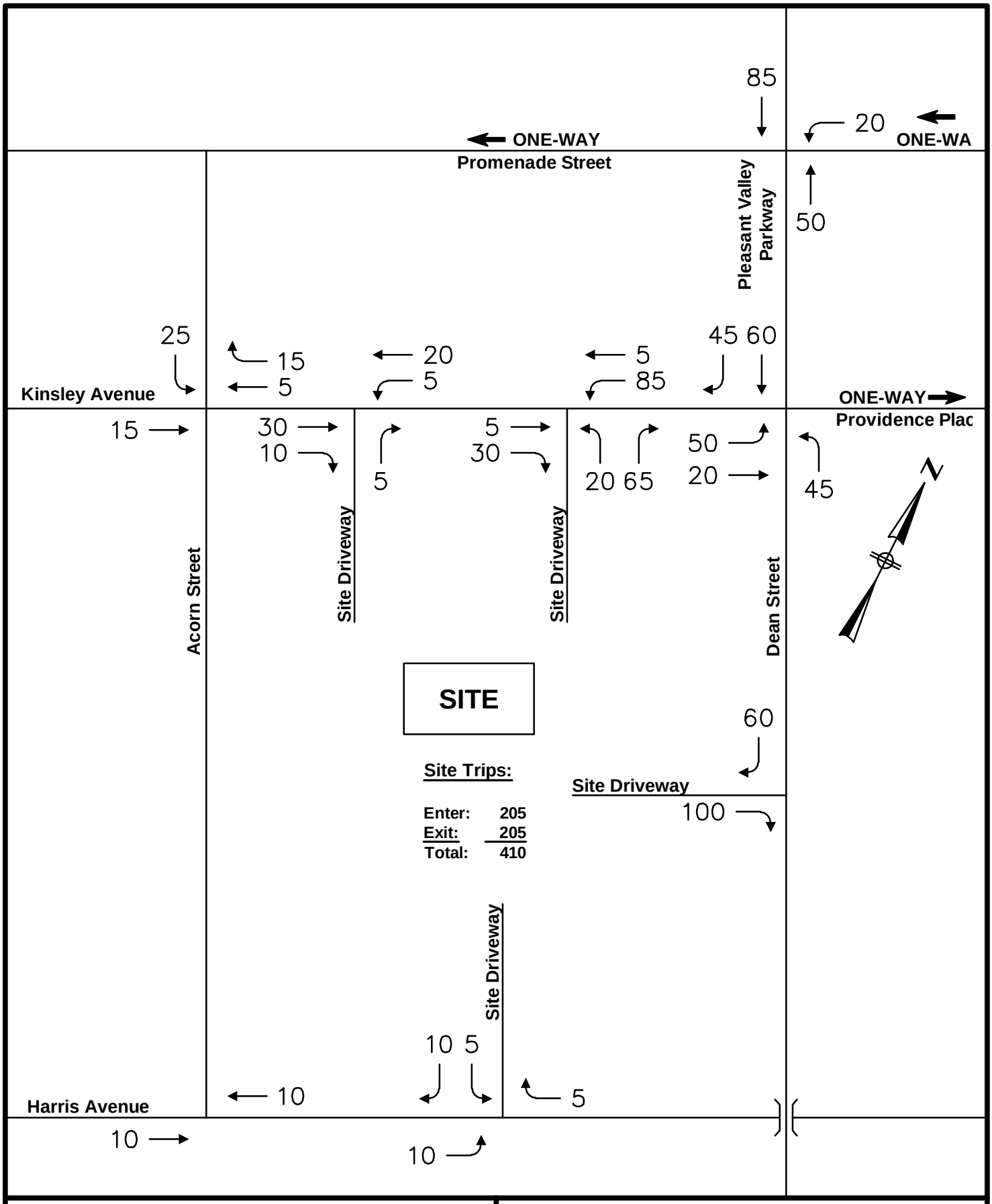
**WEEKDAY TRAFFIC DISTRIBUTION**
**AM PEAK HOUR BUILD**

**PROPOSED COMMERCIAL REDEVELOPMENT**
**PROVIDENCE, RHODE ISLAND**

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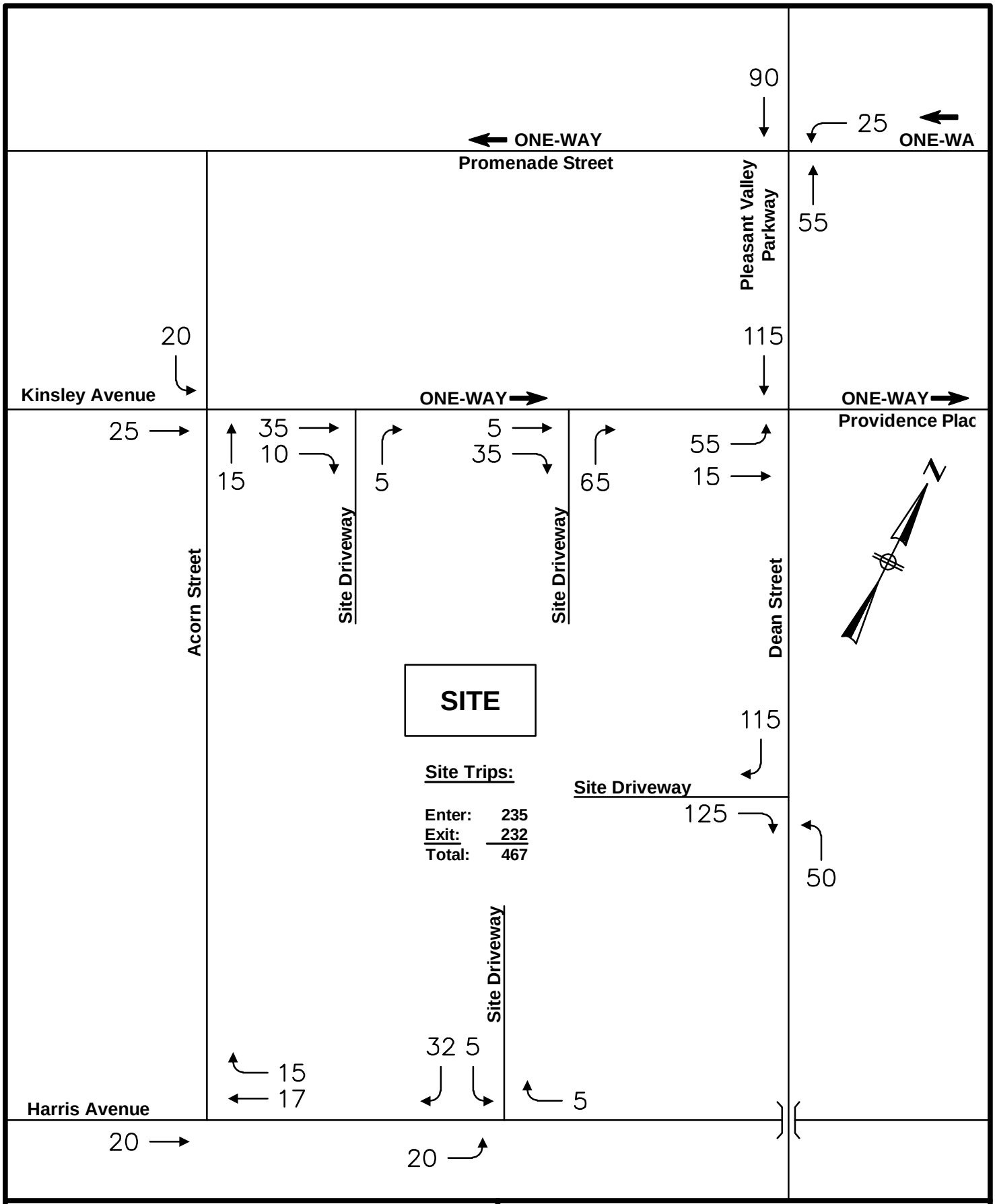
**WEEKDAY TRAFFIC DISTRIBUTION**
**PM PEAK HOUR BUILD**

**PROPOSED COMMERCIAL REDEVELOPMENT**
**PROVIDENCE, RHODE ISLAND**

Build Alternative (*Woonasquatucket River Greenway Extension*)

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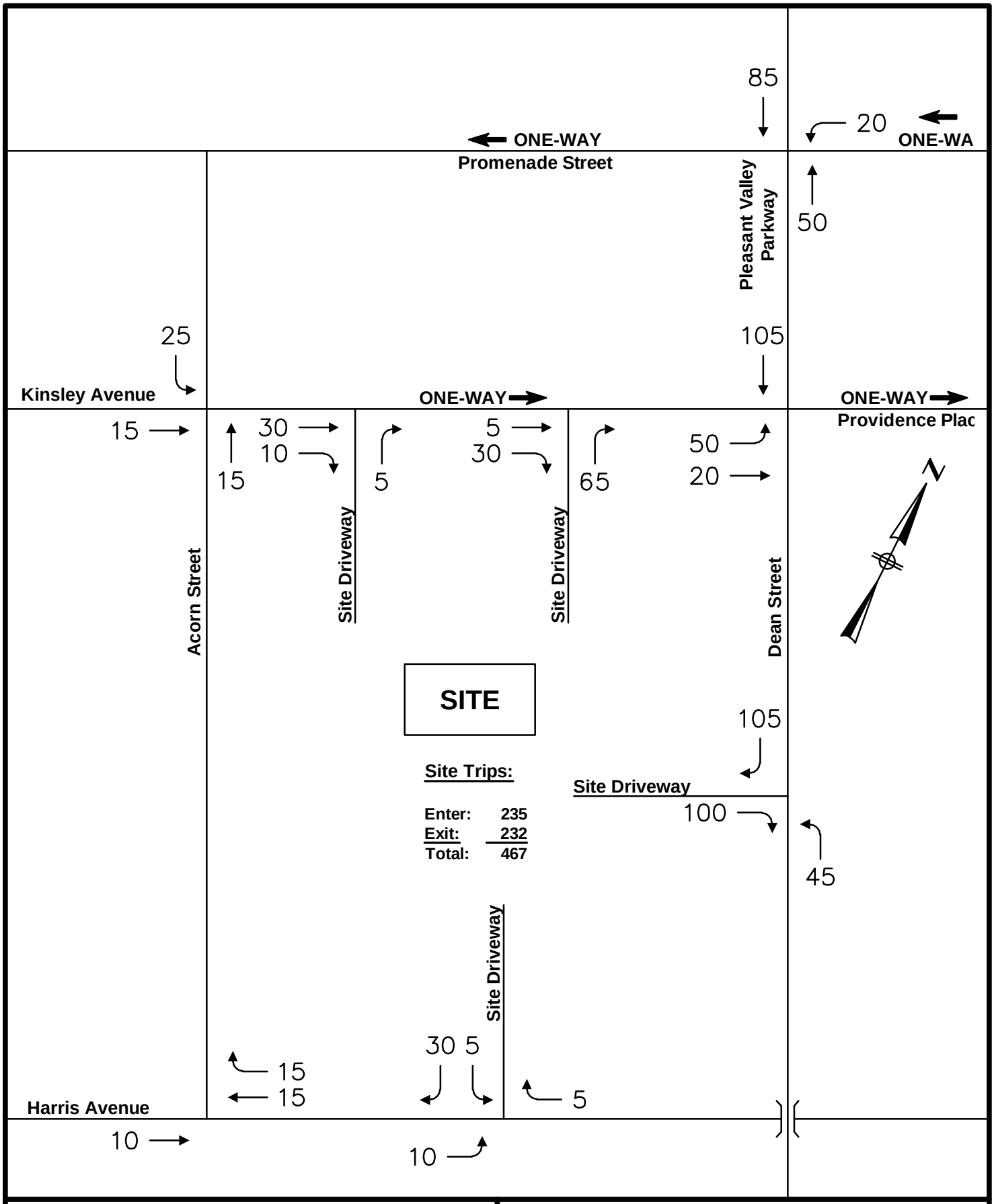
**WEEKDAY TRAFFIC DISTRIBUTION**
**AM PEAK HOUR BUILD (ALTERNATIVE)**

**PROPOSED COMMERCIAL REDEVELOPMENT**
**PROVIDENCE, RHODE ISLAND**

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**WEEKDAY TRAFFIC DISTRIBUTION**
**PM PEAK HOUR BUILD (ALTERNATIVE)**

**PROPOSED COMMERCIAL REDEVELOPMENT**
**PROVIDENCE, RHODE ISLAND**

# C

## ITE Land Use Code

ITE Land Use Code 151 – Mini-Warehouse

ITE Lane Use Code 820 – Shopping Center

ITE Land Use Code 960 – Super Convenience Market/Gas Station

ITE Land Use Code 151 – Mini-Warehouse

# Land Use: 151
# Mini-Warehouse

### Description

A mini-warehouse is a building in which a number of storage units or vaults are rented for the storage of goods. They are typically referred to as “self-storage” facilities. Each unit is physically separated from other units, and access is usually provided through an overhead door or other common access point.

### Additional Data

Time-of-day distribution data for this land use are presented in Appendix A. For the 10 general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 10:30 and 11:30 a.m. and 1:15 and 2:15 p.m., respectively.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in California, Colorado, Massachusetts, Minnesota, New Jersey, Texas, and Utah.

### Source Numbers

212, 403, 551, 568, 642, 708, 724, 850, 868, 876

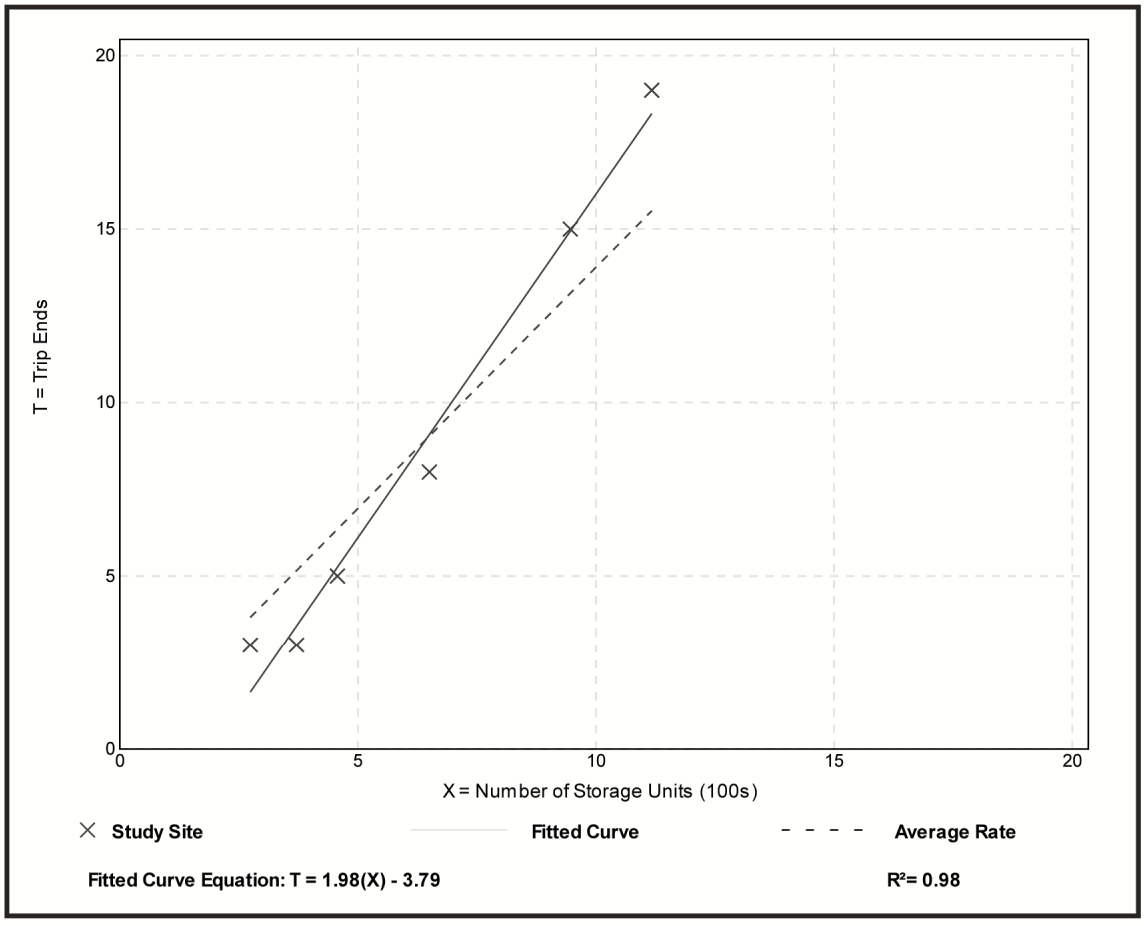
# Mini-Warehouse
(151)

**Vehicle Trip Ends vs:** **Storage Units (100s)**
**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: 6
Avg. Num. of Storage Units (100s): 6
Directional Distribution: 51% entering, 49% exiting

## Vehicle Trip Generation per Storage Unit (100s)

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 1.39 | 0.81 - 1.70 | 0.33 |

## Data Plot and Equation



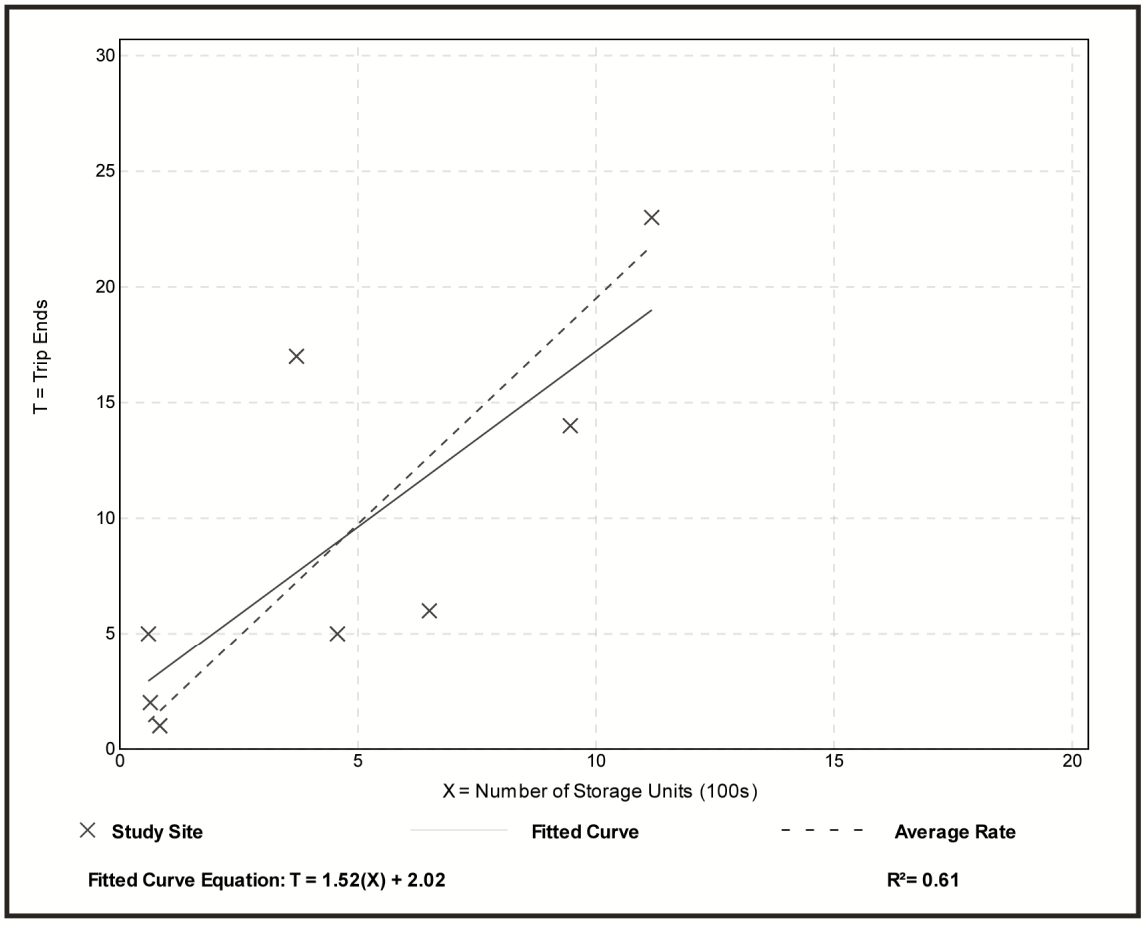
# Mini-Warehouse
(151)

**Vehicle Trip Ends vs:** **Storage Units (100s)**
**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: 8
Avg. Num. of Storage Units (100s): 5
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per Storage Unit (100s)

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 1.95 | 0.92 - 8.33 | 1.40 |

## Data Plot and Equation



ITE Lane Use Code 820 – Shopping Center

# Land Use: 820
# Shopping Center

## Description

A shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. A shopping center's composition is related to its market area in terms of size, location, and type of store. A shopping center also provides on-site parking facilities sufficient to serve its own parking demands. Factory outlet center (Land Use 823) is a related use.

## Additional Data

Shopping centers, including neighborhood centers, community centers, regional centers, and super regional centers, were surveyed for this land use. Some of these centers contained non-merchandising facilities, such as office buildings, movie theaters, restaurants, post offices, banks, health clubs, and recreational facilities (for example, ice skating rinks or indoor miniature golf courses).

**Many shopping centers, in addition to the integrated unit of shops in one building or enclosed around a mall, include outparcels (peripheral buildings or pads located on the perimeter of the center adjacent to the streets and major access points). These buildings are typically drive-in banks, retail stores, restaurants, or small offices. Although the data herein do not indicate which of the centers studied included peripheral buildings, it can be assumed that some of the data show their effect.**

The vehicle trips generated at a shopping center are based upon the total GLA of the center. In cases of smaller centers without an enclosed mall or peripheral buildings, the GLA could be the same as the gross floor area of the building.

Time-of-day distribution data for this land use are presented in Appendix A. For the 10 general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 11:45 a.m. and 12:45 p.m. and 12:15 and 1:15 p.m., respectively.

The average numbers of person trips per vehicle trip at the 27 general urban/suburban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.31 during Weekday, AM Peak Hour of Generator
- 1.43 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 1.46 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), British Columbia (CAN), California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Nevada, New Jersey, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Vermont, Virginia, Washington, West Virginia, and Wisconsin.

## Source Numbers

105, 110, 154, 156, 159, 186, 190, 198, 199, 202, 204, 211, 213, 239, 251, 259, 260, 269, 294, 295, 299, 300, 301, 304, 305, 307, 308, 309, 310, 311, 314, 315, 316, 317, 319, 358, 365, 376, 385, 390, 400, 404, 414, 420, 423, 428, 437, 440, 442, 444, 446, 507, 562, 580, 598, 629, 658, 702, 715, 728, 868, 870, 871, 880, 899, 908, 912, 915, 926, 936, 944, 946, 960, 961, 962, 973, 974, 978

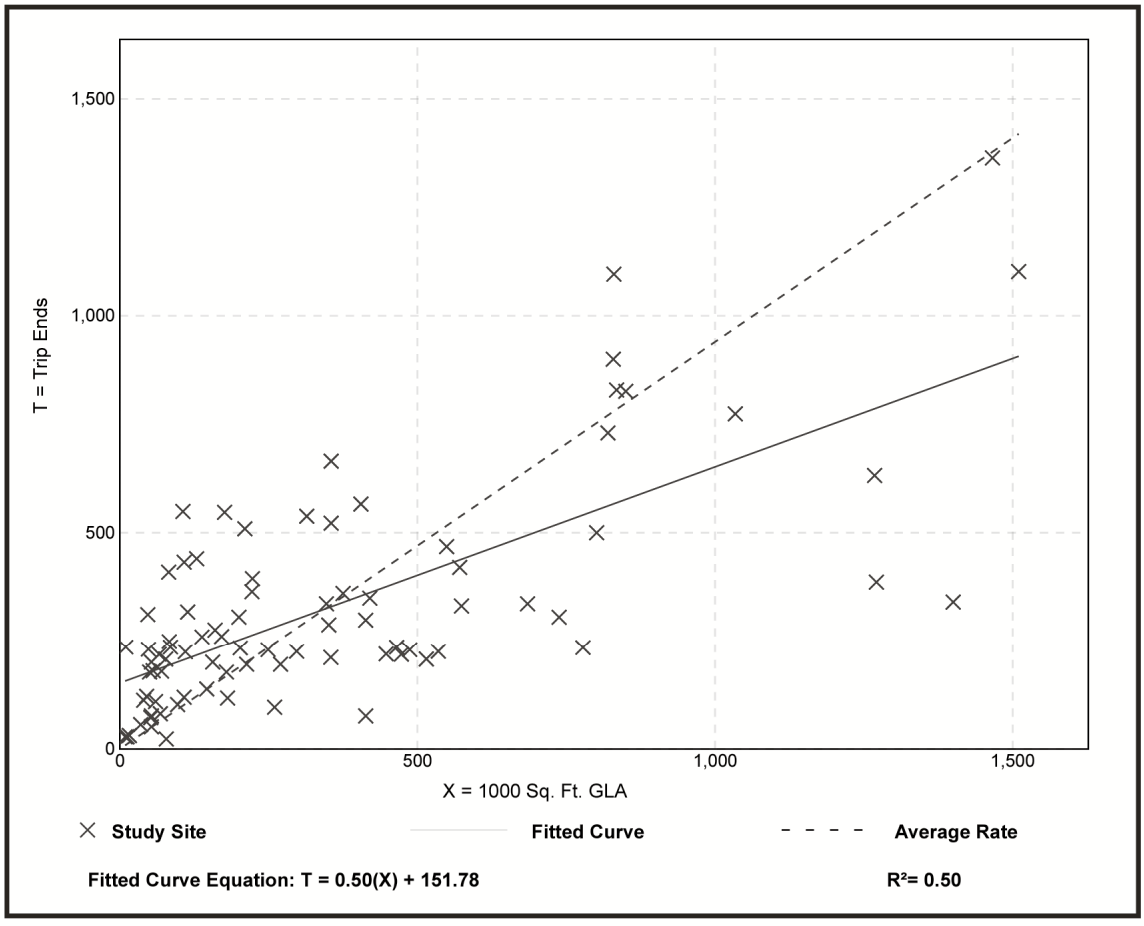
# Shopping Center
(820)

**Vehicle Trip Ends vs:** **1000 Sq. Ft. GLA**
**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: 84
1000 Sq. Ft. GLA: 351
Directional Distribution: 62% entering, 38% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GLA

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 0.94 | 0.18 - 23.74 | 0.87 |

## Data Plot and Equation



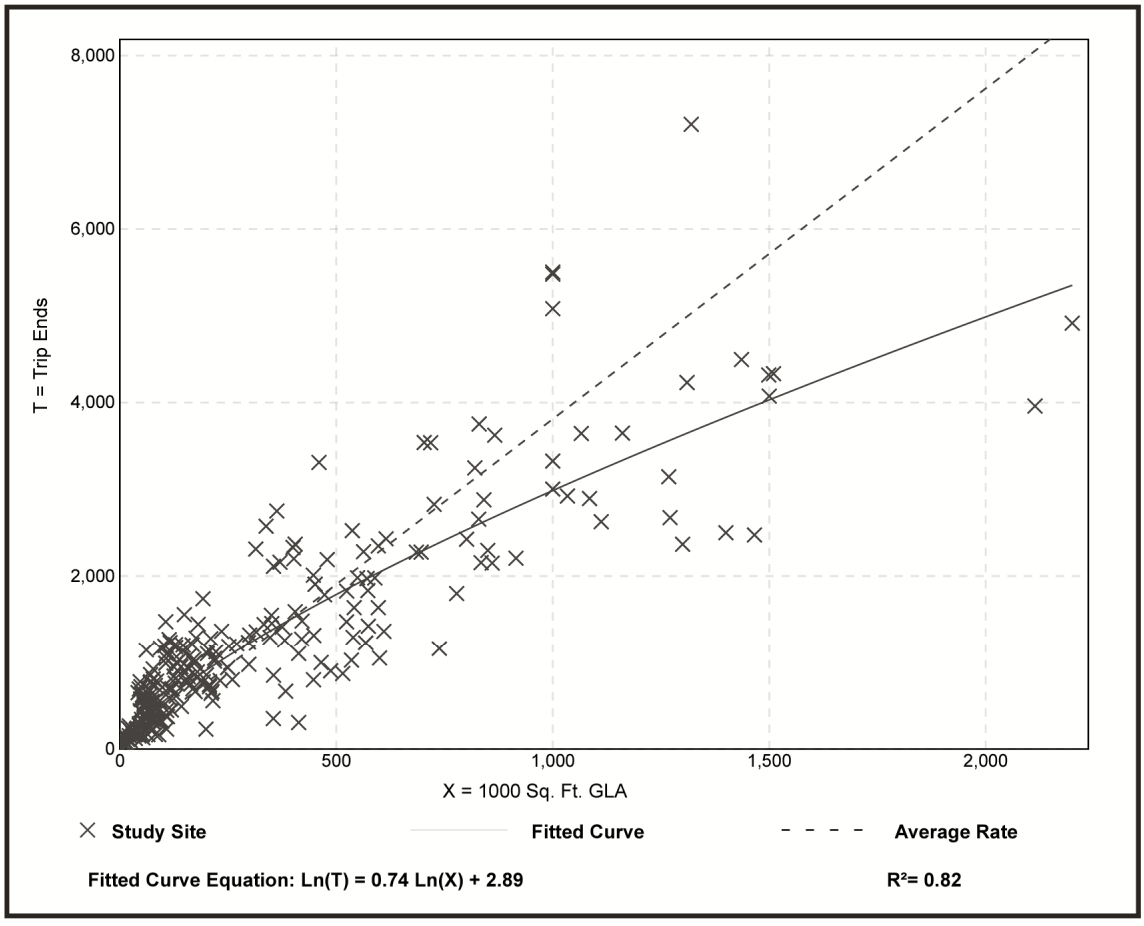
# Shopping Center
(820)

**Vehicle Trip Ends vs:** **1000 Sq. Ft. GLA**
**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: 261
1000 Sq. Ft. GLA: 327
Directional Distribution: 48% entering, 52% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GLA

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 3.81 | 0.74 - 18.69 | 2.04 |

## Data Plot and Equation



ITE Land Use Code 960 – Super Convenience Market/Gas Station

# Land Use: 960
# Super Convenience Market/Gas Station

### Description

This land use includes gasoline/service stations with convenience markets where there is significant business related to the sale of convenience items and the fueling of motor vehicles. Some commonly sold convenience items include newspapers, freshly brewed coffee, daily-made donuts, bakery items, hot and cold beverages, breakfast items, dairy items, fresh fruits, soups, light meals, ready-to-go and freshly made sandwiches and wraps, and ready-to-go salads. Stores typically also had automated teller machines (ATMs), and public restrooms. The sites included in this land use category have the following two specific characteristics:

- The gross floor area of the convenience market is at least 3,000 gross square feet
- The number of vehicle fueling positions is at least 10

Convenience market with gasoline pumps (Land Use 853) and gasoline/service station with convenience market (Land Use 945) are related uses.

### Additional Data

To reflect changing characteristics of the convenience market component of this land use, only data from the past two decades have been included in this land use.

The independent variable, vehicle fueling positions, is defined as the maximum number of vehicles that can be fueled simultaneously. Gasoline/service stations in this land use include “pay-at-the-pump” and traditional fueling stations.

A multi-variable regression analysis based on both the convenience market gross floor area (GFA) and the number of vehicle fueling positions (VFP) produced a series of fitted curve equations. The equations are in the form of:

Vehicle Trips = [(VFP Factor) x (Number of VFP)] + [(GFA Factor) x (GFA)] + (Constant)

The values for the VFP factor, GFA factor, and constant are presented in the following table for each time period for which a fitted curve equation could produce an $R^2$ value of at least 0.50.

| Time Period | VFP Factor | GFA Factor | Constant | $R^2$ |
|---|---|---|---|---|
| Weekday, AM Peak Hour of Generator | 10.3 | 105 | -290 | 0.62 |
| Weekday, PM Peak Hour of Generator | 6.91 | 76.0 | -133 | 0.68 |
| Weekday, AM Peak Hour of Adjacent Street | 16.1 | 135 | -483 | 0.66 |
| Weekday, PM Peak Hour of Adjacent Street | 11.5 | 82.9 | -226 | 0.51 |

The sites were surveyed in the late 1990’s, 2000s and the 2010s in Florida, Iowa, Maryland, Minnesota, New Hampshire, New Jersey, Pennsylvania, Texas, Utah, and Wisconsin.

### Source Numbers

617, 813, 844, 850, 864, 865, 867, 869, 882, 888, 904, 938, 954, 960, 962

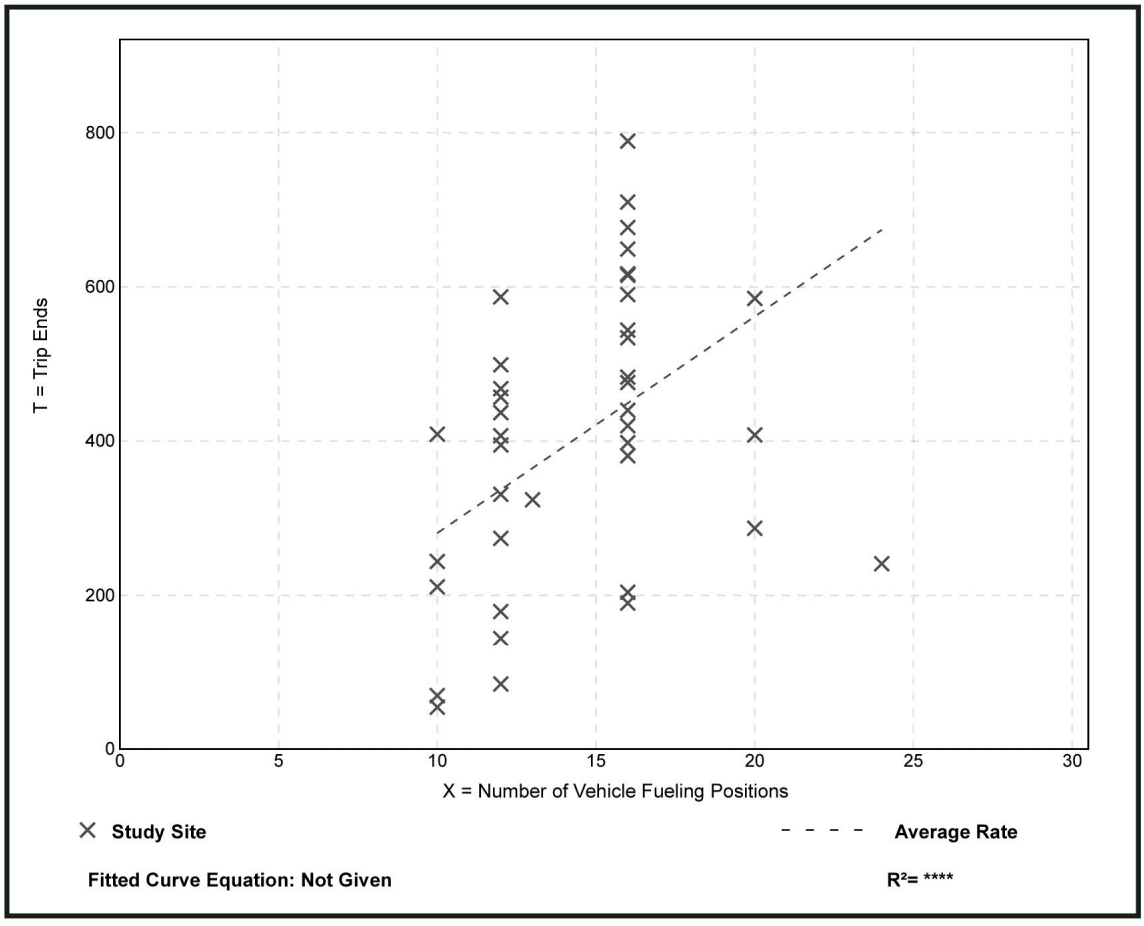
# Super Convenience Market/Gas Station
(960)

**Vehicle Trip Ends vs:** **Vehicle Fueling Positions**
**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: 39
Avg. Num. of Vehicle Fueling Positions: 14
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per Vehicle Fueling Position

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 28.08 | 5.40 - 49.31 | 11.98 |

## Data Plot and Equation



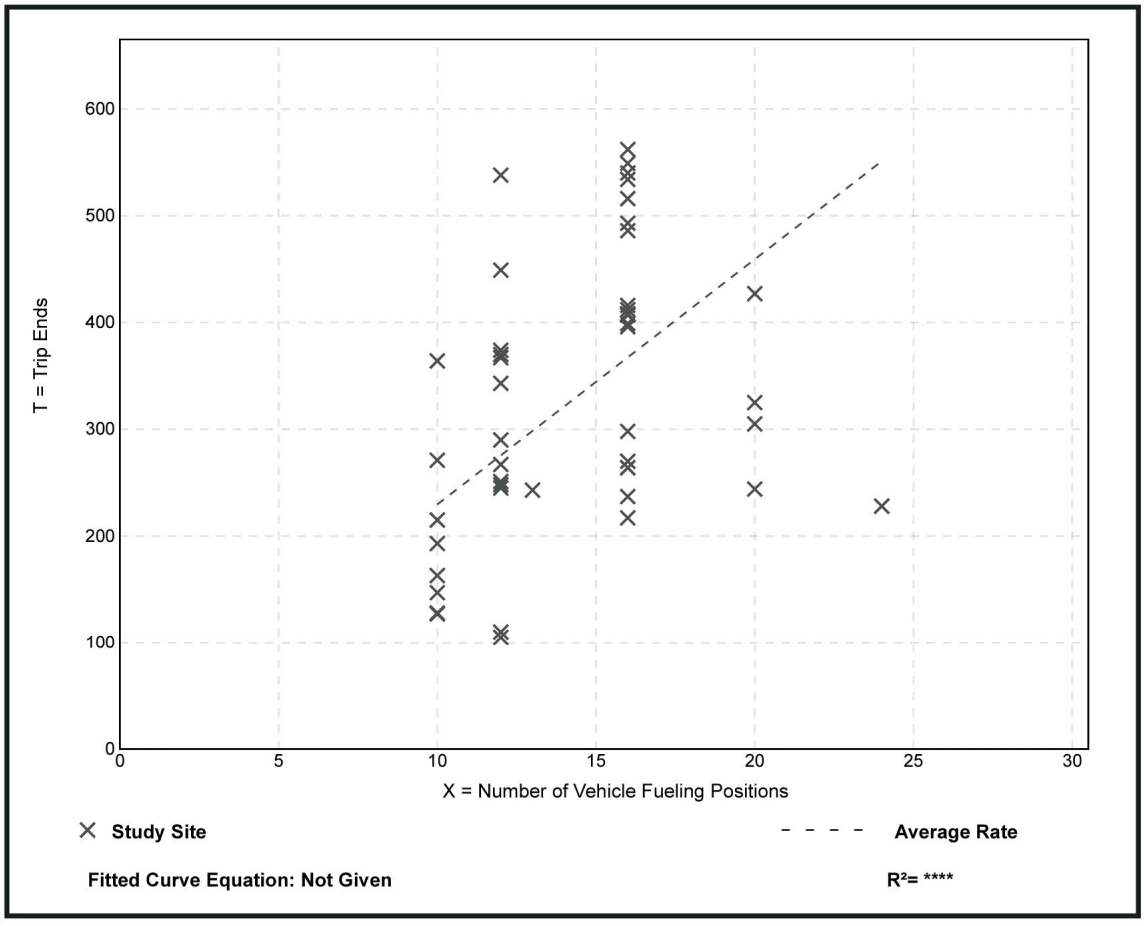
# Super Convenience Market/Gas Station
(960)

**Vehicle Trip Ends vs:** **Vehicle Fueling Positions**
**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: 48
Avg. Num. of Vehicle Fueling Positions: 14
Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per Vehicle Fueling Position

| Average Rate | Range of Rates | Standard Deviation |
|---|---|---|
| 22.96 | 8.75 - 44.83 | 8.34 |

## Data Plot and Equation



# APPENDIX D – Operational Analysis

## Existing Conditions

Dean Street at Kinsley Avenue/Providence Place
Pleasant Valley Parkway at Promenade Street
Kinsley Avenue at Acorn Street

## Future No-Build Conditions

Dean Street at Kinsley Avenue/Providence Place
Pleasant Valley Parkway at Promenade Street
Kinsley Avenue at Acorn Street

## Future Build Conditions

Dean Street at Kinsley Avenue/Providence Place
Pleasant Valley Parkway at Promenade Street
Kinsley Avenue at Acorn Street
Kinsley Avenue at Western Site Driveway
Kinsley Avenue at Eastern Site Driveway

## Future Build Alternative

Dean Street at Kinsley Avenue/Providence Place
Pleasant Valley Parkway at Promenade Street
Kinsley Avenue at Acorn Street
Dean Street at Site Driveway
Kinsley Avenue at Western Site Driveway
Kinsley Avenue at Eastern Site Driveway

# D

## Existing Weekday AM / PM Peak Hour

Dean Street at Kinsley Avenue/Providence Place

Pleasant Valley Parkway at Promenade Street

Kinsley Avenue at Acorn Street

Dean Street at Kinsley Avenue/Providence Place

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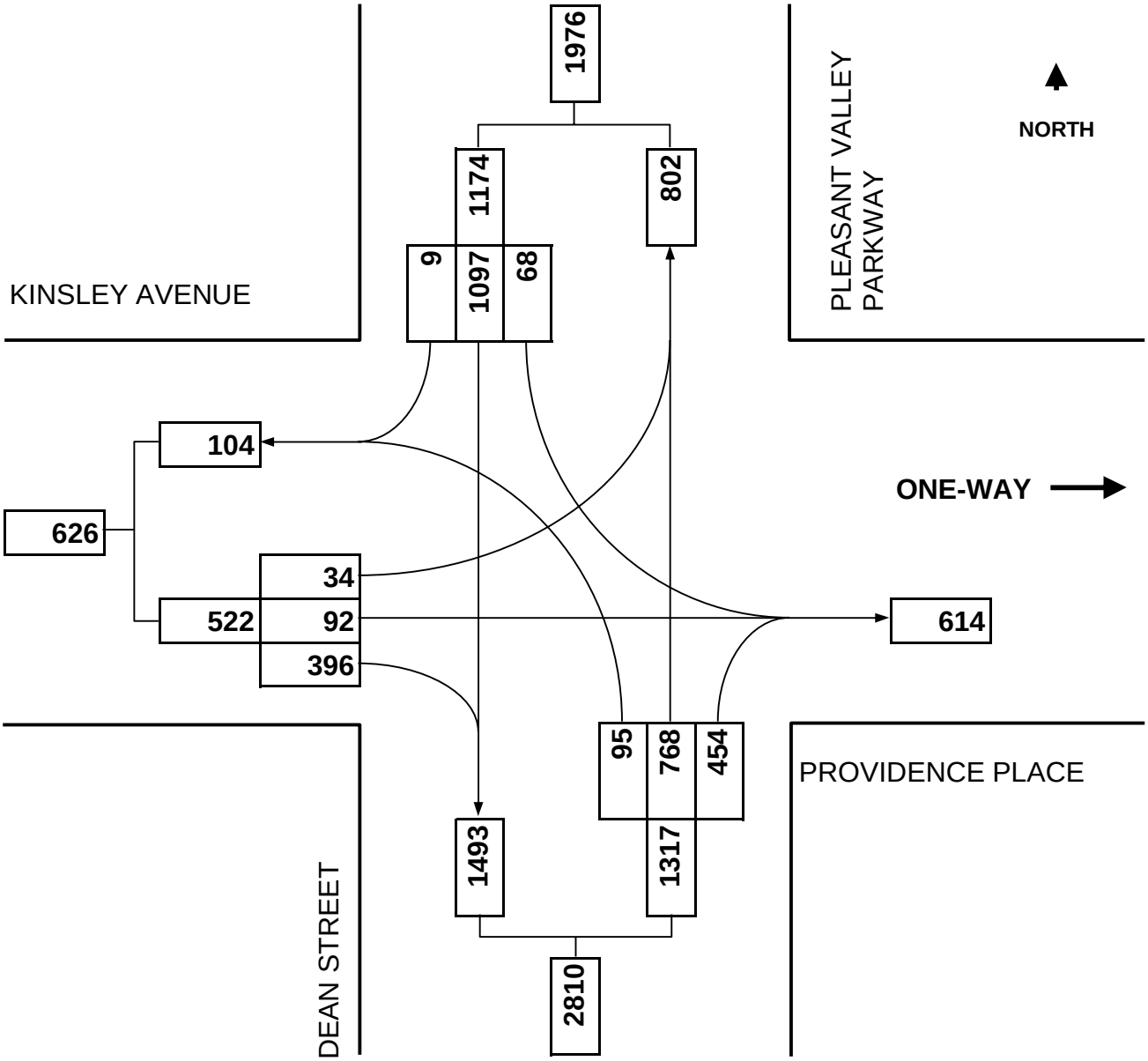
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Dean Street | **Minor Street**: | Kinsley Avenue |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | 8:00 AM - 9:00 AM |
| **Existing**: | AM Peak Hour | **Future**: | n/a |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 34 | 92 | 396 | 0 | 0 | 0 | 95 | 768 | 454 | 68 | 1097 | 9 |
| Future Volume (vph) | 34 | 92 | 396 | 0 | 0 | 0 | 95 | 768 | 454 | 68 | 1097 | 9 |
| Satd. Flow (prot) | 0 | 1875 | 1599 | 0 | 0 | 0 | 1805 | 3366 | 0 | 1805 | 3536 | 0 |
| Flt Permitted | | 0.987 | | | | | 0.100 | | | 0.104 | | |
| Satd. Flow (perm) | 0 | 1875 | 1599 | 0 | 0 | 0 | 190 | 3366 | 0 | 198 | 3536 | 0 |
| Satd. Flow (RTOR) | | | 165 | | | | | 173 | | | 3 | |
| Lane Group Flow (vph) | 0 | 131 | 413 | 0 | 0 | 0 | 98 | 1260 | 0 | 69 | 1128 | 0 |
| Turn Type | Split | NA | Perm | | | | Perm | NA | | D.P+P | NA | |
| Protected Phases | 2 | 2 | | | | | | 1 | | 3 | 1 3 | |
| Permitted Phases | | | 2 | | | | 1 | | | 1 | | |
| Total Split (s) | 15.0 | 15.0 | 15.0 | | | | 45.0 | 45.0 | | 30.0 | | |
| Total Lost Time (s) | | 5.0 | 5.0 | | | | 5.0 | 5.0 | | 5.0 | | |
| Act Effct Green (s) | | 10.0 | 10.0 | | | | 40.1 | 40.1 | | 60.0 | 65.1 | |
| Actuated g/C Ratio | | 0.12 | 0.12 | | | | 0.47 | 0.47 | | 0.71 | 0.76 | |
| v/c Ratio | | 0.60 | 1.24 | | | | 1.10 | 0.75 | | 0.13 | 0.42 | |
| Control Delay | | 49.2 | 153.3 | | | | 157.0 | 19.8 | | 6.5 | 1.1 | |
| Queue Delay | | 0.0 | 0.0 | | | | 0.0 | 0.0 | | 0.4 | 0.3 | |
| Total Delay | | 49.2 | 153.3 | | | | 157.0 | 19.8 | | 6.9 | 1.4 | |
| LOS | | D | F | | | | F | B | | A | A | |
| Approach Delay | | 128.2 | | | | | | 29.7 | | | 1.7 | |
| Approach LOS | | F | | | | | | C | | | A | |
| Queue Length 50th (ft) | | 68 | ~195 | | | | ~61 | 244 | | 2 | 0 | |
| Queue Length 95th (ft) | | #144 | #393 | | | | #166 | 362 | | m12 | 0 | |
| Internal Link Dist (ft) | | 488 | | | 721 | | | 853 | | | 84 | |
| Turn Bay Length (ft) | | | 100 | | | | 175 | | | 100 | | |
| Base Capacity (vph) | | 220 | 333 | | | | 89 | 1677 | | 620 | 2662 | |
| Starvation Cap Reductn | | 0 | 0 | | | | 0 | 0 | | 315 | 829 | |
| Spillback Cap Reductn | | 0 | 0 | | | | 0 | 0 | | 0 | 0 | |
| Storage Cap Reductn | | 0 | 0 | | | | 0 | 0 | | 0 | 0 | |
| Reduced v/c Ratio | | 0.60 | 1.24 | | | | 1.10 | 0.75 | | 0.23 | 0.62 | |

## Intersection Summary

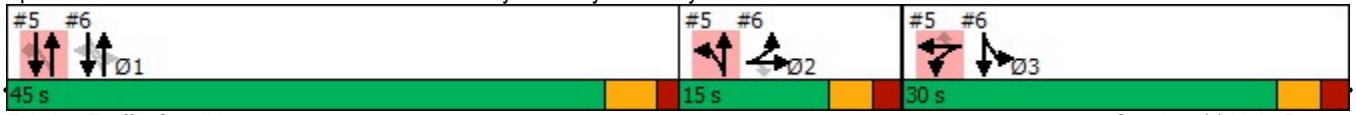
Cycle Length: 90
Actuated Cycle Length: 85.1
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.24
Intersection Signal Delay: 36.2 Intersection LOS: D
Intersection Capacity Utilization 63.5% ICU Level of Service B
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Dean Street/Pleasant Valley Parkway & Kinsley Avenue/Providence Place



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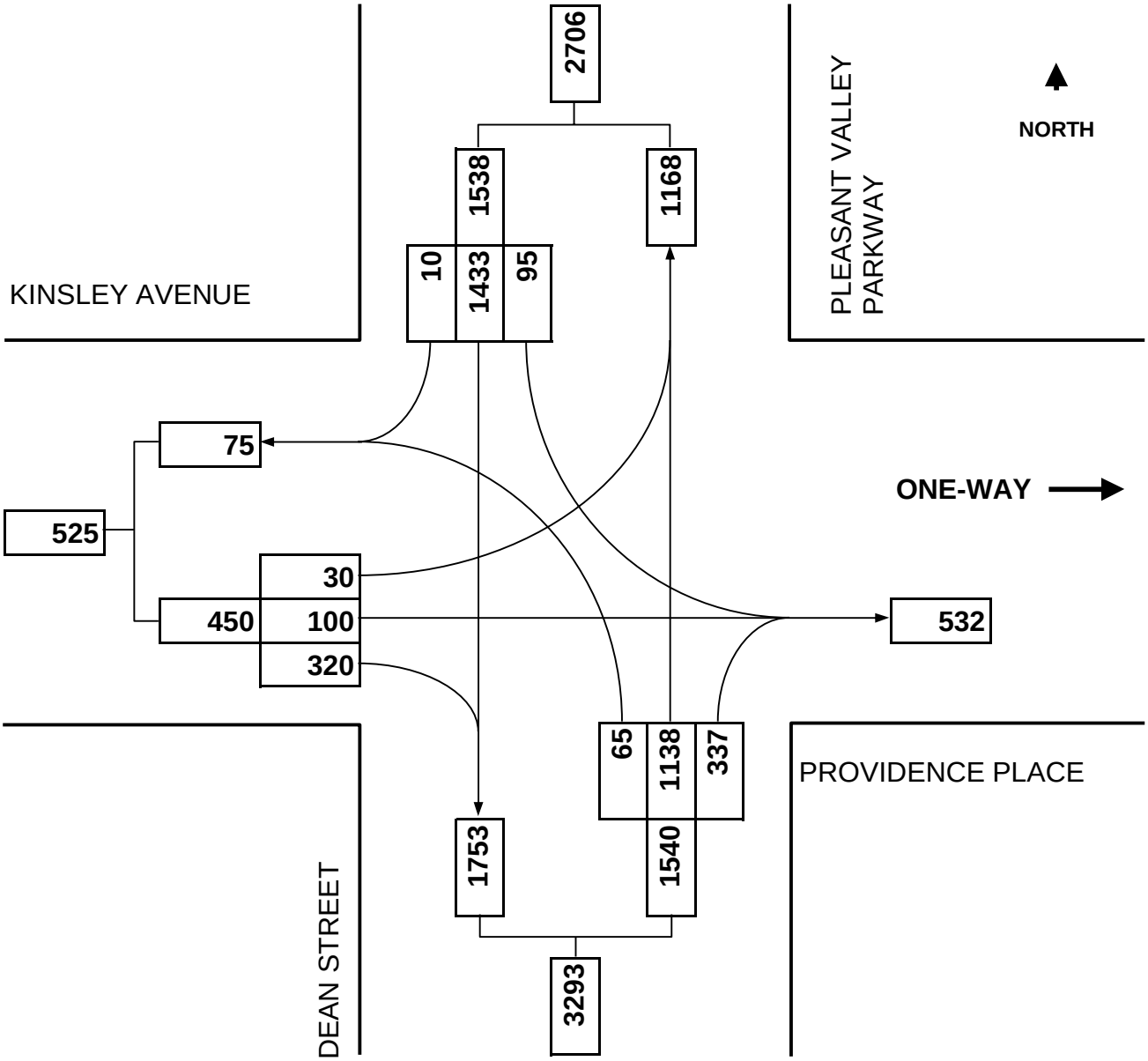
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Dean Street | **Minor Street**: | Kinsley Avenue |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | 4:30 PM - 5:30 PM |
| **Existing**: | PM Peak Hour | **Future**: | n/a |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 100 | 320 | 0 | 0 | 0 | 65 | 1138 | 337 | 95 | 1433 | 10 |
| Future Volume (vph) | 30 | 100 | 320 | 0 | 0 | 0 | 65 | 1138 | 337 | 95 | 1433 | 10 |
| Satd. Flow (prot) | 0 | 1879 | 1599 | 0 | 0 | 0 | 1805 | 3434 | 0 | 1805 | 3536 | 0 |
| Flt Permitted | | 0.989 | | | | | 0.114 | | | 0.114 | | |
| Satd. Flow (perm) | 0 | 1879 | 1599 | 0 | 0 | 0 | 217 | 3434 | 0 | 217 | 3536 | 0 |
| Satd. Flow (RTOR) | | | 90 | | | | | 50 | | | 2 | |
| Lane Group Flow (vph) | 0 | 135 | 333 | 0 | 0 | 0 | 67 | 1520 | 0 | 97 | 1472 | 0 |
| Turn Type | Split | NA | Perm | | | | Perm | NA | | D.P+P | NA | |
| Protected Phases | 2 | 2 | | | | | | 1 | | 3 | 1 3 | |
| Permitted Phases | | | 2 | | | | 1 | | | 1 | | |
| Total Split (s) | 15.0 | 15.0 | 15.0 | | | | 40.0 | 40.0 | | 35.0 | | |
| Total Lost Time (s) | | 5.0 | 5.0 | | | | 5.0 | 5.0 | | 5.0 | | |
| Act Effct Green (s) | | 10.0 | 10.0 | | | | 35.1 | 35.1 | | 63.1 | 68.2 | |
| Actuated g/C Ratio | | 0.11 | 0.11 | | | | 0.40 | 0.40 | | 0.72 | 0.77 | |
| v/c Ratio | | 0.63 | 1.28 | | | | 0.78 | 1.09 | | 0.15 | 0.54 | |
| Control Delay | | 52.8 | 177.7 | | | | 81.4 | 79.2 | | 3.7 | 1.0 | |
| Queue Delay | | 1.3 | 0.0 | | | | 0.0 | 0.7 | | 1.0 | 0.4 | |
| Total Delay | | 54.1 | 177.7 | | | | 81.4 | 79.9 | | 4.7 | 1.4 | |
| LOS | | D | F | | | | F | E | | A | A | |
| Approach Delay | | 142.0 | | | | | | 79.9 | | | 1.6 | |
| Approach LOS | | F | | | | | | E | | | A | |
| Queue Length 50th (ft) | | 75 | ~196 | | | | 33 | ~518 | | 2 | 0 | |
| Queue Length 95th (ft) | | #150 | #365 | | | | #113 | #655 | | m8 | 0 | |
| Internal Link Dist (ft) | | 488 | | | 721 | | | 853 | | | 84 | |
| Turn Bay Length (ft) | | | 100 | | | | 175 | | | 100 | | |
| Base Capacity (vph) | | 213 | 261 | | | | 86 | 1396 | | 699 | 2732 | |
| Starvation Cap Reductn | | 0 | 0 | | | | 0 | 0 | | 433 | 628 | |
| Spillback Cap Reductn | | 15 | 0 | | | | 0 | 2 | | 0 | 0 | |
| Storage Cap Reductn | | 0 | 0 | | | | 0 | 0 | | 0 | 0 | |
| Reduced v/c Ratio | | 0.68 | 1.28 | | | | 0.78 | 1.09 | | 0.36 | 0.70 | |

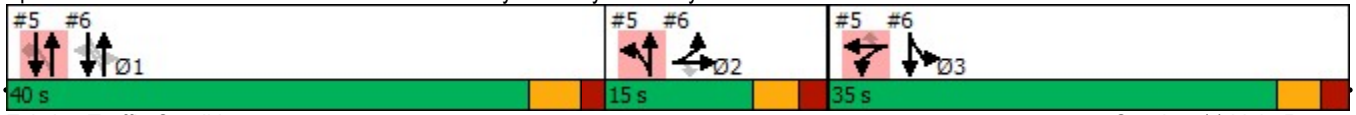
| Intersection Summary | |
|---|---|
| Cycle Length: 90 | |
| Actuated Cycle Length: 88.2 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 1.28 | |
| Intersection Signal Delay: 54.0 | Intersection LOS: D |
| Intersection Capacity Utilization 68.1% | ICU Level of Service C |
| Analysis Period (min) 15 | |

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Dean Street/Pleasant Valley Parkway & Kinsley Avenue/Providence Place



Pleasant Valley Parkway at Promenade Street

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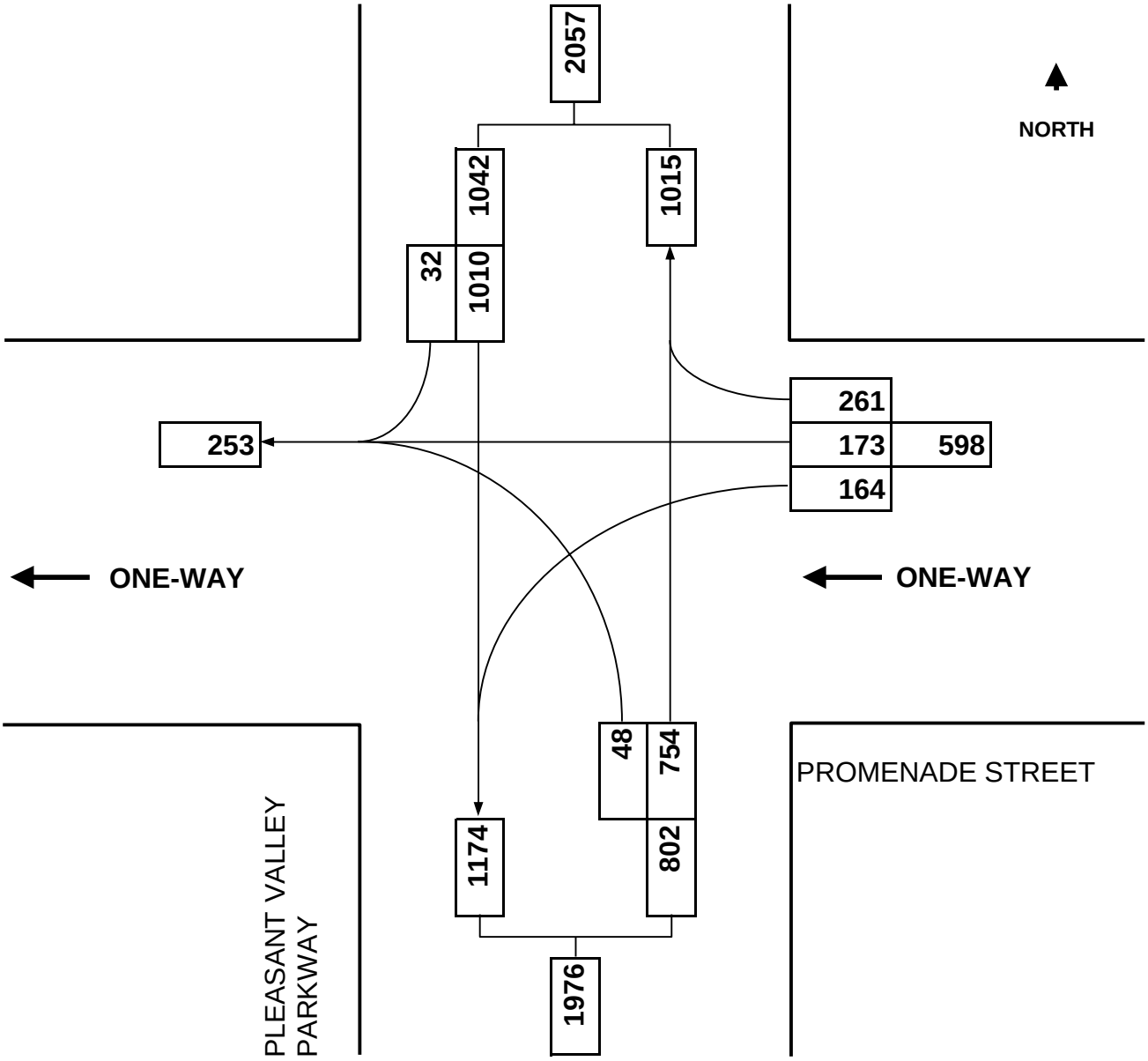
# *Turning Movement Diagram*

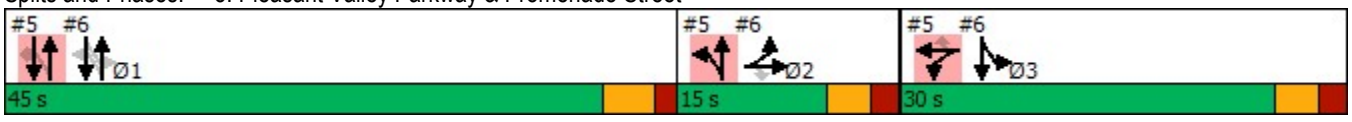
| | | | |
|---|---|---|---|
| **Major Street**: | Pleasant Valley Pkwy. | **Minor Street**: | Promenade Street |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | 8:00 AM - 9:00 AM |
| **Existing**: | AM Peak Hour | **Future**: | n/a |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 164 | 173 | 261 | 48 | 754 | 0 | 0 | 1010 | 32 |
| Future Volume (vph) | 0 | 0 | 0 | 164 | 173 | 261 | 48 | 754 | 0 | 0 | 1010 | 32 |
| Satd. Flow (prot) | 0 | 0 | 0 | 1698 | 1796 | 1615 | 0 | 3533 | 0 | 0 | 3574 | 1615 |
| Flt Permitted | | | | 0.950 | 0.996 | | | 0.844 | | | | |
| Satd. Flow (perm) | 0 | 0 | 0 | 1698 | 1796 | 1615 | 0 | 2991 | 0 | 0 | 3574 | 1615 |
| Satd. Flow (RTOR) | | | | | | 182 | | | | | | 85 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 152 | 195 | 269 | 0 | 810 | 0 | 0 | 1041 | 33 |
| Turn Type | | | | Split | NA | Perm | D.P+P | NA | | | NA | Perm |
| Protected Phases | | | | 3 | 3 | | 2 | 1 2 | | | 1 | |
| Permitted Phases | | | | | | 3 | 1 | | | | | 1 |
| Total Split (s) | | | | 30.0 | 30.0 | 30.0 | 15.0 | | | | 45.0 | 45.0 |
| Total Lost Time (s) | | | | 5.0 | 5.0 | 5.0 | | | | | 5.0 | 5.0 |
| Act Effct Green (s) | | | | 19.9 | 19.9 | 19.9 | | 50.1 | | | 40.1 | 40.1 |
| Actuated g/C Ratio | | | | 0.23 | 0.23 | 0.23 | | 0.59 | | | 0.47 | 0.47 |
| v/c Ratio | | | | 0.38 | 0.46 | 0.52 | | 0.44 | | | 0.62 | 0.04 |
| Control Delay | | | | 30.0 | 31.5 | 13.4 | | 1.7 | | | 19.5 | 0.1 |
| Queue Delay | | | | 0.0 | 0.0 | 0.0 | | 0.4 | | | 0.0 | 0.0 |
| Total Delay | | | | 30.0 | 31.5 | 13.4 | | 2.0 | | | 19.5 | 0.1 |
| LOS | | | | C | C | B | | A | | | B | A |
| Approach Delay | | | | | 23.2 | | | 2.0 | | | 18.9 | |
| Approach LOS | | | | | C | | | A | | | B | |
| Queue Length 50th (ft) | | | | 71 | 94 | 38 | | 10 | | | 211 | 0 |
| Queue Length 95th (ft) | | | | 127 | 158 | 106 | | 16 | | | 305 | 0 |
| Internal Link Dist (ft) | | 491 | | | 792 | | | 84 | | | 494 | |
| Turn Bay Length (ft) | | | | | | 150 | | | | | | |
| Base Capacity (vph) | | | | 500 | 528 | 603 | | 1825 | | | 1683 | 805 |
| Starvation Cap Reductn | | | | 0 | 0 | 0 | | 469 | | | 0 | 0 |
| Spillback Cap Reductn | | | | 0 | 0 | 0 | | 0 | | | 0 | 0 |
| Storage Cap Reductn | | | | 0 | 0 | 0 | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | | | | 0.30 | 0.37 | 0.45 | | 0.60 | | | 0.62 | 0.04 |

| Intersection Summary | | | |
|---|---|---|---|
| Cycle Length: 90 | | | |
| Actuated Cycle Length: 85.1 | | | |
| Control Type: Actuated-Uncoordinated | | | |
| Maximum v/c Ratio: 1.24 | | | |
| Intersection Signal Delay: 14.5 | | Intersection LOS: B | |
| Intersection Capacity Utilization 71.8% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 5: Pleasant Valley Parkway & Promenade Street



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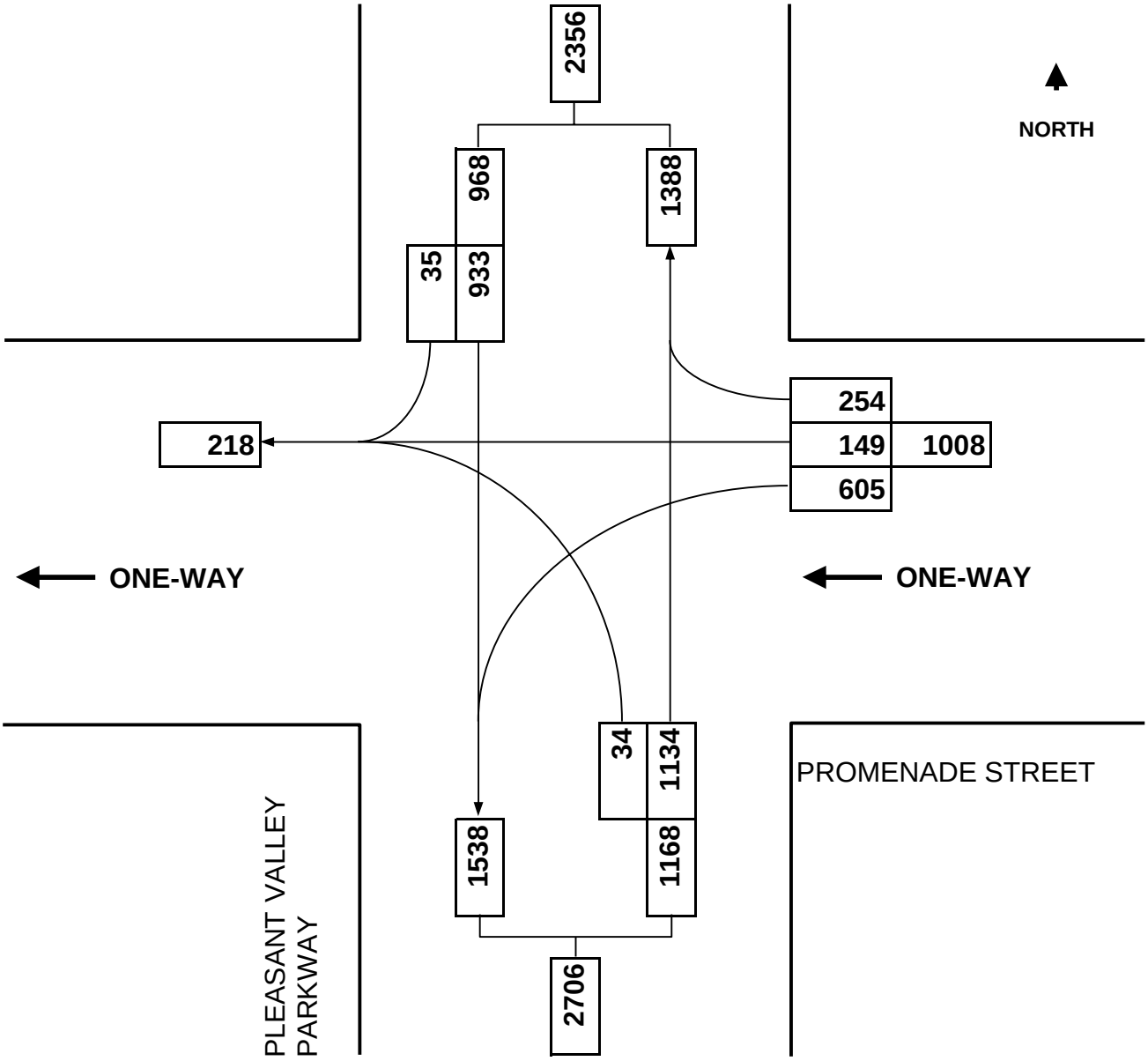
# *Turning Movement Diagram*

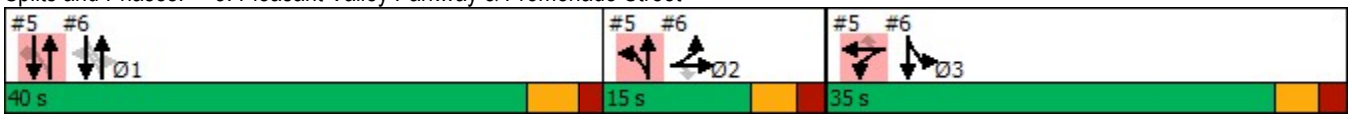
| | | | |
|---|---|---|---|
| **Major Street**: | Pleasant Valley Pkwy. | **Minor Street**: | Promenade Street |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | 4:30 PM - 5:30 PM |
| **Existing**: | PM Peak Hour | **Future**: | n/a |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 605 | 149 | 254 | 34 | 1134 | 0 | 0 | 933 | 35 |
| Future Volume (vph) | 0 | 0 | 0 | 605 | 149 | 254 | 34 | 1134 | 0 | 0 | 933 | 35 |
| Satd. Flow (prot) | 0 | 0 | 0 | 1665 | 1715 | 1583 | 0 | 3606 | 0 | 0 | 3610 | 1615 |
| Flt Permitted | | | | 0.950 | 0.971 | | | 0.911 | | | | |
| Satd. Flow (perm) | 0 | 0 | 0 | 1665 | 1715 | 1583 | 0 | 3289 | 0 | 0 | 3610 | 1615 |
| Satd. Flow (RTOR) | | | | | | 85 | | | | | | 85 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 387 | 391 | 262 | 0 | 1179 | 0 | 0 | 962 | 36 |
| Turn Type | | | | Split | NA | Perm | D.P+P | NA | | | NA | Perm |
| Protected Phases | | | | 3 | 3 | | 2 | 1 2 | | | 1 | |
| Permitted Phases | | | | | | 3 | 1 | | | | | 1 |
| Total Split (s) | | | | 35.0 | 35.0 | 35.0 | 15.0 | | | | 40.0 | 40.0 |
| Total Lost Time (s) | | | | 5.0 | 5.0 | 5.0 | | | | | 5.0 | 5.0 |
| Act Effct Green (s) | | | | 28.1 | 28.1 | 28.1 | | 45.1 | | | 35.1 | 35.1 |
| Actuated g/C Ratio | | | | 0.32 | 0.32 | 0.32 | | 0.51 | | | 0.40 | 0.40 |
| v/c Ratio | | | | 0.73 | 0.72 | 0.47 | | 0.69 | | | 0.67 | 0.05 |
| Control Delay | | | | 35.7 | 34.8 | 18.7 | | 1.5 | | | 25.1 | 0.1 |
| Queue Delay | | | | 0.0 | 0.0 | 0.0 | | 1.8 | | | 0.0 | 0.0 |
| Total Delay | | | | 35.7 | 34.8 | 18.7 | | 3.3 | | | 25.1 | 0.1 |
| LOS | | | | D | C | B | | A | | | C | A |
| Approach Delay | | | | | 31.1 | | | 3.3 | | | 24.2 | |
| Approach LOS | | | | | C | | | A | | | C | |
| Queue Length 50th (ft) | | | | 198 | 200 | 75 | | 5 | | | 234 | 0 |
| Queue Length 95th (ft) | | | | 309 | 308 | 145 | | m8 | | | 305 | 1 |
| Internal Link Dist (ft) | | 491 | | | 792 | | | 84 | | | 494 | |
| Turn Bay Length (ft) | | | | | | 150 | | | | | | |
| Base Capacity (vph) | | | | 567 | 584 | 595 | | 1717 | | | 1435 | 693 |
| Starvation Cap Reductn | | | | 0 | 0 | 0 | | 354 | | | 0 | 0 |
| Spillback Cap Reductn | | | | 0 | 0 | 0 | | 0 | | | 0 | 0 |
| Storage Cap Reductn | | | | 0 | 0 | 0 | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | | | | 0.68 | 0.67 | 0.44 | | 0.87 | | | 0.67 | 0.05 |

| Intersection Summary | | |
|---|---|---|
| Cycle Length: 90 | | |
| Actuated Cycle Length: 88.2 | | |
| Control Type: Actuated-Uncoordinated | | |
| Maximum v/c Ratio: 1.28 | | |
| Intersection Signal Delay: 18.8 | Intersection LOS: B | |
| Intersection Capacity Utilization 84.9% | ICU Level of Service E | |
| Analysis Period (min) 15 | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | |

Splits and Phases: 5: Pleasant Valley Parkway & Promenade Street



Kinsley Avenue at Acorn Street

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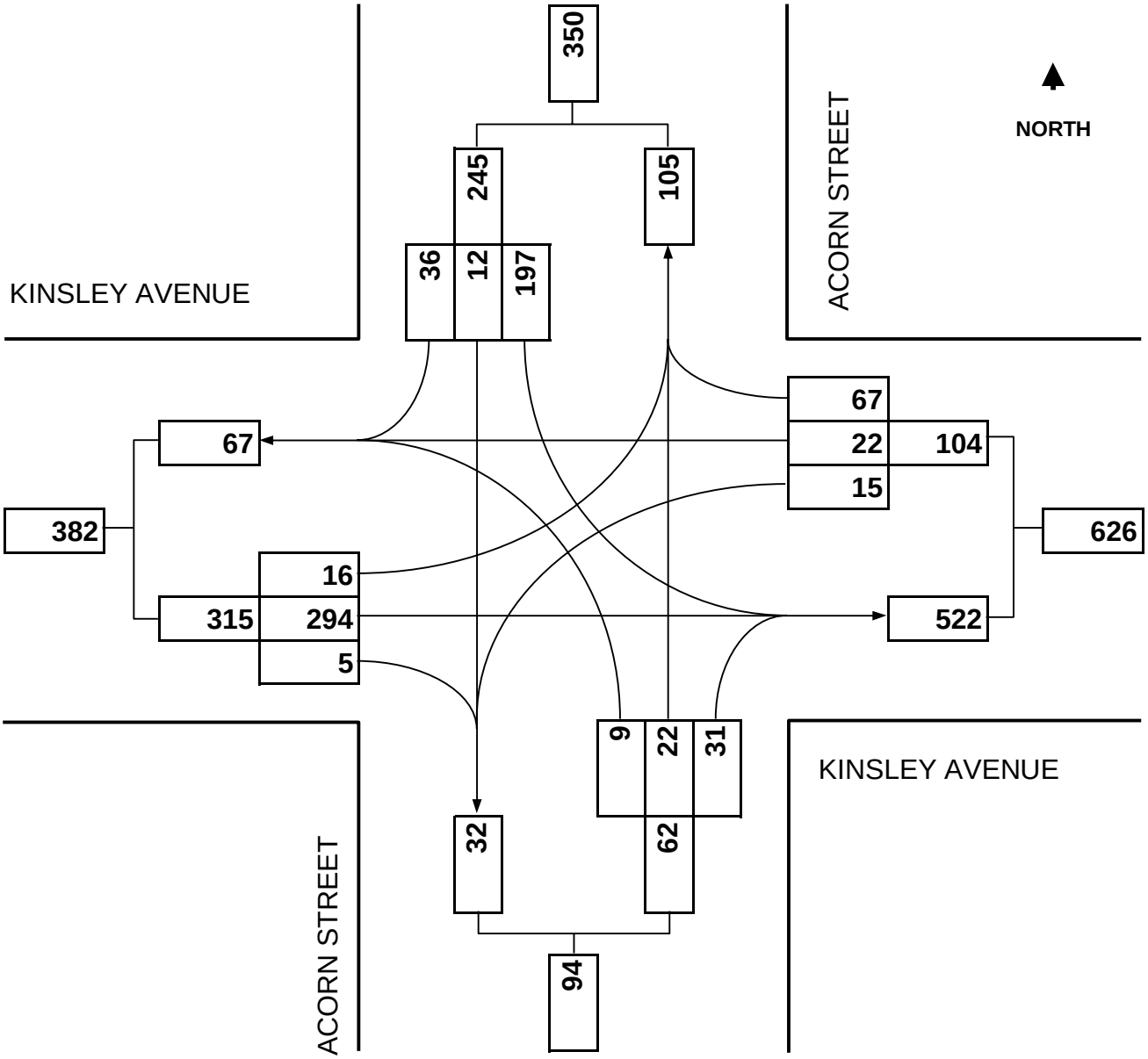
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Kinsley Street | **Minor Street**: | Acorn Street |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | 8:00 AM - 9:00 AM |
| **Existing**: | AM Peak Hour | **Future**: | n/a |



| Intersection | |
|---|---|
| Intersection Delay, s/veh | 11.4 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 16 | 294 | 5 | 15 | 22 | 67 | 9 | 22 | 31 | 197 | 12 | 36 |
| Future Vol, veh/h | 16 | 294 | 5 | 15 | 22 | 67 | 9 | 22 | 31 | 197 | 12 | 36 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 17 | 320 | 5 | 16 | 24 | 73 | 10 | 24 | 34 | 214 | 13 | 39 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 12.4 | 8.9 | 8.9 | 11.7 |
| HCM LOS | B | A | A | B |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 15% | 5% | 14% | 80% |
| Vol Thru, % | 35% | 93% | 21% | 5% |
| Vol Right, % | 50% | 2% | 64% | 15% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 62 | 315 | 104 | 245 |
| LT Vol | 9 | 16 | 15 | 197 |
| Through Vol | 22 | 294 | 22 | 12 |
| RT Vol | 31 | 5 | 67 | 36 |
| Lane Flow Rate | 67 | 342 | 113 | 266 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.099 | 0.469 | 0.157 | 0.392 |
| Departure Headway (Hd) | 5.281 | 5.041 | 4.997 | 5.301 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 681 | 719 | 719 | 684 |
| Service Time | 3.297 | 3.041 | 3.016 | 3.301 |
| HCM Lane V/C Ratio | 0.098 | 0.476 | 0.157 | 0.389 |
| HCM Control Delay | 8.9 | 12.4 | 8.9 | 11.7 |
| HCM Lane LOS | A | B | A | B |
| HCM 95th-tile Q | 0.3 | 2.5 | 0.6 | 1.9 |

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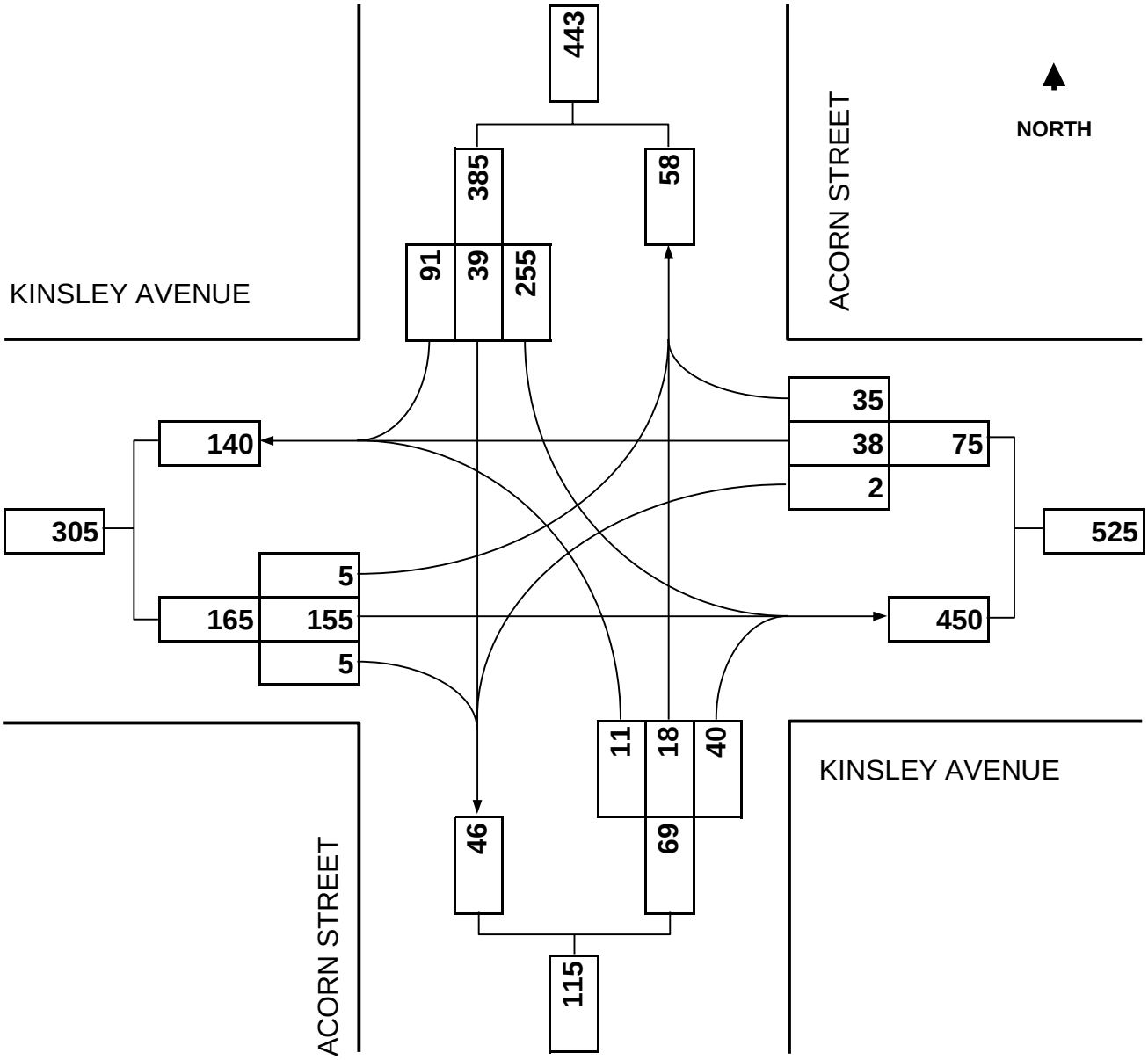
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Kinsley Street | **Minor Street**: | Acorn Street |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | 4:30 PM - 5:30 PM |
| **Existing**: | PM Peak Hour | **Future**: | n/a |



| Intersection | |
|---|---|
| Intersection Delay, s/veh | 11.4 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 5 | 155 | 5 | 2 | 38 | 35 | 11 | 18 | 40 | 255 | 39 | 91 |
| Future Vol, veh/h | 5 | 155 | 5 | 2 | 38 | 35 | 11 | 18 | 40 | 255 | 39 | 91 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 5 | 168 | 5 | 2 | 41 | 38 | 12 | 20 | 43 | 277 | 42 | 99 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 10 | 8.8 | 8.4 | 13.1 |
| HCM LOS | A | A | A | B |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 16% | 3% | 3% | 66% |
| Vol Thru, % | 26% | 94% | 51% | 10% |
| Vol Right, % | 58% | 3% | 47% | 24% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 69 | 165 | 75 | 385 |
| LT Vol | 11 | 5 | 2 | 255 |
| Through Vol | 18 | 155 | 38 | 39 |
| RT Vol | 40 | 5 | 35 | 91 |
| Lane Flow Rate | 75 | 179 | 82 | 418 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.099 | 0.257 | 0.114 | 0.539 |
| Departure Headway (Hd) | 4.752 | 5.155 | 5.042 | 4.639 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 746 | 690 | 703 | 774 |
| Service Time | 2.838 | 3.234 | 3.134 | 2.699 |
| HCM Lane V/C Ratio | 0.101 | 0.259 | 0.117 | 0.54 |
| HCM Control Delay | 8.4 | 10 | 8.8 | 13.1 |
| HCM Lane LOS | A | A | A | B |
| HCM 95th-tile Q | 0.3 | 1 | 0.4 | 3.3 |

D

## Future 2023 No-Build Weekday AM / PM Peak Hour

Dean Street at Kinsley Avenue/Providence Place

Pleasant Valley Parkway at Promenade Street

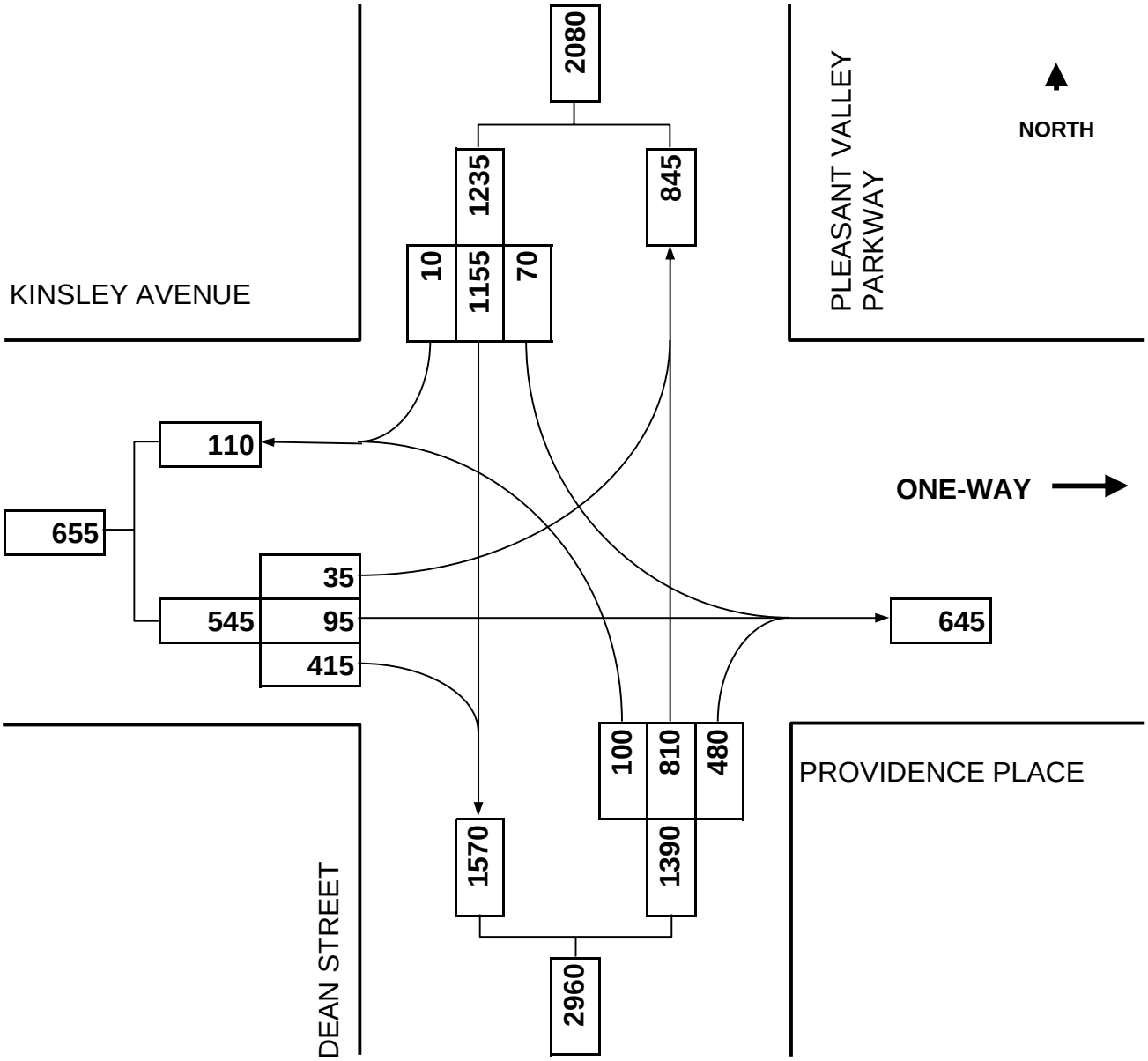
Kinsley Avenue at Acorn Street

Dean Street at Kinsley Avenue/Providence Place

www.BETA-Inc.com

# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Dean Street | **Minor Street**: | Kinsley Avenue |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | AM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 No Build |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 35 | 95 | 415 | 0 | 0 | 0 | 100 | 810 | 480 | 70 | 1155 | 10 |
| Future Volume (vph) | 35 | 95 | 415 | 0 | 0 | 0 | 100 | 810 | 480 | 70 | 1155 | 10 |
| Satd. Flow (prot) | 0 | 1875 | 1599 | 0 | 0 | 0 | 1805 | 3366 | 0 | 1805 | 3536 | 0 |
| Flt Permitted | | 0.987 | | | | | 0.095 | | | 0.095 | | |
| Satd. Flow (perm) | 0 | 1875 | 1599 | 0 | 0 | 0 | 180 | 3366 | 0 | 180 | 3536 | 0 |
| Satd. Flow (RTOR) | | | 113 | | | | | 181 | | | 2 | |
| Lane Group Flow (vph) | 0 | 135 | 432 | 0 | 0 | 0 | 103 | 1330 | 0 | 71 | 1189 | 0 |
| Turn Type | Split | NA | Perm | | | | Perm | NA | | D.P+P | NA | |
| Protected Phases | 2 | 2 | | | | | | 1 | | 3 | 1 3 | |
| Permitted Phases | | | 2 | | | | 1 | | | 1 | | |
| Total Split (s) | 23.0 | 23.0 | 23.0 | | | | 47.0 | 47.0 | | 20.0 | | |
| Total Lost Time (s) | | 5.0 | 5.0 | | | | 5.0 | 5.0 | | 5.0 | | |
| Act Effct Green (s) | | 18.0 | 18.0 | | | | 42.0 | 42.0 | | 57.0 | 62.0 | |
| Actuated g/C Ratio | | 0.20 | 0.20 | | | | 0.47 | 0.47 | | 0.63 | 0.69 | |
| v/c Ratio | | 0.36 | 1.05 | | | | 1.23 | 0.80 | | 0.18 | 0.49 | |
| Control Delay | | 34.3 | 87.3 | | | | 199.7 | 21.8 | | 9.6 | 1.5 | |
| Queue Delay | | 0.0 | 0.0 | | | | 0.0 | 0.0 | | 0.9 | 0.3 | |
| Total Delay | | 34.3 | 87.3 | | | | 199.7 | 21.8 | | 10.5 | 1.8 | |
| LOS | | C | F | | | | F | C | | B | A | |
| Approach Delay | | 74.7 | | | | | | 34.6 | | | 2.2 | |
| Approach LOS | | E | | | | | | C | | | A | |
| Queue Length 50th (ft) | | 67 | ~215 | | | | ~73 | 284 | | 2 | 0 | |
| Queue Length 95th (ft) | | 120 | #400 | | | | #130 | 376 | | m12 | 0 | |
| Internal Link Dist (ft) | | 488 | | | 721 | | | 853 | | | 84 | |
| Turn Bay Length (ft) | | | 100 | | | | 175 | | | 100 | | |
| Base Capacity (vph) | | 375 | 410 | | | | 84 | 1667 | | 384 | 2436 | |
| Starvation Cap Reductn | | 0 | 0 | | | | 0 | 0 | | 169 | 557 | |
| Spillback Cap Reductn | | 0 | 0 | | | | 0 | 0 | | 0 | 0 | |
| Storage Cap Reductn | | 0 | 0 | | | | 0 | 0 | | 0 | 0 | |
| Reduced v/c Ratio | | 0.36 | 1.05 | | | | 1.23 | 0.80 | | 0.33 | 0.63 | |

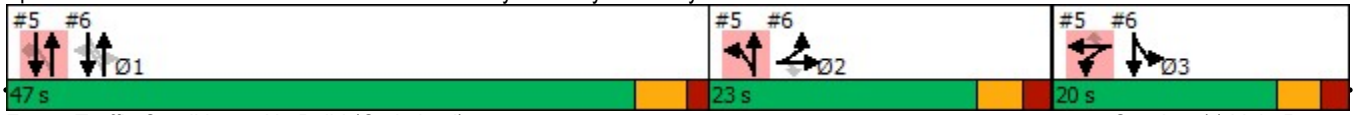
| Intersection Summary | | |
|---|---|---|
| Cycle Length: 90 | | |
| Actuated Cycle Length: 90 | | |
| Control Type: Actuated-Uncoordinated | | |
| Maximum v/c Ratio: 1.23 | | |
| Intersection Signal Delay: 29.1 | Intersection LOS: C | |
| Intersection Capacity Utilization 66.3% | ICU Level of Service C | |
| Analysis Period (min) 15 | | |

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Dean Street/Pleasant Valley Parkway & Kinsley Avenue/Providence Place



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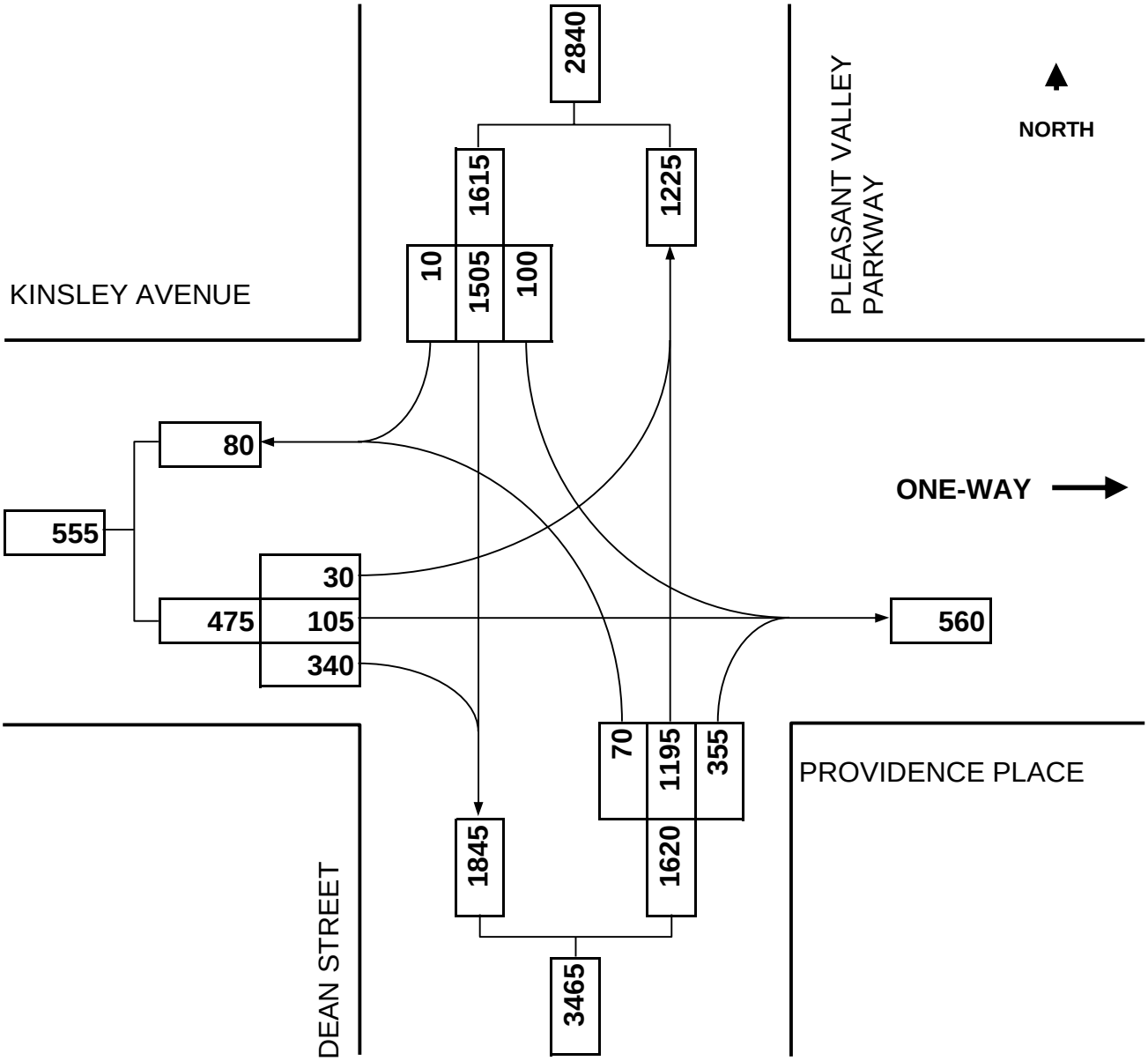
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Dean Street | **Minor Street**: | Kinsley Avenue |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | PM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 No Build |

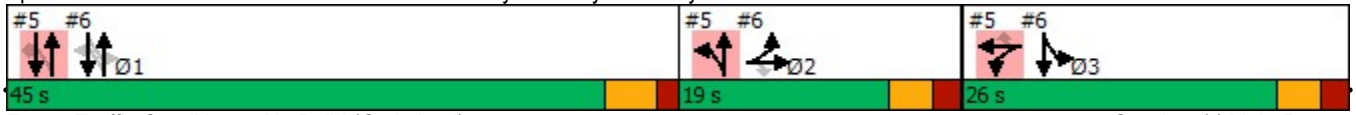


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 105 | 340 | 0 | 0 | 0 | 70 | 1195 | 355 | 100 | 1505 | 10 |
| Future Volume (vph) | 30 | 105 | 340 | 0 | 0 | 0 | 70 | 1195 | 355 | 100 | 1505 | 10 |
| Satd. Flow (prot) | 0 | 1879 | 1599 | 0 | 0 | 0 | 1805 | 3434 | 0 | 1805 | 3536 | 0 |
| Flt Permitted | | 0.989 | | | | | 0.100 | | | 0.100 | | |
| Satd. Flow (perm) | 0 | 1879 | 1599 | 0 | 0 | 0 | 190 | 3434 | 0 | 190 | 3536 | 0 |
| Satd. Flow (RTOR) | | | 85 | | | | | 55 | | | 2 | |
| Lane Group Flow (vph) | 0 | 140 | 354 | 0 | 0 | 0 | 72 | 1598 | 0 | 102 | 1546 | 0 |
| Turn Type | Split | NA | Perm | | | | Perm | NA | | D.P+P | NA | |
| Protected Phases | 2 | 2 | | | | | | 1 | | 3 | 1 3 | |
| Permitted Phases | | | 2 | | | | 1 | | | 1 | | |
| Total Split (s) | 19.0 | 19.0 | 19.0 | | | | 45.0 | 45.0 | | 26.0 | | |
| Total Lost Time (s) | | 5.0 | 5.0 | | | | 5.0 | 5.0 | | 5.0 | | |
| Act Effct Green (s) | | 14.0 | 14.0 | | | | 40.0 | 40.0 | | 61.0 | 66.0 | |
| Actuated g/C Ratio | | 0.16 | 0.16 | | | | 0.44 | 0.44 | | 0.68 | 0.73 | |
| v/c Ratio | | 0.48 | 1.11 | | | | 0.86 | 1.03 | | 0.20 | 0.60 | |
| Control Delay | | 40.9 | 111.3 | | | | 94.9 | 55.3 | | 6.3 | 1.2 | |
| Queue Delay | | 0.0 | 0.0 | | | | 0.0 | 0.0 | | 1.5 | 0.5 | |
| Total Delay | | 40.9 | 111.3 | | | | 94.9 | 55.3 | | 7.8 | 1.6 | |
| LOS | | D | F | | | | F | E | | A | A | |
| Approach Delay | | 91.4 | | | | | | 57.0 | | | 2.0 | |
| Approach LOS | | F | | | | | | E | | | A | |
| Queue Length 50th (ft) | | 74 | ~188 | | | | 36 | ~506 | | 3 | 0 | |
| Queue Length 95th (ft) | | 132 | #360 | | | | #122 | #644 | | m8 | m0 | |
| Internal Link Dist (ft) | | 488 | | | 721 | | | 853 | | | 84 | |
| Turn Bay Length (ft) | | | 100 | | | | 175 | | | 100 | | |
| Base Capacity (vph) | | 292 | 320 | | | | 84 | 1556 | | 505 | 2593 | |
| Starvation Cap Reductn | | 0 | 0 | | | | 0 | 0 | | 270 | 525 | |
| Spillback Cap Reductn | | 0 | 0 | | | | 0 | 0 | | 0 | 0 | |
| Storage Cap Reductn | | 0 | 0 | | | | 0 | 0 | | 0 | 0 | |
| Reduced v/c Ratio | | 0.48 | 1.11 | | | | 0.86 | 1.03 | | 0.43 | 0.75 | |

## Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 37.7 Intersection LOS: D
Intersection Capacity Utilization 71.3% ICU Level of Service C
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Dean Street/Pleasant Valley Parkway & Kinsley Avenue/Providence Place



Pleasant Valley Parkway at Promenade Street

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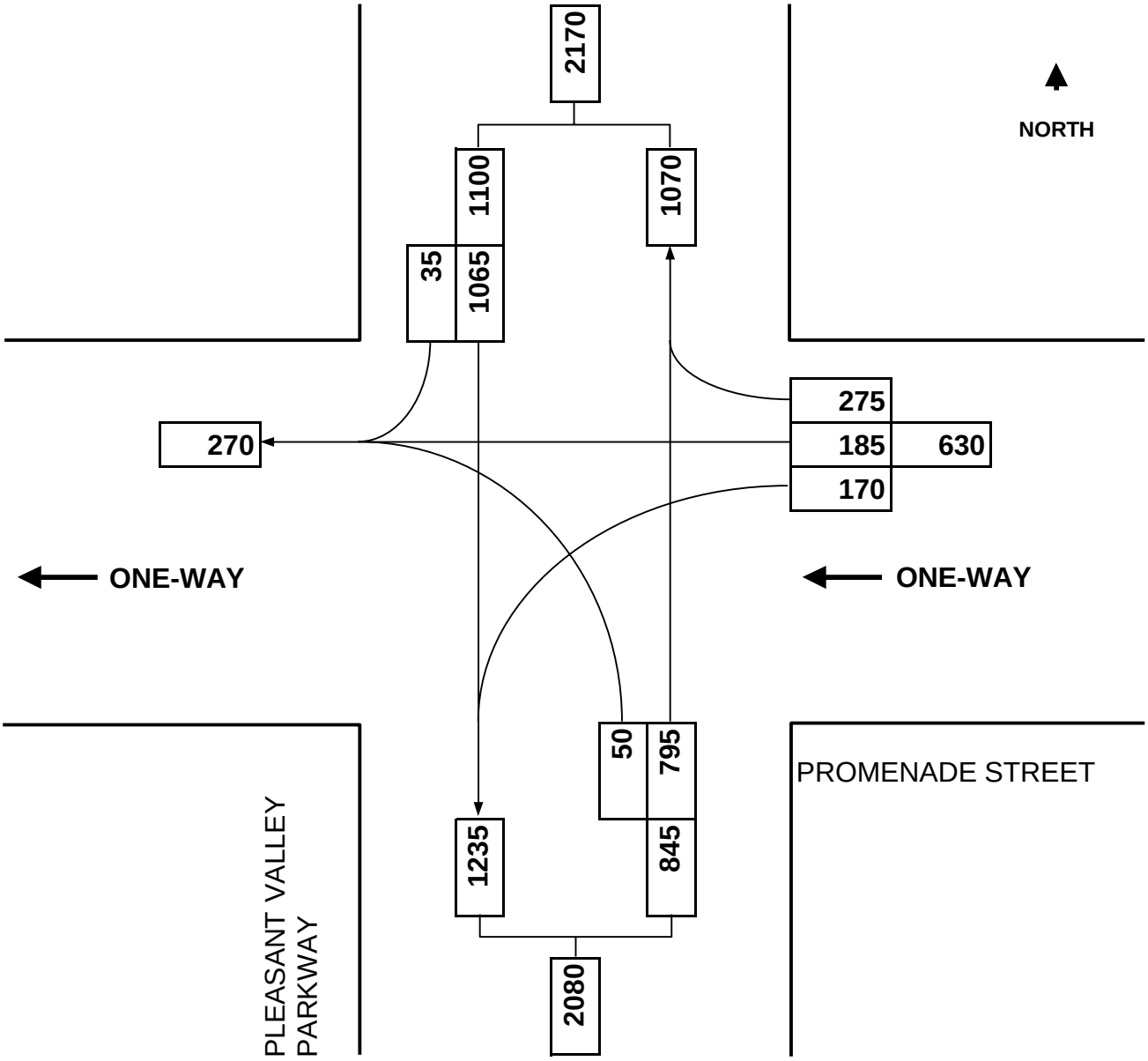
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Pleasant Valley Pkwy. | **Minor Street**: | Promenade Street |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | AM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 No Build |

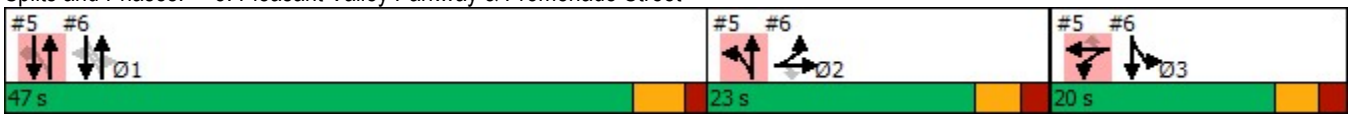


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 170 | 185 | 275 | 50 | 795 | 0 | 0 | 1065 | 35 |
| Future Volume (vph) | 0 | 0 | 0 | 170 | 185 | 275 | 50 | 795 | 0 | 0 | 1065 | 35 |
| Satd. Flow (prot) | 0 | 0 | 0 | 1698 | 1796 | 1615 | 0 | 3533 | 0 | 0 | 3574 | 1615 |
| Flt Permitted | | | | 0.950 | 0.996 | | | 0.836 | | | | |
| Satd. Flow (perm) | 0 | 0 | 0 | 1698 | 1796 | 1615 | 0 | 2962 | 0 | 0 | 3574 | 1615 |
| Satd. Flow (RTOR) | | | | | | 228 | | | | | | 85 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 157 | 209 | 284 | 0 | 854 | 0 | 0 | 1098 | 36 |
| Turn Type | | | | Split | NA | Perm | D.P+P | NA | | | NA | Perm |
| Protected Phases | | | | 3 | 3 | | 2 | 1 2 | | | 1 | |
| Permitted Phases | | | | | | 3 | 1 | | | | | 1 |
| Total Split (s) | | | | 20.0 | 20.0 | 20.0 | 23.0 | | | | 47.0 | 47.0 |
| Total Lost Time (s) | | | | 5.0 | 5.0 | 5.0 | | | | | 5.0 | 5.0 |
| Act Effct Green (s) | | | | 15.0 | 15.0 | 15.0 | | 60.0 | | | 42.0 | 42.0 |
| Actuated g/C Ratio | | | | 0.17 | 0.17 | 0.17 | | 0.67 | | | 0.47 | 0.47 |
| v/c Ratio | | | | 0.55 | 0.70 | 0.62 | | 0.41 | | | 0.66 | 0.05 |
| Control Delay | | | | 42.8 | 49.3 | 15.0 | | 1.0 | | | 20.9 | 0.1 |
| Queue Delay | | | | 0.0 | 0.0 | 0.0 | | 0.5 | | | 0.0 | 0.0 |
| Total Delay | | | | 42.8 | 49.3 | 15.0 | | 1.5 | | | 20.9 | 0.1 |
| LOS | | | | D | D | B | | A | | | C | A |
| Approach Delay | | | | | 32.7 | | | 1.5 | | | 20.2 | |
| Approach LOS | | | | | C | | | A | | | C | |
| Queue Length 50th (ft) | | | | 87 | 118 | 28 | | 8 | | | 243 | 0 |
| Queue Length 95th (ft) | | | | 153 | #217 | 107 | | 8 | | | 313 | 1 |
| Internal Link Dist (ft) | | 491 | | | 792 | | | 84 | | | 494 | |
| Turn Bay Length (ft) | | | | | | 150 | | | | | | |
| Base Capacity (vph) | | | | 283 | 299 | 459 | | 2088 | | | 1667 | 799 |
| Starvation Cap Reductn | | | | 0 | 0 | 0 | | 740 | | | 0 | 0 |
| Spillback Cap Reductn | | | | 0 | 0 | 0 | | 0 | | | 0 | 0 |
| Storage Cap Reductn | | | | 0 | 0 | 0 | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | | | | 0.55 | 0.70 | 0.62 | | 0.63 | | | 0.66 | 0.05 |

| Intersection Summary | | |
|---|---|---|
| Cycle Length: 90 | | |
| Actuated Cycle Length: 90 | | |
| Control Type: Actuated-Uncoordinated | | |
| Maximum v/c Ratio: 1.23 | | |
| Intersection Signal Delay: 17.3 | Intersection LOS: B | |
| Intersection Capacity Utilization 75.1% | 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: 5: Pleasant Valley Parkway & Promenade Street



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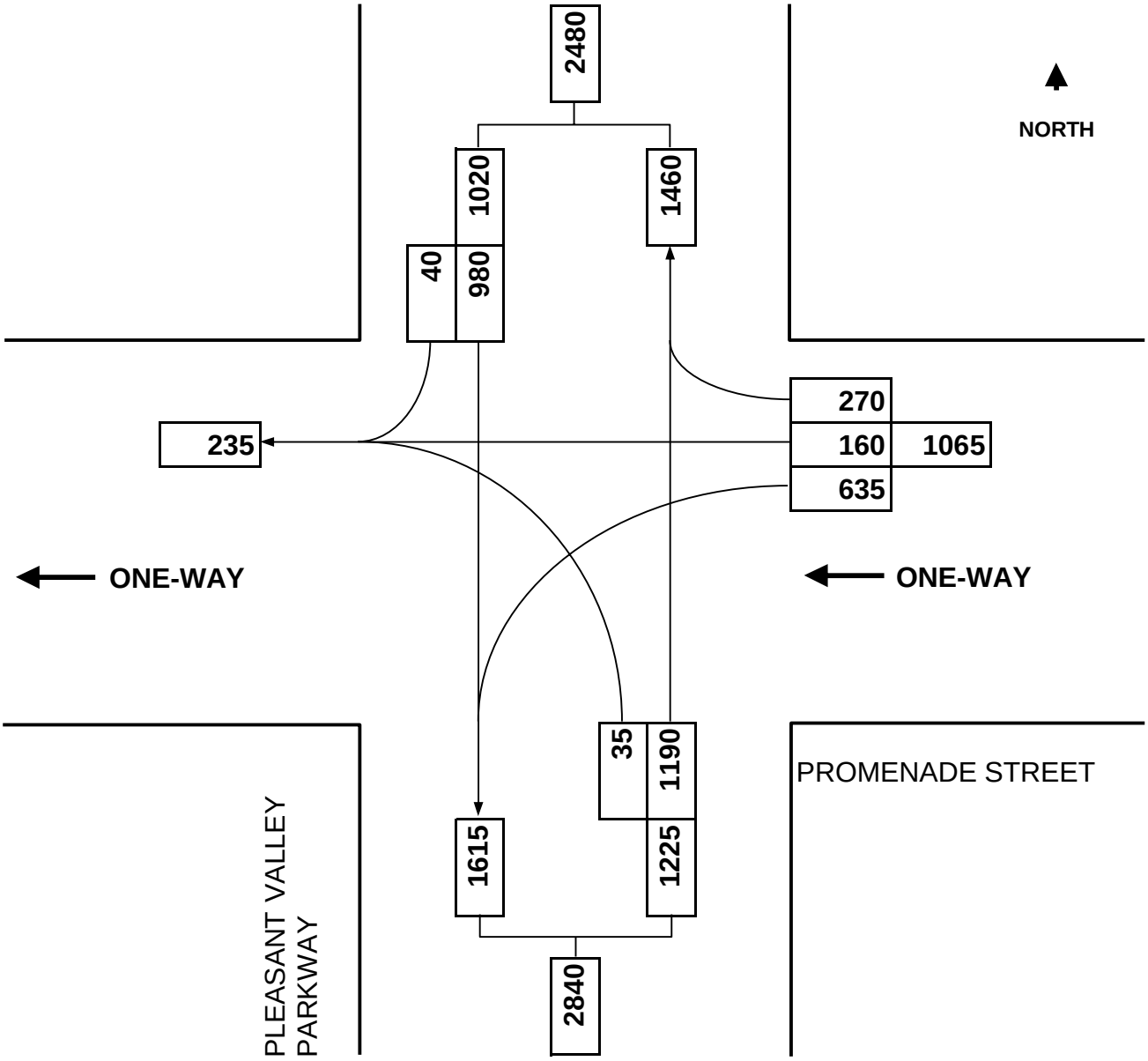
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Pleasant Valley Pkwy. | **Minor Street**: | Promenade Street |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | PM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 No Build |

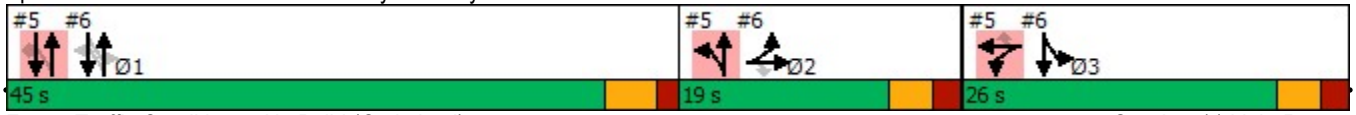


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 635 | 160 | 270 | 35 | 1190 | 0 | 0 | 980 | 40 |
| Future Volume (vph) | 0 | 0 | 0 | 635 | 160 | 270 | 35 | 1190 | 0 | 0 | 980 | 40 |
| Satd. Flow (prot) | 0 | 0 | 0 | 1665 | 1715 | 1583 | 0 | 3606 | 0 | 0 | 3610 | 1615 |
| Flt Permitted | | | | 0.950 | 0.971 | | | 0.912 | | | | |
| Satd. Flow (perm) | 0 | 0 | 0 | 1665 | 1715 | 1583 | 0 | 3292 | 0 | 0 | 3610 | 1615 |
| Satd. Flow (RTOR) | | | | | | 85 | | | | | | 85 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 406 | 414 | 278 | 0 | 1237 | 0 | 0 | 1010 | 41 |
| Turn Type | | | | Split | NA | Perm | D.P+P | NA | | | NA | Perm |
| Protected Phases | | | | 3 | 3 | | 2 | 1 2 | | | 1 | |
| Permitted Phases | | | | | | 3 | 1 | | | | | 1 |
| Total Split (s) | | | | 26.0 | 26.0 | 26.0 | 19.0 | | | | 45.0 | 45.0 |
| Total Lost Time (s) | | | | 5.0 | 5.0 | 5.0 | | | | | 5.0 | 5.0 |
| Act Effct Green (s) | | | | 21.0 | 21.0 | 21.0 | | 54.0 | | | 40.0 | 40.0 |
| Actuated g/C Ratio | | | | 0.23 | 0.23 | 0.23 | | 0.60 | | | 0.44 | 0.44 |
| v/c Ratio | | | | 1.05 | 1.03 | 0.64 | | 0.61 | | | 0.63 | 0.05 |
| Control Delay | | | | 94.1 | 90.3 | 29.0 | | 0.7 | | | 21.5 | 0.7 |
| Queue Delay | | | | 0.0 | 0.0 | 0.0 | | 1.3 | | | 0.0 | 0.0 |
| Total Delay | | | | 94.1 | 90.3 | 29.0 | | 2.0 | | | 21.5 | 0.7 |
| LOS | | | | F | F | C | | A | | | C | A |
| Approach Delay | | | | | 76.2 | | | 2.0 | | | 20.7 | |
| Approach LOS | | | | | E | | | A | | | C | |
| Queue Length 50th (ft) | | | | ~266 | ~269 | 98 | | 4 | | | 225 | 0 |
| Queue Length 95th (ft) | | | | #452 | #456 | 184 | | m4 | | | 291 | 4 |
| Internal Link Dist (ft) | | 491 | | | 792 | | | 84 | | | 494 | |
| Turn Bay Length (ft) | | | | | | 150 | | | | | | |
| Base Capacity (vph) | | | | 388 | 400 | 434 | | 2024 | | | 1604 | 765 |
| Starvation Cap Reductn | | | | 0 | 0 | 0 | | 537 | | | 0 | 0 |
| Spillback Cap Reductn | | | | 0 | 0 | 0 | | 0 | | | 0 | 0 |
| Storage Cap Reductn | | | | 0 | 0 | 0 | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | | | | 1.05 | 1.03 | 0.64 | | 0.83 | | | 0.63 | 0.05 |

## Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 31.8 Intersection LOS: C
Intersection Capacity Utilization 88.3% ICU Level of Service E
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Pleasant Valley Parkway & Promenade Street



Kinsley Avenue at Acorn Street

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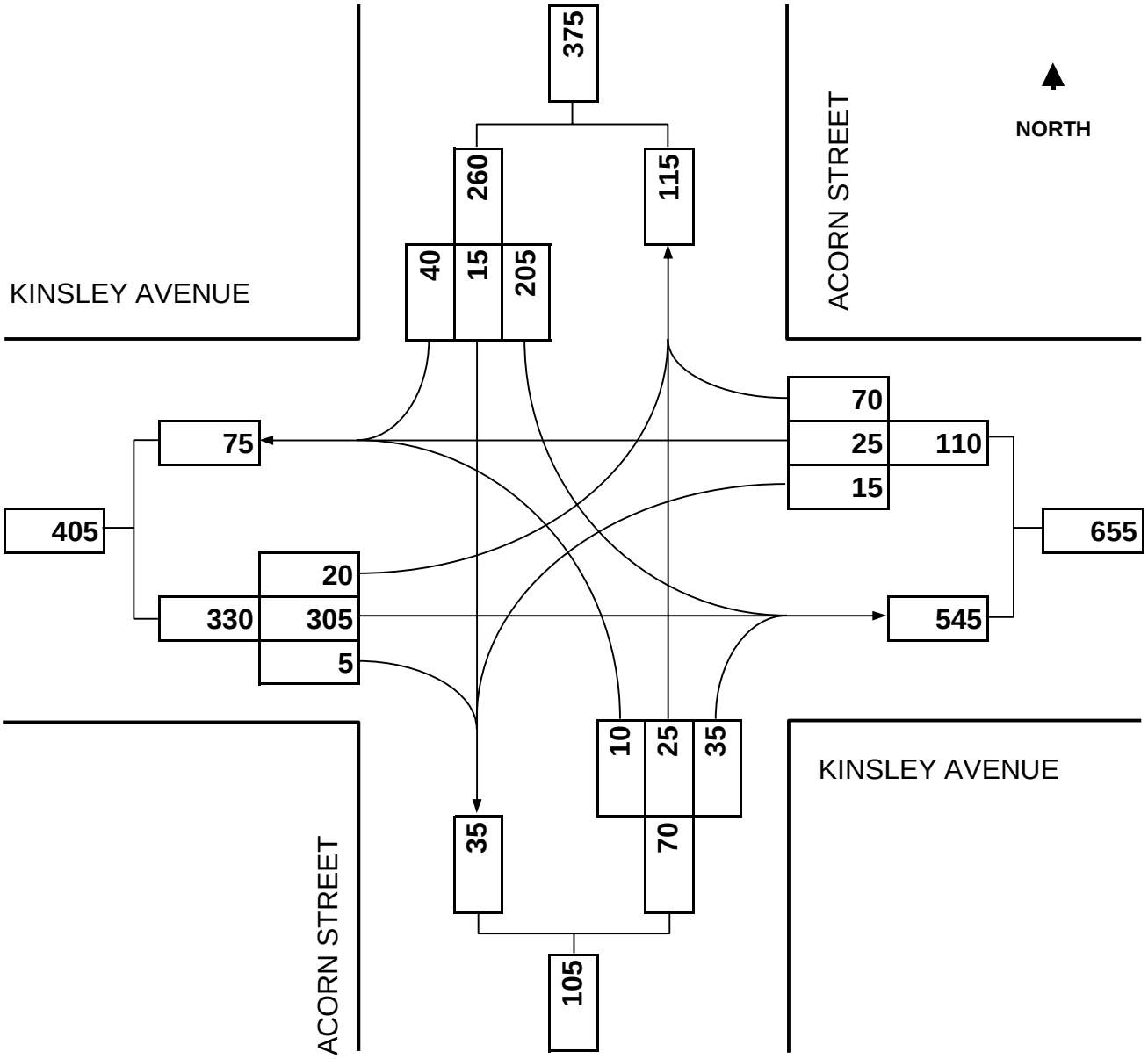
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Kinsley Street | **Minor Street**: | Acorn Street |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | AM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 No Build |



| Intersection | |
|---|---|
| Intersection Delay, s/veh | 12 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 20 | 305 | 5 | 15 | 25 | 70 | 10 | 25 | 35 | 205 | 15 | 40 |
| Future Vol, veh/h | 20 | 305 | 5 | 15 | 25 | 70 | 10 | 25 | 35 | 205 | 15 | 40 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 22 | 332 | 5 | 16 | 27 | 76 | 11 | 27 | 38 | 223 | 16 | 43 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 13.4 | 9.2 | 9.2 | 12.3 |
| HCM LOS | B | A | A | B |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 14% | 6% | 14% | 79% |
| Vol Thru, % | 36% | 92% | 23% | 6% |
| Vol Right, % | 50% | 2% | 64% | 15% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 70 | 330 | 110 | 260 |
| LT Vol | 10 | 20 | 15 | 205 |
| Through Vol | 25 | 305 | 25 | 15 |
| RT Vol | 35 | 5 | 70 | 40 |
| Lane Flow Rate | 76 | 359 | 120 | 283 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.114 | 0.513 | 0.17 | 0.422 |
| Departure Headway (Hd) | 5.405 | 5.144 | 5.125 | 5.382 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 662 | 707 | 699 | 670 |
| Service Time | 3.45 | 3.144 | 3.163 | 3.418 |
| HCM Lane V/C Ratio | 0.115 | 0.508 | 0.172 | 0.422 |
| HCM Control Delay | 9.2 | 13.4 | 9.2 | 12.3 |
| HCM Lane LOS | A | B | A | B |
| HCM 95th-tile Q | 0.4 | 3 | 0.6 | 2.1 |

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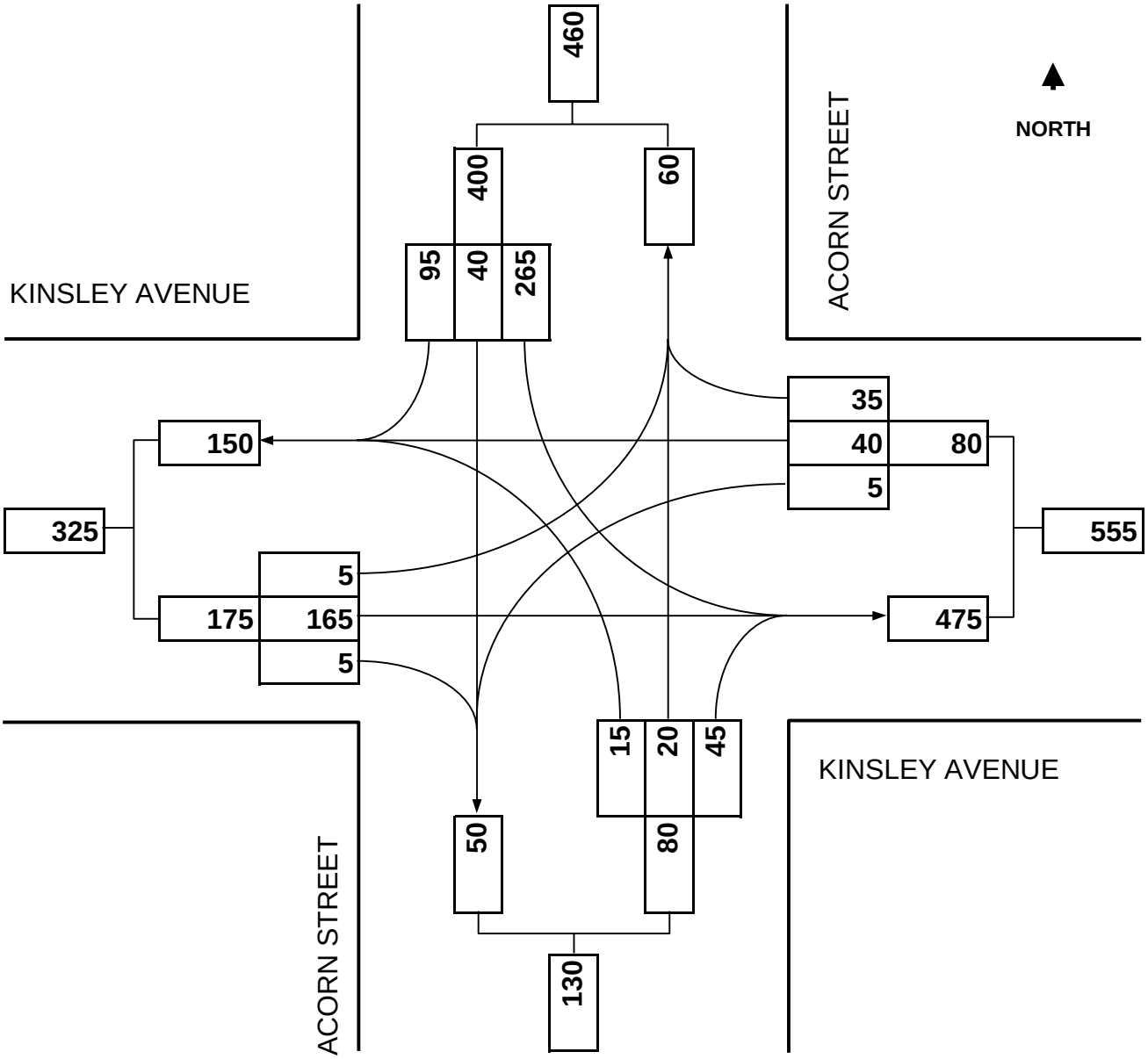
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Kinsley Street | **Minor Street**: | Acorn Street |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | PM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 No Build |



| Intersection | |
|---|---|
| Intersection Delay, s/veh | 12 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 5 | 165 | 5 | 5 | 40 | 35 | 15 | 20 | 45 | 265 | 40 | 95 |
| Future Vol, veh/h | 5 | 165 | 5 | 5 | 40 | 35 | 15 | 20 | 45 | 265 | 40 | 95 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 5 | 179 | 5 | 5 | 43 | 38 | 16 | 22 | 49 | 288 | 43 | 103 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 10.4 | 9 | 8.6 | 13.9 |
| HCM LOS | B | A | A | B |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 19% | 3% | 6% | 66% |
| Vol Thru, % | 25% | 94% | 50% | 10% |
| Vol Right, % | 56% | 3% | 44% | 24% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 80 | 175 | 80 | 400 |
| LT Vol | 15 | 5 | 5 | 265 |
| Through Vol | 20 | 165 | 40 | 40 |
| RT Vol | 45 | 5 | 35 | 95 |
| Lane Flow Rate | 87 | 190 | 87 | 435 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.12 | 0.277 | 0.127 | 0.568 |
| Departure Headway (Hd) | 4.952 | 5.242 | 5.274 | 4.706 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 728 | 677 | 683 | 761 |
| Service Time | 2.956 | 3.342 | 3.28 | 2.783 |
| HCM Lane V/C Ratio | 0.12 | 0.281 | 0.127 | 0.572 |
| HCM Control Delay | 8.6 | 10.4 | 9 | 13.9 |
| HCM Lane LOS | A | B | A | B |
| HCM 95th-tile Q | 0.4 | 1.1 | 0.4 | 3.6 |

# D

## Future 2023 Build Weekday AM / PM Peak Hour

Dean Street at Kinsley Avenue/Providence Place

Pleasant Valley Parkway at Promenade Street

Kinsley Avenue at Acorn Street

Kinsley Avenue at Western Site Driveway

Kinsley Avenue at Eastern Site Driveway

Dean Street at Kinsley Avenue/Providence Place

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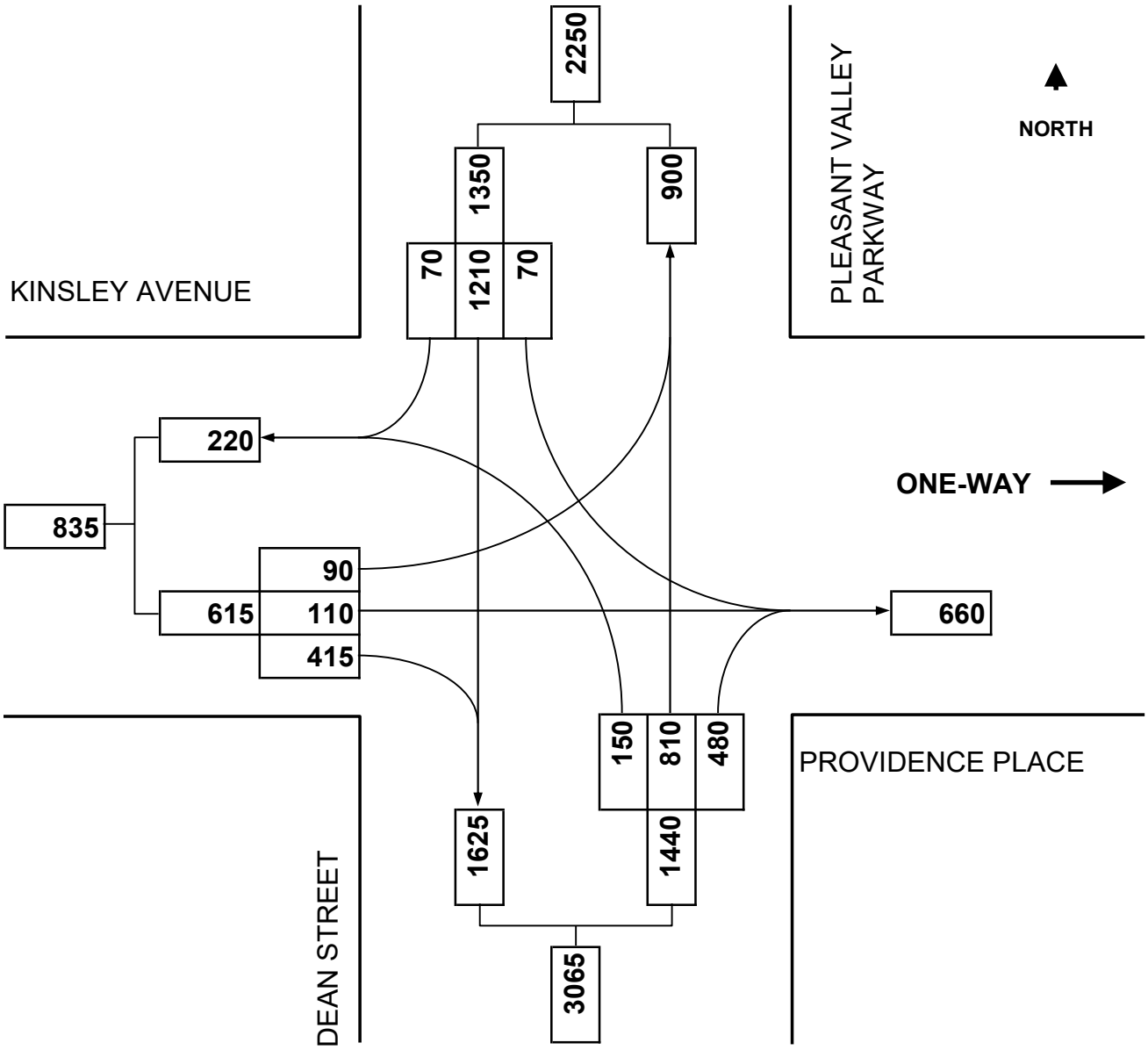
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Dean Street | **Minor Street**: | Kinsley Avenue |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | AM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 90 | 110 | 415 | 0 | 0 | 0 | 150 | 810 | 480 | 70 | 1210 | 70 |
| Future Volume (vph) | 90 | 110 | 415 | 0 | 0 | 0 | 150 | 810 | 480 | 70 | 1210 | 70 |
| Satd. Flow (prot) | 0 | 1858 | 1599 | 0 | 0 | 0 | 1805 | 3366 | 0 | 1805 | 3515 | 0 |
| Flt Permitted | | 0.978 | | | | | 0.095 | | | 0.095 | | |
| Satd. Flow (perm) | 0 | 1858 | 1599 | 0 | 0 | 0 | 180 | 3366 | 0 | 180 | 3515 | 0 |
| Satd. Flow (RTOR) | | | 101 | | | | | 181 | | | 15 | |
| Lane Group Flow (vph) | 0 | 209 | 432 | 0 | 0 | 0 | 155 | 1330 | 0 | 71 | 1306 | 0 |
| Turn Type | Split | NA | Perm | | | | Perm | NA | | D.P+P | NA | |
| Protected Phases | 2 | 2 | | | | | | 1 | | 3 | 1 3 | |
| Permitted Phases | | | 2 | | | | 1 | | | 1 | | |
| Total Split (s) | 23.0 | 23.0 | 23.0 | | | | 47.0 | 47.0 | | 20.0 | | |
| Total Lost Time (s) | | 5.0 | 5.0 | | | | 5.0 | 5.0 | | 5.0 | | |
| Act Effct Green (s) | | 18.0 | 18.0 | | | | 42.0 | 42.0 | | 57.0 | 62.0 | |
| Actuated g/C Ratio | | 0.20 | 0.20 | | | | 0.47 | 0.47 | | 0.63 | 0.69 | |
| v/c Ratio | | 0.56 | 1.08 | | | | 1.85 | 0.80 | | 0.18 | 0.54 | |
| Control Delay | | 39.2 | 96.7 | | | | 445.0 | 21.8 | | 8.7 | 1.5 | |
| Queue Delay | | 0.0 | 0.0 | | | | 0.0 | 0.0 | | 0.9 | 0.4 | |
| Total Delay | | 39.2 | 96.7 | | | | 445.0 | 21.8 | | 9.6 | 1.9 | |
| LOS | | D | F | | | | F | C | | A | A | |
| Approach Delay | | 77.9 | | | | | | 66.0 | | | 2.3 | |
| Approach LOS | | E | | | | | | E | | | A | |
| Queue Length 50th (ft) | | 108 | ~227 | | | | ~135 | 284 | | 2 | 0 | |
| Queue Length 95th (ft) | | 179 | #412 | | | | #214 | 376 | | m6 | 0 | |
| Internal Link Dist (ft) | | 115 | | | 721 | | | 853 | | | 84 | |
| Turn Bay Length (ft) | | | 50 | | | | 175 | | | 100 | | |
| Base Capacity (vph) | | 371 | 400 | | | | 84 | 1667 | | 384 | 2426 | |
| Starvation Cap Reductn | | 0 | 0 | | | | 0 | 0 | | 170 | 528 | |
| Spillback Cap Reductn | | 0 | 0 | | | | 0 | 0 | | 0 | 0 | |
| Storage Cap Reductn | | 0 | 0 | | | | 0 | 0 | | 0 | 0 | |
| Reduced v/c Ratio | | 0.56 | 1.08 | | | | 1.85 | 0.80 | | 0.33 | 0.69 | |

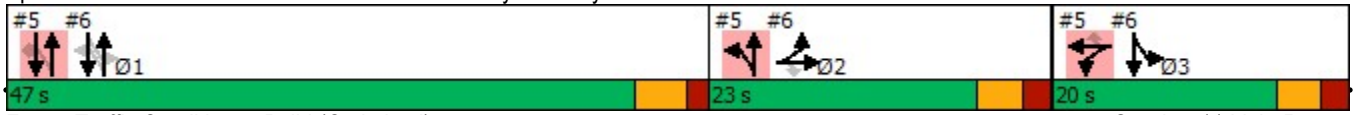
| Intersection Summary | |
|---|---|
| Cycle Length: 90 | |
| Actuated Cycle Length: 90 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 1.85 | |
| Intersection Signal Delay: 43.1 | Intersection LOS: D |
| Intersection Capacity Utilization 69.7% | ICU Level of Service C |
| Analysis Period (min) 15 | |

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Dean Street/Pleasant Valley Parkway & Providence Place



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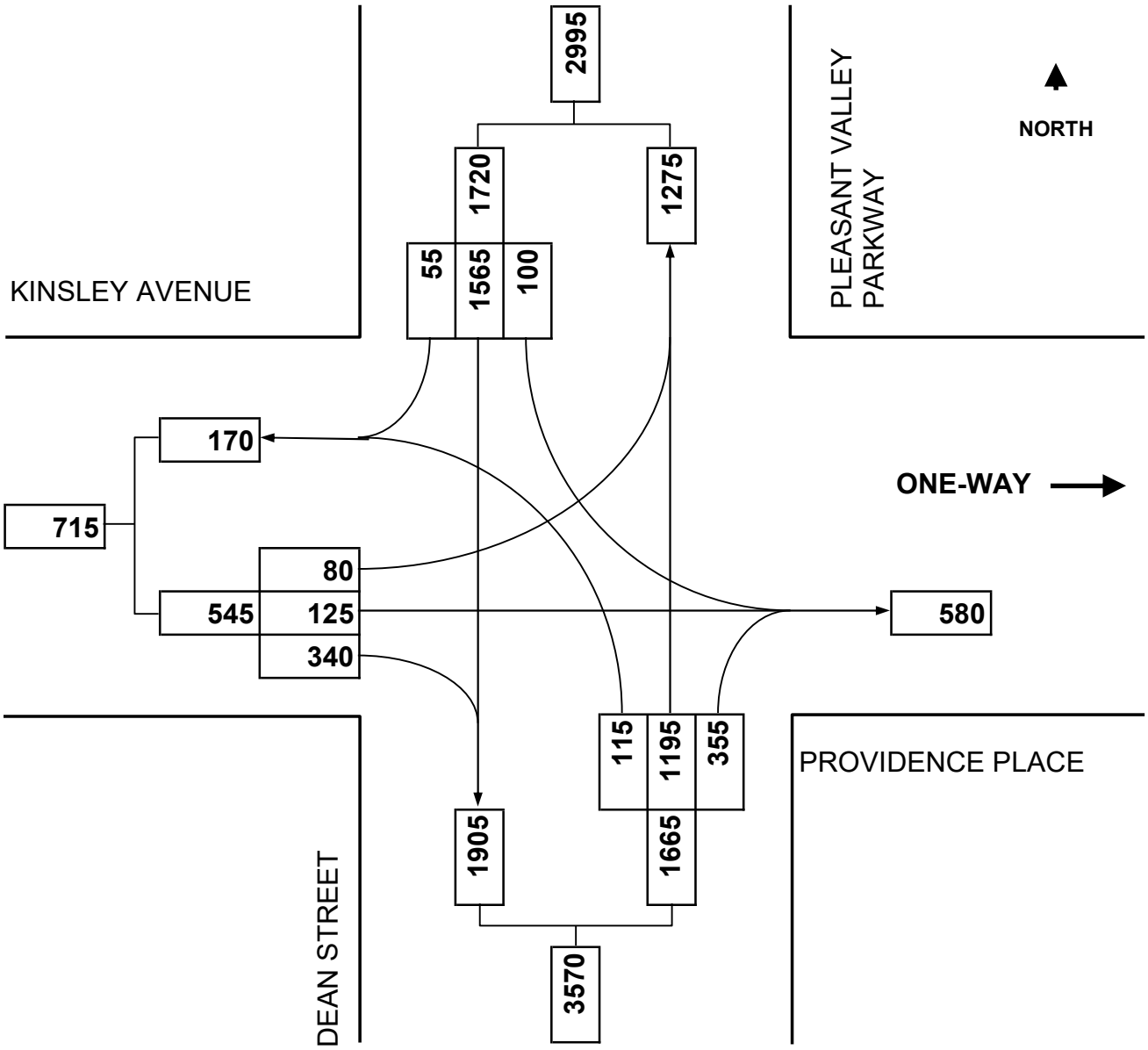
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Dean Street | **Minor Street**: | Kinsley Avenue |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | PM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 80 | 125 | 340 | 0 | 0 | 0 | 115 | 1195 | 355 | 100 | 1565 | 55 |
| Future Volume (vph) | 80 | 125 | 340 | 0 | 0 | 0 | 115 | 1195 | 355 | 100 | 1565 | 55 |
| Satd. Flow (prot) | 0 | 1864 | 1599 | 0 | 0 | 0 | 1805 | 3434 | 0 | 1805 | 3524 | 0 |
| Flt Permitted | | 0.981 | | | | | 0.105 | | | 0.105 | | |
| Satd. Flow (perm) | 0 | 1864 | 1599 | 0 | 0 | 0 | 200 | 3434 | 0 | 200 | 3524 | 0 |
| Satd. Flow (RTOR) | | | 85 | | | | | 53 | | | 8 | |
| Lane Group Flow (vph) | 0 | 213 | 354 | 0 | 0 | 0 | 119 | 1598 | 0 | 102 | 1653 | 0 |
| Turn Type | Split | NA | Perm | | | | Perm | NA | | D.P+P | NA | |
| Protected Phases | 2 | 2 | | | | | | 1 | | 3 | 1 3 | |
| Permitted Phases | | | 2 | | | | 1 | | | 1 | | |
| Total Split (s) | 26.0 | 26.0 | 26.0 | | | | 43.0 | 43.0 | | 21.0 | | |
| Total Lost Time (s) | | 5.0 | 5.0 | | | | 5.0 | 5.0 | | 5.0 | | |
| Act Effct Green (s) | | 19.8 | 19.8 | | | | 38.0 | 38.0 | | 54.0 | 59.0 | |
| Actuated g/C Ratio | | 0.22 | 0.22 | | | | 0.43 | 0.43 | | 0.61 | 0.66 | |
| v/c Ratio | | 0.51 | 0.84 | | | | 1.40 | 1.07 | | 0.25 | 0.71 | |
| Control Delay | | 35.2 | 43.9 | | | | 262.6 | 68.7 | | 7.5 | 1.5 | |
| Queue Delay | | 0.0 | 0.0 | | | | 0.0 | 0.0 | | 1.4 | 1.3 | |
| Total Delay | | 35.2 | 43.9 | | | | 262.6 | 68.7 | | 8.9 | 2.8 | |
| LOS | | D | D | | | | F | E | | A | A | |
| Approach Delay | | 40.6 | | | | | | 82.2 | | | 3.1 | |
| Approach LOS | | D | | | | | | F | | | A | |
| Queue Length 50th (ft) | | 105 | 147 | | | | ~92 | ~531 | | 2 | 1 | |
| Queue Length 95th (ft) | | 175 | #291 | | | | #155 | #669 | | m2 | m0 | |
| Internal Link Dist (ft) | | 115 | | | 721 | | | 853 | | | 84 | |
| Turn Bay Length (ft) | | | 50 | | | | 175 | | | 100 | | |
| Base Capacity (vph) | | 440 | 443 | | | | 85 | 1500 | | 411 | 2344 | |
| Starvation Cap Reductn | | 0 | 0 | | | | 0 | 0 | | 181 | 443 | |
| Spillback Cap Reductn | | 0 | 0 | | | | 0 | 0 | | 0 | 0 | |
| Storage Cap Reductn | | 0 | 0 | | | | 0 | 0 | | 0 | 0 | |
| Reduced v/c Ratio | | 0.48 | 0.80 | | | | 1.40 | 1.07 | | 0.44 | 0.87 | |

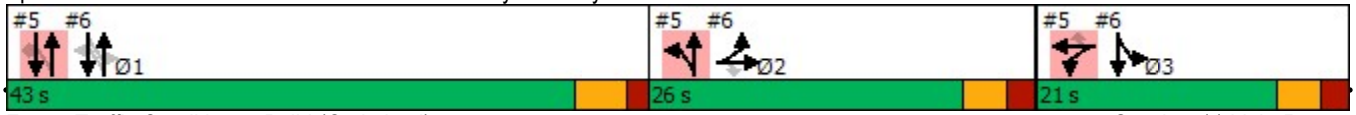
| Intersection Summary | |
|---|---|
| Cycle Length: 90 | |
| Actuated Cycle Length: 88.8 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 1.40 | |
| Intersection Signal Delay: 42.0 | Intersection LOS: D |
| Intersection Capacity Utilization 74.9% | ICU Level of Service D |
| Analysis Period (min) 15 | |

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Dean Street/Pleasant Valley Parkway & Providence Place



Pleasant Valley Parkway at Promenade Street

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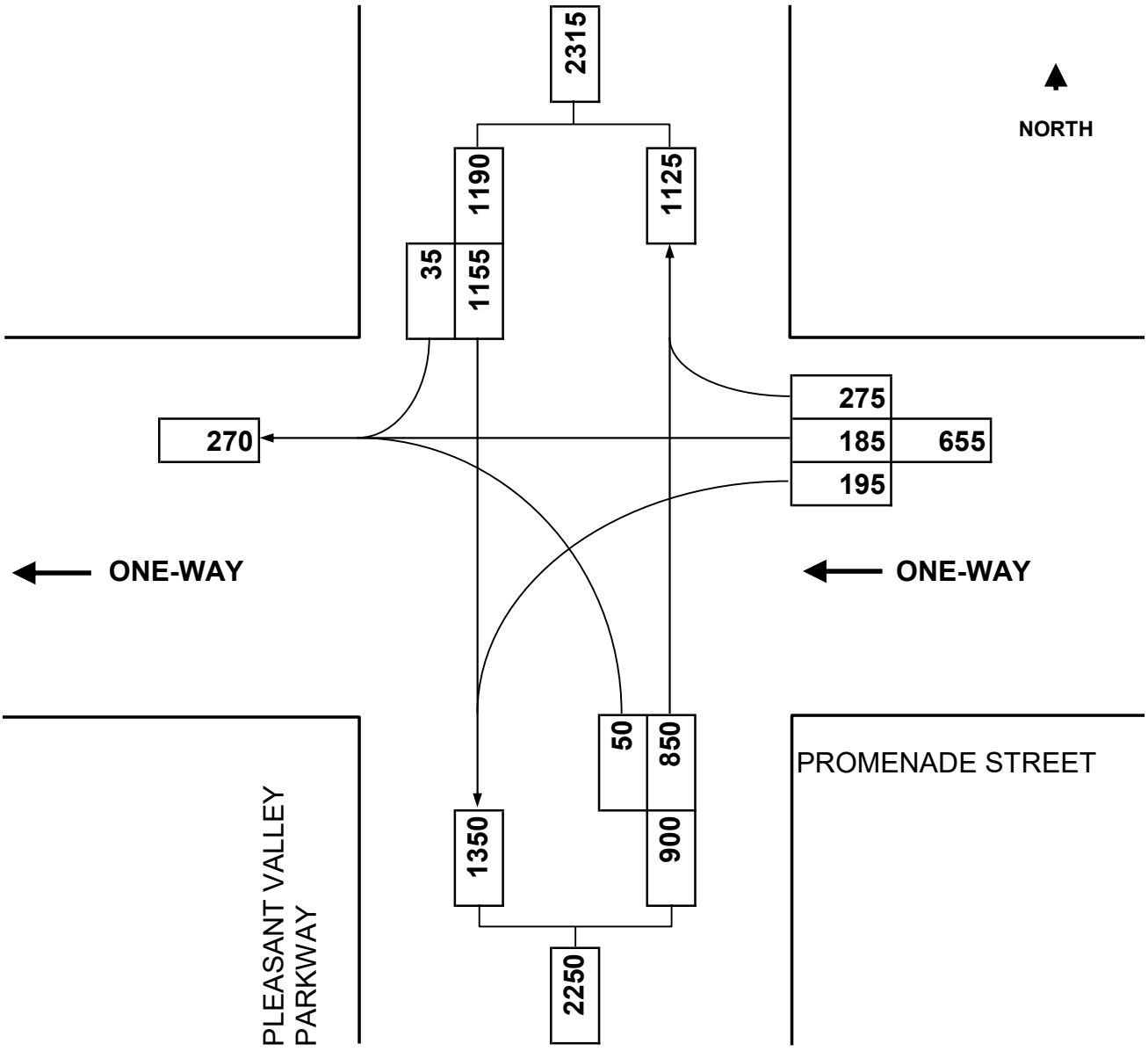
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Pleasant Valley Pkwy. | **Minor Street**: | Promenade Street |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | AM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build |

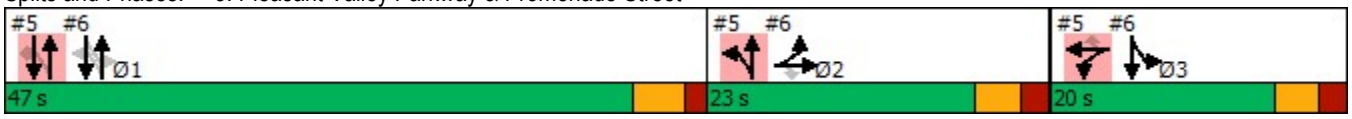


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 195 | 185 | 275 | 50 | 850 | 0 | 0 | 1155 | 35 |
| Future Volume (vph) | 0 | 0 | 0 | 195 | 185 | 275 | 50 | 850 | 0 | 0 | 1155 | 35 |
| Satd. Flow (prot) | 0 | 0 | 0 | 1665 | 1775 | 1583 | 0 | 3599 | 0 | 0 | 3610 | 1615 |
| Flt Permitted | | | | 0.950 | 0.995 | | | 0.808 | | | | |
| Satd. Flow (perm) | 0 | 0 | 0 | 1665 | 1775 | 1583 | 0 | 2917 | 0 | 0 | 3610 | 1615 |
| Satd. Flow (RTOR) | | | | | | 205 | | | | | | 85 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 181 | 211 | 284 | 0 | 910 | 0 | 0 | 1191 | 36 |
| Turn Type | | | | Split | NA | Perm | D.P+P | NA | | | NA | Perm |
| Protected Phases | | | | 3 | 3 | | 2 | 1 2 | | | 1 | |
| Permitted Phases | | | | | | 3 | 1 | | | | | 1 |
| Total Split (s) | | | | 20.0 | 20.0 | 20.0 | 23.0 | | | | 47.0 | 47.0 |
| Total Lost Time (s) | | | | 5.0 | 5.0 | 5.0 | | | | | 5.0 | 5.0 |
| Act Effct Green (s) | | | | 15.0 | 15.0 | 15.0 | | 60.0 | | | 42.0 | 42.0 |
| Actuated g/C Ratio | | | | 0.17 | 0.17 | 0.17 | | 0.67 | | | 0.47 | 0.47 |
| v/c Ratio | | | | 0.65 | 0.72 | 0.65 | | 0.44 | | | 0.71 | 0.05 |
| Control Delay | | | | 47.5 | 50.5 | 18.8 | | 1.1 | | | 22.0 | 0.1 |
| Queue Delay | | | | 0.0 | 0.0 | 0.0 | | 0.5 | | | 0.0 | 0.0 |
| Total Delay | | | | 47.5 | 50.5 | 18.8 | | 1.6 | | | 22.0 | 0.1 |
| LOS | | | | D | D | B | | A | | | C | A |
| Approach Delay | | | | | 36.4 | | | 1.6 | | | 21.4 | |
| Approach LOS | | | | | D | | | A | | | C | |
| Queue Length 50th (ft) | | | | 102 | 121 | 40 | | 9 | | | 273 | 0 |
| Queue Length 95th (ft) | | | | #189 | #224 | 123 | | 11 | | | 348 | 1 |
| Internal Link Dist (ft) | | 491 | | | 792 | | | 84 | | | 494 | |
| Turn Bay Length (ft) | | | | | | 150 | | | | | | |
| Base Capacity (vph) | | | | 277 | 295 | 434 | | 2081 | | | 1684 | 799 |
| Starvation Cap Reductn | | | | 0 | 0 | 0 | | 678 | | | 0 | 0 |
| Spillback Cap Reductn | | | | 0 | 0 | 0 | | 0 | | | 0 | 0 |
| Storage Cap Reductn | | | | 0 | 0 | 0 | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | | | | 0.65 | 0.72 | 0.65 | | 0.65 | | | 0.71 | 0.05 |

| Intersection Summary | | |
|---|---|---|
| Cycle Length: 90 | | |
| Actuated Cycle Length: 90 | | |
| Control Type: Actuated-Uncoordinated | | |
| Maximum v/c Ratio: 1.85 | | |
| Intersection Signal Delay: 18.6 | Intersection LOS: B | |
| Intersection Capacity Utilization 79.5% | 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: 5: Pleasant Valley Parkway & Promenade Street



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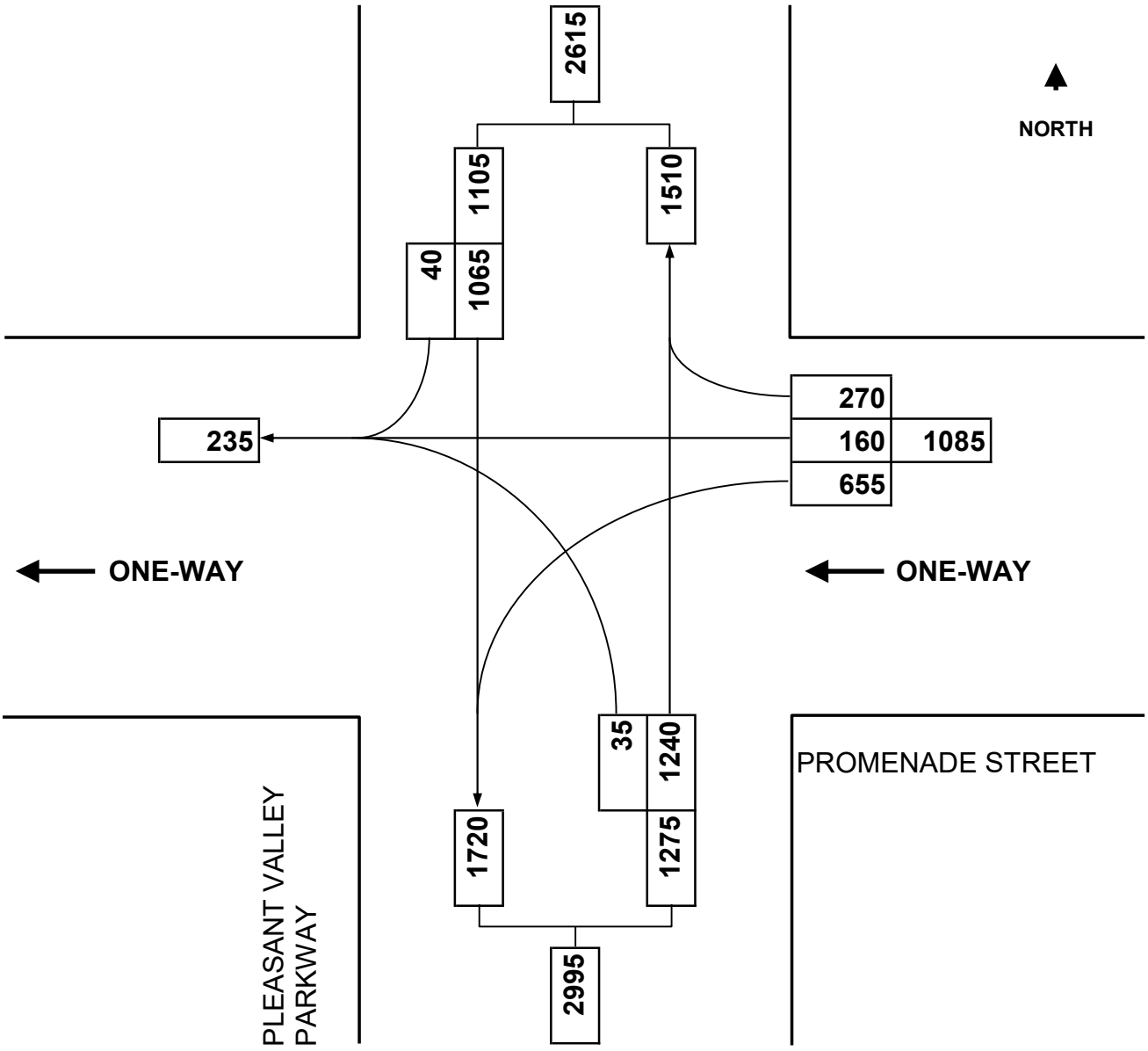
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Pleasant Valley Pkwy. | **Minor Street**: | Promenade Street |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | PM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 655 | 160 | 270 | 35 | 1240 | 0 | 0 | 1065 | 40 |
| Future Volume (vph) | 0 | 0 | 0 | 655 | 160 | 270 | 35 | 1240 | 0 | 0 | 1065 | 40 |
| Satd. Flow (prot) | 0 | 0 | 0 | 1665 | 1713 | 1583 | 0 | 3606 | 0 | 0 | 3610 | 1615 |
| Flt Permitted | | | | 0.950 | 0.970 | | | 0.917 | | | | |
| Satd. Flow (perm) | 0 | 0 | 0 | 1665 | 1713 | 1583 | 0 | 3310 | 0 | 0 | 3610 | 1615 |
| Satd. Flow (RTOR) | | | | | | 86 | | | | | | 85 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 418 | 422 | 278 | 0 | 1288 | 0 | 0 | 1098 | 41 |
| Turn Type | | | | Split | NA | Perm | D.P+P | NA | | | NA | Perm |
| Protected Phases | | | | 3 | 3 | | 2 | 1 2 | | | 1 | |
| Permitted Phases | | | | | | 3 | 1 | | | | | 1 |
| Total Split (s) | | | | 21.0 | 21.0 | 21.0 | 26.0 | | | | 43.0 | 43.0 |
| Total Lost Time (s) | | | | 5.0 | 5.0 | 5.0 | | | | | 5.0 | 5.0 |
| Act Effct Green (s) | | | | 16.0 | 16.0 | 16.0 | | 57.8 | | | 38.0 | 38.0 |
| Actuated g/C Ratio | | | | 0.18 | 0.18 | 0.18 | | 0.65 | | | 0.43 | 0.43 |
| v/c Ratio | | | | 1.39 | 1.37 | 0.78 | | 0.58 | | | 0.71 | 0.06 |
| Control Delay | | | | 227.5 | 217.2 | 41.1 | | 0.9 | | | 24.3 | 0.7 |
| Queue Delay | | | | 0.0 | 0.0 | 0.0 | | 1.4 | | | 0.0 | 0.0 |
| Total Delay | | | | 227.5 | 217.2 | 41.1 | | 2.3 | | | 24.3 | 0.7 |
| LOS | | | | F | F | D | | A | | | C | A |
| Approach Delay | | | | | 177.3 | | | 2.3 | | | 23.4 | |
| Approach LOS | | | | | F | | | A | | | C | |
| Queue Length 50th (ft) | | | | ~340 | ~338 | 106 | | 4 | | | 265 | 0 |
| Queue Length 95th (ft) | | | | #528 | #528 | #232 | | m4 | | | 341 | 4 |
| Internal Link Dist (ft) | | 491 | | | 792 | | | 84 | | | 494 | |
| Turn Bay Length (ft) | | | | | | 150 | | | | | | |
| Base Capacity (vph) | | | | 300 | 308 | 356 | | 2270 | | | 1545 | 740 |
| Starvation Cap Reductn | | | | 0 | 0 | 0 | | 731 | | | 0 | 0 |
| Spillback Cap Reductn | | | | 0 | 0 | 0 | | 0 | | | 0 | 0 |
| Storage Cap Reductn | | | | 0 | 0 | 0 | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | | | | 1.39 | 1.37 | 0.78 | | 0.84 | | | 0.71 | 0.06 |

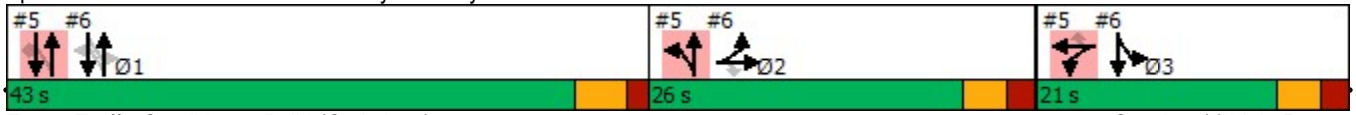
| Intersection Summary | |
|---|---|
| Cycle Length: 90 | |
| Actuated Cycle Length: 88.8 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 1.40 | |
| Intersection Signal Delay: 64.3 | Intersection LOS: E |
| Intersection Capacity Utilization 90.2% | ICU Level of Service E |
| Analysis Period (min) 15 | |

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Pleasant Valley Parkway & Promenade Street



Kinsley Avenue at Acorn Street

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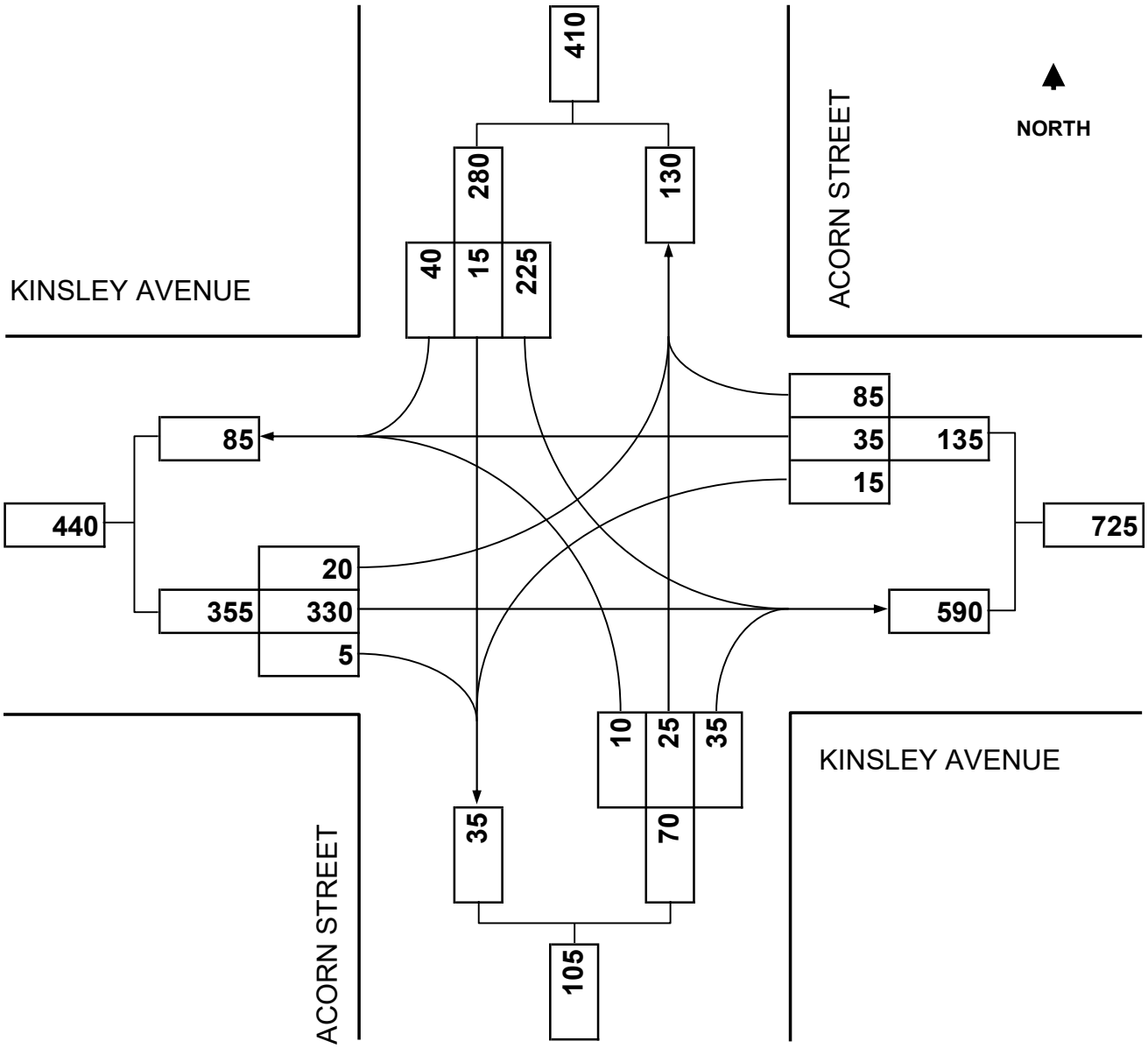
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Kinsley Street | **Minor Street**: | Acorn Street |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | AM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build |



| Intersection | |
|---|---|
| Intersection Delay, s/veh | 13.2 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 20 | 330 | 5 | 15 | 35 | 85 | 10 | 25 | 35 | 225 | 15 | 40 |
| Future Vol, veh/h | 20 | 330 | 5 | 15 | 35 | 85 | 10 | 25 | 35 | 225 | 15 | 40 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 22 | 359 | 5 | 16 | 38 | 92 | 11 | 27 | 38 | 245 | 16 | 43 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 14.9 | 9.8 | 9.5 | 13.5 |
| HCM LOS | B | A | A | B |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 14% | 6% | 11% | 80% |
| Vol Thru, % | 36% | 93% | 26% | 5% |
| Vol Right, % | 50% | 1% | 63% | 14% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 70 | 355 | 135 | 280 |
| LT Vol | 10 | 20 | 15 | 225 |
| Through Vol | 25 | 330 | 35 | 15 |
| RT Vol | 35 | 5 | 85 | 40 |
| Lane Flow Rate | 76 | 386 | 147 | 304 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.119 | 0.564 | 0.216 | 0.471 |
| Departure Headway (Hd) | 5.653 | 5.265 | 5.289 | 5.569 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 632 | 683 | 676 | 645 |
| Service Time | 3.71 | 3.302 | 3.336 | 3.609 |
| HCM Lane V/C Ratio | 0.12 | 0.565 | 0.217 | 0.471 |
| HCM Control Delay | 9.5 | 14.9 | 9.8 | 13.5 |
| HCM Lane LOS | A | B | A | B |
| HCM 95th-tile Q | 0.4 | 3.5 | 0.8 | 2.5 |

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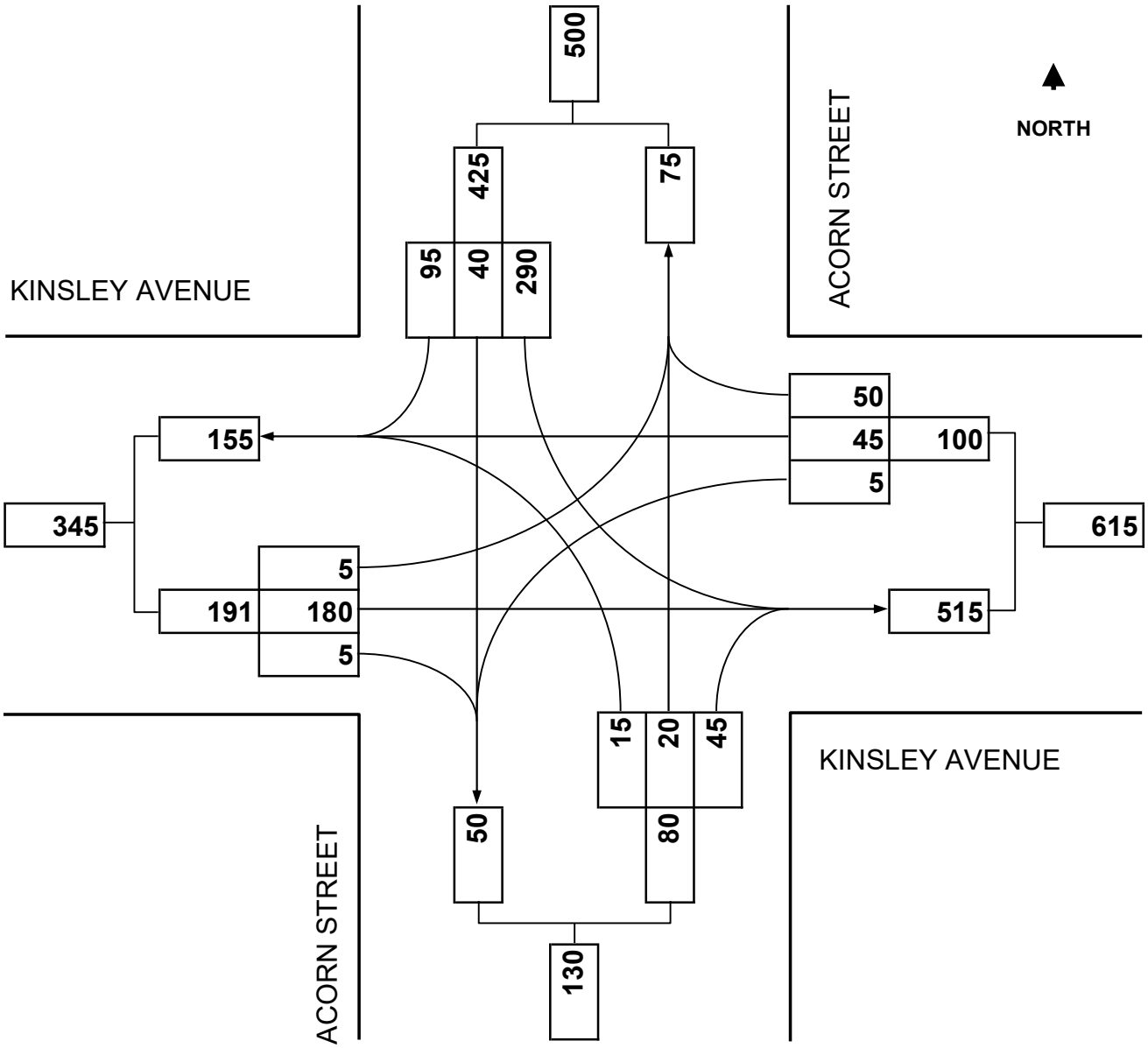
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Kinsley Street | **Minor Street**: | Acorn Street |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | PM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build |



| Intersection | |
|---|---|
| Intersection Delay, s/veh | 13.4 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 5 | 185 | 5 | 5 | 45 | 50 | 15 | 20 | 45 | 290 | 40 | 95 |
| Future Vol, veh/h | 5 | 185 | 5 | 5 | 45 | 50 | 15 | 20 | 45 | 290 | 40 | 95 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 5 | 201 | 5 | 5 | 49 | 54 | 16 | 22 | 49 | 315 | 43 | 103 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay | 11.1 | 9.5 | 9 | 16.2 |
| HCM LOS | B | A | A | C |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|---|
| Vol Left, % | 19% | 3% | 5% | 68% |
| Vol Thru, % | 25% | 95% | 45% | 9% |
| Vol Right, % | 56% | 3% | 50% | 22% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 80 | 195 | 100 | 425 |
| LT Vol | 15 | 5 | 5 | 290 |
| Through Vol | 20 | 185 | 45 | 40 |
| RT Vol | 45 | 5 | 50 | 95 |
| Lane Flow Rate | 87 | 212 | 109 | 462 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.125 | 0.323 | 0.163 | 0.636 |
| Departure Headway (Hd) | 5.167 | 5.489 | 5.398 | 4.955 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 692 | 655 | 663 | 735 |
| Service Time | 3.208 | 3.529 | 3.443 | 2.955 |
| HCM Lane V/C Ratio | 0.126 | 0.324 | 0.164 | 0.629 |
| HCM Control Delay | 9 | 11.1 | 9.5 | 16.2 |
| HCM Lane LOS | A | B | A | C |
| HCM 95th-tile Q | 0.4 | 1.4 | 0.6 | 4.6 |

Kinsley Avenue at Western Site Driveway

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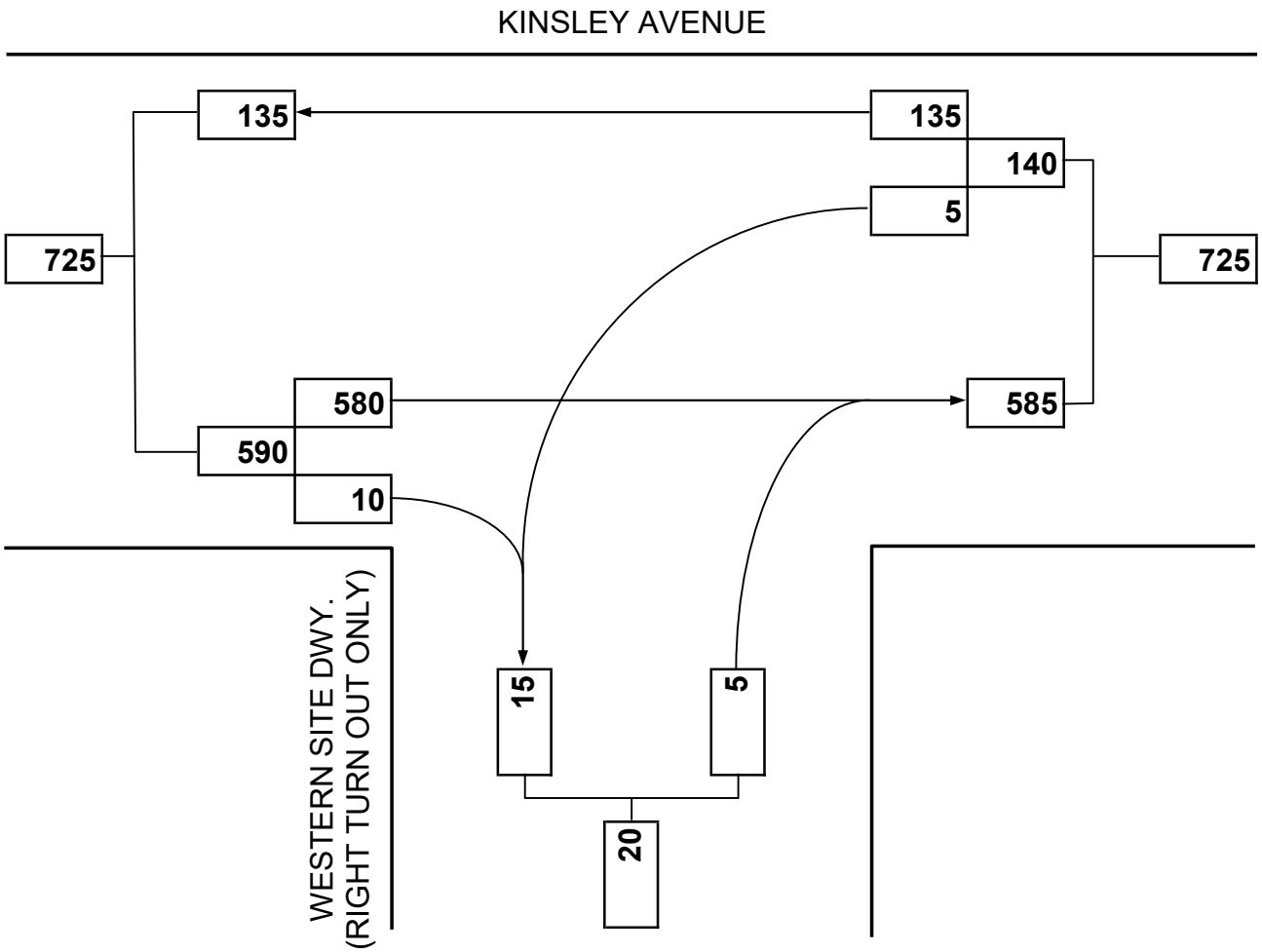
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Kinsley Avenue | **Minor Street**: | Western Site Driveway |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | AM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build |

NORTH



| Intersection | |
|---|---|
| Int Delay, s/veh | 0.1 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 580 | 10 | 5 | 135 | 0 | 5 |
| Future Vol, veh/h | 580 | 10 | 5 | 135 | 0 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| 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, % | 2 | 0 | 0 | 2 | 0 | 0 |
| Mvmt Flow | 630 | 11 | 5 | 147 | 0 | 5 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 641 | 0 | - | 636 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | 4.1 | - | - | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | 2.2 | - | - | 3.3 |
| Pot Cap-1 Maneuver | - | - | 953 | - | 0 | 481 |
| Stage 1 | - | - | - | - | 0 | - |
| Stage 2 | - | - | - | - | 0 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 953 | - | - | 481 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.3 | 12.6 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 481 | - | - | 953 | - |
| HCM Lane V/C Ratio | 0.011 | - | - | 0.006 | - |
| HCM Control Delay (s) | 12.6 | - | - | 8.8 | 0 |
| HCM Lane LOS | B | - | - | A | A |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | - |

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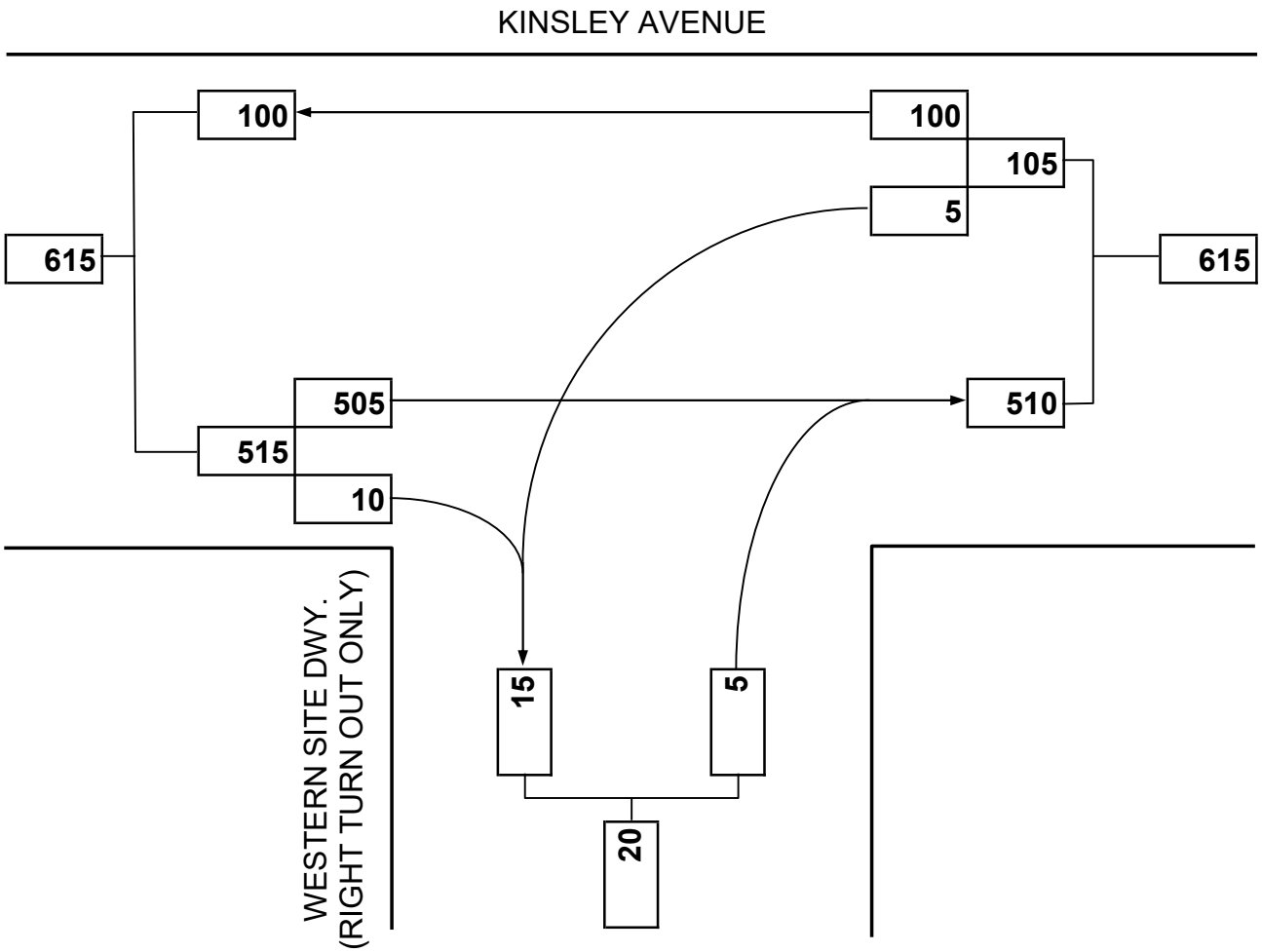
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Kinsley Avenue | **Minor Street**: | Western Site Driveway |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | PM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build |

NORTH



| Intersection | |
|---|---|
| Int Delay, s/veh | 0.2 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 505 | 10 | 5 | 100 | 0 | 5 |
| Future Vol, veh/h | 505 | 10 | 5 | 100 | 0 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| 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, % | 2 | 0 | 0 | 2 | 0 | 0 |
| Mvmt Flow | 549 | 11 | 5 | 109 | 0 | 5 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 560 | 0 | - | 555 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | 4.1 | - | - | 6.2 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | 2.2 | - | - | 3.3 |
| Pot Cap-1 Maneuver | - | - | 1021 | - | 0 | 535 |
| Stage 1 | - | - | - | - | 0 | - |
| Stage 2 | - | - | - | - | 0 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1021 | - | - | 535 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 0.4 | 11.8 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 535 | - | - | 1021 | - |
| HCM Lane V/C Ratio | 0.01 | - | - | 0.005 | - |
| HCM Control Delay (s) | 11.8 | - | - | 8.5 | 0 |
| HCM Lane LOS | B | - | - | A | A |
| HCM 95th %tile Q(veh) | 0 | - | - | 0 | - |

Kinsley Avenue at Eastern Site Driveway

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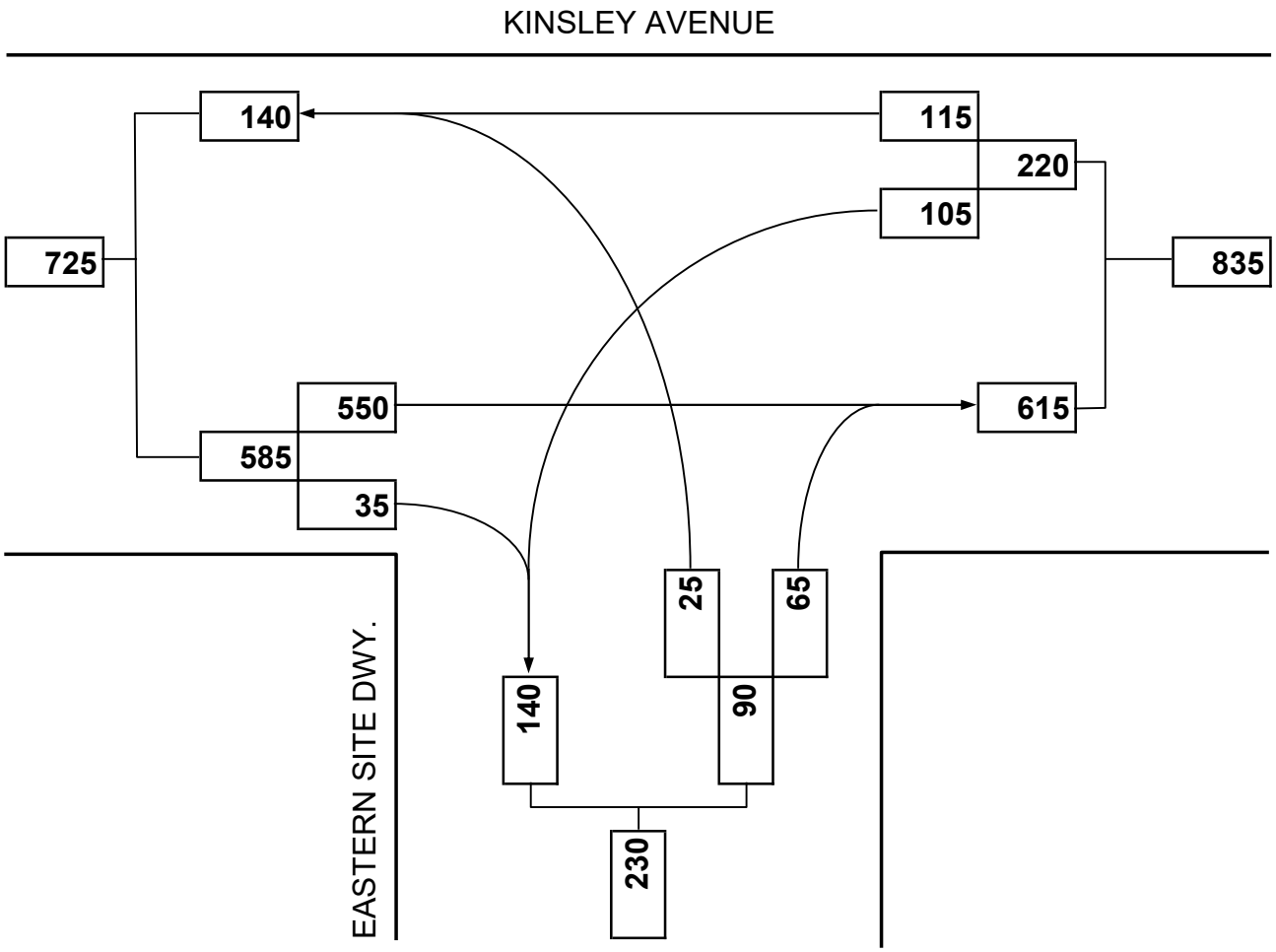
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Kinsley Avenue | **Minor Street**: | Eastern Site Driveway |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | AM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build |

NORTH



| Intersection | |
|---|---|
| Int Delay, s/veh | 2.9 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 550 | 35 | 105 | 115 | 25 | 65 |
| Future Vol, veh/h | 550 | 35 | 105 | 115 | 25 | 65 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| 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, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 598 | 38 | 114 | 125 | 27 | 71 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 636 | 0 | 970 | 617 |
| Stage 1 | - | - | - | - | 617 | - |
| Stage 2 | - | - | - | - | 353 | - |
| Critical Hdwy | - | - | 4.12 | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | - | - | 947 | - | 281 | 490 |
| Stage 1 | - | - | - | - | 538 | - |
| Stage 2 | - | - | - | - | 711 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 947 | - | 245 | 490 |
| Mov Cap-2 Maneuver | - | - | - | - | 245 | - |
| Stage 1 | - | - | - | - | 538 | - |
| Stage 2 | - | - | - | - | 619 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 4.4 | 17.6 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 383 | - | - | 947 | - |
| HCM Lane V/C Ratio | 0.255 | - | - | 0.121 | - |
| HCM Control Delay (s) | 17.6 | - | - | 9.3 | - |
| HCM Lane LOS | C | - | - | A | - |
| HCM 95th %tile Q(veh) | 1 | - | - | 0.4 | - |

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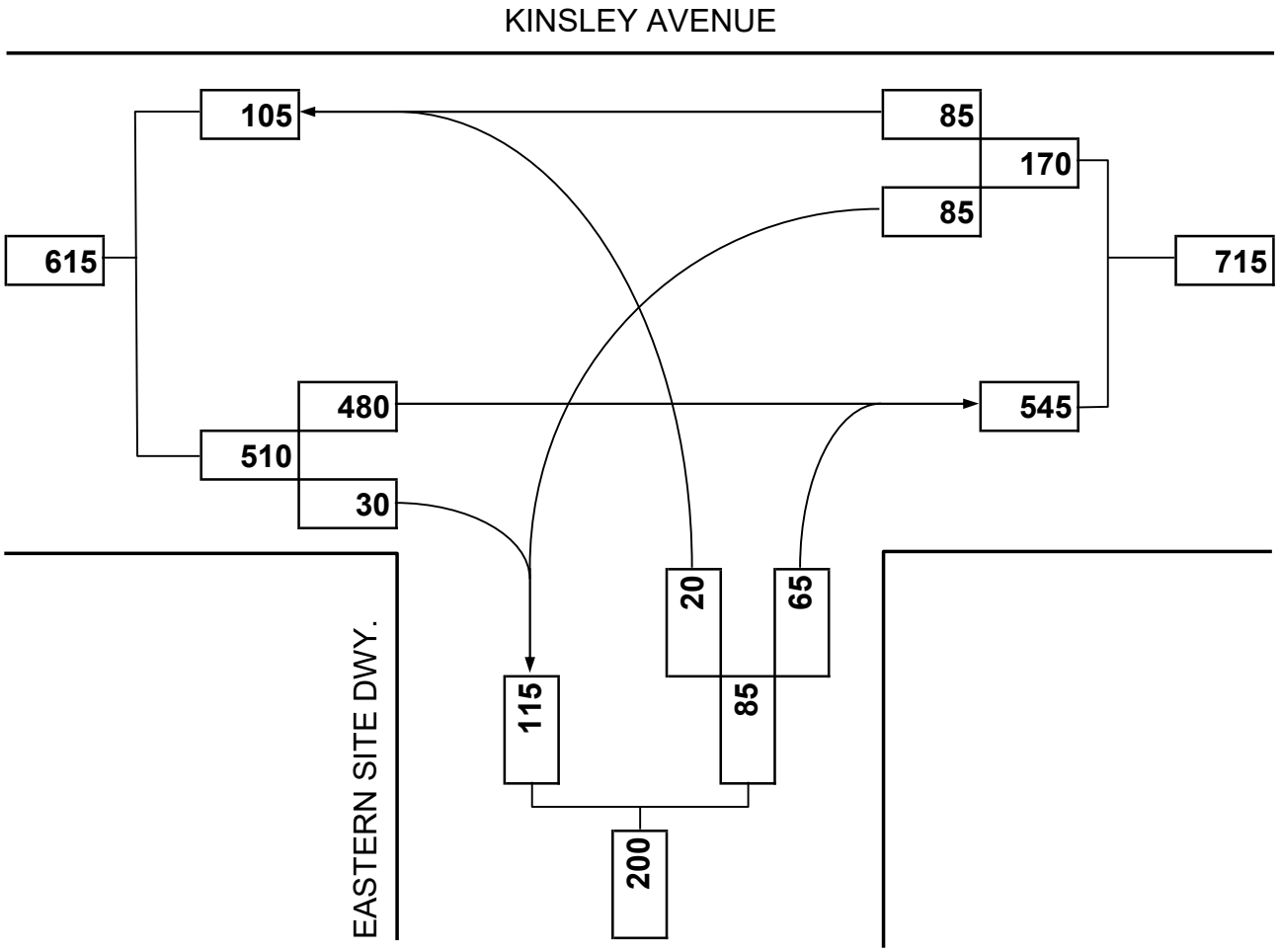
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Kinsley Avenue | **Minor Street**: | Eastern Site Driveway |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | PM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build |

NORTH



| Intersection | |
|---|---|
| Int Delay, s/veh | 2.6 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 480 | 30 | 85 | 85 | 20 | 65 |
| Future Vol, veh/h | 480 | 30 | 85 | 85 | 20 | 65 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| 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, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 522 | 33 | 92 | 92 | 22 | 71 |

| Major/Minor | Major1 | | Major2 | | Minor1 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | 555 | 0 | 815 | 539 |
| Stage 1 | - | - | - | - | 539 | - |
| Stage 2 | - | - | - | - | 276 | - |
| Critical Hdwy | - | - | 4.12 | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | - | - | 1015 | - | 347 | 542 |
| Stage 1 | - | - | - | - | 585 | - |
| Stage 2 | - | - | - | - | 771 | - |
| Platoon blocked, % | - | - | | - | | |
| Mov Cap-1 Maneuver | - | - | 1015 | - | 314 | 542 |
| Mov Cap-2 Maneuver | - | - | - | - | 314 | - |
| Stage 1 | - | - | - | - | 585 | - |
| Stage 2 | - | - | - | - | 697 | - |

| Approach | EB | WB | NB |
|---|---|---|---|
| HCM Control Delay, s | 0 | 4.5 | 14.7 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | 463 | - | - | 1015 | - |
| HCM Lane V/C Ratio | 0.2 | - | - | 0.091 | - |
| HCM Control Delay (s) | 14.7 | - | - | 8.9 | - |
| HCM Lane LOS | B | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.7 | - | - | 0.3 | - |

# D

## Future 2023 Build Alternative Weekday AM / PM Peak Hour

Dean Street at Kinsley Avenue/Providence Place

Pleasant Valley Parkway at Promenade Street

Kinsley Avenue at Acorn Street

Dean Street at Site Driveway

Kinsley Avenue at Western Site Driveway

Kinsley Avenue at Eastern Site Driveway

Dean Street at Kinsley Avenue/Providence Place

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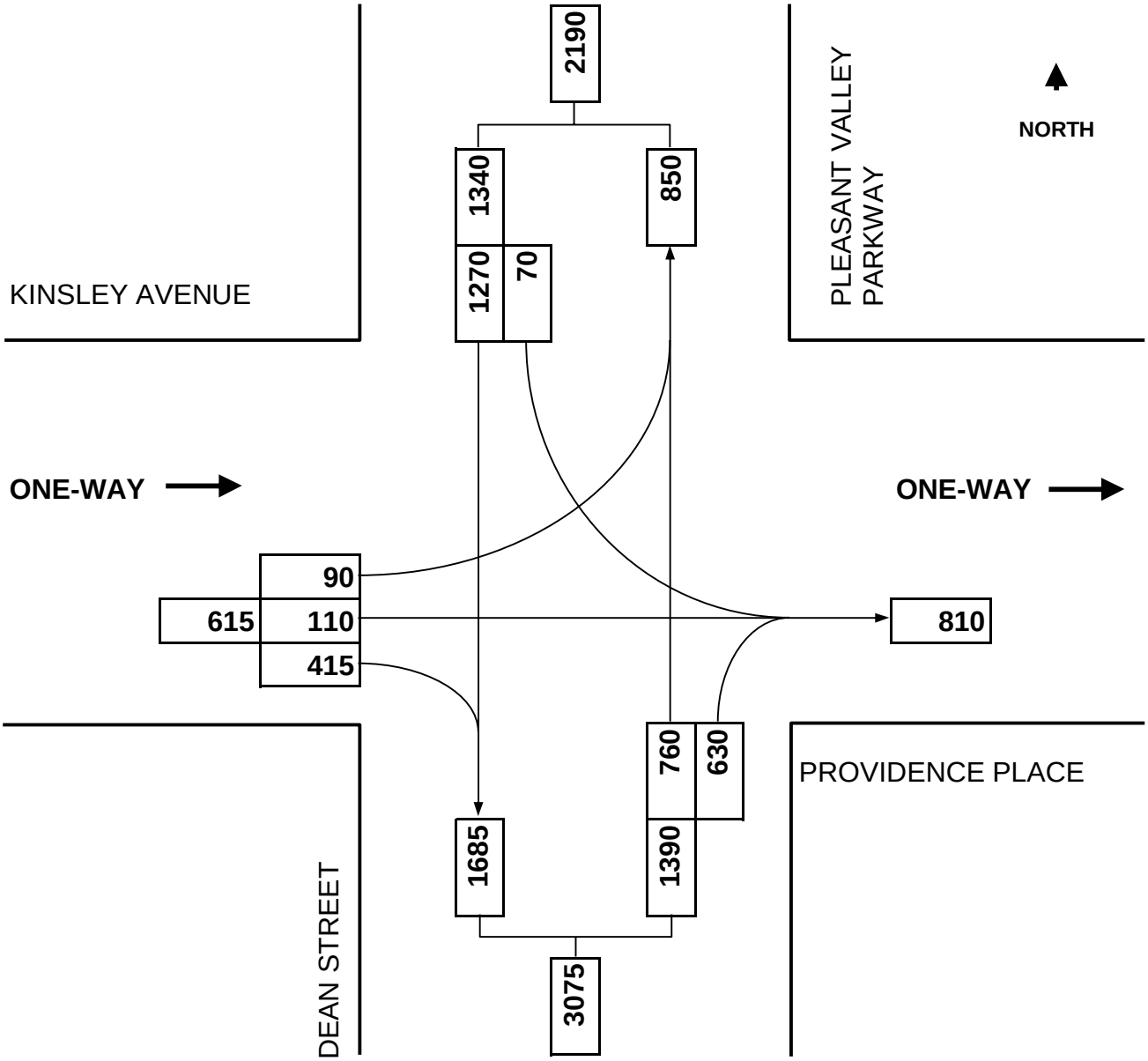
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Dean Street | **Minor Street**: | Kinsley Avenue |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | AM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build Alternative |

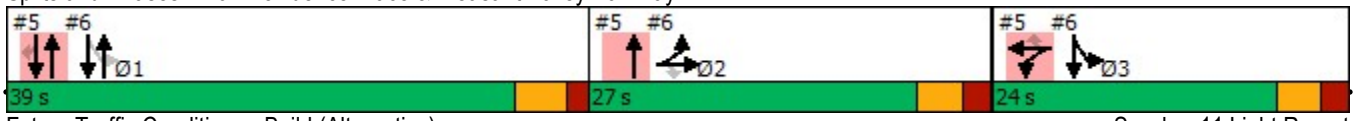


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 90 | 110 | 415 | 0 | 0 | 0 | 0 | 760 | 630 | 70 | 1270 | 0 |
| Future Volume (vph) | 90 | 110 | 415 | 0 | 0 | 0 | 0 | 760 | 630 | 70 | 1270 | 0 |
| Satd. Flow (prot) | 0 | 1858 | 1583 | 0 | 0 | 0 | 0 | 3328 | 0 | 1805 | 3539 | 0 |
| Flt Permitted | | 0.978 | | | | | | | | 0.118 | | |
| Satd. Flow (perm) | 0 | 1858 | 1583 | 0 | 0 | 0 | 0 | 3328 | 0 | 224 | 3539 | 0 |
| Satd. Flow (RTOR) | | | 85 | | | | | 267 | | | | |
| Lane Group Flow (vph) | 0 | 209 | 432 | 0 | 0 | 0 | 0 | 1433 | 0 | 71 | 1296 | 0 |
| Turn Type | Split | NA | Perm | | | | | NA | | D.P+P | NA | |
| Protected Phases | 2 | 2 | | | | | | 1 | | 3 | 1 3 | |
| Permitted Phases | | | 2 | | | | | | | 1 | | |
| Total Split (s) | 27.0 | 27.0 | 27.0 | | | | | 39.0 | | 24.0 | | |
| Total Lost Time (s) | | 5.0 | 5.0 | | | | | 5.0 | | 5.0 | | |
| Act Effct Green (s) | | 22.0 | 22.0 | | | | | 34.0 | | 53.0 | 58.0 | |
| Actuated g/C Ratio | | 0.24 | 0.24 | | | | | 0.38 | | 0.59 | 0.64 | |
| v/c Ratio | | 0.46 | 0.96 | | | | | 1.01 | | 0.15 | 0.57 | |
| Control Delay | | 32.9 | 62.1 | | | | | 49.5 | | 7.1 | 2.4 | |
| Queue Delay | | 0.0 | 0.0 | | | | | 0.0 | | 1.0 | 0.8 | |
| Total Delay | | 32.9 | 62.1 | | | | | 49.5 | | 8.1 | 3.2 | |
| LOS | | C | E | | | | | D | | A | A | |
| Approach Delay | | 52.6 | | | | | | 49.5 | | | 3.5 | |
| Approach LOS | | D | | | | | | D | | | A | |
| Queue Length 50th (ft) | | 101 | 201 | | | | | ~370 | | 2 | 15 | |
| Queue Length 95th (ft) | | 169 | #391 | | | | | #534 | | m5 | m45 | |
| Internal Link Dist (ft) | | 115 | | | 721 | | | 165 | | | 84 | |
| Turn Bay Length (ft) | | | 50 | | | | | | | 100 | | |
| Base Capacity (vph) | | 454 | 451 | | | | | 1423 | | 465 | 2281 | |
| Starvation Cap Reductn | | 0 | 0 | | | | | 0 | | 246 | 622 | |
| Spillback Cap Reductn | | 0 | 0 | | | | | 0 | | 0 | 0 | |
| Storage Cap Reductn | | 0 | 0 | | | | | 0 | | 0 | 0 | |
| Reduced v/c Ratio | | 0.46 | 0.96 | | | | | 1.01 | | 0.32 | 0.78 | |

## Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 31.8 Intersection LOS: C
Intersection Capacity Utilization 126.1% ICU Level of Service H
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Providence Place & Pleasant Valley Parkway



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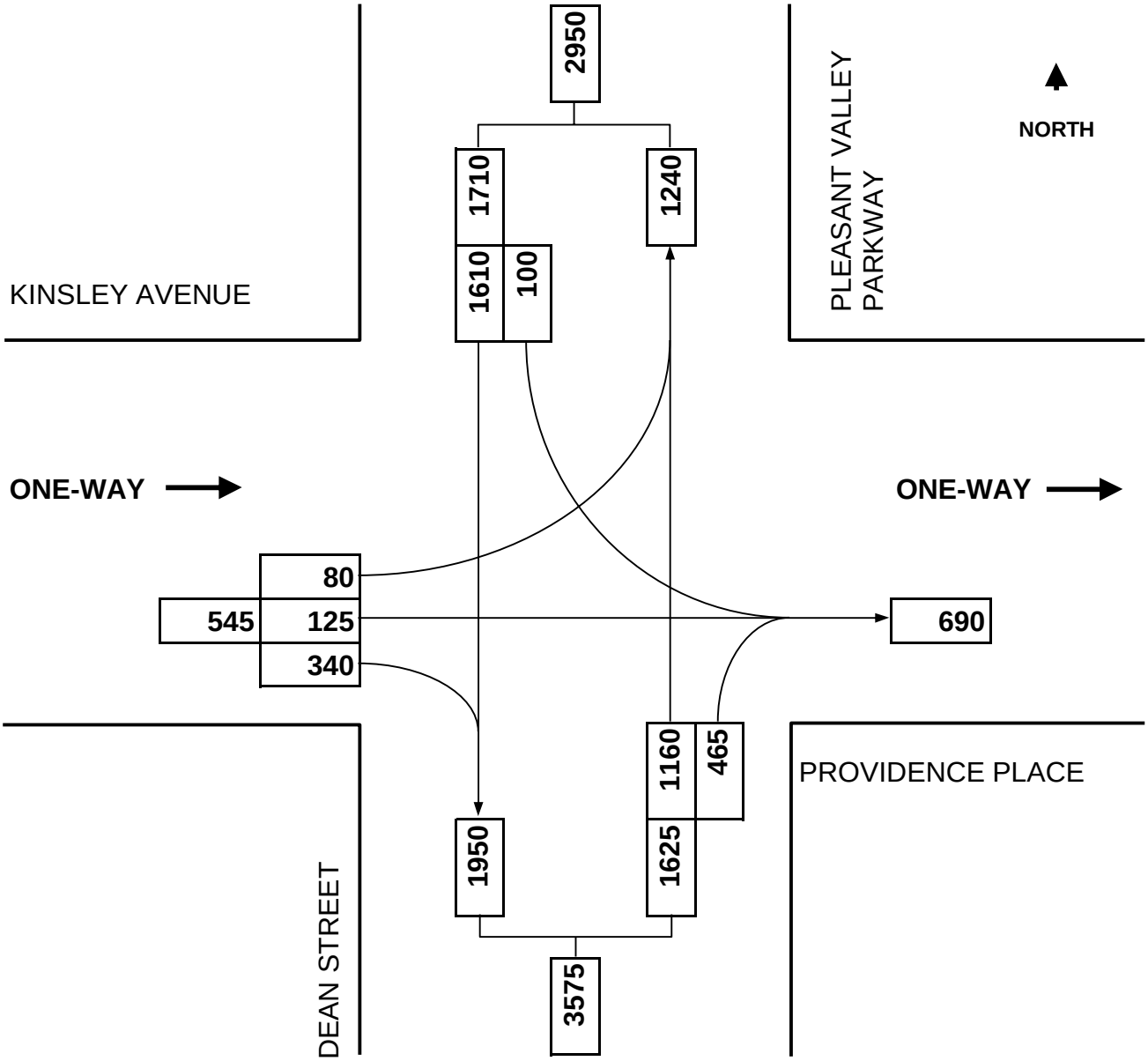
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Dean Street | **Minor Street**: | Kinsley Avenue |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | PM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build Alternative |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 80 | 125 | 340 | 0 | 0 | 0 | 0 | 1160 | 465 | 100 | 1610 | 0 |
| Future Volume (vph) | 80 | 125 | 340 | 0 | 0 | 0 | 0 | 1160 | 465 | 100 | 1610 | 0 |
| Satd. Flow (prot) | 0 | 1864 | 1599 | 0 | 0 | 0 | 0 | 3406 | 0 | 1805 | 3539 | 0 |
| Flt Permitted | | 0.981 | | | | | | | | 0.103 | | |
| Satd. Flow (perm) | 0 | 1864 | 1599 | 0 | 0 | 0 | 0 | 3406 | 0 | 196 | 3539 | 0 |
| Satd. Flow (RTOR) | | | 85 | | | | | 84 | | | | |
| Lane Group Flow (vph) | 0 | 213 | 354 | 0 | 0 | 0 | 0 | 1675 | 0 | 102 | 1643 | 0 |
| Turn Type | Split | NA | Perm | | | | | NA | | D.P+P | NA | |
| Protected Phases | 2 | 2 | | | | | | 1 | | 3 | 1 3 | |
| Permitted Phases | | | 2 | | | | | | | 1 | | |
| Total Split (s) | 18.0 | 18.0 | 18.0 | | | | | 44.0 | | 28.0 | | |
| Total Lost Time (s) | | 5.0 | 5.0 | | | | | 5.0 | | 5.0 | | |
| Act Effct Green (s) | | 13.0 | 13.0 | | | | | 39.0 | | 62.0 | 67.0 | |
| Actuated g/C Ratio | | 0.14 | 0.14 | | | | | 0.43 | | 0.69 | 0.74 | |
| v/c Ratio | | 0.79 | 1.17 | | | | | 1.10 | | 0.19 | 0.62 | |
| Control Delay | | 59.5 | 134.0 | | | | | 80.7 | | 5.4 | 1.1 | |
| Queue Delay | | 0.0 | 0.0 | | | | | 0.0 | | 1.5 | 0.7 | |
| Total Delay | | 59.5 | 134.0 | | | | | 80.7 | | 6.9 | 1.9 | |
| LOS | | E | F | | | | | F | | A | A | |
| Approach Delay | | 106.0 | | | | | | 80.7 | | | 2.2 | |
| Approach LOS | | F | | | | | | F | | | A | |
| Queue Length 50th (ft) | | 119 | ~198 | | | | | ~561 | | 2 | 13 | |
| Queue Length 95th (ft) | | #232 | #370 | | | | | #700 | | m2 | m14 | |
| Internal Link Dist (ft) | | 115 | | | 721 | | | 165 | | | 84 | |
| Turn Bay Length (ft) | | | 50 | | | | | | | 100 | | |
| Base Capacity (vph) | | 269 | 303 | | | | | 1523 | | 546 | 2634 | |
| Starvation Cap Reductn | | 0 | 0 | | | | | 0 | | 311 | 596 | |
| Spillback Cap Reductn | | 0 | 0 | | | | | 0 | | 0 | 0 | |
| Storage Cap Reductn | | 0 | 0 | | | | | 0 | | 0 | 0 | |
| Reduced v/c Ratio | | 0.79 | 1.17 | | | | | 1.10 | | 0.43 | 0.81 | |

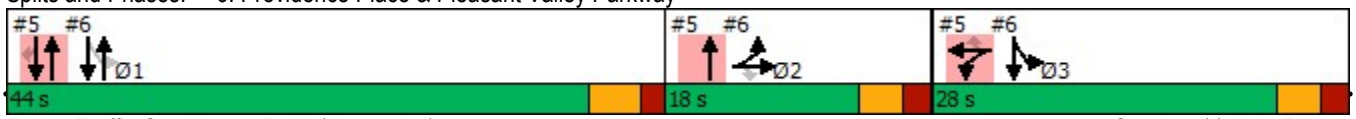
| Intersection Summary | |
|---|---|
| Cycle Length: 90 | |
| Actuated Cycle Length: 90 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 1.17 | |
| Intersection Signal Delay: 49.9 | Intersection LOS: D |
| Intersection Capacity Utilization 132.8% | ICU Level of Service H |
| Analysis Period (min) 15 | |

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Providence Place & Pleasant Valley Parkway



Pleasant Valley Parkway at Promenade Street

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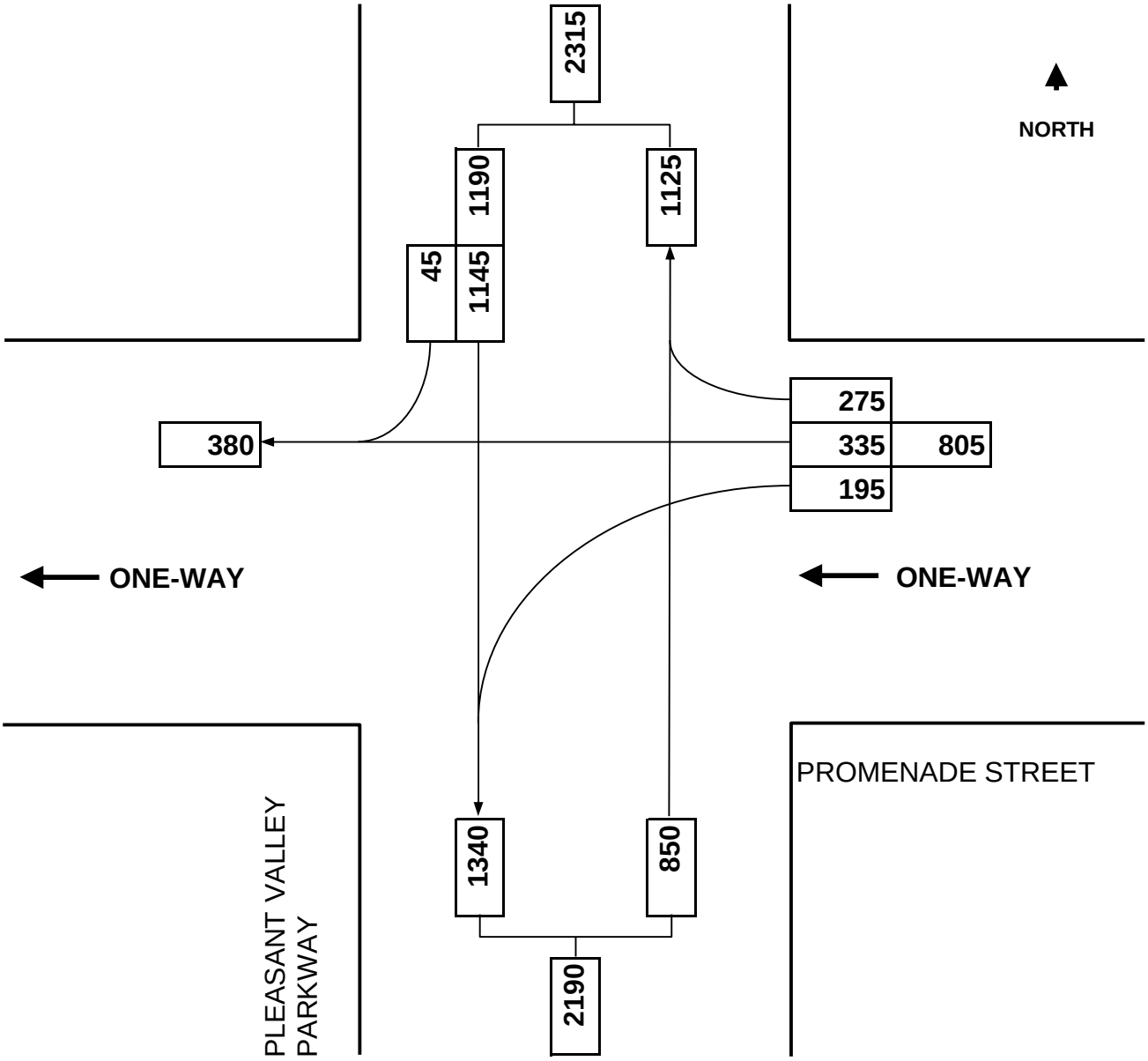
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Pleasant Valley Pkwy. | **Minor Street**: | Promenade Street |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | AM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build Alternative |

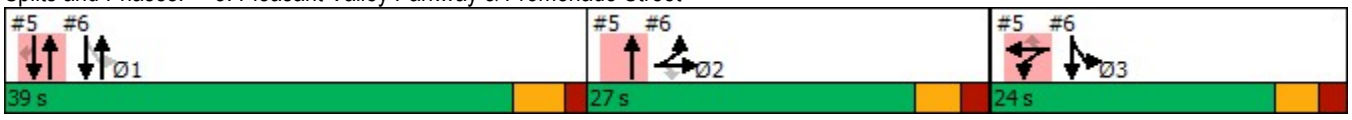


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 195 | 335 | 275 | 0 | 850 | 0 | 0 | 1145 | 45 |
| Future Volume (vph) | 0 | 0 | 0 | 195 | 335 | 275 | 0 | 850 | 0 | 0 | 1145 | 45 |
| Satd. Flow (prot) | 0 | 0 | 0 | 1665 | 1780 | 1583 | 0 | 3610 | 0 | 0 | 3610 | 1615 |
| Flt Permitted | | | | 0.950 | 0.997 | | | | | | | |
| Satd. Flow (perm) | 0 | 0 | 0 | 1665 | 1780 | 1583 | 0 | 3610 | 0 | 0 | 3610 | 1615 |
| Satd. Flow (RTOR) | | | | | | 208 | | | | | | 85 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 181 | 365 | 284 | 0 | 859 | 0 | 0 | 1180 | 46 |
| Turn Type | | | | Split | NA | Perm | | NA | | | NA | Perm |
| Protected Phases | | | | 3 | 3 | | | 1 2 | | | 1 | |
| Permitted Phases | | | | | | 3 | | | | | | 1 |
| Total Split (s) | | | | 24.0 | 24.0 | 24.0 | | | | | 39.0 | 39.0 |
| Total Lost Time (s) | | | | 5.0 | 5.0 | 5.0 | | | | | 5.0 | 5.0 |
| Act Effct Green (s) | | | | 19.0 | 19.0 | 19.0 | | 61.0 | | | 34.0 | 34.0 |
| Actuated g/C Ratio | | | | 0.21 | 0.21 | 0.21 | | 0.68 | | | 0.38 | 0.38 |
| v/c Ratio | | | | 0.52 | 0.97 | 0.57 | | 0.35 | | | 0.87 | 0.07 |
| Control Delay | | | | 37.5 | 77.5 | 14.5 | | 1.1 | | | 34.1 | 1.4 |
| Queue Delay | | | | 0.0 | 0.0 | 0.0 | | 2.0 | | | 0.0 | 0.0 |
| Total Delay | | | | 37.5 | 77.5 | 14.5 | | 3.1 | | | 34.1 | 1.4 |
| LOS | | | | D | E | B | | A | | | C | A |
| Approach Delay | | | | | 47.2 | | | 3.1 | | | 32.9 | |
| Approach LOS | | | | | D | | | A | | | C | |
| Queue Length 50th (ft) | | | | 96 | 218 | 36 | | 14 | | | 320 | 0 |
| Queue Length 95th (ft) | | | | 166 | #403 | 114 | | m14 | | | #419 | 7 |
| Internal Link Dist (ft) | | 491 | | | 792 | | | 84 | | | 494 | |
| Turn Bay Length (ft) | | | | | | 150 | | | | | | |
| Base Capacity (vph) | | | | 351 | 375 | 498 | | 2447 | | | 1363 | 663 |
| Starvation Cap Reductn | | | | 0 | 0 | 0 | | 1386 | | | 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 | 0.97 | 0.57 | | 0.81 | | | 0.87 | 0.07 |

| Intersection Summary | |
|---|---|
| Cycle Length: 90 | |
| Actuated Cycle Length: 90 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 1.01 | |
| Intersection Signal Delay: 28.2 | Intersection LOS: C |
| Intersection Capacity Utilization 126.1% | ICU Level of Service H |
| Analysis Period (min) 15 | |

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Pleasant Valley Parkway & Promenade Street



| Lane Group | Ø2 |
|---|---|
| Lane Configurations | |
| Traffic Volume (vph) | |
| Future Volume (vph) | |
| Satd. Flow (prot) | |
| Flt Permitted | |
| Satd. Flow (perm) | |
| Satd. Flow (RTOR) | |
| Lane Group Flow (vph) | |
| Turn Type | |
| Protected Phases | 2 |
| Permitted Phases | |
| Total Split (s) | 27.0 |
| Total Lost Time (s) | |
| Act Effct Green (s) | |
| Actuated g/C Ratio | |
| v/c Ratio | |
| Control Delay | |
| Queue Delay | |
| Total Delay | |
| LOS | |
| Approach Delay | |
| Approach LOS | |
| Queue Length 50th (ft) | |
| Queue Length 95th (ft) | |
| Internal Link Dist (ft) | |
| Turn Bay Length (ft) | |
| Base Capacity (vph) | |
| Starvation Cap Reductn | |
| Spillback Cap Reductn | |
| Storage Cap Reductn | |
| Reduced v/c Ratio | |

| Intersection Summary |
|---|

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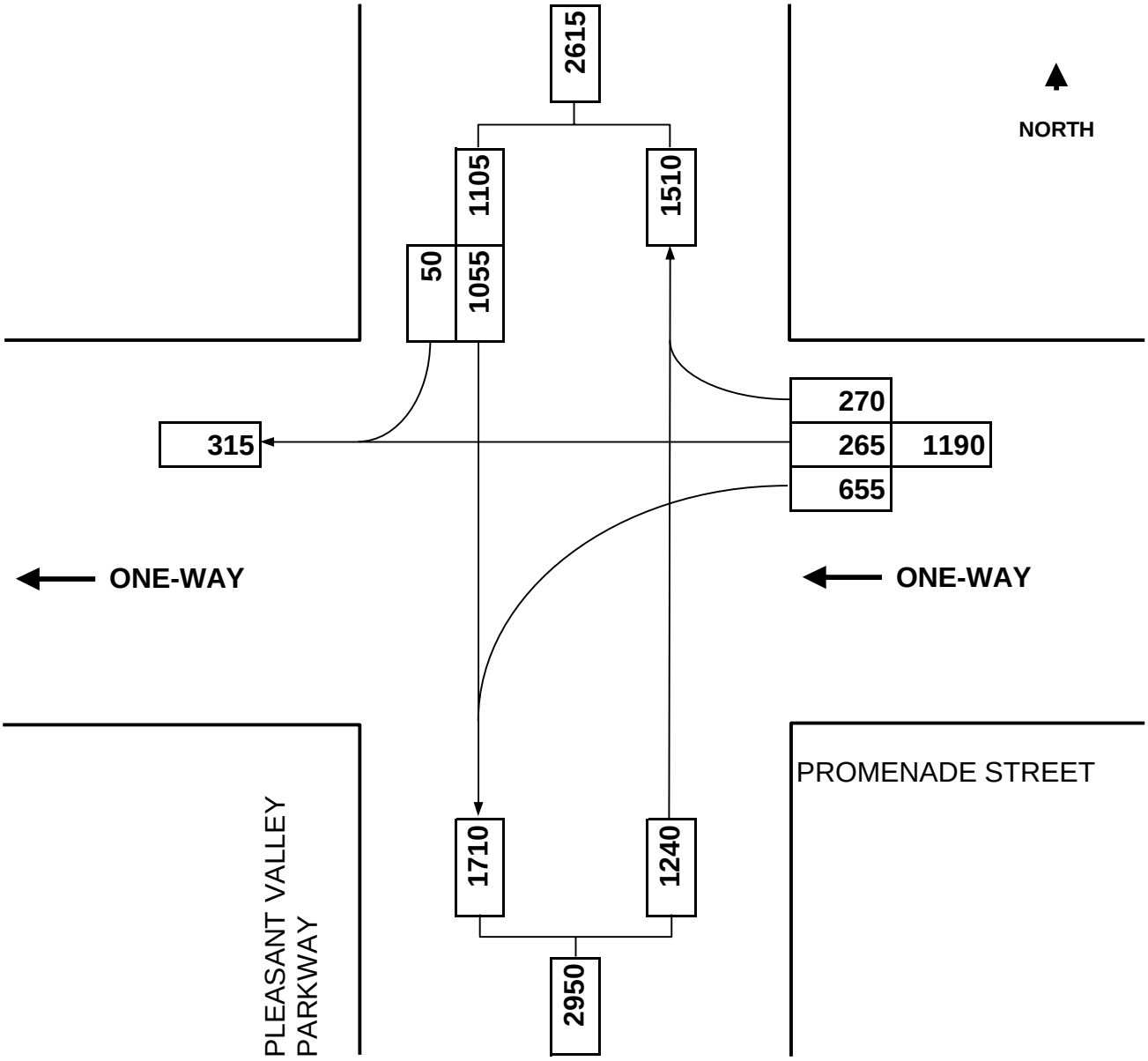
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Pleasant Valley Pkwy. | **Minor Street**: | Promenade Street |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | PM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build Alternative |

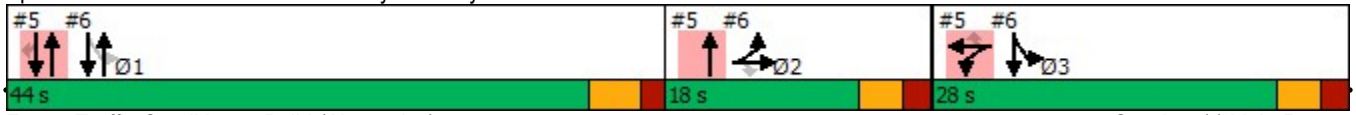


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 655 | 265 | 270 | 0 | 1240 | 0 | 0 | 1055 | 50 |
| Future Volume (vph) | 0 | 0 | 0 | 655 | 265 | 270 | 0 | 1240 | 0 | 0 | 1055 | 50 |
| Satd. Flow (prot) | 0 | 0 | 0 | 1665 | 1735 | 1583 | 0 | 3610 | 0 | 0 | 3610 | 1615 |
| Flt Permitted | | | | 0.950 | 0.979 | | | | | | | |
| Satd. Flow (perm) | 0 | 0 | 0 | 1665 | 1735 | 1583 | 0 | 3610 | 0 | 0 | 3610 | 1615 |
| Satd. Flow (RTOR) | | | | | | 85 | | | | | | 85 |
| Lane Group Flow (vph) | 0 | 0 | 0 | 466 | 482 | 278 | 0 | 1253 | 0 | 0 | 1088 | 52 |
| Turn Type | | | | Split | NA | Perm | | NA | | | NA | Perm |
| Protected Phases | | | | 3 | 3 | | | 1 2 | | | 1 | |
| Permitted Phases | | | | | | 3 | | | | | | 1 |
| Total Split (s) | | | | 28.0 | 28.0 | 28.0 | | | | | 44.0 | 44.0 |
| Total Lost Time (s) | | | | 5.0 | 5.0 | 5.0 | | | | | 5.0 | 5.0 |
| Act Effct Green (s) | | | | 23.0 | 23.0 | 23.0 | | 57.0 | | | 39.0 | 39.0 |
| Actuated g/C Ratio | | | | 0.26 | 0.26 | 0.26 | | 0.63 | | | 0.43 | 0.43 |
| v/c Ratio | | | | 1.10 | 1.09 | 0.60 | | 0.55 | | | 0.70 | 0.07 |
| Control Delay | | | | 106.2 | 102.6 | 26.1 | | 0.7 | | | 23.6 | 1.6 |
| Queue Delay | | | | 0.0 | 0.0 | 0.0 | | 7.4 | | | 0.0 | 0.0 |
| Total Delay | | | | 106.2 | 102.6 | 26.1 | | 8.1 | | | 23.6 | 1.6 |
| LOS | | | | F | F | C | | A | | | C | A |
| Approach Delay | | | | | 86.6 | | | 8.1 | | | 22.6 | |
| Approach LOS | | | | | F | | | A | | | C | |
| Queue Length 50th (ft) | | | | ~318 | ~327 | 95 | | 8 | | | 256 | 0 |
| Queue Length 95th (ft) | | | | #514 | #525 | 178 | | m13 | | | 329 | 9 |
| Internal Link Dist (ft) | | 491 | | | 792 | | | 84 | | | 494 | |
| Turn Bay Length (ft) | | | | | | 150 | | | | | | |
| Base Capacity (vph) | | | | 425 | 443 | 467 | | 2286 | | | 1564 | 748 |
| Starvation Cap Reductn | | | | 0 | 0 | 0 | | 987 | | | 0 | 0 |
| Spillback Cap Reductn | | | | 0 | 0 | 0 | | 0 | | | 0 | 0 |
| Storage Cap Reductn | | | | 0 | 0 | 0 | | 0 | | | 0 | 0 |
| Reduced v/c Ratio | | | | 1.10 | 1.09 | 0.60 | | 0.96 | | | 0.70 | 0.07 |

## Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.17
Intersection Signal Delay: 39.3 Intersection LOS: D
Intersection Capacity Utilization 132.8% ICU Level of Service H
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Pleasant Valley Parkway & Promenade Street



| Lane Group | Ø2 |
|---|---|
| Lane Configurations | |
| Traffic Volume (vph) | |
| Future Volume (vph) | |
| Satd. Flow (prot) | |
| Flt Permitted | |
| Satd. Flow (perm) | |
| Satd. Flow (RTOR) | |
| Lane Group Flow (vph) | |
| Turn Type | |
| Protected Phases | 2 |
| Permitted Phases | |
| Total Split (s) | 18.0 |
| Total Lost Time (s) | |
| Act Effct Green (s) | |
| Actuated g/C Ratio | |
| v/c Ratio | |
| Control Delay | |
| Queue Delay | |
| Total Delay | |
| LOS | |
| Approach Delay | |
| Approach LOS | |
| Queue Length 50th (ft) | |
| Queue Length 95th (ft) | |
| Internal Link Dist (ft) | |
| Turn Bay Length (ft) | |
| Base Capacity (vph) | |
| Starvation Cap Reductn | |
| Spillback Cap Reductn | |
| Storage Cap Reductn | |
| Reduced v/c Ratio | |

| Intersection Summary |
|---|

Kinsley Avenue at Acorn Street

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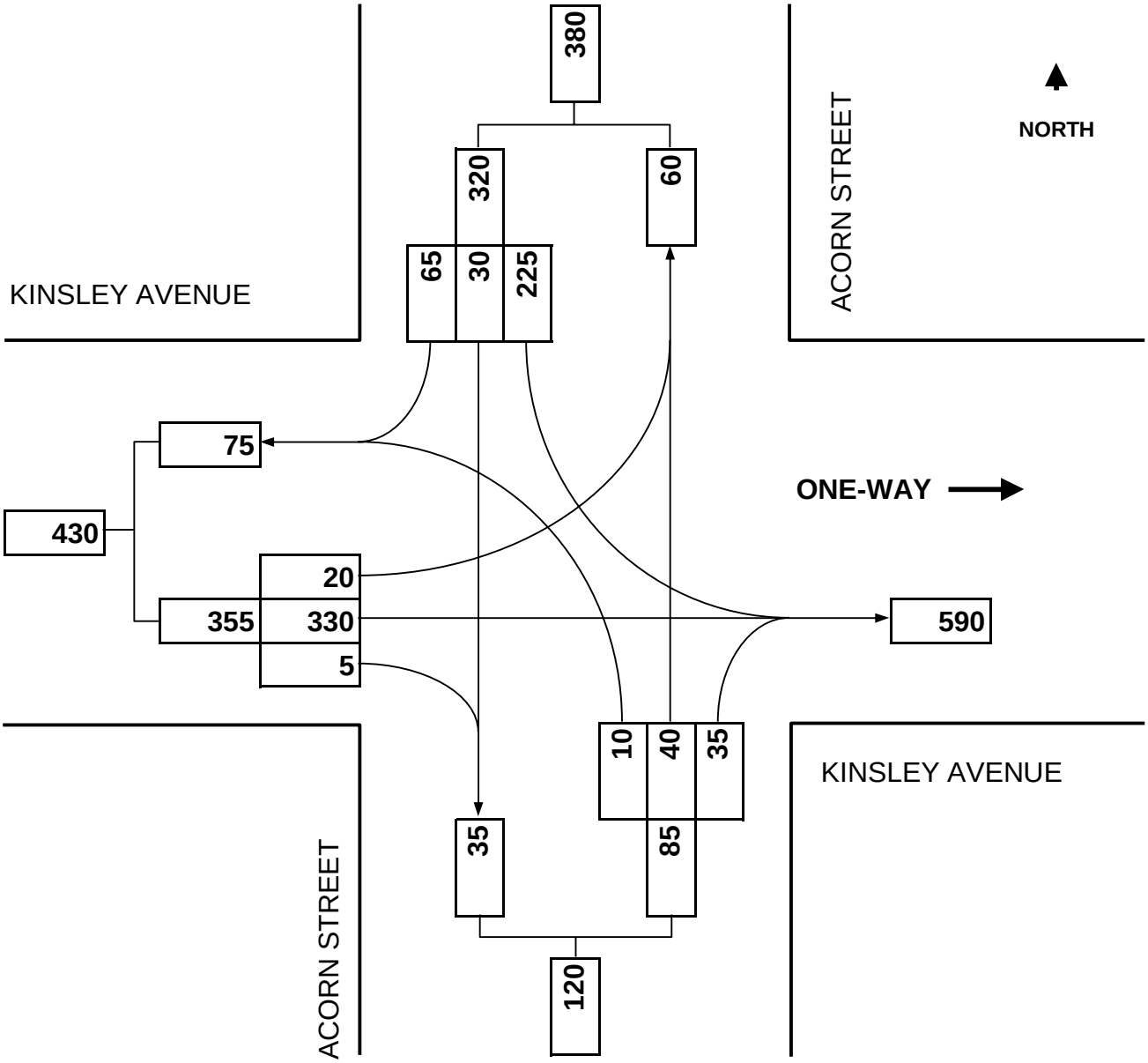
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Kinsley Street | **Minor Street**: | Acorn Street |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | AM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build Alternative |



| Intersection | |
|---|---|
| Intersection Delay, s/veh | 12.8 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 20 | 330 | 5 | 0 | 0 | 0 | 10 | 40 | 35 | 225 | 30 | 65 |
| Future Vol, veh/h | 20 | 330 | 5 | 0 | 0 | 0 | 10 | 40 | 35 | 225 | 30 | 65 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 22 | 359 | 5 | 0 | 0 | 0 | 11 | 43 | 38 | 245 | 33 | 71 |
| Number of Lanes | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | SB | EB | |
| Conflicting Lanes Left | 1 | 1 | 0 |
| Conflicting Approach Right | NB | | EB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 13.7 | 9.1 | 12.9 |
| HCM LOS | B | A | B |

| Lane | NBLn1 | EBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 12% | 6% | 70% |
| Vol Thru, % | 47% | 93% | 9% |
| Vol Right, % | 41% | 1% | 20% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 85 | 355 | 320 |
| LT Vol | 10 | 20 | 225 |
| Through Vol | 40 | 330 | 30 |
| RT Vol | 35 | 5 | 65 |
| Lane Flow Rate | 92 | 386 | 348 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.135 | 0.534 | 0.486 |
| Departure Headway (Hd) | 5.241 | 4.981 | 5.026 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 688 | 714 | 710 |
| Service Time | 3.241 | 3.071 | 3.115 |
| HCM Lane V/C Ratio | 0.134 | 0.541 | 0.49 |
| HCM Control Delay | 9.1 | 13.7 | 12.9 |
| HCM Lane LOS | A | B | B |
| HCM 95th-tile Q | 0.5 | 3.2 | 2.7 |

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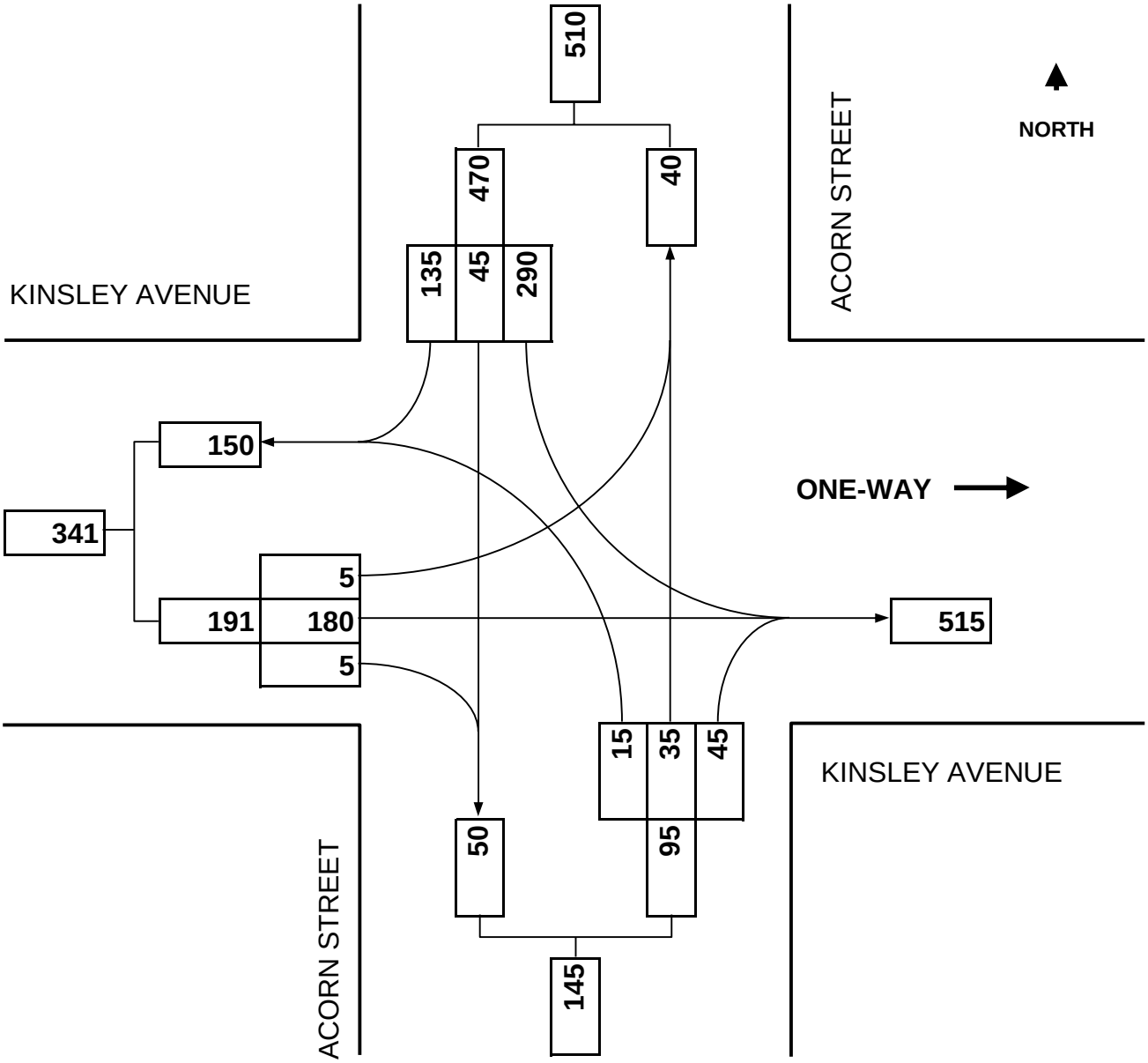
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Kinsley Street | **Minor Street**: | Acorn Street |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | PM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build Alternative |



| Intersection | |
|---|---|
| Intersection Delay, s/veh | 13.4 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 5 | 180 | 5 | 0 | 0 | 0 | 15 | 35 | 45 | 290 | 45 | 135 |
| Future Vol, veh/h | 5 | 180 | 5 | 0 | 0 | 0 | 15 | 35 | 45 | 290 | 45 | 135 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 5 | 196 | 5 | 0 | 0 | 0 | 16 | 38 | 49 | 315 | 49 | 147 |
| Number of Lanes | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | SB | EB | |
| Conflicting Lanes Left | 1 | 1 | 0 |
| Conflicting Approach Right | NB | | EB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 10.7 | 8.6 | 15.4 |
| HCM LOS | B | A | C |

| Lane | NBLn1 | EBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 16% | 3% | 62% |
| Vol Thru, % | 37% | 95% | 10% |
| Vol Right, % | 47% | 3% | 29% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 95 | 190 | 470 |
| LT Vol | 15 | 5 | 290 |
| Through Vol | 35 | 180 | 45 |
| RT Vol | 45 | 5 | 135 |
| Lane Flow Rate | 103 | 207 | 511 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.137 | 0.303 | 0.643 |
| Departure Headway (Hd) | 4.784 | 5.276 | 4.53 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 742 | 675 | 792 |
| Service Time | 2.86 | 3.353 | 2.58 |
| HCM Lane V/C Ratio | 0.139 | 0.307 | 0.645 |
| HCM Control Delay | 8.6 | 10.7 | 15.4 |
| HCM Lane LOS | A | B | C |
| HCM 95th-tile Q | 0.5 | 1.3 | 4.8 |

Dean Street at Site Driveway

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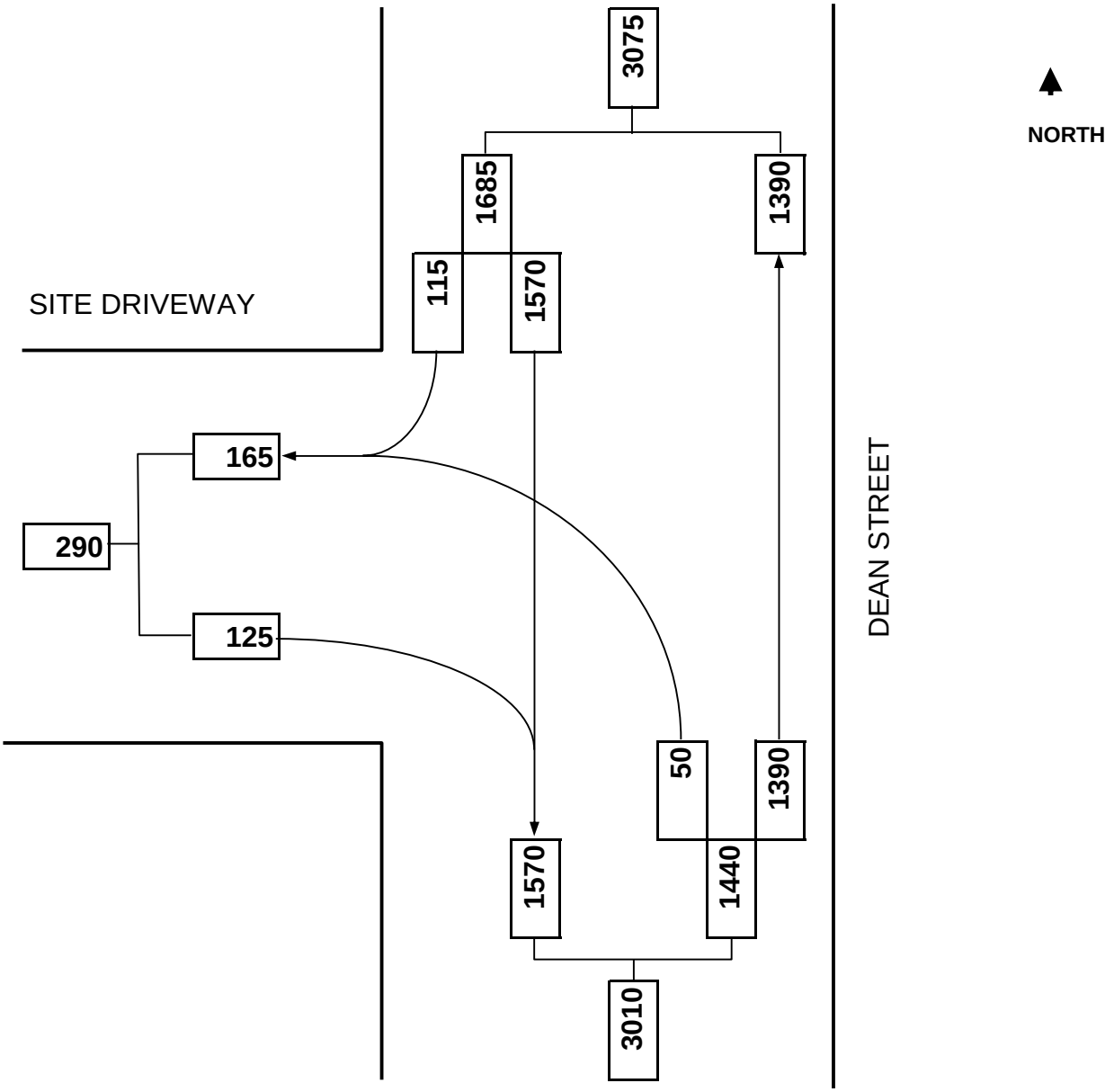
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Dean Street | **Minor Street**: | Site Driveway |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | AM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build Alternative |



| Intersection | |
|---|---|
| Int Delay, s/veh | 1.4 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 125 | 50 | 1390 | 1570 | 115 |
| Future Vol, veh/h | 0 | 125 | 50 | 1390 | 1570 | 115 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | Stop | - | None | - | None |
| Storage Length | - | - | 50 | - | - | - |
| 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 | 2 | 2 | 0 |
| Mvmt Flow | 0 | 136 | 54 | 1511 | 1707 | 125 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 916 | 1832 | 0 | - | 0 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.9 | 4.1 | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.3 | 2.2 | - | - | - |
| Pot Cap-1 Maneuver | 0 | 279 | 338 | - | - | - |
| Stage 1 | 0 | - | - | - | - | - |
| Stage 2 | 0 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | - | 279 | 338 | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 29.6 | 0.6 | 0 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 338 | - | 279 | - | - |
| HCM Lane V/C Ratio | 0.161 | - | 0.487 | - | - |
| HCM Control Delay (s) | 17.7 | - | 29.6 | - | - |
| HCM Lane LOS | C | - | D | - | - |
| HCM 95th %tile Q(veh) | 0.6 | - | 2.5 | - | - |

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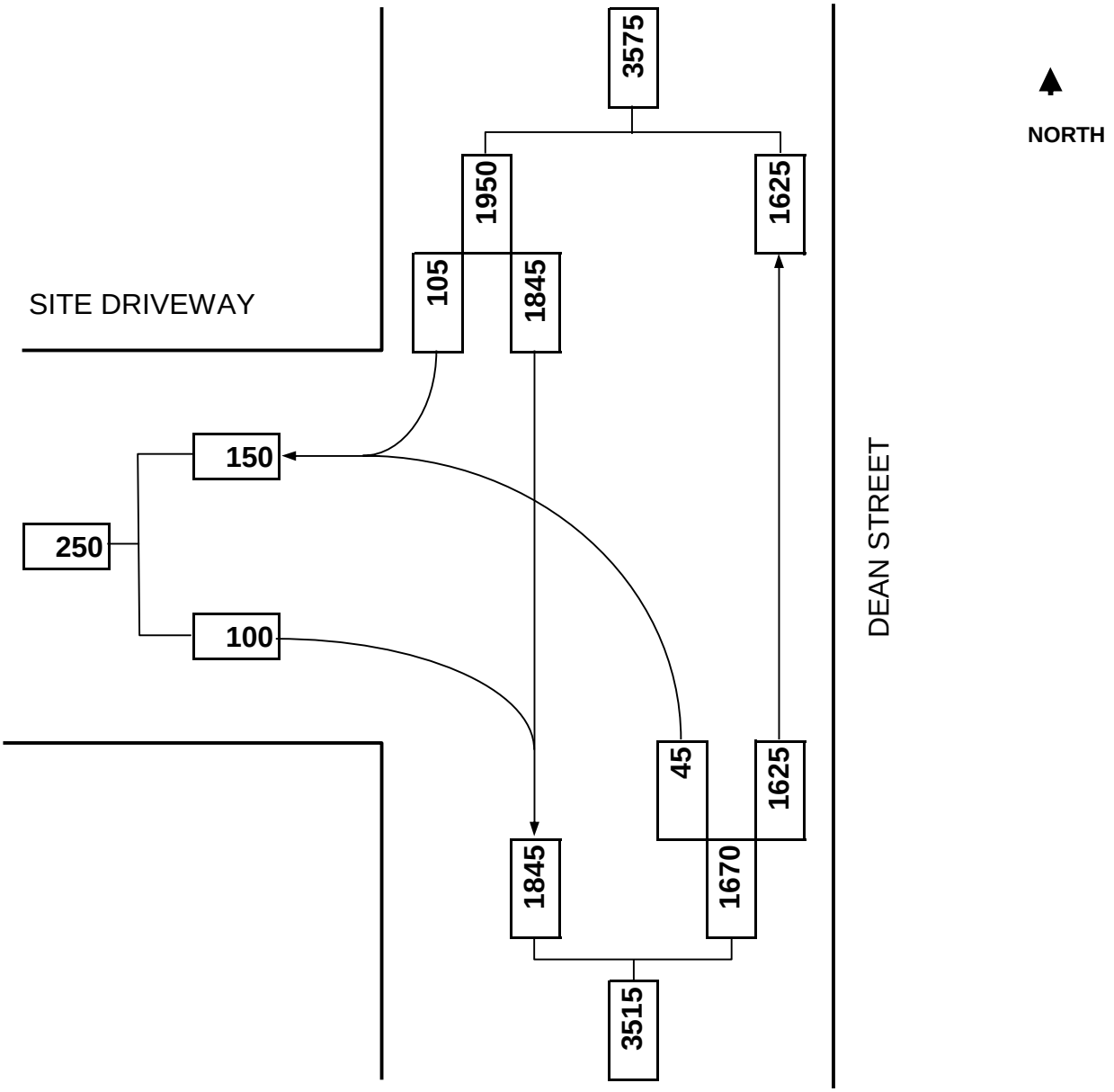
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Dean Street | **Minor Street**: | Site Driveway |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | PM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build Alternative |



| Intersection | |
|---|---|
| Int Delay, s/veh | 1.2 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 100 | 45 | 1625 | 1845 | 105 |
| Future Vol, veh/h | 0 | 100 | 45 | 1625 | 1845 | 105 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | Stop | - | None | - | None |
| Storage Length | - | - | 50 | - | - | - |
| 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 | 2 | 2 | 0 |
| Mvmt Flow | 0 | 109 | 49 | 1766 | 2005 | 114 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | - | 1060 | 2119 | 0 | - | 0 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.9 | 4.1 | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.3 | 2.2 | - | - | - |
| Pot Cap-1 Maneuver | 0 | 224 | 261 | - | - | - |
| Stage 1 | 0 | - | - | - | - | - |
| Stage 2 | 0 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | - | 224 | 261 | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 35.3 | 0.6 | 0 |
| HCM LOS | E | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 261 | - | 224 | - | - |
| HCM Lane V/C Ratio | 0.187 | - | 0.485 | - | - |
| HCM Control Delay (s) | 21.9 | - | 35.3 | - | - |
| HCM Lane LOS | C | - | E | - | - |
| HCM 95th %tile Q(veh) | 0.7 | - | 2.4 | - | - |

Kinsley Avenue at Western Site Driveway

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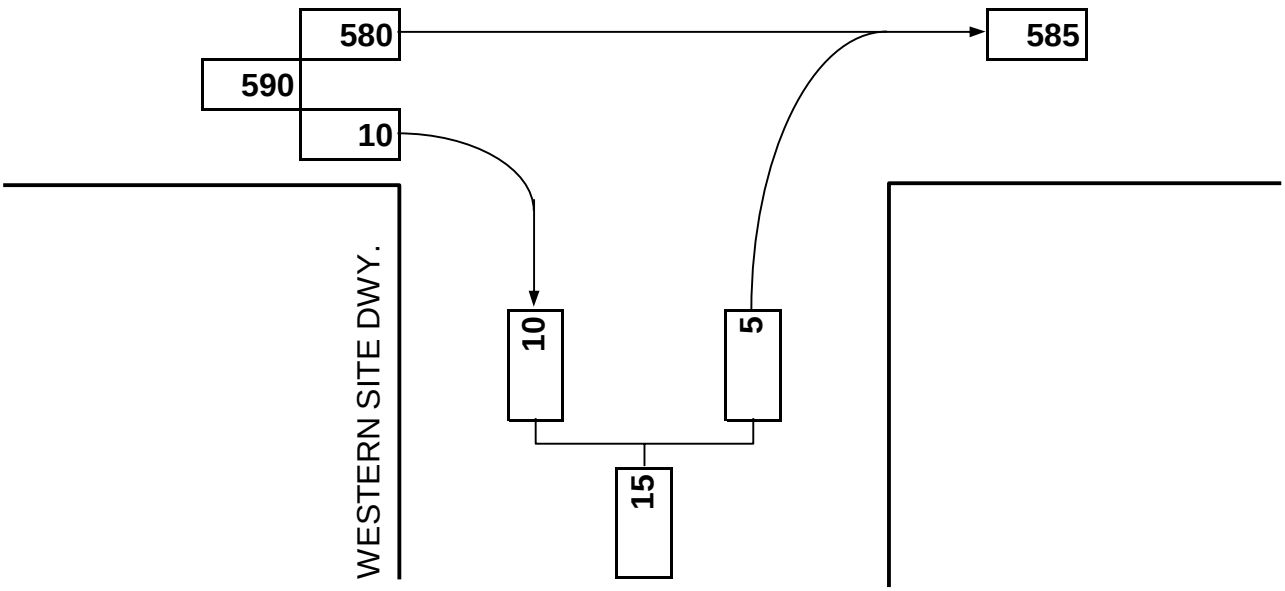
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Kinsley Avenue | **Minor Street**: | Western Site Driveway |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | AM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build Alternative |

NORTH

KINSLEY AVENUE

**ONE-WAY**



| Intersection | |
|---|---|
| Int Delay, s/veh | 0.1 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 580 | 10 | 0 | 0 | 0 | 5 |
| Future Vol, veh/h | 580 | 10 | 0 | 0 | 0 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| 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, % | 2 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 630 | 11 | 0 | 0 | 0 | 5 |

| Major/Minor | Major1 | | | Minor1 | |
|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | | - | 636 |
| Stage 1 | - | - | | - | - |
| Stage 2 | - | - | | - | - |
| Critical Hdwy | - | - | | - | 6.2 |
| Critical Hdwy Stg 1 | - | - | | - | - |
| Critical Hdwy Stg 2 | - | - | | - | - |
| Follow-up Hdwy | - | - | | - | 3.3 |
| Pot Cap-1 Maneuver | - | - | | 0 | 481 |
| Stage 1 | - | - | | 0 | - |
| Stage 2 | - | - | | 0 | - |
| Platoon blocked, % | - | - | | | |
| Mov Cap-1 Maneuver | - | - | | - | 481 |
| Mov Cap-2 Maneuver | - | - | | - | - |
| Stage 1 | - | - | | - | - |
| Stage 2 | - | - | | - | - |

| Approach | EB | NB |
|---|---|---|
| HCM Control Delay, s | 0 | 12.6 |
| HCM LOS | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR |
|---|---|---|---|
| Capacity (veh/h) | 481 | - | - |
| HCM Lane V/C Ratio | 0.011 | - | - |
| HCM Control Delay (s) | 12.6 | - | - |
| HCM Lane LOS | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - |

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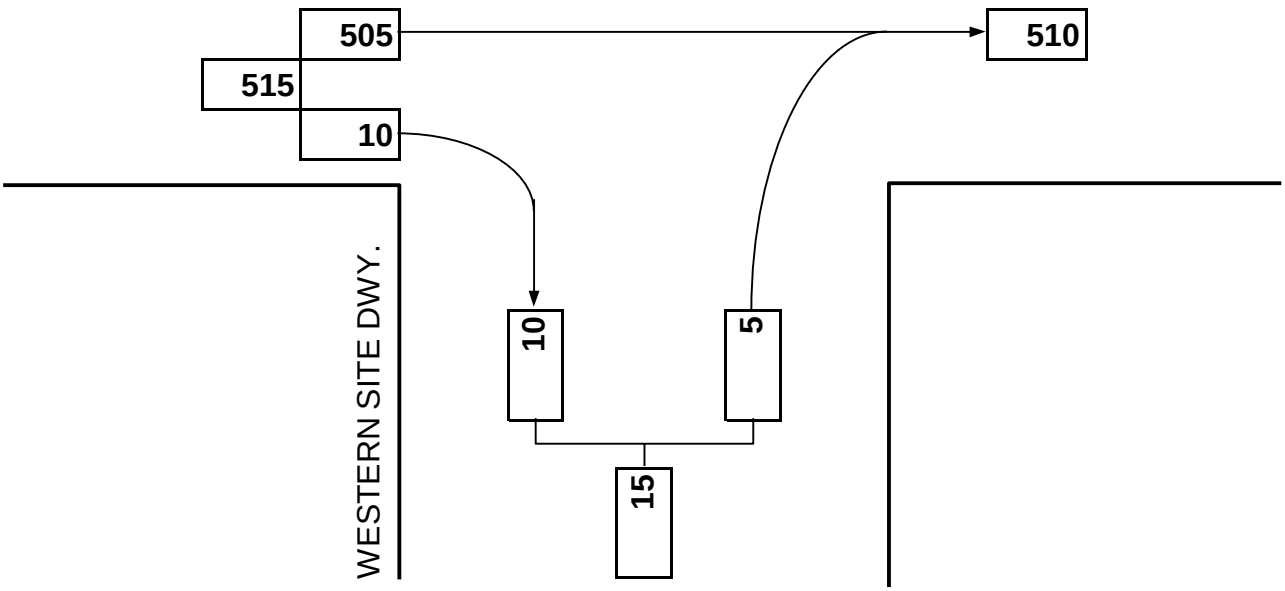
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Kinsley Avenue | **Minor Street**: | Western Site Driveway |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | PM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build Alternative |

NORTH

KINSLEY AVENUE

**ONE-WAY** →



| Intersection | |
|---|---|
| Int Delay, s/veh | 0.1 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 505 | 10 | 0 | 0 | 0 | 5 |
| Future Vol, veh/h | 505 | 10 | 0 | 0 | 0 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| 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, % | 2 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 549 | 11 | 0 | 0 | 0 | 5 |

| Major/Minor | Major1 | | | Minor1 | |
|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | | - | 555 |
| Stage 1 | - | - | | - | - |
| Stage 2 | - | - | | - | - |
| Critical Hdwy | - | - | | - | 6.2 |
| Critical Hdwy Stg 1 | - | - | | - | - |
| Critical Hdwy Stg 2 | - | - | | - | - |
| Follow-up Hdwy | - | - | | - | 3.3 |
| Pot Cap-1 Maneuver | - | - | | 0 | 535 |
| Stage 1 | - | - | | 0 | - |
| Stage 2 | - | - | | 0 | - |
| Platoon blocked, % | - | - | | | |
| Mov Cap-1 Maneuver | - | - | | - | 535 |
| Mov Cap-2 Maneuver | - | - | | - | - |
| Stage 1 | - | - | | - | - |
| Stage 2 | - | - | | - | - |

| Approach | EB | NB |
|---|---|---|
| HCM Control Delay, s | 0 | 11.8 |
| HCM LOS | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR |
|---|---|---|---|
| Capacity (veh/h) | 535 | - | - |
| HCM Lane V/C Ratio | 0.01 | - | - |
| HCM Control Delay (s) | 11.8 | - | - |
| HCM Lane LOS | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | - |

Kinsley Avenue at Eastern Site Driveway

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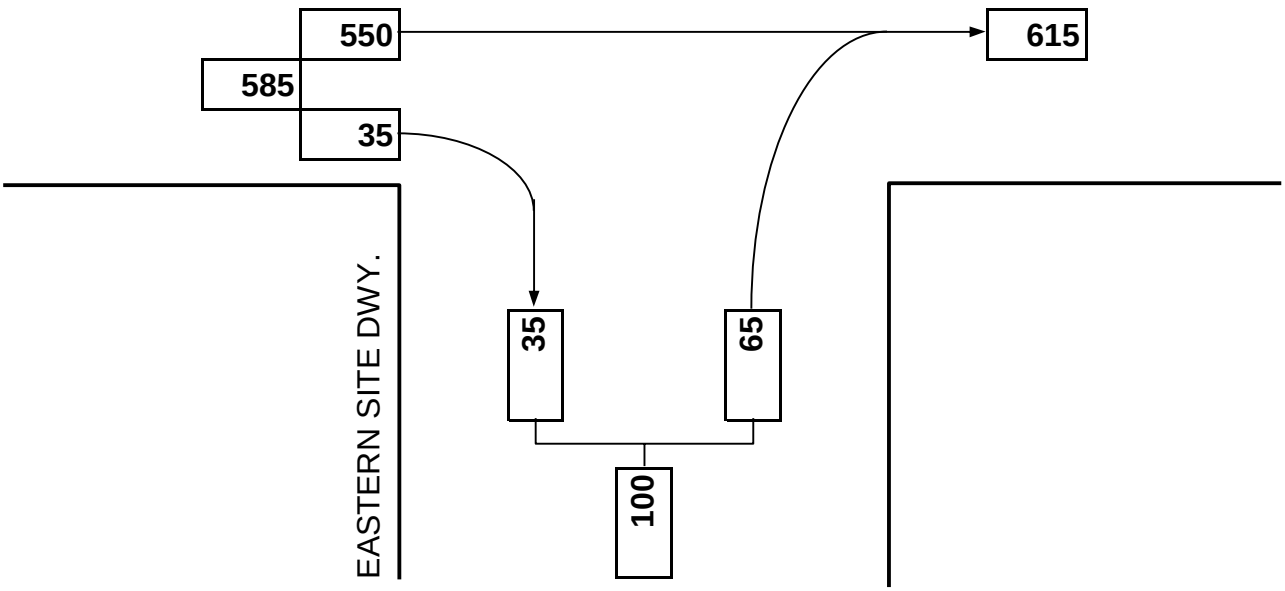
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Kinsley Avenue | **Minor Street**: | Eastern Site Driveway |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | AM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build Alternative |

NORTH

KINSLEY AVENUE

**ONE-WAY** →



| Intersection | |
|---|---|
| Int Delay, s/veh | 1.3 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 550 | 35 | 0 | 0 | 0 | 65 |
| Future Vol, veh/h | 550 | 35 | 0 | 0 | 0 | 65 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| 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, % | 2 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 598 | 38 | 0 | 0 | 0 | 71 |

| Major/Minor | Major1 | | | Minor1 | |
|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | | - | 617 |
| Stage 1 | - | - | | - | - |
| Stage 2 | - | - | | - | - |
| Critical Hdwy | - | - | | - | 6.2 |
| Critical Hdwy Stg 1 | - | - | | - | - |
| Critical Hdwy Stg 2 | - | - | | - | - |
| Follow-up Hdwy | - | - | | - | 3.3 |
| Pot Cap-1 Maneuver | - | - | | 0 | 494 |
| Stage 1 | - | - | | 0 | - |
| Stage 2 | - | - | | 0 | - |
| Platoon blocked, % | - | - | | | |
| Mov Cap-1 Maneuver | - | - | | - | 494 |
| Mov Cap-2 Maneuver | - | - | | - | - |
| Stage 1 | - | - | | - | - |
| Stage 2 | - | - | | - | - |

| Approach | EB | NB |
|---|---|---|
| HCM Control Delay, s | 0 | 13.5 |
| HCM LOS | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR |
|---|---|---|---|
| Capacity (veh/h) | 494 | - | - |
| HCM Lane V/C Ratio | 0.143 | - | - |
| HCM Control Delay (s) | 13.5 | - | - |
| HCM Lane LOS | B | - | - |
| HCM 95th %tile Q(veh) | 0.5 | - | - |

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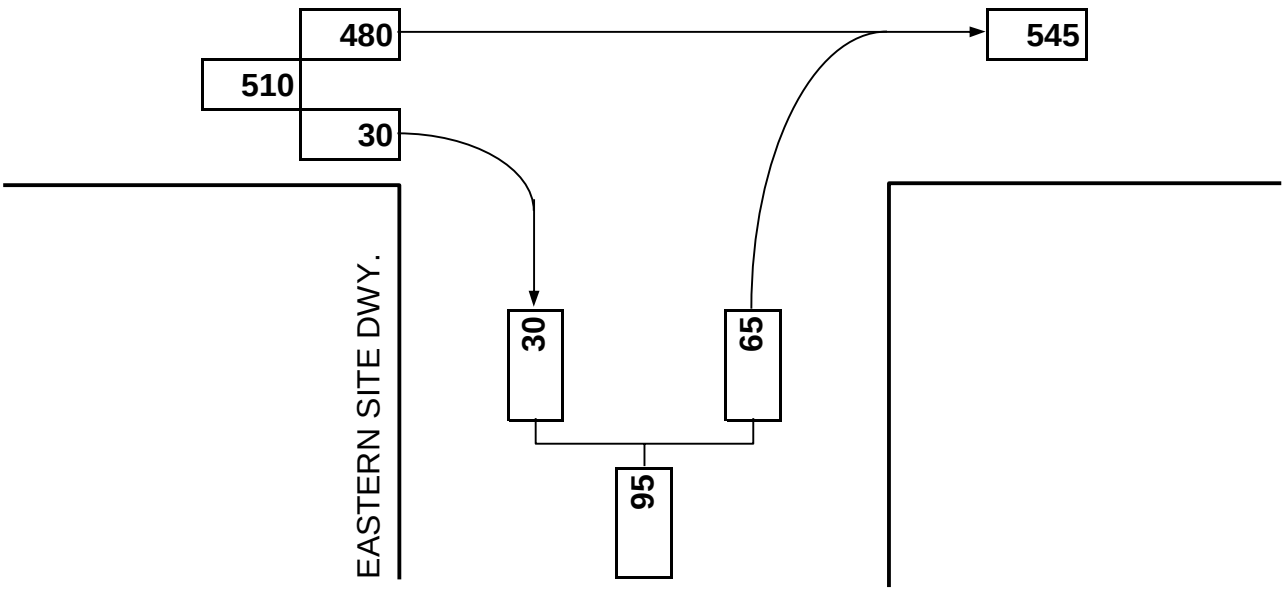
# *Turning Movement Diagram*

| | | | |
|---|---|---|---|
| **Major Street**: | Kinsley Avenue | **Minor Street**: | Eastern Site Driveway |
| **City/Town**: | Providence, RI | **Day of Week**: | Weekday |
| **Reference No.**: | 5999 | **Peak Period**: | PM Peak Hour |
| **Existing**: | n/a | **Future**: | 2023 Build Alternative |

NORTH

KINSLEY AVENUE

**ONE-WAY** →



| Intersection | |
|---|---|
| Int Delay, s/veh | 1.4 |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 480 | 30 | 0 | 0 | 0 | 65 |
| Future Vol, veh/h | 480 | 30 | 0 | 0 | 0 | 65 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| 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, % | 2 | 0 | 0 | 0 | 0 | 0 |
| Mvmt Flow | 522 | 33 | 0 | 0 | 0 | 71 |

| Major/Minor | Major1 | | | Minor1 | |
|---|---|---|---|---|---|
| Conflicting Flow All | 0 | 0 | | - | 539 |
| Stage 1 | - | - | | - | - |
| Stage 2 | - | - | | - | - |
| Critical Hdwy | - | - | | - | 6.2 |
| Critical Hdwy Stg 1 | - | - | | - | - |
| Critical Hdwy Stg 2 | - | - | | - | - |
| Follow-up Hdwy | - | - | | - | 3.3 |
| Pot Cap-1 Maneuver | - | - | | 0 | 546 |
| Stage 1 | - | - | | 0 | - |
| Stage 2 | - | - | | 0 | - |
| Platoon blocked, % | - | - | | | |
| Mov Cap-1 Maneuver | - | - | | - | 546 |
| Mov Cap-2 Maneuver | - | - | | - | - |
| Stage 1 | - | - | | - | - |
| Stage 2 | - | - | | - | - |

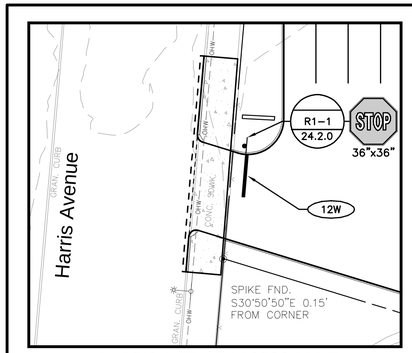
| Approach | EB | NB |
|---|---|---|
| HCM Control Delay, s | 0 | 12.6 |
| HCM LOS | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR |
|---|---|---|---|
| Capacity (veh/h) | 546 | - | - |
| HCM Lane V/C Ratio | 0.129 | - | - |
| HCM Control Delay (s) | 12.6 | - | - |
| HCM Lane LOS | B | - | - |
| HCM 95th %tile Q(veh) | 0.4 | - | - |

# APPENDIX E – Off-Site Improvement Plan

**Dean Street at Kinsley Avenue/Providence Place**

July 2018
Revised December 2019
Revised August 2020
Revised November 2020




HARRIS AVENUE ACCESS DRIVE

Self Storage

Convenience Market/
Gas Station

Dean Street
(VARIABLE WIDTH PUBLIC RIGHT OF WAY)
(RHODE ISLAND HIGHWAY PLAT 1524)

Kinsley Avenue
(80' WIDE PUBLIC RIGHT OF WAY)

Dean Street

EXIST. FL

PROPOSED S.H.L.

SPIKE FND.(HELD)

24.0'

14.0'

6.0'

2.0'

ONLY

CONC. MEDIAN

CONC. CURB

CONC. WALL

SLOPED GRAN. CURB

BIT. SIDWK.

IRON ROD FOUND

EHH

| NUMBER | DATE | MADE BY | CHECKED BY | REVISIONS |
|---|---|---|---|---|
| | | | | |

DRAWN BY: HCP

DESIGNED BY: HCP

CHECKED BY: PJB

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

IN ASSOCIATION WITH: DiPrete Engineering Engineers • Planners • Surveyors

SCALE: 20 0 20 40 SCALE IN FEET: 1"=20'



PROJECT

**Patriot Kinsley**

**286 & 288 Kinsley Ave. & 153 Harris Ave.**
**Assessor's Plat 26 Lot 234,**
**Assessor's Plat 27 Lots 36 & 269**

**Providence, Rhode Island**

TITLE: SIGNING AND STRIPING PLAN

BETA JOB NO. 5999

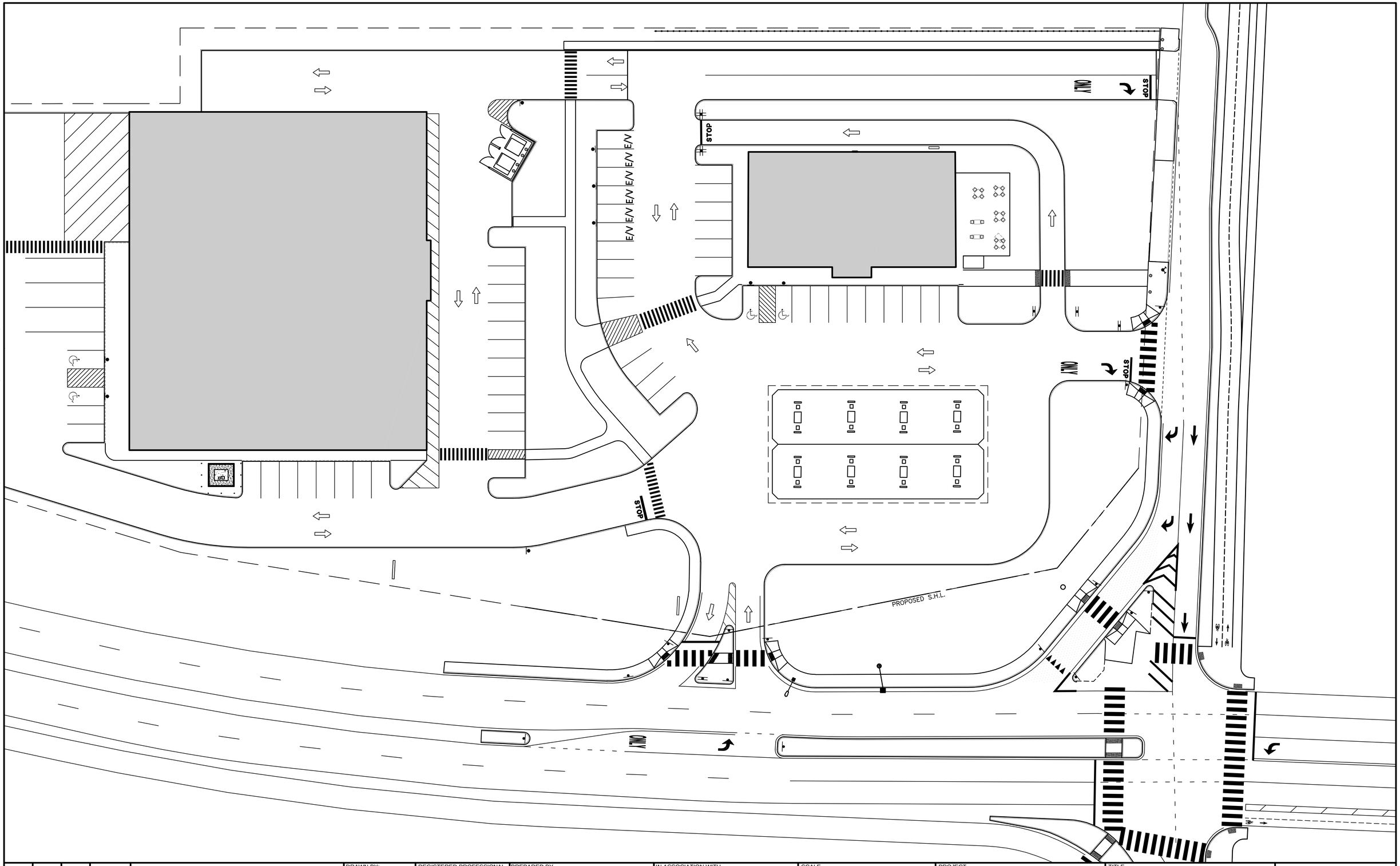
ISSUE DATE November 2020

SHEET NO. 6 OF 6

# APPENDIX F – Build Alternative Plan (Woonasquatucket River Greenway)

**Dean Street at Kinsley Avenue/Providence Place**

July 2018
Revised December 2019
Revised August 2020
Revised November 2020




| NUMBER | DATE | MADE BY | CHECKED BY | REVISIONS |
|---|---|---|---|---|
| | | | | |

DRAWN BY: HCP

DESIGNED BY: HCP

CHECKED BY: PJB

REGISTERED PROFESSIONAL

PREPARED BY: BETA, www.BETA-Inc.com

IN ASSOCIATION WITH: DiPrete Engineering, Engineers • Planners • Surveyors

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

PROJECT

**Patriot Kinsley**
**286 & 288 Kinsley Ave. & 153 Harris Ave.**
**Assessor's Plat 26 Lot 234,**
**Assessor's Plat 27 Lots 36 & 269**

**Providence, Rhode Island**

TITLE

WOONASQUATUCKET RIVER GREENWAY BUILD ALTERNATIVE

BETA JOB NO. 5999

ISSUE DATE OCTOBER 2020

SHEET NO.

11/9/2020 1:47 PM N:\5900\5999 - SELF STORAGE FACILITY - PROVIDENCE\AUTOCAD FILES\CONCEPT ALTERNATIVE\PROPOSED BUILD ALTERNATIVE - WOONASQUATUCKET RIVER GREENWAY.DWG (BETA STB BW.STB)