

Transportation Impact Assessment

Proposed Multifamily Residential Development
444 East Central Street (Route 140)
Franklin, Massachusetts

Prepared for:

TAG Central LLC
Jupiter, Florida

February 2025

Prepared by:

 **Vanasse &
Associates inc**
Transportation Engineers & Planners

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Dear Reviewer:

This letter shall certify that this *Transportation Impact Assessment* has been prepared under my direct supervision and responsible charge. I am a Registered Professional Engineer (P.E.) in the Commonwealth of Massachusetts (Massachusetts P.E. No. 38871, Civil) and hold Certification as a Professional Traffic Operations Engineer (PTOE) from the Transportation Professional Certification Board, Inc. (TPCB), an independent affiliate of the Institute of Transportation Engineers (ITE) (PTOE Certificate No. 993). I am also a Fellow of the Institute of Transportation Engineers (FITE).

Sincerely,

VANASSE & ASSOCIATES, INC.



Jeffrey S. Dirk, P.E., PTOE, FITE
Managing Partner

CONTENTS

EXECUTIVE SUMMARY	1
INTRODUCTION.....	5
Project Description	5
Study Methodology	6
EXISTING CONDITIONS	7
Roadway.....	7
Intersections.....	8
Existing Traffic Volumes	9
Pedestrian and Bicycle Facilities.....	10
Public Transportation	11
Spot Speed Measurements.....	11
Motor Vehicle Crash Data.....	12
FUTURE CONDITIONS	14
Future Traffic Growth	14
Project-Generated Traffic.....	16
Trip Distribution and Assignment.....	18
Future Traffic Volumes – Build Condition	18
TRAFFIC OPERATIONS ANALYSIS	20
Methodology	20
Analysis Results	23

CONTENTS (Continued)

SIGHT DISTANCE EVALUATION.....	30
CONCLUSIONS AND RECOMMENDATIONS	32
Conclusions	32
recommendations.....	33

FIGURES

No.	Title
1	Site Location Map
2	Existing Intersection Lane Use, Travel Lane Width, and Pedestrian Facilities
3	2024 Existing Weekday Morning Peak-Hour Traffic Volumes
4	2024 Existing Weekday Evening Peak-Hour Traffic Volumes
5	2024 Existing Saturday Midday Peak-Hour Traffic Volumes
6	2032 No-Build Weekday Morning Peak-Hour Traffic Volumes
7	2032 No-Build Weekday Evening Peak-Hour Traffic Volumes
8	2032 No-Build Saturday Midday Peak-Hour Traffic Volumes
9	Trip-Distribution Map
10	Project-Generated Weekday Morning Peak-Hour Traffic Volumes
11	Project-Generated Weekday Evening Peak-Hour Traffic Volumes
12	Project-Generated Saturday Midday Peak-Hour Traffic Volumes
13	2032 Build Weekday Morning Peak-Hour Traffic Volumes
14	2032 Build Weekday Evening Peak-Hour Traffic Volumes
15	2032 Build Saturday Midday Peak-Hour Traffic Volumes

TABLES

No.	Title
1	Study Area Intersection Description
2	2024 Existing Traffic Volumes
3	Vehicle Travel Speed Measurements
4	Motor Vehicle Crash Data Summary
5	Trip-Generation Summary
6	Traffic-Volume Comparison
7	Peak-Hour Traffic-Volume Increases
8	Level-of-Service Criteria for Signalized Intersections
9	Level-of-Service Criteria for Unsignalized Intersections
10	Signalized Intersection Level-of-Service and Vehicle Queue Summary
11	Unsignalized Intersection Level-of-Service and Vehicle Queue Summary
12	Sight Distance Measurements
13	Mitigated Signalized Intersection Level-of-Service and Vehicle Queue Summary

EXECUTIVE SUMMARY

Vanasse & Associates, Inc. (VAI) has conducted a Transportation Impact Assessment (TIA) in order to determine the potential impacts on the transportation infrastructure associated with the proposed construction of a multifamily residential development to be located at 444 East Central Street (Route 140) in Franklin, Massachusetts (hereafter referred to as the “Project”). This assessment was prepared in consultation with the Massachusetts Department of Transportation (MassDOT) and the Town of Franklin, and was performed in accordance with MassDOT’s *Transportation Impact Assessment (TIA) Guidelines* and the standards of the Traffic Engineering and Transportation Planning professions for the preparation of such reports.

Based on this assessment, we have concluded the following with respect to the Project:

1. Using trip-generation statistics published by the Institute of Transportation Engineers (ITE)¹ and without consideration of the use of alternative modes of transportation to single-occupancy vehicles or residents that will work-from-home, the Project is expected to generate approximately 1,410 vehicle trips on an average weekday and 1,206 vehicle trips on a Saturday (both two-way, 24-hour volumes), with 118 vehicle trips expected during the weekday morning peak-hour, 127 vehicle trips expected during the weekday evening peak-hour and 105 vehicle trips expected during the Saturday midday peak-hour;
2. The Project will not result in a significant impact (increase) on motorist delays or vehicle queuing over anticipated future conditions without the Project (No-Build condition), with the majority of the movements at the study area intersections expected to continue to operate at a level-of-service (LOS) C or better, where an LOS “D” or better is generally defined as “acceptable” traffic operations, and Project-related impacts generally defined as an increase in overall average motorist delay that resulted in a corresponding increase in vehicle queuing of up to four (4) vehicles;
3. All movements exiting the Project site driveway to Route 140 were shown to operate at LOS C during the weekday morning peak-hour and at LOS D during the weekday evening and Saturday midday peak hours, with vehicle queuing of up to one (1) vehicle. All movements along Route 140 approaching the Project site driveway were found to operate at LOS A with negligible vehicle queuing.

¹*Trip Generation*, 11th Edition; Institute of Transportation Engineers; Washington, DC; 2021.

4. No apparent safety deficiencies were noted with respect to the motor vehicle crash history at the study area intersections, with all of the intersections found to have motor vehicle crash rates below the MassDOT average crash rates for similar intersections; and
5. Lines of sight at the Project site driveway intersection with Route 140 were found to exceed the recommended minimum distances to function in a safe and efficient manner.

In consideration of the above, we have concluded that the Project can be accommodated within the confines of the existing transportation infrastructure in a safe and efficient manner with implementation of the recommendations that follow.

RECOMMENDATIONS

A detailed transportation improvement program has been developed to provide safe and efficient access to the Project site and address any deficiencies identified at off-site locations evaluated in conjunction with this study. The following improvements have been recommended as a part of this evaluation and, where applicable, will be completed in conjunction with the Project subject to receipt of all necessary rights, permits, and approvals.

Project Access

Access to the Project will be provided by way of a driveway that will intersect the south side of Route 140 approximately 150 feet east of the driveway that serves 440 East Central Street (Franklin Medical Center) at the location of the existing easternmost driveway that serves the Project site. The remaining driveways that serve the Project site will be closed in conjunction with the Project. The Project will require the issuance of a State Highway Access Permit from MassDOT for access to East Central Street (Route 140), a State Highway under MassDOT jurisdiction. The following recommendations are offered with respect to the design and operation of the Project site access and internal circulation, many of which are reflected on the Site Plans:

- The section of the Project site driveway approaching Route 140 should be a minimum of 24 feet in width and designed to accommodate the turning and maneuvering requirements of the largest anticipated responding emergency vehicle.
- Vehicles exiting the Project site should be placed under STOP-sign control with a marked STOP-line provided.
- All signs and pavement markings to be installed within the Project site should conform to the applicable standards of the *Manual on Uniform Traffic Control Devices (MUTCD)*.²
- Sidewalks are proposed within the Project site to link the residential buildings and extend to Route 140, where a sidewalk segment is proposed to be constructed between the Project site driveway and the driveway that serves 440 East Central Street, the current terminus of the sidewalk along the south side of Route 140.
- Marked crosswalks are proposed within the Project site where pedestrian crossings are proposed and for crossing the Project site driveway that will include Americans with Disabilities Act (ADA)-compliant wheelchair ramps.

²*Manual on Uniform Traffic Control Devices (MUTCD)*; Federal Highway Administration; Washington, D.C.; 2009.

- Signs and landscaping to be installed as a part of the Project within the intersection sight triangle areas should be designed and maintained so as not to restrict lines of sight.
- Snow accumulations (windrows) within sight triangle areas should be promptly removed where such accumulations would impede sightlines.

Off-Site

Route 140 at Chestnut Street and King Street

Overall intersection operations at the Route 140/Chestnut Street/King Street intersection were shown to be maintained at LOS D or better during the peak hours with the addition of Project-related traffic; however, operating conditions for left-turn movements on the Route 140 westbound approach were shown to change from LOS D to LOS E during the weekday evening peak-hour and from LOS E to LOS F during the Saturday midday peak-hour as a result of the Project. In order to off-set the predicted impact of the Project at the intersection, the Project proponent will design and implement an optimal traffic signal timing and phasing plan for the weekday evening and Saturday midday peak hours (no changes are required during the weekday morning peak-hour). This improvement will be completed prior to the issuance of a Certificate of Occupancy for the Project and subject to receipt of all necessary rights, permits, and approvals. With the implementation of an optimal traffic signal timing and phasing plan during the weekday evening and Saturday midday peak hours, motorist delays will be reduced to the extent that operating conditions will be similar to those under No-Build conditions.

Route 140 Corridor Improvements

In an effort to facilitate long-term improvements along the Route 140 corridor between and including the Route 140/Chestnut Street/King Street intersection and the Wrentham town line, the Project proponent will assist the Town to prepare a MassWorks or HousingWorks grant application. This assistance will include the preparation of a Corridor Improvement Study (CIS) with an accompanying conceptual improvement plan and associated preliminary cost estimate for the improvement measures. The CIS will be prepared in coordination with the Town and will be initiated within 3-months of the issuance of the first Certificate of Occupancy for the Project.

Transportation Demand Management

Regularly scheduled public transportation services are not currently provided within the study area. The Greater Attleboro-Taunton Regional Transit Authority (GATRA) operates an on-demand microtransit service that provides same-day transportation services within the Town of Franklin by way of the GATRA GO United program. To the west of the study area, the Massachusetts Bay Transportation Authority (MBTA) provides Commuter Rail service to South Station in Boston on the Franklin Line from Franklin Station, which is located at 75 Depot Street (approximately 1.2 miles from the Project site). Additionally, GATRA provides Dial-a-Ride paratransit services to eligible persons residing within the Town of Franklin who cannot use fixed-route transit all or some of the time due to a physical, cognitive, or mental disability in compliance with the ADA.

In an effort to encourage the use of alternative modes of transportation to SOVs, the following Transportation Demand Management (TDM) measures should be implemented as a part of the Project:

- A transportation coordinator should be designated for the Project, who may have other duties and responsibilities, to coordinate the elements of the TDM program;
- The transportation coordinator should facilitate a rideshare matching program for residents to encourage carpooling;
- A “welcome packet” should be provided to new residents detailing available public transportation services, bicycle and walking alternatives, and other commuting options;
- Information regarding public transportation services, maps, schedules, and fare information should be posted in a central location and/or otherwise made available to residents;
- A pick-up/drop-off area or short-term parking should be provided for use by carshare and delivery service providers, as well as Amazon, UPS, and FedEx;
- Specific amenities should be provided to facilitate telecommuting, which may take the form of meeting/collaboration spaces, a business office, or similar accommodations;
- A central mail room and package delivery station should be provided;
- Electric vehicle (EV) charging stations should be provided within the Project site for use by residents; and
- Secure bicycle parking should be provided at appropriate locations within the Project site, including weather-protected bicycle parking and exterior bicycle racks situated proximate to the main building entrances and at the clubhouse building.

With implementation of the aforementioned recommendations, safe and efficient access will be provided to the Project site, and the Project can be accommodated within the confines of the existing and improved transportation system.

INTRODUCTION

Vanasse & Associates, Inc. (VAI) has conducted a Transportation Impact Assessment (TIA) in order to determine the potential impacts on the transportation infrastructure associated with the proposed construction of a multifamily residential development to be located at 444 East Central Street (Route 140) in Franklin, Massachusetts (hereafter referred to as the “Project”). This study evaluates the following specific areas as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; and identifies and analyzes existing traffic conditions and future traffic conditions, both with and without the Project, along Route 140, and at major intersections located along this roadway through which Project-related traffic will travel.

PROJECT DESCRIPTION

The Project will entail the construction of a multifamily residential development to be located at 444 East Central Street (Route 140) in Franklin, Massachusetts. As proposed, the Project will entail the construction of three (3) four-story multifamily residential buildings that will include a total of 192 units and two (2) three-story multifamily residential buildings that will include 72 units, for a total of 264 multifamily residential units, with supporting amenities and parking. The Project site encompasses approximately 15.00± acres of land that is bounded by Route 140 and residential and commercial properties to the north; areas of open and wooded space and low-lying wetlands to the south; residential properties to the east; and areas of open and wooded space and commercial properties to the west. The Project site currently contains several commercial buildings that operate as a nursery and greenhouse (Stobbert’s Nurseries) with supporting parking areas and appurtenances, all of which will be removed to accommodate the Project. Figure 1 depicts the Project site in relation to the existing roadway network.

Access to the Project will be provided by way of a driveway that will intersect the south side of Route 140 approximately 150 feet east of the driveway that serves 440 East Central Street (Franklin Medical Center) at the location of the existing easternmost driveway that serves the Project site. The remaining existing driveways that serve the Project site will be closed in conjunction with the Project. The Project will require the issuance of a State Highway Access Permit from MassDOT for access to East Central Street (Route 140), a State Highway under MassDOT jurisdiction.

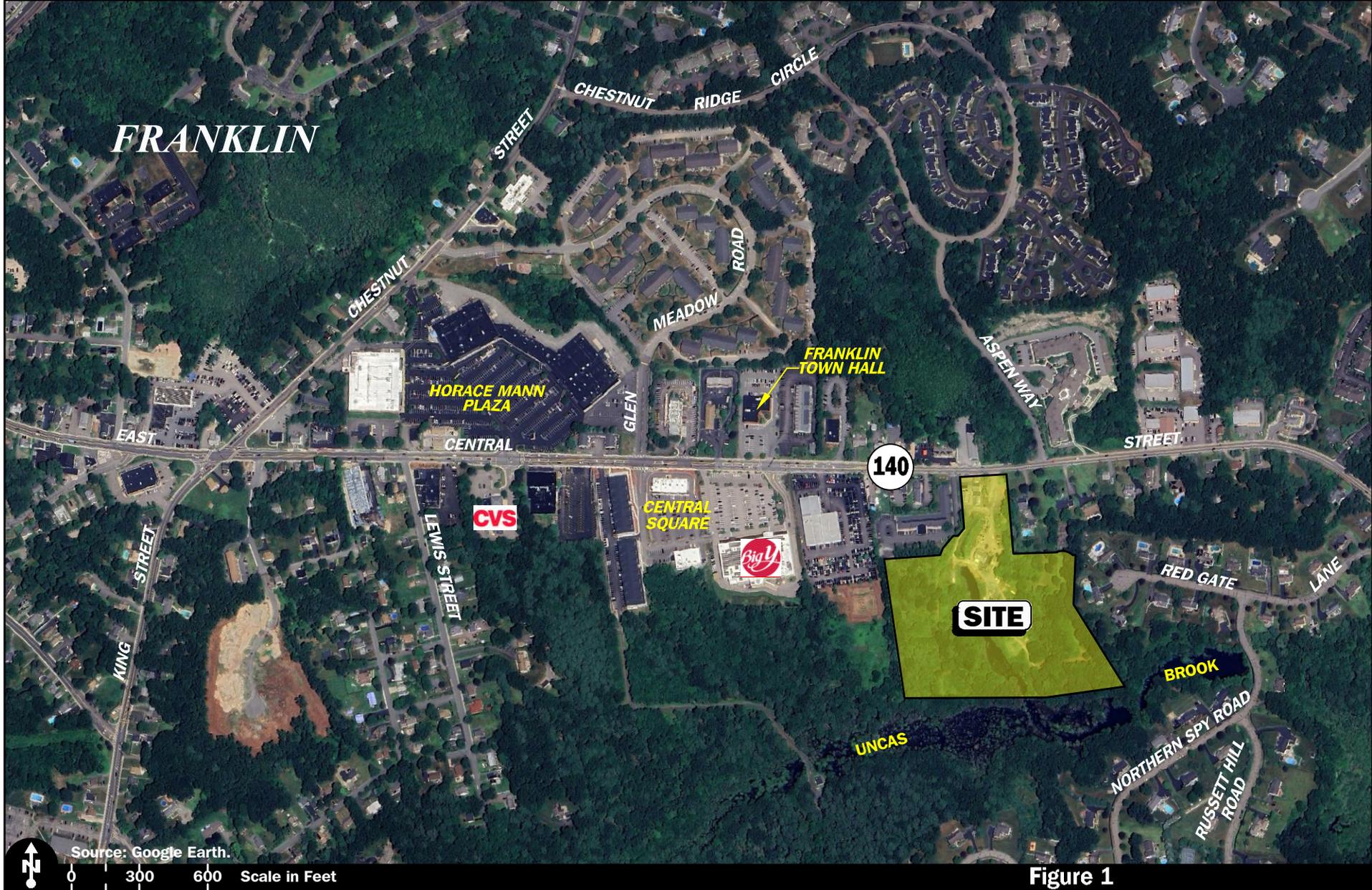


Figure 1
Site Location Map

Off-street parking will be provided within the Project site for 356 vehicles, or a parking ratio of 1.35 parking spaces per unit. The proposed parking supply (1.35 per unit) is below the parking requirements of Chapter 185, *Zoning*, Section 185-21, *Parking, Loading and Driveway Requirements*, of the Bylaws of the Town of Franklin;³ however, the parking ratio is within the range of observed parking demands for a multifamily residential development located in a similar setting documented by the ITE.⁴

STUDY METHODOLOGY

This study was prepared in consultation with MassDOT and the Town of Franklin; was performed in accordance with MassDOT's *Transportation Impact Assessment (TIA) Guidelines* and the standards of the Traffic Engineering and Transportation Planning professions for the preparation of such reports; and was conducted in three distinct stages.

The first stage involved an assessment of existing conditions in the study area and included an inventory of roadway geometrics; pedestrian and bicycle facilities; public transportation services; observations of traffic flow; and collection of daily and peak-period traffic counts.

In the second stage of the study, future traffic conditions were projected and analyzed. Specific travel demand forecasts for the Project were assessed along with future traffic demands due to expected traffic growth independent of the Project. A seven-year time horizon from the date of publication of this assessment was selected for analyses consistent with MassDOT's *Transportation Impact Assessment (TIA) Guidelines*. The traffic analysis conducted in stage two identifies existing or projected future roadway capacity, traffic safety, and site access issues.

The third stage of the study presents and evaluates measures to address traffic and safety issues, if any, identified in stage two of the study.

³A minimum of 2.0 parking spaces per unit is required for a residential use in the Commercial II Zoning District, or 528 parking spaces for the Project.

⁴*Parking Generation*, 6th Edition; Institute of Transportation Engineers; Washington D.C.; October 2023. The observed peak-parking demand ratio for a multifamily (low-rise) residential development was observed to range from 0.58 to 3.16 spaces per residential unit, with an average observed peak-parking demand of 1.27 parking spaces per unit and an 85th percentile peak-parking demand of 1.59 parking spaces per unit. For a multifamily (mid-rise) residential development, the peak-parking demand ratio was observed to range from 0.39 to 1.75 spaces per residential unit, with an average observed peak-parking demand of 1.23 parking spaces per unit and an 85th percentile peak-parking demand of 1.45 parking spaces per unit.

EXISTING CONDITIONS

A comprehensive field inventory of existing conditions within the study area was conducted in December 2024. The field investigation consisted of an inventory of existing roadway geometrics; pedestrian and bicycle facilities; public transportation services; traffic volumes; and operating characteristics; as well as posted speed limits and land use information within the study area. The study area that was assessed for the Project consisted of Route 140, and the following specific intersections through which Project-related traffic will travel:

- Route 140 at Aspen Way
- Route 140 at the Big Y Supermarket and Franklin Town Hall driveways
- Route 140 at Glen Meadow Road and Central Square mixed-use development driveway
- Route 140 at the Horace Mann Plaza and CVS Pharmacy driveways
- Route 140 at Chestnut Street and King Street

The following describes the study area roadway and intersections.

ROADWAY

East Central Street (Route 140)

- Two-lane (one lane per direction) urban principal arterial roadway under Town jurisdiction from a point just east of East Street to a point just west of Lewis Street and under MassDOT jurisdiction to the east and west of these limits;
- Traverses the study area in a general east-west direction;
- Provides two 10- to 13-foot-wide travel lanes in each direction separated by a double-yellow centerline with 1- to 7-foot-wide marked shoulders and additional turning lanes provided at major intersections;
- The posted speed limit is 40 miles per hour (mph) in the vicinity of the Project site;
- Sidewalks are provided along the north side of the roadway east of the Project site and both sides of the roadway to the west;
- Illumination is provided by way of streetlights mounted on wood poles; and
- Land use within the study area consists of the Project site, residential and commercial properties, and the Franklin Town Hall.

INTERSECTIONS

Table 1 and Figure 2 summarize existing lane use, traffic control, and pedestrian and bicycle accommodations at the study area intersections as observed in December 2024.

Table 1
STUDY AREA INTERSECTION DESCRIPTION

Intersection	Traffic Control Type^a	No. of Travel Lanes Provided	Shoulder Provided? (Yes/No/Width)	Pedestrian Accommodations? (Yes/No/Description)	Bicycle Accommodations? (Yes/No/Description)
Rte. 140/ Aspen Way	S	1 general-purpose travel lane on all approaches	Yes; 2 feet along Rte. 140	Yes; sidewalk provided along north side of Rte. 140	Yes; shared traveled-way ^b
Rte. 140/ Big Y Supermarket/ Franklin Town Hall dwys.	TS	1 left-turn/through lane and 1 right-turn lane on Big Y Supermarket dwy. northbound approach; 1 general-purpose travel lane on Franklin Town Hall dwy. Southbound approach; 1 left-turn lane and 1 through/right-turn lane on Rte. 140 approaches	Yes, 3 to 7 feet on Rte. 140	Yes, sidewalks provided along both sides of Rte. 140 and west side of Big Y Supermarket dwy.; marked crosswalks provided for crossing the north, south, and west legs of the intersection; pedestrian traffic signal equipment and phasing (concurrent and exclusive) provided	Yes; shared traveled-way; bicycle detection provided as a part of the traffic signal system
Rte.140/ Glen Meadow Rd./ Central Sq.	S	1 left-turn/through lane and 1 channelized right-turn lane on Central Sq. northbound approach; 1 general-purpose travel lane on Glen Meadow Rd. approach; 1 left-turn lane and 1 through/right-turn lane on Rte. 140 approaches	Yes, 5 to 6 feet on Rte. 140	Yes, sidewalks provided along both sides of Rte. 140 and west side of Central Sq. dwy; marked crosswalks provided for crossing north and south legs of the intersection	Yes; shared traveled-way
Rte. 140/ Horace Mann Plaza/ CVS Pharmacy dwys	TS	1 left-turn/through lane and 1 right-turn lane on north and southbound approaches; 1 left-turn lane, 1 through lane, and 1 right-turn lane on Rte. 140 approaches	Yes, 1 to 3 feet on all legs	Yes, sidewalks provided along both sides of Rte. 140 and along the west side of CVS Pharmacy dwy.; marked crosswalks provided for crossing north, south and east legs of the intersection; pedestrian traffic signal equipment and phasing (exclusive) provided	Yes; shared traveled-way

See notes at end of table.

Table 1 (Continued)
STUDY AREA INTERSECTION DESCRIPTION

Intersection	Traffic Control Type ^a	No. of Travel Lanes Provided	Shoulder Provided? (Yes/No/Width)	Pedestrian Accommodations? (Yes/No/Description)	Bicycle Accommodations? (Yes/No/Description)
Rte. 140/ Chestnut St./ King St.	TS	1 left-turn/through lane and 1 right-turn lane on King St. approach; 1 general-purpose travel lane on Chestnut St. approach; 1 left-turn lane and 1 through lane on Rte. 140 approaches with right turns exiting prior to the intersection by way of a channelized right-turn lane	Yes, 1 to 2 feet on King St. and Rte. 140	Yes, sidewalks provided along all legs of the intersection; marked crosswalks provided for crossing all legs of the intersection; pedestrian traffic signal equipment and phasing (exclusive) provided	Yes; shared traveled-way

^aTS = traffic signal control; S=Stop sign Control.

^bCombined shoulder and travel lane width equal to or exceeding 14 feet.

EXISTING TRAFFIC VOLUMES

In order to determine existing traffic-volume demands and flow patterns within the study area, automatic traffic recorder (ATR) counts, turning movement counts (TMCs), and vehicle classification counts were completed in December 2024. The ATR counts were conducted on December 5th through December 7th, 2024 (Thursday through Saturday, respectively) on Route 140 east of Stobbart’s Nurseries in order to record weekday and Saturday traffic conditions over an extended period. Peak-period TMCs were performed at the study intersections during the weekday morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak periods on Thursday, December 5, 2024, and during the Saturday midday (11:00 AM to 2:00 PM) peak period on December 7, 2024 and on December 14, 2024 (Route 140 at Chestnut Street and King Street). These time periods were selected for analysis purposes as they are representative of the peak-hour traffic volumes for both the Project and the adjacent roadway network.

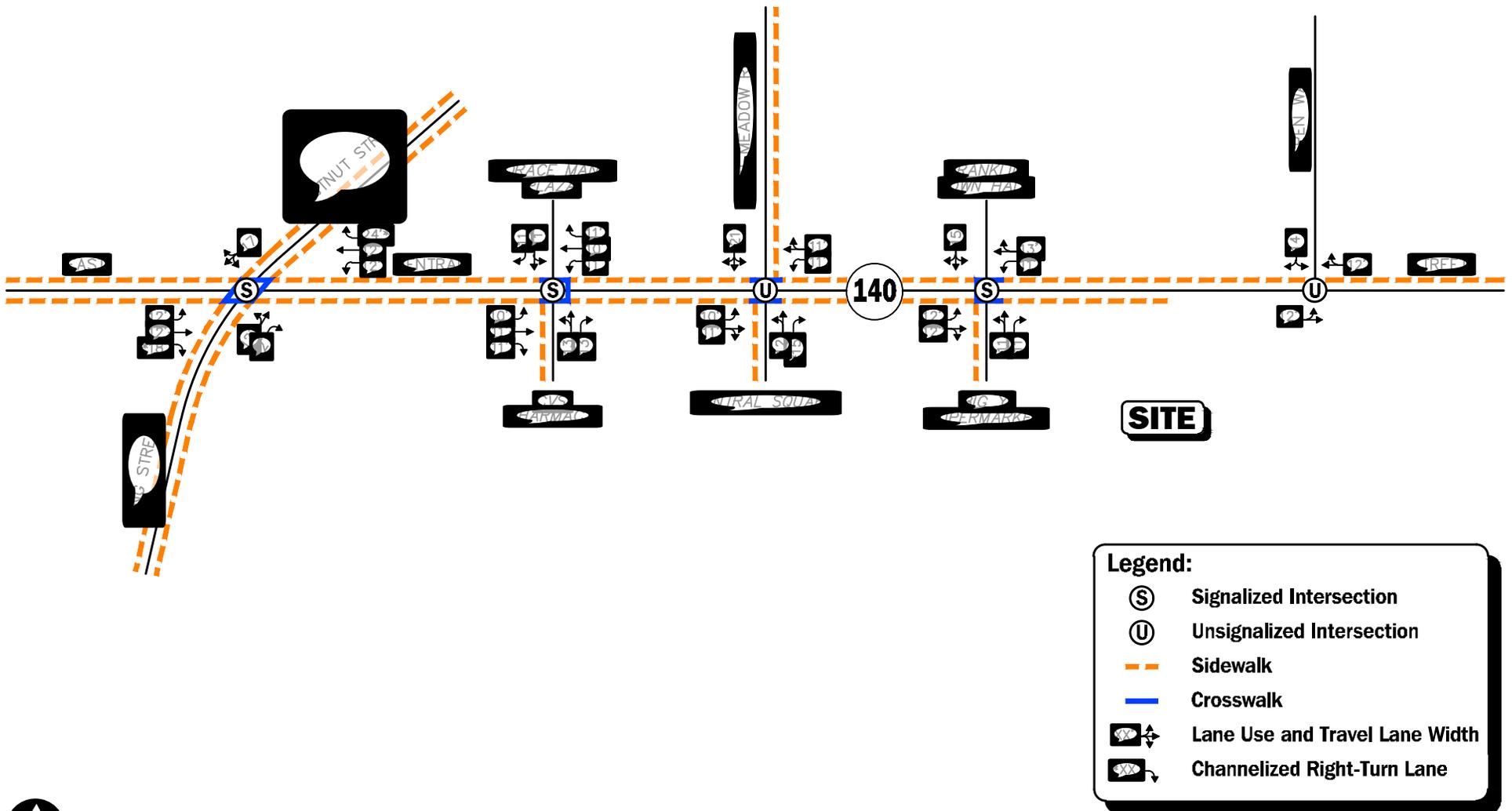
Traffic-Volume Adjustments

In order to evaluate the potential for seasonal fluctuation of traffic volumes within the study area, MassDOT weekday seasonal factors for Urban Group 3 and Group 4-7 roadways (urban principal arterials (Group 3), and minor arterials, major and minor collectors and local roadways (Group 4-7), which include the functional classifications of the study area roadways) were reviewed.⁵ Based on a review of this data, it was determined that traffic volumes for the month of December are between 4.2 percent and 9.9 percent *above* average-month conditions. In order to provide a conservative (high) assessment of traffic volume conditions within the study area, no adjustment was made to the raw traffic volumes, as they are representative of *above* average-month conditions.

Based on updated guidance from MassDOT,⁶ adjustments to account for the impact on traffic volume and trip patterns resulting from the COVID-19 pandemic for traffic counts taken on or after March 1, 2022, are only recommended in areas where the predominant land use is office properties.

⁵MassDOT statewide Traffic Data Collection; 2023 Weekday Seasonal Factors, Groups U3 and U4-U7.

⁶25% *Design Submission Guidelines*; MassDOT Highway Division, Traffic and Safety Engineering; Revised May 31, 2022.



Legend:

- Ⓢ Signalized Intersection
- Ⓤ Unsignalized Intersection
- Sidewalk
- Crosswalk
- ↔ Lane Use and Travel Lane Width
- ↔ Channelized Right-Turn Lane

Not To Scale



Figure 2
Existing Intersection Lane Use, Travel Lane Width, and Pedestrian Facilities

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As the predominant land use within the study area consists of residential properties and other commercial uses, a pandemic-related adjustment was not required.

The 2024 Existing traffic volumes are summarized in Table 2, with the weekday morning, weekday evening, and Saturday midday peak-hour traffic volumes graphically depicted on Figures 3, 4, and 5, respectively. Note that the peak-hour traffic volumes that are presented in Table 2 were obtained from the aforementioned figures.

Table 2
2024 EXISTING TRAFFIC VOLUMES

Location/Peak Hour	AWT ^a	Saturday ^b	VPH ^c	K Factor ^d	Directional Distribution ^e
<i>Route 140 east of Stobbart's Nurseries:</i>	11,340	11,100	--	--	--
Weekday Morning (7:15 – 8:15 AM)	--	--	779	6.9	50.4% WB
Weekday Evening (4:30 – 5:30 PM)	--	--	989	8.7	50.7% WB
Saturday Midday (11:15 AM – 12:15 PM)	--	--	1,091	9.8	50.7% WB

^aAverage weekday traffic in vehicles per day.

^bAverage Saturday traffic in vehicles per day.

^cVehicles per hour.

^dPercent of daily traffic occurring during the peak hour.

^ePercent traveling in peak direction.

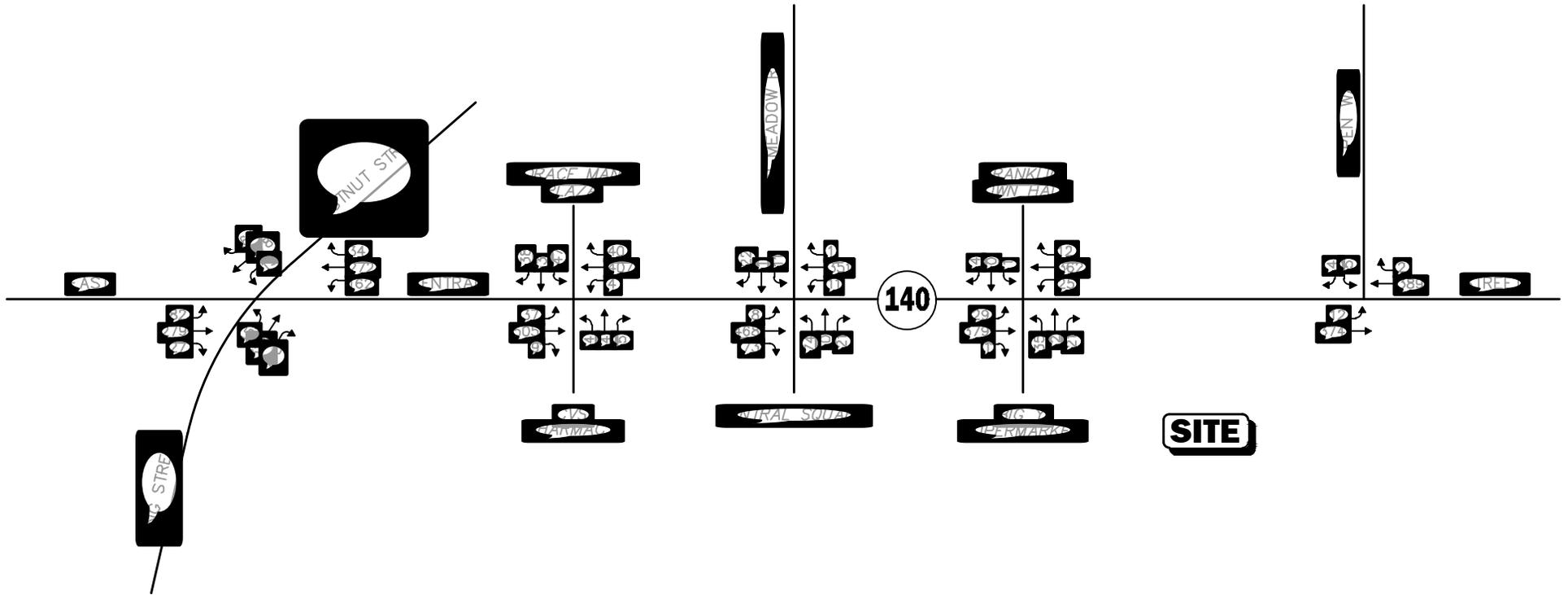
WB = westbound.

As can be seen in Table 2, Route 140 in the vicinity of the Project site was found to accommodate approximately 11,340 vehicles on an average weekday and 11,100 vehicles on a Saturday (both two-way, 24-hour volumes), with approximately 779 vehicles per hour (vph) during the weekday morning peak-hour, 989 vph during the weekday evening peak-hour and 1,091 vph during the Saturday midday peak-hour.

PEDESTRIAN AND BICYCLE FACILITIES

A comprehensive field inventory of pedestrian and bicycle facilities within the study area was undertaken in December 2024. The field inventory consisted of a review of the location of sidewalks and pedestrian crossing locations along the study roadways and at the study area intersections, as well as the location of existing and planned future bicycle facilities. As shown on Figure 2, sidewalks are provided along the north side of Route 140 east of the Project site, along both sides of Route 140 to the west, along the west side of Big Y Supermarket, Central Square, and CVS Pharmacy driveways, and both sides Chestnut Street and King Street. Marked crosswalks are provided across one or more legs of the study area intersections, with the exception of the Route 140/Aspen Way intersection. Pedestrian signal equipment and phasing are provided as a part of the traffic signal systems at the signalized study area intersections.

Formal bicycle accommodations are not provided within the study area; however, Route 140, Chestnut Street, and King Street generally provide sufficient width (combined travel lane and

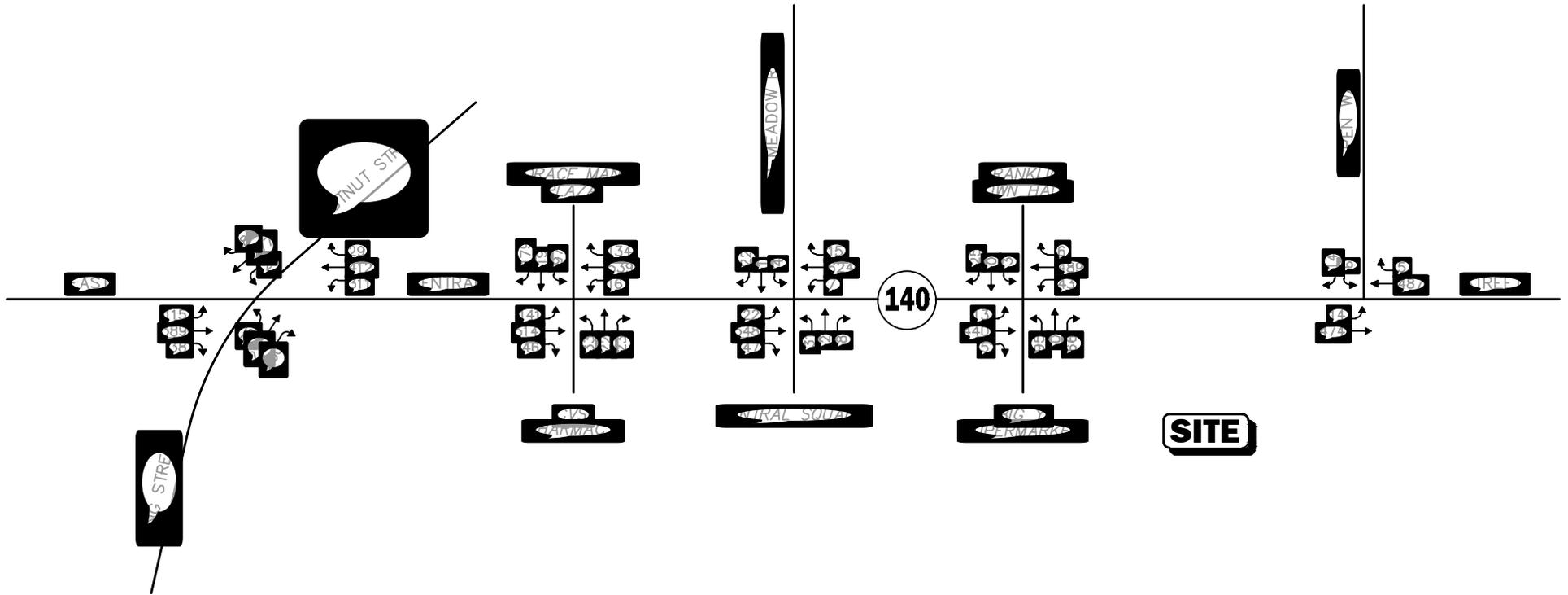


Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale

Figure 3

2024 Existing
Weekday Morning
Peak-Hour Traffic Volumes

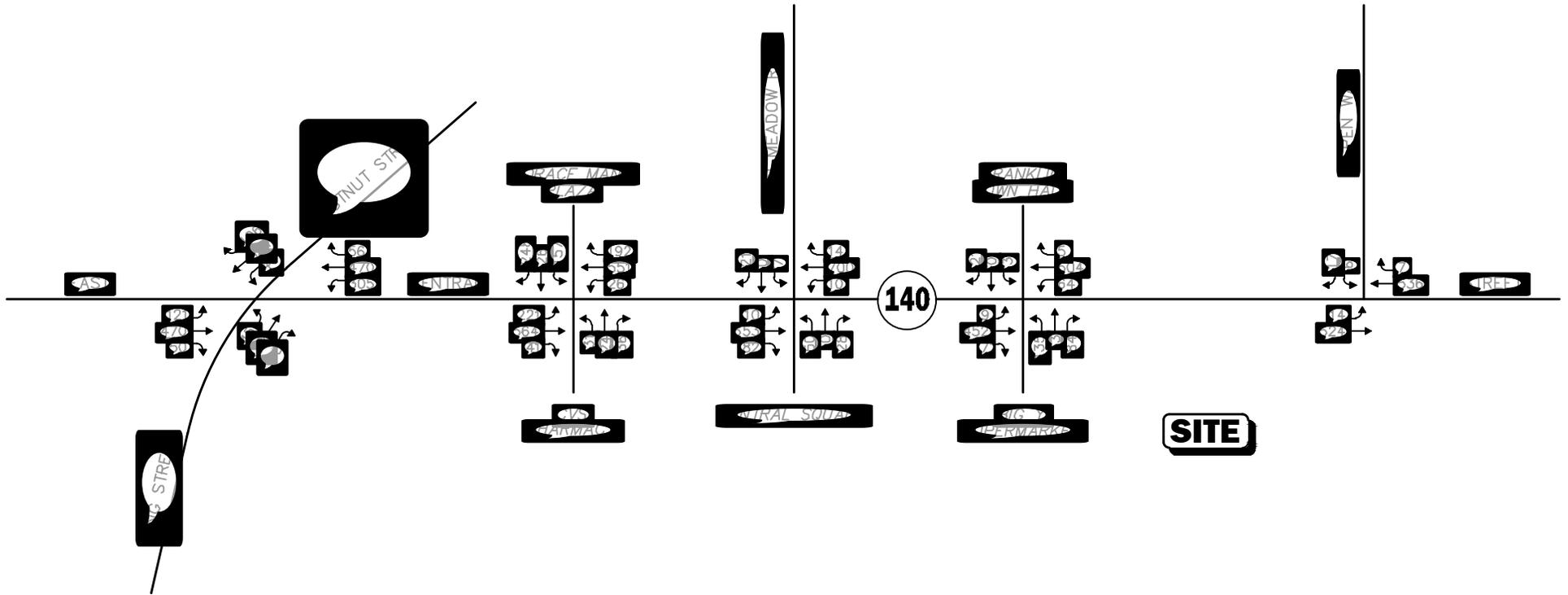


Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale

Figure 4

2024 Existing
Weekday Evening
Peak-Hour Traffic Volumes



Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale



Figure 5

2024 Existing
Saturday Midday
Peak-Hour Traffic Volumes

shoulder) to support bicycle travel in a shared traveled-way configuration.⁷ Bicycle detection is provided as a part of the traffic signal systems at the Route 140/Big Y Supermarket/Franklin Town Hall driveways intersection.

PUBLIC TRANSPORTATION

Regularly scheduled public transportation services are not currently provided within the study area. The Greater Attleboro-Taunton Regional Transit Authority (GATRA) operates an on-demand microtransit service that provides same-day transportation services within the Town of Franklin bay way of the GATRA GO United program. To the west of the study area, the Massachusetts Bay Transportation Authority (MBTA) provides Commuter Rail service to South Station in Boston on the Franklin Line from Franklin Station, which is located at 75 Depot Street (approximately 1.2 miles from the Project site). Additionally, GATRA provides Dial-a-Ride paratransit services to eligible persons residing within the Town of Franklin who cannot use fixed-route transit all or some of the time due to a physical, cognitive, or mental disability in compliance with the Americans with Disabilities Act (ADA).

The public transportation schedules and fare information are provided in the Appendix.

SPOT SPEED MEASUREMENTS

Vehicle travel speed measurements were performed on Route 140 in the vicinity of the Project site in conjunction with the ATR counts. Table 3 summarizes the vehicle travel speed measurements.

Table 3
VEHICLE TRAVEL SPEED MEASUREMENTS

	Route 140	
	Eastbound	Westbound
Mean Travel Speed (mph)	34	35
85 th Percentile Speed (mph)	38	39
Posted Speed Limit (mph)	40	40

mph = miles per hour.

As can be seen in Table 3, the mean vehicle travel speed along Route 140 in the vicinity of the Project site was found to be 34 mph in the eastbound direction and 35 mph westbound. The measured 85th percentile vehicle travel speed, or the speed at which 85 percent of the observed vehicles traveled at or below, was found to be 38 mph in the northbound direction and 39 mph southbound, which is generally consistent with the posted speed limit in the vicinity of the Project site (40 mph).

⁷A minimum combined travel lane and paved shoulder width of 14 feet is required to support bicycle travel in a shared traveled-way condition.

MOTOR VEHICLE CRASH DATA

Motor vehicle crash information for the study area intersections was provided by the MassDOT Highway Division Safety Management/Traffic Operations Unit for the most recent five-year period available (2017 through 2021, inclusive) in order to examine motor vehicle crash trends occurring within the study area. The data is summarized by intersection, type, severity, roadway and weather conditions, and day of occurrence, and is presented in Table 4.

As can be seen in Table 4, the study area intersections were found to have experienced an average of 5.40 or fewer reported motor vehicle crashes per year over the five-year review period and were found to have motor vehicle crash rates *below* the MassDOT statewide and District average crash rates for similar intersections for the MassDOT Highway Division District in which the intersections are located (District 3). The majority of the reported crashes occurred on a weekday; under clear weather conditions; during daylight; and involved angle and rear-end type collisions that resulted in property damage only. One (1) motor vehicle crash that resulted in a fatality was reported to have occurred at the Route 140/Big Y driveway/Franklin Town Hall driveway intersection, the details of which are footnoted in Table 4. No (0) motor vehicle crashes were reported to have occurred at the existing driveways that serve the Project site over the five-year review period.

A review of the MassDOT statewide High Crash Location List indicates that there are no Highway Safety Improvement Program (HSIP) eligible high crash locations within the study area.

The detailed MassDOT Crash Rate Worksheet, High Crash Location mapping, and motor vehicle crash back-up are provided in the Appendix.

Table 4
MOTOR VEHICLE CRASH DATA SUMMARY^a

	Route 140/ Aspen Way	Route 140/ Project Site Dwy	Route 140/ Big Y Supermarket/ Franklin Town Hall Dwys	Route 140/ Glen Meadow Rd./ Starbucks Dwy.	Route 140/ Horace Mann Plaza/ CVS Pharmacy Dwys.	Route 140/ Chestnut St./ King St.
Traffic Control Type: ^b	S	S	TS	S	TS	TS
<i>Year:</i>						
2017	2	0	2	2	3	7
2018	0	0	2	2	2	6
2019	1	0	2	4	2	6
2020	0	0	0	3	1	5
<u>2021</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>3</u>
Total	3	0	8	11	9	27
Average Rate ^c	0.60	0.00	1.60	2.20	1.80	5.40
MassDOT Crash Rate: ^d	0.57/0.61	0.57/0.61	0.78/0.89	0.57/0.61	0.78/0.89	0.78/0.89
Significant? ^e	No	No	No	No	No	No
<i>Type:</i>						
Angle	1	0	2	3	1	10
Rear-End	1	0	5	3	5	11
Head-On	1	0	0	1	1	1
Sideswipe	0	0	0	3	1	3
Fixed Object	0	0	1	1	0	2
Pedestrian/Bicycle	0	0	0	0	0	0
<u>Unknown/Other</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>
Total	3	0	8	11	9	27
<i>Day of Week:</i>						
Monday through Friday	3	0	7	8	5	21
Saturday	0	0	0	1	3	2
<u>Sunday</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>4</u>
Total	3	0	8	11	9	27
<i>Conditions:</i>						
Clear	1	0	5	9	7	20
Cloudy	0	0	1	2	1	2
Rain	2	0	2	0	1	5
Snow/Ice	0	0	0	0	0	0
<u>Not Reported</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	3	0	8	11	9	27
<i>Lighting:</i>						
Daylight	3	0	5	9	7	22
Dawn/Dusk	0	0	1	0	0	1
Dark (Road Lit)	0	0	2	2	2	4
<u>Dark (Road Unlit)</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	3	0	8	11	9	27
<i>Severity:</i>						
Property Damage Only	3	0	5	6	7	21
Personal Injury	0	0	2	5	2	6
Fatality	0	0	1 ^f	0	0	0
<u>Not Reported</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	3	0	8	11	9	27

^aSource: MassDOT Safety Management/Traffic Operations Unit records, 2017 through 2021.

^bTraffic Control Type: TS = traffic signal control; S = STOP sign control.

^cCrash rate per million vehicles entering the intersection.

^dStatewide/District crash rates.

^eThe intersection crash rate is significant if it is found to exceed the MassDOT crash rate for the MassDOT Highway Division District in which the Project is located (District 3).

^fThe subject crash occurred on Wednesday, June 30, 2021, at approximately 5:33 PM, and involved a motor vehicle and a motorcycle.

FUTURE CONDITIONS

Traffic volumes in the study area were projected to the year 2032, which reflects a seven-year planning horizon from the date of publication of this assessment consistent with MassDOT's *Transportation Impact Assessment (TIA) Guidelines*. Independent of the Project, traffic volumes on the roadway network in the year 2032 under No-Build conditions include all existing traffic and new traffic resulting from background traffic growth. Anticipated Project-generated traffic volumes superimposed upon the 2032 No-Build traffic volumes reflect 2032 Build traffic-volume conditions with the Project.

FUTURE TRAFFIC GROWTH

Future traffic growth is a function of the expected land development in the immediate area and the surrounding region. Several methods can be used to estimate this growth. A procedure frequently employed estimates an annual percentage increase in traffic growth and applies that percentage to all traffic volumes under study. The drawback to such a procedure is that some turning volumes may actually grow at either a higher or a lower rate at particular intersections.

An alternative procedure identifies the location and type of planned development, estimates the traffic to be generated, and assigns it to the area roadway network. This procedure produces a more realistic estimate of growth for local traffic; however, potential population growth and development external to the study area would not be accounted for in the resulting traffic projections.

To provide a conservative analysis framework, both procedures were used, the salient components of which are described below.

Specific Development by Others

The Town of Franklin Planning and Community Development Department was contacted in order to determine if there were any projects planned within the study area that would have an impact on future traffic volumes at the study intersections. Based on this consultation, the following projects were identified for review in conjunction with this assessment:

- ***TAJ Estates of Franklin II, Mixed-Use Development, 230 East Central Street, Franklin, Massachusetts.*** This project entails the construction of a mixed-use development that will include 35 multifamily residential units and 900± sf of office space on the ground floor.

Traffic volumes associated with this project were obtained from the TIA that was prepared for the development.⁸

- ***Mixed-Use Development, 70, 72, 88, and 94 East Central Street, Franklin, Massachusetts.*** This project entails the construction of a mixed-use development that will include 17 multifamily residential units and 972± sf of commercial space. Traffic volumes associated with this project within the study area are expected to be relatively minor and would be reflected in the general background traffic growth rate.
- ***Chestnut Senior Village, Chestnut Street, Franklin, Massachusetts.*** This project consists of the construction of 44 senior housing units . Traffic volumes associated with this project within the study area are expected to be relatively minor and would be reflected in the general background traffic growth rate (discussion follows).

No other developments were identified at this time that are expected to result in traffic within the study area beyond the general background traffic growth rate (discussion follows).

General Background Traffic Growth

Traffic-volume data compiled by MassDOT from permanent count stations located in the Franklin area were reviewed in order to determine general traffic growth trends in the area. This data indicates that traffic volumes have fluctuated over the 10-year period between 2009 and 2019, with an average traffic growth rate of 0.45 percent. In order to provide conservative (high) traffic volumes from which to assess the potential impact of the Project, a higher 1.0 percent per year compounded annual background traffic growth rate was used to account for future traffic growth and presently unforeseen development within the study area.

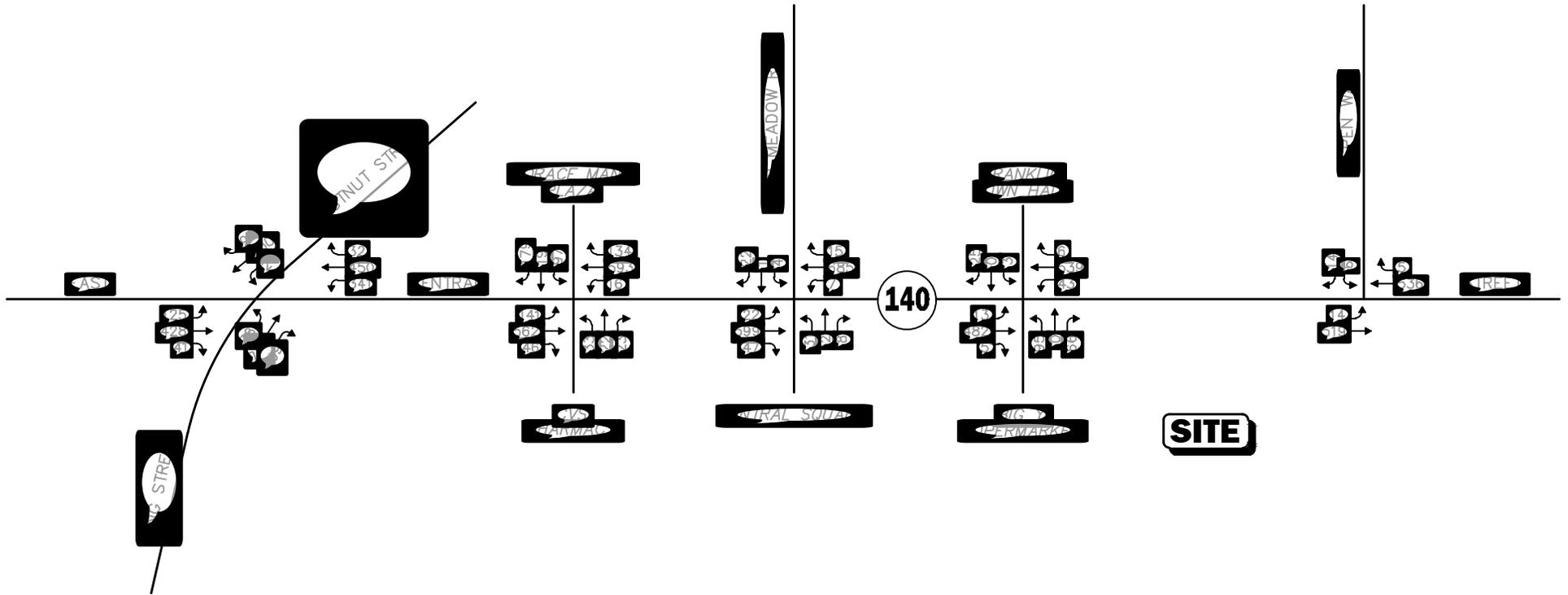
Roadway Improvement Projects

MassDOT and the Town of Franklin were contacted in order to determine if there are any planned future roadway improvement projects expected to be completed by 2032 within the study area. Based on these discussions, no roadway improvement projects aside from routine maintenance activities were identified to be planned within the study area at this time.

No-Build Traffic Volumes

The 2032 No-Build condition peak-hour traffic volumes were developed by applying the 1.0 percent per year compounded annual background traffic growth rate to the 2024 Existing peak-hour traffic volumes and then adding the peak-hour traffic volumes associated with the identified specific development project by others (230 East Central Street mixed-use development). The resulting 2032 No-Build weekday morning, weekday evening and Saturday midday peak-hour traffic volumes are shown on Figures 6, 7 and 8, respectively.

⁸*Transportation Impact Assessment, TAJ Estates of Franklin II, 230 East Central Street, Franklin, MA; VAI; January 19, 2022.*



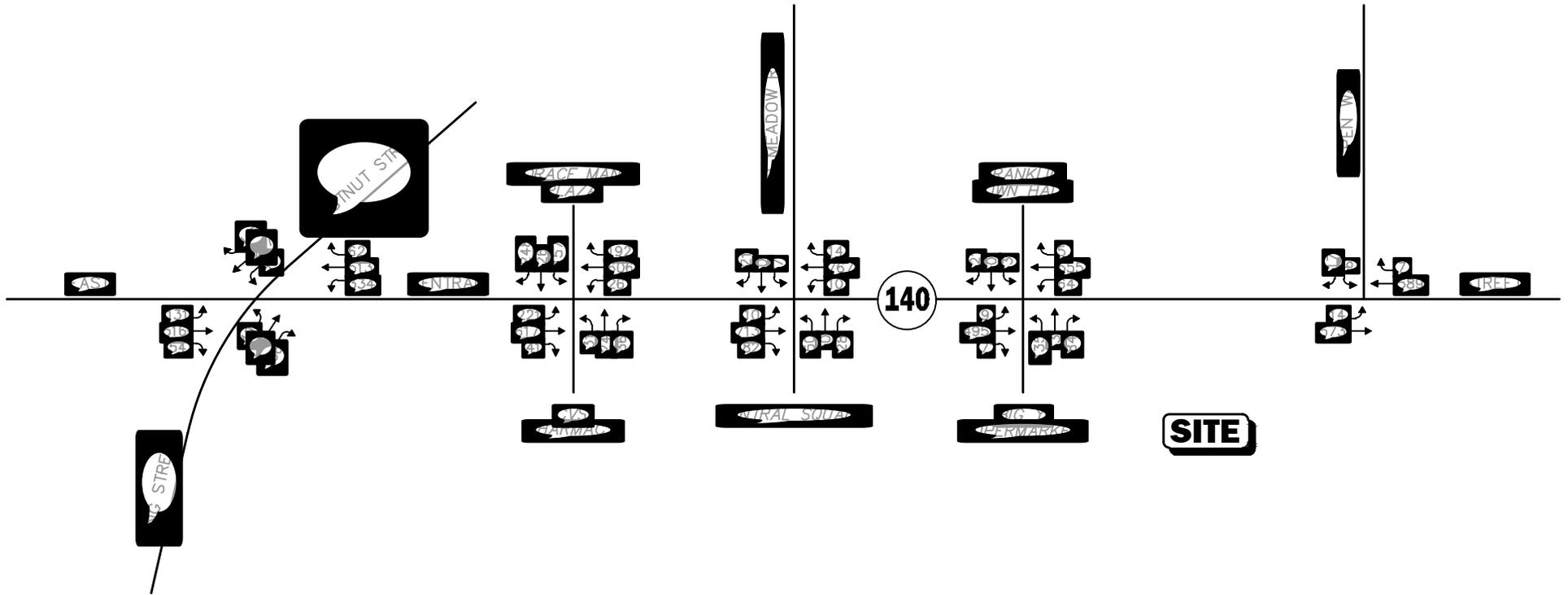
Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale



Figure 7

2032 No-Build
Weekday Evening
Peak-Hour Traffic Volumes



Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale



Figure 8

2032 No-Build
Saturday Midday
Peak-Hour Traffic Volumes

PROJECT-GENERATED TRAFFIC

Design year (2032 Build) traffic volumes for the study area roadways were determined by estimating Project-generated traffic volumes and assigning those volumes on the study roadways. The following sections describe the methodology used to develop the anticipated traffic characteristics of the Project.

As proposed, the Project will entail the construction of a 264-unit multifamily residential community that will include 192 units to be located in three (3) four-story (mid-rise) multifamily residential buildings and 72 units to be located in two (2) three-story (low-rise) residential buildings. In order to develop the traffic characteristics of the Project, trip-generation statistics published by the ITE⁹ for similar land uses as those proposed were used. ITE Land Use Codes (LUCs) 220, *Multifamily Housing (Low-Rise)*, and 221, *Multifamily Housing (Mid-Rise)*, were used to develop the trip-generation characteristics of the Project, the results of which are summarized in Table 5, with the detailed trip-generation calculations attached.

**Table 5
TRIP-GENERATION SUMMARY^a**

Time Period/Direction	Vehicle Trips		(C=A+B) Total Trips
	(A) Proposed Low-Rise Residential Development Trips (72 units)	(B) Proposed Mid-Rise Residential Development Trips (192 units)	
<i>Average Weekday Daily:</i>			
Entering	269	436	705
<u>Exiting</u>	<u>269</u>	<u>436</u>	<u>705</u>
Total	538	872	1,410
<i>Weekday Morning Peak Hour:</i>			
Entering	11	17	28
<u>Exiting</u>	<u>34</u>	<u>56</u>	<u>90</u>
Total	45	73	118
<i>Weekday Evening Peak Hour:</i>			
Entering	32	46	78
<u>Exiting</u>	<u>20</u>	<u>29</u>	<u>49</u>
Total	52	75	127
<i>Saturday:</i>			
Entering	164	439	603
<u>Exiting</u>	<u>164</u>	<u>439</u>	<u>603</u>
Total	328	878	1,206
<i>Saturday Midday Peak Hour:</i>			
Entering	15	38	53
<u>Exiting</u>	<u>15</u>	<u>37</u>	<u>52</u>
Total	30	75	105

^aBased on ITE LUC 220, *Multifamily Housing (Low-Rise)*.

^bBased on ITE LUC 221, *Multifamily Housing (Mid-Rise)*.

⁹Institute of Transportation Engineers, op. cit. 1.

Project-Generated Traffic-Volume Summary

As can be seen in Table 5, the Project is expected to generate approximately 1,410 vehicle trips on an average weekday and 1,206 vehicle trips on a Saturday (both two-way, 24-hour volumes), with approximately 118 vehicle trips (28 vehicles entering and 90 exiting) expected during the weekday morning peak-hour, 127 vehicle trips (78 vehicles entering and 49 exiting) expected during the weekday evening peak-hour and 105 vehicle trips (53 vehicles entering and 52 exiting) expected during the Saturday midday peak-hour.

It should be noted that the current ITE trip-generation data represents data collected prior to the COVID-19 pandemic and does not reflect the changes in trip rates that are associated with the current work-from-home. For residential uses such as the Project, the trend has been a reduction in peak-hour trips. Comparing the pre- and post-pandemic work-from-home statistics from the U.S. Census for persons residing in the Town of Franklin, the percentage of persons reporting that they worked-from-home increased from approximately 16 percent to approximately 22 percent, or an increase of approximately 5 percent. With the current return-to-office trend, it is not expected that there will be a significant increase in the number of persons that are working from home and there may in fact be a reduction. As such, no (0) adjustment (reduction) was made to the base ITE trip-generation calculations to reflect the increase in persons working from home (approximately 5 percent).

As mentioned previously, the Project site is currently occupied by Stobbart’s Nurseries, which includes a 4,465± sf flower shop/garden center, that will be removed to accommodate the Project. For context, Table 6 compares the traffic volumes associated with the Project to those of the Stobbart’s Nurseries flower shop/garden center using trip-generation data published by ITE¹⁰ for a nursery/garden center.

**Table 6
TRAFFIC-VOLUME COMPARISON**

Time Period	Vehicle Trips		
	(A) Project-Generated Traffic Volumes ^a	(B) Stobbart’s Nurseries ^b	(C=A-B) Difference
Average Weekday Daily	1,410	304	1,106
Weekday Morning Peak-Hour	118	11	107
Weekday Evening Peak-Hour	127	31	96
Saturday	1,206	596	610
Saturday Midday Peak-Hour	105	90	15

^aColumn C of Table 5.

^bBased on ITE LUC 817, *Nursery (Garden Center)* (4,465 sf).

¹⁰Institute of Transportation Engineers, op. cit. 1.

Traffic-Volume Comparison

As can be seen in Table 6, in comparison to the Stobbart's Nurseries flower shop/garden center, the Project is expected to generate approximately 1,106 *additional* vehicle trips on an average weekday and approximately 610 *additional* vehicle trips on a Saturday, with approximately 107 *additional* vehicle trips expected during the weekday morning peak-hour, approximately 96 *additional* vehicle trips expected during the weekday evening peak-hour, and approximately 15 *additional* vehicle trips expected during the Saturday midday peak-hour.

In order to provide conservative (high) traffic volumes from which to assess the potential impact of the Project on the transportation infrastructure and given that traffic volume data was not collected at the driveways that serve the nursery/garden center, a reduction was not applied to the future No-Build traffic volumes to reflect the removal of the existing uses and the associated traffic volumes as a result of the construction of the Project.

TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution of generated trips to and from the Project site was determined based on a review of Journey-to-Work data obtained from the U.S. Census for persons residing in the Town of Franklin and then refined based on existing traffic patterns within the study area during the peak periods. The general trip distribution pattern for the Project is graphically depicted on Figure 9, with the additional traffic that is expected to be generated by the Project assigned on the study area roadway network as shown on Figures 10, 11, and 12.

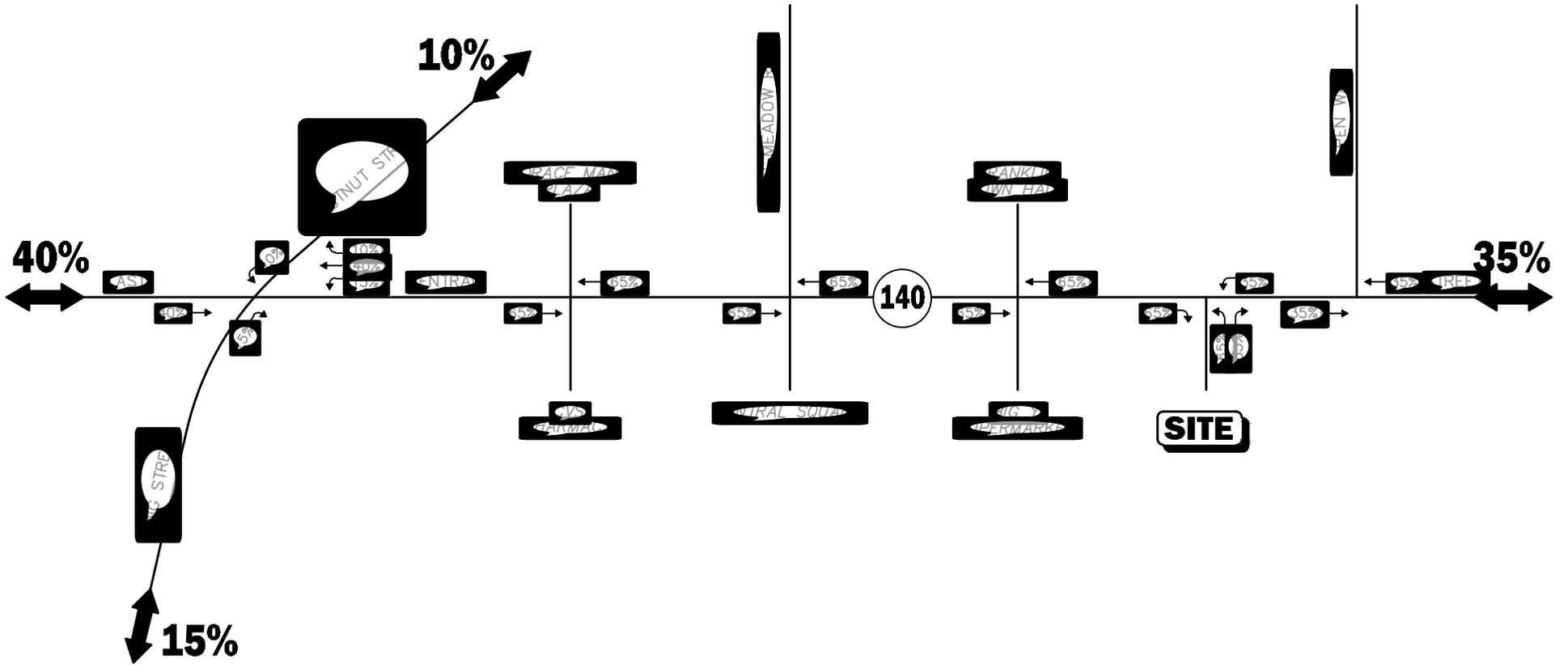
FUTURE TRAFFIC VOLUMES – BUILD CONDITION

The 2032 Build condition traffic volumes were developed by adding the additional traffic expected to be generated by the Project to the 2032 No-Build condition traffic volumes. The resulting 2032 Build weekday morning, weekday evening and Saturday midday peak-hour traffic volumes are graphically depicted on Figures 13, 14 and 15, respectively.

A summary of peak-hour projected traffic-volume changes outside of the study area that is the subject of this assessment is shown in Table 7. These changes are a result of the construction of the Project.

Legend:

- XX Entering Trips
- (XX) Exiting Trips



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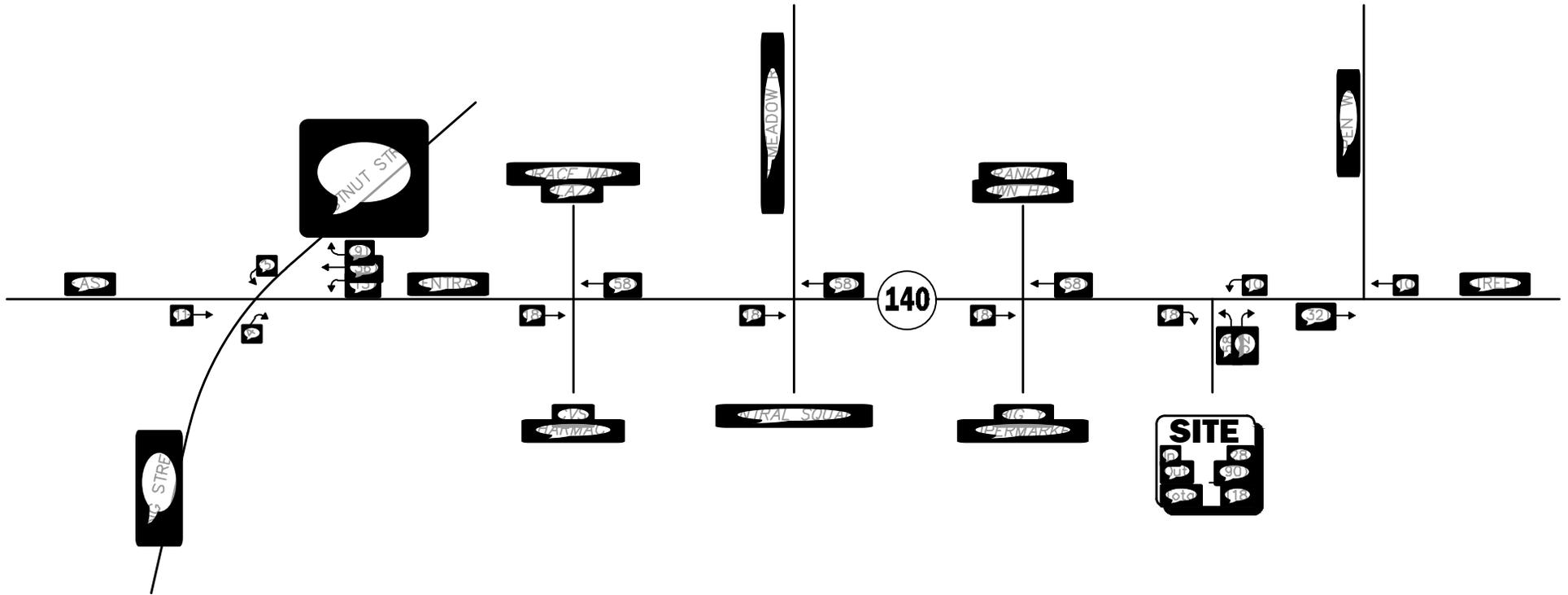
Figure 9
Trip Distribution Map



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Legend:

- XX Entering Trips
- (XX) Exiting Trips

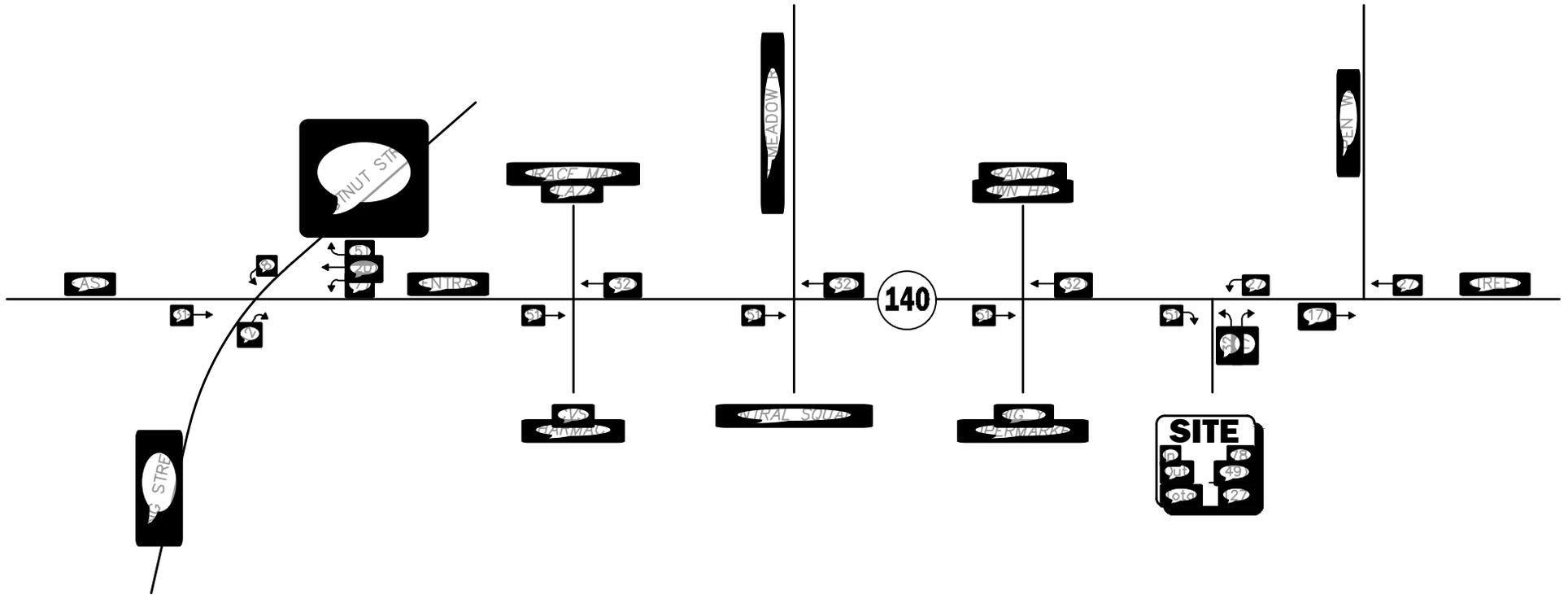


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Figure 10
 Project-Generated
 Weekday Morning
 Peak-Hour Traffic Volumes

Legend:
XX Entering Trips
(XX) Exiting Trips



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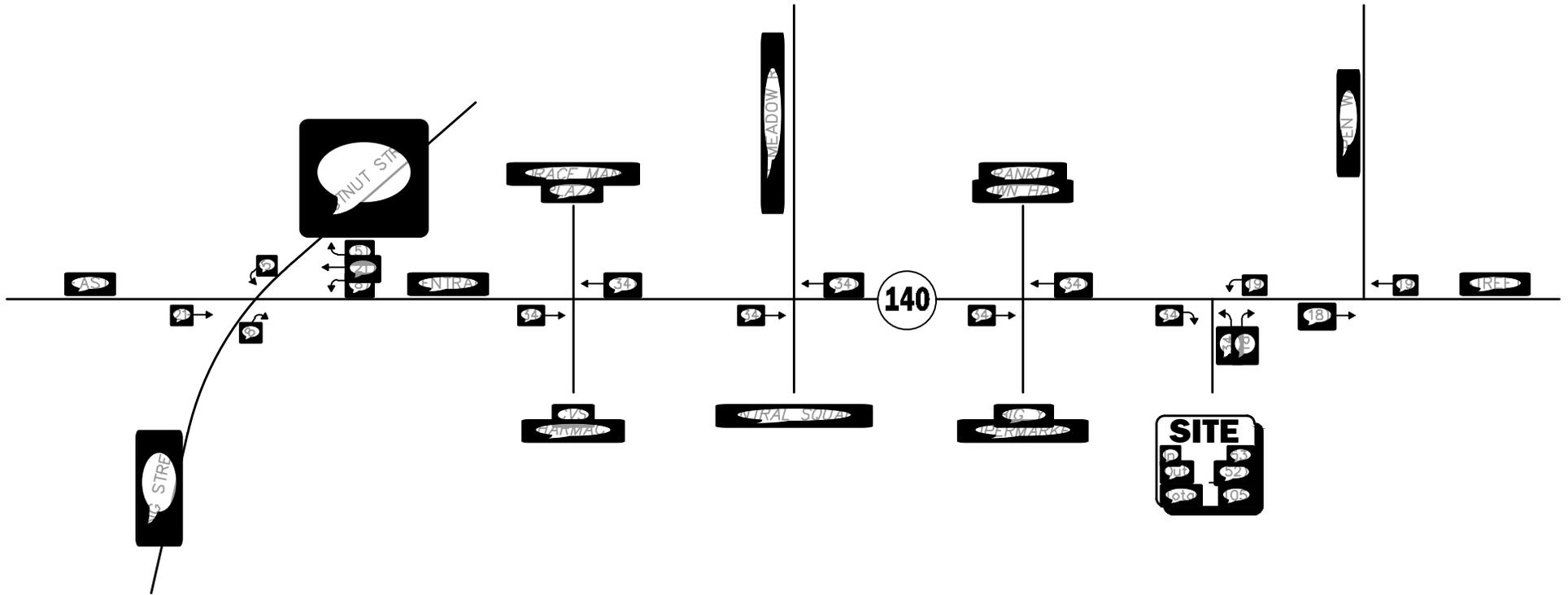


Figure 11
Project-Generated
Weekday Evening
Peak-Hour Traffic Volumes

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Legend:

- XX Entering Trips
- (XX) Exiting Trips

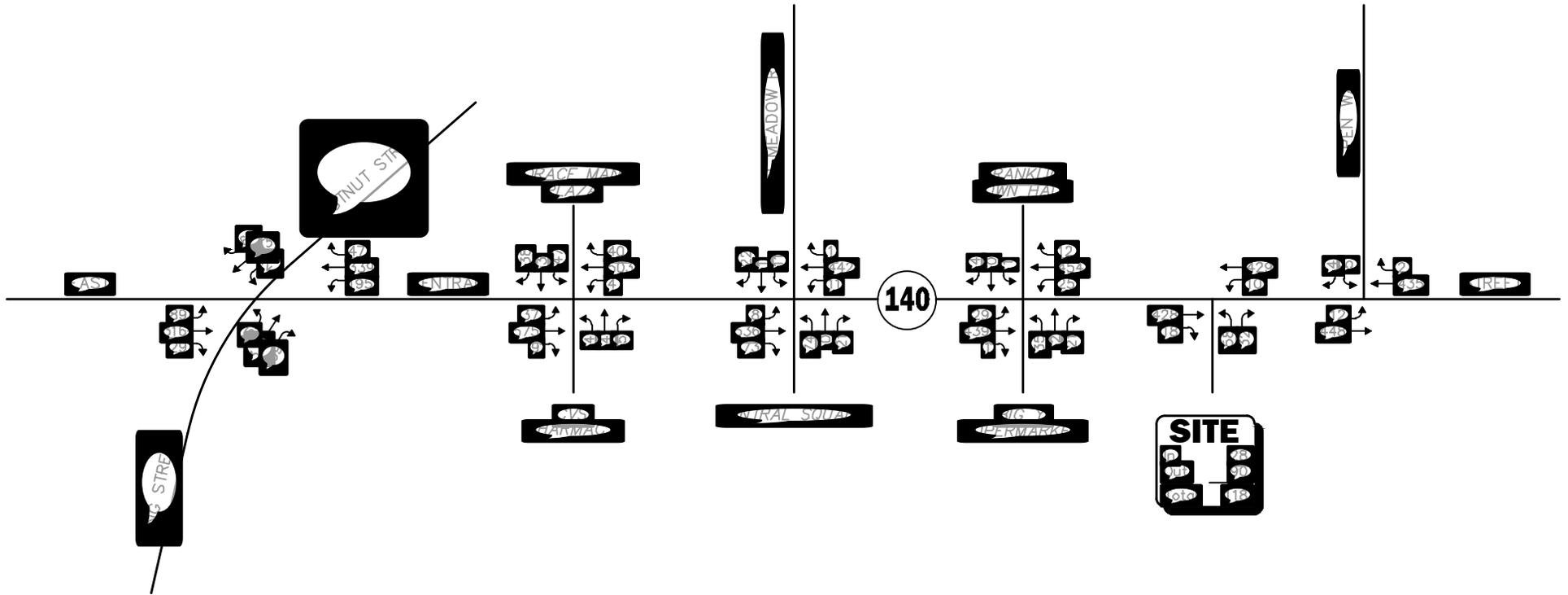


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Figure 12
 Project-Generated
 Saturday Midday
 Peak-Hour Traffic Volumes

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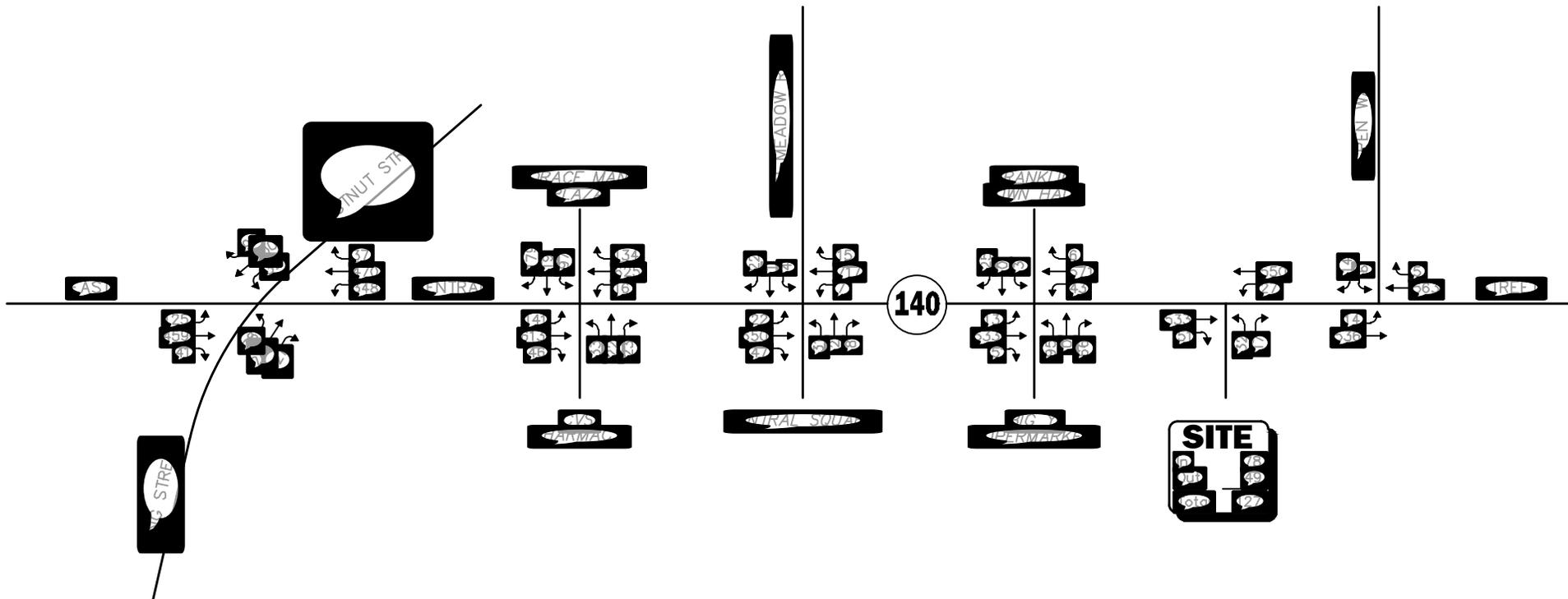
Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

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Figure 13

2032 Build
Weekday Morning
Peak-Hour Traffic Volumes





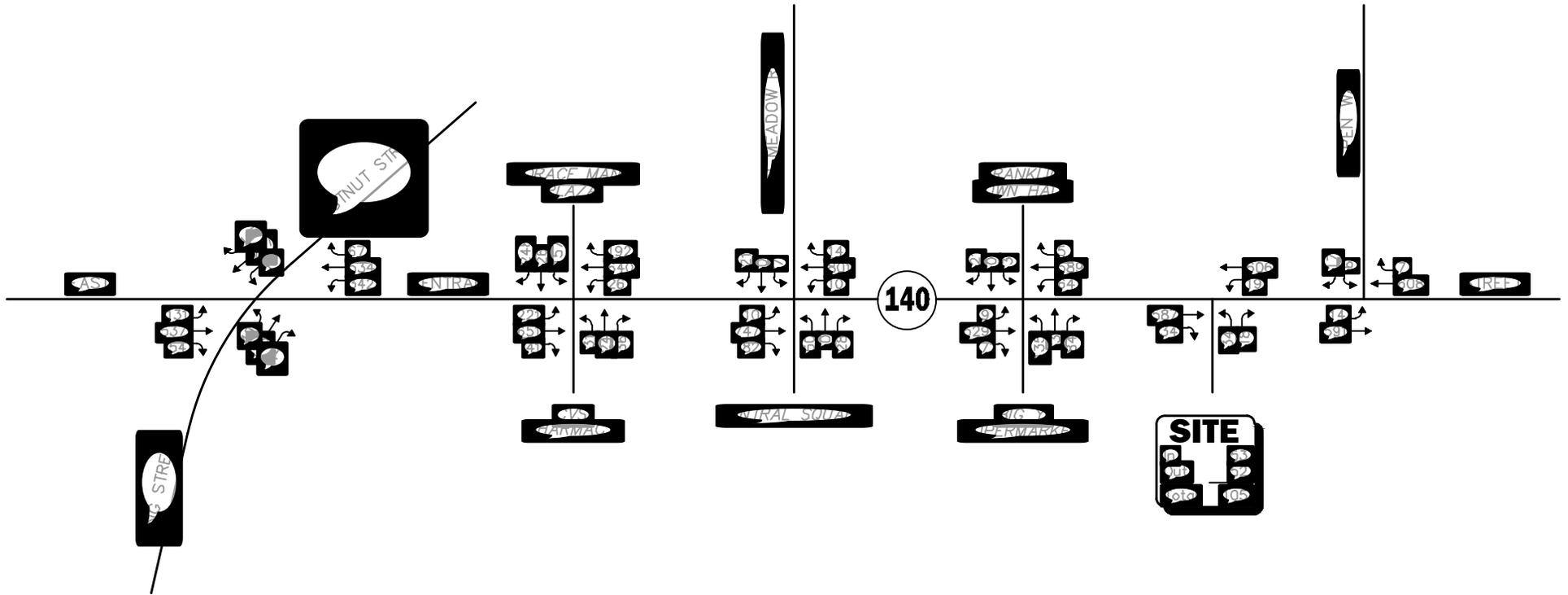
Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

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Figure 14

2032 Build
Weekday Evening
Peak-Hour Traffic Volumes



Note: Imbalances exist due to numerous curb cuts and side streets that are not shown.

Not To Scale



Figure 15

2032 Build
Saturday Midday
Peak-Hour Traffic Volumes

Table 7
PEAK-HOUR TRAFFIC-VOLUME INCREASES

Location/Peak-Hour	2024 Existing	2032 No-Build	2032 Build	Traffic-Volume Increase Over No-Build	Percent Increase Over No-Build
<i>Route 140, east of Aspen Way:</i>					
Weekday Morning	770	848	890	42	5.0
Weekday Evening	972	1,066	1,110	44	4.1
Saturday MIDDAY	1,073	1,175	1,212	37	3.1
<i>Chestnut Street, north of Route 140:</i>					
Weekday Morning	689	748	760	12	1.6
Weekday Evening	756	821	834	13	1.6
Saturday MIDDAY	686	745	755	10	1.3
<i>King Street, south of Route 140:</i>					
Weekday Morning	909	993	1,010	17	1.7
Weekday Evening	1,166	1,273	1,292	19	1.5
Saturday MIDDAY	1,068	1,166	1,182	16	1.4
<i>Route 140, west of King Street:</i>					
Weekday Morning	739	811	858	47	5.8
Weekday Evening	1,078	1,178	1,229	51	4.3
Saturday MIDDAY	1,263	1,378	1,420	42	3.0

As shown in Table 7, Project-related traffic-volume increases outside of the study area relative to 2032 No-Build conditions are anticipated to range from 1.3 to 5.8 percent during the peak periods, with vehicle increases shown to range from 10 to 51 vehicles. ***When dispersed over the respective peak hours and to the roadway network that serves the Project site, the identified traffic-volume increases outside of the immediate study area will not result in a significant increase in motorist delays or vehicle queuing over anticipated future conditions without the Project (i.e., No-Build conditions).***

TRAFFIC OPERATIONS ANALYSIS

Measuring existing and future traffic volumes quantifies traffic flow within the study area. To assess quality of flow, roadway capacity, and vehicle queue analyses were conducted under Existing, No-Build, and Build traffic-volume conditions. Capacity analyses provide an indication of how well the roadway facilities serve the traffic demands placed upon them, with vehicle queue analyses providing a secondary measure of the operational characteristics of an intersection or section of roadway under study.

METHODOLOGY

Levels of Service

A primary result of capacity analyses is the assignment of level of service to traffic facilities under various traffic-flow conditions.¹¹ The concept of level of service is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six levels of service are defined for each type of facility. They are given letter designations from A to F, with level-of-service (LOS) A representing the best operating conditions and LOS F representing congested or constrained operating conditions.

Since the level of service of a traffic facility is a function of the traffic flows placed upon it, such a facility may operate at a wide range of levels of service, depending on the time of day, day of week, or period of year.

¹¹The capacity analysis methodology is based on the concepts and procedures presented in the *Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2016.

Signalized Intersections

The six levels of service for signalized intersections may be described as follows:

- *LOS A* describes operations with very low control delay; most vehicles do not stop at all.
- *LOS B* describes operations with relatively low control delay. However, more vehicles stop than LOS A.
- *LOS C* describes operations with higher control delays. Individual cycle failures may begin to appear. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
- *LOS D* describes operations with control delay in the range where the influence of congestion becomes more noticeable. Many vehicles stop and individual cycle failures are noticeable.
- *LOS E* describes operations with high control delay values. Individual cycle failures are frequent occurrences.
- *LOS F* describes operations with high control delay values that often occur with over-saturation. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Levels of service for signalized intersections are calculated using the operational analysis methodology of the 2000 *Highway Capacity Manual*¹² and implemented as a part of the Synchro® 12 software. This method assesses the effects of signal type, timing, phasing, and progression; vehicle mix; and geometrics on delay. Level-of-service designations are based on the criterion of control or signal delay per vehicle. Control or signal delay is a measure of driver discomfort, frustration, and fuel consumption, and includes initial deceleration delay approaching the traffic signal, queue move-up time, stopped delay, and final acceleration delay. Table 8 summarizes the relationship between level of service and control delay. The tabulated control delay criterion may be applied in assigning level-of-service designations to individual lane groups, to individual intersection approaches, or to entire intersections.

Table 8
LEVEL-OF-SERVICE CRITERIA
FOR SIGNALIZED INTERSECTIONS^a

Level of Service	Control (Signal) Delay Per Vehicle (Seconds)
A	≤10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	>80.0

^aSource: *Highway Capacity Manual*, Transportation Research Board; Washington, DC; 2000; page 16-2.

¹²*Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2000.

Unsignalized Intersections

The six levels of service for unsignalized intersections may be described as follows:

- *LOS A* represents a condition with little or no control delay to minor street traffic.
- *LOS B* represents a condition with short control delays to minor street traffic.
- *LOS C* represents a condition with average control delays to minor street traffic.
- *LOS D* represents a condition with long control delays to minor street traffic.
- *LOS E* represents operating conditions at or near capacity level, with very long control delays to minor street traffic.
- *LOS F* represents a condition where minor street demand volume exceeds capacity of an approach lane, with extreme control delays resulting.

The levels of service of unsignalized intersections are determined by application of a procedure described in the *Highway Capacity Manual 7th Edition*.¹³ Level of service is measured in terms of average control delay. Mathematically, control delay is a function of the capacity and degree of saturation of the lane group and/or approach under study and is a quantification of motorist delay associated with traffic control devices such as traffic signals and STOP signs. Control delay includes the effects of initial deceleration delay approaching a STOP sign, stopped delay, queue move-up time, and final acceleration delay from a stopped condition. Definitions for level of service at unsignalized intersections are also given in the *Highway Capacity Manual 7th Edition*. Table 9 summarizes the relationship between level of service and average control delay for two-way stop controlled and all-way stop controlled intersections.

Table 9
LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS^a

Level-Of-Service by Volume-to-Capacity Ratio		Average Control Delay (Seconds Per Vehicle)
$v/c \leq 1.0$	$v/c > 1.0$	
A	F	≤ 10.0
B	F	10.1 to 15.0
C	F	15.1 to 25.0
D	F	25.1 to 35.0
E	F	35.1 to 50.0
F	F	> 50.0

^aSource: *Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2023.

¹³*Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2023.

Vehicle Queue Analysis

Vehicle queue analyses are a direct measurement of an intersection’s ability to process vehicles under various traffic control and volume scenarios and lane use arrangements. The vehicle queue analysis was performed using the Synchro® intersection capacity analysis software. The Synchro® vehicle queue analysis methodology is a simulation-based model that reports the number of vehicles that experience a delay of 6 seconds or more at an intersection. For signalized intersections, Synchro® reports both the average (50th percentile) and the 95th percentile vehicle queue. For unsignalized intersections, Synchro® reports the 95th percentile vehicle queue. Vehicle queue lengths are a function of the capacity of the movement under study and the volume of traffic being processed by the intersection during the analysis period. The 95th percentile vehicle queue is the vehicle queue length that will be exceeded only 5 percent of the time, or approximately 3 minutes out of 60 minutes during the peak one hour of the day (during the remaining 57 minutes, the vehicle queue length will be less than the 95th percentile queue length).

ANALYSIS RESULTS

Level-of-service and vehicle queue analyses were conducted for 2024 Existing, 2032 No-Build, and 2032 Build conditions for the intersections within the study area. The results of the intersection capacity and vehicle queue analyses are summarized in Tables 10 and 11, with the detailed analysis results presented in the Appendix.

The following is a summary of the level-of-service and vehicle queue analyses for the intersections within the study area. For context, we note that an LOS of “D” or better is generally defined as “acceptable” operating conditions.

Signalized Intersections (Table 10)

Route 140 at the Big Y Supermarket and Franklin Town Hall Driveways

No change in level of service was shown to occur over No-Build conditions, with all movements at the intersection shown to continue to operate at LOS C or better. Project-related impacts were generally defined as an increase in overall average motorist delay of less than 1.0 second that resulted in an increase in vehicle queuing of up to two (2) vehicles.

Route 140 at Horace Mann Plaza and CVS Pharmacy Driveways

No change in overall level of service was shown to occur over No-Build conditions, with Project-related impacts generally defined as a predicted increase in overall average motorist delay of up to 3.2 seconds that resulted in a corresponding increase in vehicle queuing of up to four (4) vehicles. Focusing on specific movements, the following changes in level-of-service were shown to occur as a result of the addition of Project-related traffic: *weekday morning peak-hour* – right-turn movements from the Route 140 westbound approach changed from LOS A to LOS B (1.3 second increase in average motorist delay); *weekday evening peak-hour* – through movements from the Route 140 eastbound approach changed from LOS B to LOS C (1.1 second increase in average motorist delay).

Route 140 at Chestnut Street and King Street

No change in overall level-of-service was shown to occur over No-Build conditions, with Project-related impacts generally defined as a predicted increase in overall average motorist delay of up to 4.2 seconds that resulted in a corresponding increase in vehicle queuing of up to three (3) vehicles. Focusing on specific movements, the following changes in level-of-service were shown to occur as a result of the addition of Project-related traffic: *weekday morning peak-hour* – through movements from the Route 140 westbound approach changed from LOS B to LOS C (1.1 second increase in average motorist delay); *weekday evening peak-hour* – left-turn movements from the Route 140 westbound approach changed from LOS D to LOS E (20.3 second increase in average motorist delay); and *Saturday midday peak-hour* – left-turn movements from the Route 140 westbound approach changed from LOS E to LOS F (14.0 second increase in average motorist delay).

Unsignalized Intersections (Table 11)

Route 140 at Aspen Way

No change in level-of-service or vehicle queuing is predicted to occur for any movement over No-Build conditions, with Project-related impact generally defined as an increase in average motorist delay of less than 1.0 seconds. All movements at the intersection are predicted to continue to operate at LOS C or better with vehicle queuing of up to one (1) vehicle.

Route 140 at Glenn Meadow Road and Central Square Driveway

No change in level of service is predicted to occur for any movement over No-Build conditions, with the Project-related impacts generally defined as a predicted increase in average motorist delay that resulted in a corresponding increase in vehicle queuing of up to one (1) vehicle.

Route 140 at Project Site Driveway

All movements exiting the Project site driveway to Route 140 were shown to operate at LOS C during the weekday morning peak-hour and at LOS D during the weekday evening and Saturday midday peak hours, with vehicle queuing of up to one (1) vehicle. All movements along Route 140 approaching the Project site driveway were found to operate at LOS A with negligible vehicle queuing.

Table 10
SIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

Signalized Intersection/Peak Hour/Movement	2024 Existing				2032 No-Build				2032 Build			
	V/C ^a	Delay ^b	LOS ^c	Queue ^d 50 th /95 th	V/C	Delay	LOS	Queue 50 th /95 th	V/C	Delay	LOS	Queue 50 th /95 th
Route 140 at the Big Y Supermarket/ Franklin Town Hall Driveways												
<i>Weekday Morning:</i>												
Route 140 EB LT	0.05	3.9	A	0/1	0.06	3.8	A	0/1	0.06	3.8	A	0/1
Route 140 EB TH/RT	0.41	6.8	A	4/7	0.44	6.8	A	4/8	0.44	6.6	A	5/8
Route 140 WB LT	0.05	3.3	A	0/1	0.05	3.3	A	0/1	0.05	3.2	A	0/1
Route 140 WB TH/RT	0.40	6.3	A	2/6	0.43	6.1	A	2/7	0.47	6.2	A	3/8
Big Y Supermarket NB LT/TH	0.34	22.9	C	1/2	0.36	24.3	C	1/2	0.37	26.8	C	1/2
Big Y Supermarket NB RT	0.02	13.8	B	0/0	0.02	14.9	B	0/0	0.02	16.9	B	0/0
Franklin Town Hall SB LT/TH/RT	0.00	20.7	C	0/0	0.00	21.8	C	0/0	0.00	24.1	C	0/0
Overall	--	7.4	A	--	--	7.4	A	--	--	7.4	A	--
<i>Weekday Evening:</i>												
Route 140 EB LT	0.03	5.3	A	0/0	0.03	5.0	A	0/0	0.03	4.9	A	0/0
Route 140 EB TH/RT	0.46	8.4	A	4/8	0.48	8.2	A	5/9	0.52	8.3	A	5/10
Route 140 WB LT	0.08	3.6	A	0/1	0.08	3.6	A	0/1	0.09	3.7	A	0/1
Route 140 WB TH/RT	0.47	6.5	A	3/9	0.50	6.4	A	3/11	0.52	6.4	A	4/12
Big Y Supermarket NB LT/TH	0.47	23.1	C	1/3	0.50	25.6	C	1/3	0.52	27.1	C	2/3
Big Y Supermarket NB RT	0.05	12.4	B	0/1	0.05	14.2	B	0/1	0.05	15.2	B	0/1
Franklin Town Hall SB LT/TH/RT	0.02	20.0	C	0/0	0.02	22.0	C	0/0	0.02	23.1	C	0/0
Overall	--	9.1	A	--	--	9.2	A	--	--	9.3	A	--
<i>Saturday Midday:</i>												
Route 140 EB LT	0.03	10.2	B	0/1	0.03	10.1	B	0/1	0.03	10.3	B	0/1
Route 140 EB TH/RT	0.60	16.1	B	5/19	0.62	16.3	B	6/21	0.67	17.3	B	7/23
Route 140 WB LT	0.16	8.7	A	0/2	0.17	8.9	A	0/2	0.18	9.4	A	0/2
Route 140 WB TH/RT	0.52	12.2	B	3/17	0.55	12.3	B	4/21	0.59	12.8	B	4/23
Big Y Supermarket NB LT/TH	0.59	30.8	C	2/6	0.62	34.3	C	2/6	0.62	34.3	C	2/6
Big Y Supermarket NB RT	0.06	19.2	B	0/1	0.06	20.9	C	0/1	0.06	20.9	C	0/1
Franklin Town Hall SB LT/TH/RT	0.02	24.3	C	0/0	0.02	26.1	C	0/0	0.02	26.1	C	0/0
Overall	--	16.1	B	--	--	16.6	B	--	--	17.1	B	--

See notes at end of table.

Table 10 (Continued)
SIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

Signalized Intersection/Peak Hour/Movement	2024 Existing				2032 No-Build				2032 Build			
	V/C ^a	Delay ^b	LOS ^c	Queue ^d 50 th /95 th	V/C	Delay	LOS	Queue 50 th /95 th	V/C	Delay	LOS	Queue 50 th /95 th
Route 140 at Horace Mann Plaza/ CVS Pharmacy Driveways												
<i>Weekday Morning:</i>												
Route 140 EB LT	0.08	6.1	A	0/1	0.09	6.2	A	0/1	0.11	8.2	A	0/1
Route 140 EB TH	0.55	10.7	B	3/15	0.59	11.2	B	3/17	0.64	13.7	B	3/18
Route 140 EB RT	0.01	7.4	A	0/0	0.01	7.2	A	0/0	0.01	8.5	A	0/0
Route 140 WB LT	0.01	8.2	A	0/0	0.01	8.2	A	0/0	0.01	9.6	A	0/0
Route 140 WB TH	0.53	12.4	B	4/13	0.57	12.7	B	4/14	0.66	16.2	B	5/17
Route 140 WB RT	0.03	9.0	A	0/0	0.03	8.8	A	0/0	0.03	10.1	B	0/0
CVS Pharmacy NB LT/TH	0.13	29.7	C	0/1	0.13	30.4	C	0/1	0.10	31.0	C	0/1
CVS Pharmacy NB RT	0.01	29.2	C	0/0	0.01	29.9	C	0/0	0.01	30.6	C	0/0
Horace Mann Plaza SB LT/TH	0.68	43.5	D	1/3	0.70	46.9	D	1/3	0.58	36.2	D	1/3
Horace Mann Plaza SB RT	0.03	23.4	C	0/0	0.03	24.1	C	0/0	0.03	25.0	C	0/0
Overall	--	13.9	B	--	--	14.3	B	--	--	16.3	B	--
<i>Weekday Evening:</i>												
Route 140 EB LT	0.48	14.1	B	2/3	0.53	15.7	B	2/4	0.55	16.8	B	2/4
Route 140 EB TH	0.64	18.2	B	7/17	0.68	18.9	B	8/19	0.72	20.0	C	10/22
Route 140 EB RT	0.03	11.9	B	0/0	0.03	11.7	B	0/0	0.03	11.4	B	0/0
Route 140 WB LT	0.05	14.2	B	0/1	0.06	14.1	B	0/1	0.06	14.3	B	0/1
Route 140 WB TH	0.80	28.8	C	11/19	0.84	30.7	C	13/24	0.85	31.8	C	14/26
Route 140 WB RT	0.11	15.9	B	0/2	0.10	15.4	B	0/2	0.10	15.0	B	0/2
CVS Pharmacy NB LT/TH	0.37	35.9	D	1/3	0.39	38.0	D	2/3	0.41	39.3	D	2/3
CVS Pharmacy NB RT	0.02	33.8	C	0/0	0.02	35.7	D	0/0	0.02	36.8	D	0/0
Horace Mann Plaza SB LT/TH	0.69	45.4	D	3/7	0.71	49.3	D	3/7	0.73	52.4	D	3/7
Horace Mann Plaza SB RT	0.12	25.7	C	0/2	0.12	27.6	C	0/2	0.12	28.7	C	0/2
Overall	--	24.0	C	--	--	25.4	C	--	--	26.4	C	--
<i>Saturday Midday:</i>												
Route 140 EB LT	0.83	34.6	C	3/9	0.91	55.5	E	4/10	0.96	71.7	E	4/11
Route 140 EB TH	0.73	24.4	C	9/19	0.79	27.7	C	14/21	0.82	28.7	C	15/25
Route 140 EB RT	0.03	14.5	B	0/0	0.03	14.6	B	0/0	0.03	14.3	B	0/0
Route 140 WB LT	0.11	17.7	B	0/1	0.12	17.6	B	0/1	0.13	17.8	B	0/1
Route 140 WB TH	0.84	35.1	D	12/18	0.88	39.2	D	14/21	0.90	41.4	D	15/25
Route 140 WB RT	0.19	19.5	B	1/3	0.19	19.0	B	1/3	0.19	18.6	B	1/3
CVS Pharmacy NB LT/TH	0.37	37.1	D	1/3	0.39	38.6	D	2/3	0.42	39.9	D	2/3
CVS Pharmacy NB RT	0.02	34.6	C	0/0	0.02	35.9	D	0/0	0.02	36.9	D	0/0
Horace Mann Plaza SB LT/TH	0.96	>80.0	F	5/12	0.98	>80.0	F	5/12	1.00	>80.0	F	6/12
Horace Mann Plaza SB RT	0.17	26.7	C	0/3	0.17	28.0	C	0/3	0.17	28.9	C	0/3
Overall	--	34.1	C	--	--	38.9	D	--	--	42.1	D	--

See notes at end of table.

Table 10 (Continued)
SIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

Signalized Intersection/Peak Hour/Movement	2024 Existing				2032 No-Build				2032 Build			
	V/C ^a	Delay ^b	LOS ^c	Queue ^d 50 th /95 th	V/C	Delay	LOS	Queue 50 th /95 th	V/C	Delay	LOS	Queue 50 th /95 th
Route 140 at Chestnut Street/King Street												
<i>Weekday Morning:</i>												
Route 140 EB LT	0.24	15.1	B	1/3	0.27	16.2	B	1/3	0.29	16.7	B	1/3
Route 140 EB TH	0.58	21.5	C	4/11	0.62	23.6	C	5/12	0.64	24.4	C	5/13
Route 140 EB RT	0.02	16.7	B	0/0	0.00	17.7	B	0/0	0.02	17.9	B	0/0
Route 140 WB LT	0.45	13.2	B	1/5	0.53	14.7	B	2/5	0.58	15.7	B	2/6
Route 140 WB TH	0.48	17.9	B	3/10	0.52	19.2	B	4/11	0.57	20.3	C	5/13
Route 140 WB RT	0.03	14.6	B	0/0	0.00	15.3	B	0/0	0.03	15.4	B	0/0
King Street NB LT/TH	0.66	24.2	C	4/14	0.69	26.0	C	5/16	0.69	26.3	C	5/16
King Street NB RT	0.22	13.8	B	1/3	0.25	14.4	B	1/4	0.25	14.6	B	1/4
Chestnut Street SB LT/TH/RT	0.48	20.4	C	3/10	0.54	22.0	C	4/12	0.55	22.8	C	4/12
Overall	--	18.9	B	--	--	20.3	C	--	--	20.9	C	--
<i>Weekday Evening:</i>												
Route 140 EB LT	0.33	17.2	B	1/4	0.38	20.7	C	2/4	0.41	21.8	C	2/4
Route 140 EB TH	0.74	30.0	C	7/16	0.82	39.5	D	9/18	0.86	43.5	D	10/21
Route 140 EB RT	0.03	19.5	B	0/0	0.03	22.6	C	0/0	0.03	23.2	C	0/0
Route 140 WB LT	0.78	24.1	C	3/11	0.88	42.5	D	5/16	0.96	62.8	E	6/17
Route 140 WB TH	0.61	22.4	C	6/15	0.63	24.4	C	8/17	0.66	26.2	C	8/18
Route 140 WB RT	0.02	16.2	B	0/0	0.02	17.2	B	0/0	0.02	18.1	B	0/0
King Street NB LT/TH	0.62	27.1	C	5/12	0.66	31.0	C	6/14	0.63	30.4	C	6/14
King Street NB RT	0.24	14.7	B	1/3	0.28	15.2	B	1/4	0.29	16.1	B	1/4
Chestnut Street SB LT/TH/RT	0.69	28.7	C	6/16	0.71	32.0	C	8/19	0.73	33.5	C	9/20
Overall	--	24.2	C	--	--	30.1	C	--	--	34.3	C	--
<i>Saturday Midday:</i>												
Route 140 EB LT	0.38	20.9	C	1/4	0.46	23.2	C	2/4	0.48	23.2	C	2/4
Route 140 EB TH	0.84	41.0	D	10/20	0.89	48.4	D	11/24	0.90	48.9	D	12/25
Route 140 EB RT	0.03	22.8	C	0/0	0.04	24.0	C	0/1	0.04	23.6	C	0/1
Route 140 WB LT	0.81	34.8	C	5/14	0.96	67.4	E	6/17	1.01	>80.0	F	6/17
Route 140 WB TH	0.66	25.6	C	8/18	0.71	29.5	C	9/22	0.73	29.8	C	10/23
Route 140 WB RT	0.04	17.7	B	0/1	0.04	19.2	B	0/1	0.04	19.0	B	0/1
King Street NB LT/TH	0.59	31.2	C	4/10	0.62	33.4	C	5/11	0.64	34.9	C	5/11
King Street NB RT	0.21	16.4	B	0/2	0.26	18.0	B	1/3	0.26	18.7	B	1/3
Chestnut Street SB LT/TH/RT	0.76	36.7	D	8/14	0.82	42.6	D	10/17	0.89	51.4	D	10/18
Overall	--	30.4	C	--	--	38.3	D	--	--	41.8	D	--

^aVolume-to-capacity ratio.

^bControl (signal) delay per vehicle in seconds.

^cLevel of service.

^dQueue length in vehicles.

NB = northbound; SB = southbound; EB = eastbound; WB = westbound; LT = left-turning movements; TH = through movements; RT = right-turning movements.

Table 11
UNSIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

Unsignalized Intersection/Peak-Hour/Movement	2024 Existing				2032 No-Build				2032 Build			
	Demand ^a	Delay ^b	LOS ^c	Queue ^d 95 th	Demand	Delay	LOS	Queue 95 th	Demand	Delay	LOS	Queue 95 th
Route 140 at Aspen Way												
<i>Weekday Morning:</i>												
Route 140 EB LT/TH	386	0.3	A	0	428	0.3	A	0	460	0.3	A	0
Route 140 WB TH/RT	391	0.0	A	0	427	0.0	A	0	437	0.0	A	0
Aspen Way SB LT/RT	9	15.1	C	0	9	16.3	C	0	9	16.9	C	0
<i>Weekday Evening:</i>												
Route 140 EB LT/TH	488	0.3	A	0	533	0.3	A	0	550	0.3	A	0
Route 140 WB TH/RT	492	0.0	A	0	541	0.0	A	0	568	0.0	A	0
Aspen Way SB LT/RT	20	15.6	C	0	20	17.1	C	1	20	17.8	C	1
<i>Saturday Midday:</i>												
Route 140 EB LT/TH	538	0.2	A	0	587	0.2	A	0	605	0.2	A	0
Route 140 WB TH/RT	543	0.0	A	0	596	0.0	A	0	615	0.0	A	0
Aspen Way SB LT/RT	23	16.1	C	1	23	17.6	C	1	23	18.2	C	1
Route 140 at Glenn Meadow Road/Central Sq. Driveway												
<i>Weekday Morning:</i>												
Route 140 EB LT	8	8.5	A	0	8	8.6	A	0	8	8.8	A	0
Route 140 EB TH/RT	541	0.0	A	0	591	0.0	A	0	609	0.0	A	0
Route 140 WB LT	11	8.6	A	0	11	8.7	A	0	11	8.8	A	0
Route 140 WB TH/RT	352	0.0	A	0	385	0.0	A	0	443	0.0	A	0
Central Sq. Driveway NB LT/TH	74	30.7	D	2	74	37.4	E	2	74	46.1	E	3
Central Sq. Driveway NB RT	21	11.7	B	0	21	12.2	B	0	21	12.4	B	0
Glenn Meadow Road SB LT/TH/RT	34	15.0	C	1	34	16.3	C	1	34	17.8	C	1
<i>Weekday Evening:</i>												
Route 140 EB LT	22	9.0	A	0	22	9.3	A	0	22	9.4	A	0
Route 140 EB TH/RT	595	0.0	A	0	646	0.0	A	0	697	0.0	A	0
Route 140 WB LT	7	8.8	A	0	7	9.0	A	0	7	9.2	A	0
Route 140 WB TH/RT	639	0.0	A	0	700	0.0	A	0	732	0.0	A	0
Central Sq. Driveway NB LT/TH	33	>50.0	F	2	33	>50.0	F	2	33	>50.0	F	3
Central Sq. Driveway NB RT	8	12.4	B	0	8	13.0	B	0	8	13.6	B	0
Glenn Meadow Road SB LT/TH/RT	27	18.5	C	1	27	20.8	C	1	27	22.6	C	1
<i>Saturday Midday:</i>												
Route 140 EB LT	10	9.2	A	0	10	9.4	A	0	10	9.6	A	0
Route 140 EB TH/RT	735	0.0	A	0	795	0.0	A	0	829	0.0	A	0
Route 140 WB LT	10	9.4	A	0	10	9.7	A	0	10	9.9	A	0
Route 140 WB TH/RT	714	0.0	A	0	781	0.0	A	0	815	0.0	A	0
Central Sq. Driveway NB LT/TH	50	>50.0	F	5	50	>50.0	F	6	50	>50.0	F	6
Central Sq. Driveway NB RT	28	14.9	B	1	28	15.9	C	1	28	16.6	C	1
Glenn Meadow Road SB LT/TH/RT	28	24.8	C	1	28	29.7	D	1	28	32.9	D	1

See notes at end of table.

Table 11 (Continued)
UNSIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

Unsignalized Intersection/Peak-Hour/Movement	2024 Existing				2032 No-Build				2032 Build			
	Demand ^a	Delay ^b	LOS ^c	Queue ^d 95 th	Demand	Delay	LOS	Queue 95 th	Demand	Delay	LOS	Queue 95 th
Route 140 at Project Site Driveway												
<i>Weekday Morning:</i>												
Route 140 EB LT/TH	--	--	--	--	--	--	--	--	446	0.0	A	0
Route 140 WB TH/RT	--	--	--	--	--	--	--	--	439	0.2	A	0
Project Site Driveway NB LT/RT	--	--	--	--	--	--	--	--	90	19.6	C	1
<i>Weekday Evening:</i>												
Route 140 EB LT/TH	--	--	--	--	--	--	--	--	584	0.0	A	0
Route 140 WB TH/RT	--	--	--	--	--	--	--	--	577	0.4	A	0
Project Site Driveway NB LT/RT	--	--	--	--	--	--	--	--	49	25.4	D	1
<i>Saturday Midday:</i>												
Route 140 EB LT/TH	--	--	--	--	--	--	--	--	621	0.0	A	0
Route 140 WB TH/RT	--	--	--	--	--	--	--	--	625	0.3	A	0
Project Site Driveway NB LT/RT	--	--	--	--	--	--	--	--	52	29.1	D	1

^aDemand in vehicles per hour.

^bAverage control delay per vehicle (in seconds).

^cLevel of service.

^dQueue length in vehicles.

NB = northbound; SB = southbound; EB = eastbound; WB = westbound; LT = left-turning movements; TH = through movements; RT = right-turning movements.

SIGHT DISTANCE EVALUATION

Sight distance measurements were performed at the Project site driveway intersection with Route 140 in accordance with MassDOT and American Association of State Highway and Transportation Officials (AASHTO)¹⁴ requirements. These driveways will be modified to provide access to the Project. Stopping sight distance (SSD) and intersection sight distance (ISD) measurements were performed. In brief, SSD is the distance required by a vehicle traveling at the design speed of a roadway, on wet pavement, to stop prior to striking an object in its travel path. ISD or corner sight distance (CSD) is the sight distance required by a driver entering or crossing an intersecting roadway to perceive an on-coming vehicle and safely complete a turning or crossing maneuver with on-coming traffic. In accordance with AASHTO standards, if the measured ISD is at least equal to the required SSD value for the appropriate design speed, the intersection can operate in a safe manner. Table 12 presents the measured SSD and ISD at the subject intersection.

¹⁴*A Policy on Geometric Design of Highway and Streets*, 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); Washington D.C.; 2018.

Table 12
SIGHT DISTANCE MEASUREMENTS^a

Intersection/Sight Distance Measurement	Feet		
	Required Minimum (SSD)	Desirable (ISD) ^b	Measured
Route 140 at Project Site Driveway			
<i>Stopping Sight Distance:</i>			
Route 140 approaching from the east	305	--	650+
Route 140 approaching from the west	305	--	650+
<i>Intersection Sight Distance:</i>			
Looking to the east from Project Site Driveway	305	445	650+
Looking to the west from Project Site Driveway	305	385	650+

^aRecommended minimum values obtained from *A Policy on Geometric Design of Highways and Streets*, 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); 2018; and based on an approach speed of 40 mph along Route 140.

^bValues shown are the intersection sight distance for a vehicle turning right exiting a roadway under STOP control such that motorists approaching the intersection on the major street should not need to adjust their travel speed to less than 70 percent of their initial approach speed.

As can be seen in Table 12, the available lines of sight at the Project site driveway were found to exceed the recommended minimum sight distances to function in a safe (SSD) and efficient (ISD) manner based on a 40 mph approach speed along Route 140, which is consistent with the posted speed limit approaching the driveway (40 mph) and the measured 85th percentile vehicle travel speed (38/39 mph).

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

VAI has completed a detailed assessment of the potential impacts on the transportation infrastructure associated with the proposed construction of a multifamily residential development to be located at 444 East Central Street in Franklin, Massachusetts. The following specific areas have been evaluated as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; under existing and future conditions, both with and without the Project. Based on this assessment, we have concluded the following with respect to the Project:

1. Using trip-generation statistics published by the ITE¹⁵ and without consideration of the use of alternative modes of transportation to single-occupancy vehicles or residents that will work-from-home, the Project is expected to generate approximately 1,410 vehicle trips on an average weekday and 1,206 vehicle trips on a Saturday (both two-way, 24-hour volumes), with 118 vehicle trips expected during the weekday morning peak-hour, 127 vehicle trips expected during the weekday evening peak-hour and 105 vehicle trips expected during the Saturday midday peak-hour;
2. The Project will not result in a significant impact (increase) on motorist delays or vehicle queuing over anticipated future conditions without the Project (No-Build condition), with the majority of the movements at the study area intersections expected to continue to operate at LOS C or better, where an LOS “D” or better is generally defined as “acceptable” traffic operations, and Project-related impacts generally defined as an increase in overall average motorist delay that resulted in a corresponding increase in vehicle queuing of up to four (4) vehicles;
3. All movements exiting the Project site driveway to Route 140 were shown to operate at LOS C during the weekday morning peak-hour and at LOS D during the weekday evening and Saturday midday peak hours, with vehicle queuing of up to one (1) vehicle. All movements along Route 140 approaching the Project site driveway were found to operate at LOS A with negligible vehicle queuing.

¹⁵Institute of Transportation Engineers, op. cit. 1.

4. No apparent safety deficiencies were noted with respect to the motor vehicle crash history at the study area intersections, with all of the intersections found to have motor vehicle crash rates below the MassDOT average crash rates for similar intersections; and
5. Lines of sight at the Project site driveway intersection with Route 140 were found to exceed the recommended minimum distances to function in a safe and efficient manner.

In consideration of the above, we have concluded that the Project can be accommodated within the confines of the existing transportation infrastructure in a safe and efficient manner with implementation of the recommendations that follow.

RECOMMENDATIONS

A detailed transportation improvement program has been developed to provide safe and efficient access to the Project site and address any deficiencies identified at off-site locations evaluated in conjunction with this study. The following improvements have been recommended as a part of this evaluation and, where applicable, will be completed in conjunction with the Project subject to receipt of all necessary rights, permits, and approvals.

Project Access

Access to the Project will be provided by way of a driveway that will intersect the south side of Route 140 approximately 150 feet east of the driveway that serves 440 East Central Street (Franklin Medical Center) at the location of the existing easternmost driveway that serves the Project site. The remaining driveways that serve the Project site will be closed in conjunction with the Project. The Project will require the issuance of a State Highway Access Permit from MassDOT for access to East Central Street (Route 140), a State Highway under MassDOT jurisdiction. The following recommendations are offered with respect to the design and operation of the Project site access and internal circulation, many of which are reflected on the Site Plans:

- The section of the Project site driveway approaching Route 140 should be a minimum of 24 feet in width and designed to accommodate the turning and maneuvering requirements of the largest anticipated responding emergency vehicle.
- Vehicles exiting the Project site should be placed under STOP-sign control with a marked STOP-line provided.
- All signs and pavement markings to be installed within the Project site should conform to the applicable standards of the *Manual on Uniform Traffic Control Devices* (MUTCD).¹⁶
- Sidewalks are proposed within the Project site to link the residential buildings and extend to Route 140, where a sidewalk segment is proposed to be constructed between the Project site driveway and the driveway that serves 440 East Central Street, the current terminus of the sidewalk along the south side of Route 140.
- Marked crosswalks are proposed within the Project site where pedestrian crossings are proposed and for crossing the Project site driveway that will include Americans with Disabilities Act (ADA)-compliant wheelchair ramps.

¹⁶Federal Highway Administration, op. cit. 2.

- Signs and landscaping to be installed as a part of the Project within the intersection sight triangle areas should be designed and maintained so as not to restrict lines of sight.
- Snow accumulations (windrows) within sight triangle areas should be promptly removed where such accumulations would impede sightlines.

Off-Site

Route 140 at Chestnut Street and King Street

Overall intersection operations at the Route 140/Chestnut Street/King Street intersection were shown to be maintained at LOS D or better during the peak hours with the addition of Project-related traffic; however, operating conditions for left-turn movements on the Route 140 westbound approach were shown to change from LOS D to LOS E during the weekday evening peak-hour and from LOS E to LOS F during the Saturday midday peak-hour as a result of the Project. In order to off-set the predicted impact of the Project at the intersection, the Project proponent will design and implement an optimal traffic signal timing and phasing plan for the weekday evening and Saturday midday peak hours (no changes are required during the weekday morning peak-hour). This improvement will be completed prior to the issuance of a Certificate of Occupancy for the Project and subject to receipt of all necessary rights, permits, and approvals. As can be seen in Table 13, with the implementation of an optimal traffic signal timing and phasing plan during the weekday evening and Saturday midday peak hours, motorist delays will be reduced to the extent that operating conditions will be similar to those under No-Build conditions.

Route 140 Corridor Improvements

In an effort to facilitate long-term improvements along the Route 140 corridor between and including the Route 140/Chestnut Street/King Street intersection and the Wrentham town line, the Project proponent will assist the Town to prepare a MassWorks or HousingWorks grant application. This assistance will include the preparation of a Corridor Improvement Study (CIS) with an accompanying conceptual improvement plan and associated preliminary cost estimate for the improvement measures. The CIS will be prepared in coordination with the Town and will be initiated within 3-months of the issuance of the first Certificate of Occupancy for the Project.

Transportation Demand Management

Regularly scheduled public transportation services are not currently provided within the study area. GATRA operates an on-demand microtransit service that provides same-day transportation services within the Town of Franklin by way of the GATRA GO United program. To the west of the study area, the MBTA provides Commuter Rail service to South Station in Boston on the Franklin Line from Franklin Station, which is located at 75 Depot Street (approximately 1.2 miles from the Project site). Additionally, GATRA provides Dial-a-Ride paratransit services to eligible persons residing within the Town of Franklin who cannot use fixed-route transit all or some of the time due to a physical, cognitive, or mental disability in compliance with the ADA.

In an effort to encourage the use of alternative modes of transportation to SOVs, the following Transportation Demand Management (TDM) measures should be implemented as a part of the Project:

- A transportation coordinator should be designated for the Project, who may have other duties and responsibilities, to coordinate the elements of the TDM program;

- The transportation coordinator should facilitate a rideshare matching program for residents to encourage carpooling;
- A “welcome packet” should be provided to new residents detailing available public transportation services, bicycle and walking alternatives, and other commuting options;
- Information regarding public transportation services, maps, schedules, and fare information should be posted in a central location and/or otherwise made available to residents;
- A pick-up/drop-off area or short-term parking should be provided for use by carshare and delivery service providers, as well as Amazon, UPS, and FedEx;
- Specific amenities should be provided to facilitate telecommuting, which may take the form of meeting/collaboration spaces, a business office, or similar accommodations;
- A central mail room and package delivery station should be provided;
- Electric vehicle (EV) charging stations should be provided within the Project site for use by residents; and
- Secure bicycle parking should be provided at appropriate locations within the Project site, including weather-protected bicycle parking and exterior bicycle racks situated proximate to the main building entrances and at the clubhouse building.

With implementation of the aforementioned recommendations, safe and efficient access will be provided to the Project site, and the Project can be accommodated within the confines of the existing and improved transportation system.

Table 13

MITIGATED SIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

Signalized Intersection/Peak-Hour/Movement	2031 No-Build				2032 Build				2031 Build (Mitigated)			
	V/C ^a	Delay ^b	LOS ^c	Queue ^d 50 th /95 th	V/C	Delay	LOS	Queue 50 th /95 th	V/C	Delay	LOS	Queue 50 th /95 th
Route 140 at Chestnut Street/King Street												
<i>Weekday Morning:</i>												
Route 140 EB LT	0.27	16.2	B	1/3	0.29	16.7	B	1/3	0.29	16.7	B	1/3
Route 140 EB TH	0.62	23.6	C	5/12	0.64	24.4	C	5/13	0.64	24.4	C	5/13
Route 140 EB RT	0.00	17.7	B	0/0	0.02	17.9	B	0/0	0.02	17.9	B	0/0
Route 140 WB LT	0.53	14.7	B	2/5	0.58	15.7	B	2/6	0.58	15.7	B	2/6
Route 140 WB TH	0.52	19.2	B	4/11	0.57	20.3	C	5/13	0.57	20.3	C	5/13
Route 140 WB RT	0.00	15.3	B	0/0	0.03	15.4	B	0/0	0.03	15.4	B	0/0
King Street NB LT/TH	0.69	26.0	C	5/16	0.69	26.3	C	5/16	0.69	26.3	C	5/16
King Street NB RT	0.25	14.4	B	1/4	0.25	14.6	B	1/4	0.25	14.6	B	1/4
Chestnut Street SB LT/TH/RT	0.54	22.0	C	4/12	0.55	22.8	C	4/12	0.55	22.8	C	4/12
Overall	--	20.3	C	--	--	20.9	C	--	--	20.9	C	--
<i>Weekday Evening:</i>												
Route 140 EB LT	0.38	20.7	C	2/4	0.41	21.8	C	2/4	0.40	22.3	C	2/4
Route 140 EB TH	0.82	39.5	D	9/18	0.86	43.5	D	10/21	0.86	44.6	D	10/21
Route 140 EB RT	0.03	22.6	C	0/0	0.03	23.2	C	0/0	0.03	23.6	C	0/0
Route 140 WB LT	0.88	42.5	D	5/16	0.96	62.8	E	6/17	0.93	54.6	D	6/17
Route 140 WB TH	0.63	24.4	C	8/17	0.66	26.2	C	8/18	0.64	25.3	C	8/17
Route 140 WB RT	0.02	17.2	B	0/0	0.02	18.1	B	0/0	0.02	17.6	B	0/0
King Street NB LT/TH	0.66	31.0	C	6/14	0.63	30.4	C	6/14	0.64	31.5	C	6/13
King Street NB RT	0.28	15.2	B	1/4	0.29	16.1	B	1/4	0.28	16.0	B	1/4
Chestnut Street SB LT/TH/RT	0.71	32.0	C	8/19	0.73	33.5	C	9/20	0.75	34.9	C	9/20
Overall	--	30.1	C	--	--	34.3	C	--	--	33.6	C	--
<i>Saturday MIDDAY:</i>												
Route 140 EB LT	0.46	23.2	C	2/4	0.48	23.2	C	2/4	0.51	25.2	C	2/4
Route 140 EB TH	0.89	48.4	D	11/24	0.90	48.9	D	12/25	0.92	52.4	D	13/27
Route 140 EB RT	0.04	24.0	C	0/1	0.04	23.6	C	0/1	0.04	23.9	C	0/0
Route 140 WB LT	0.96	67.4	E	6/17	1.01	>80.0	F	6/17	1.00	79.5	E	6/17
Route 140 WB TH	0.71	29.5	C	9/22	0.73	29.8	C	10/23	0.69	27.1	C	10/20
Route 140 WB RT	0.04	19.2	B	0/1	0.04	19.0	B	0/1	0.04	17.6	B	0/1
King Street NB LT/TH	0.62	33.4	C	5/11	0.64	34.9	C	5/11	0.62	33.5	C	5/11
King Street NB RT	0.26	18.0	B	1/3	0.26	18.7	B	1/3	0.25	18.1	B	0/2
Chestnut Street SB LT/TH/RT	0.82	42.6	D	10/17	0.89	51.4	D	10/18	0.86	46.9	D	9/16
Overall	--	38.3	D	--	--	41.8	D	--	--	40.9	D	--

^aDemand in vehicles per hour.

^bAverage control delay per vehicle (in seconds).

^cLevel of service.

^dQueue length in vehicles.

NB = northbound; SB = southbound; EB = eastbound; WB = westbound; LT = left-turning movements; TH = through movements; RT = right-turning movement.

APPENDIX

PROJECT SITE PLAN

AUTOMATIC TRAFFIC RECORDER COUNT DATA

TURNING MOVEMENT COUNT DATA

SEASONAL ADJUSTMENT DATA

PUBLIC TRANSPORTATION SCHEDULES

VEHICLE TRAVEL SPEED DATA

MASSDOT CRASH DATA

MASSDOT CRASH RATE WORKSHEETS AND HIGH CRASH LOCATION MAP

GENERAL BACKGROUND TRAFFIC GROWTH

COVID ADJUSTMENT

BACKGROUND DEVELOPMENT TRAFFIC-VOLUME NETWORKS

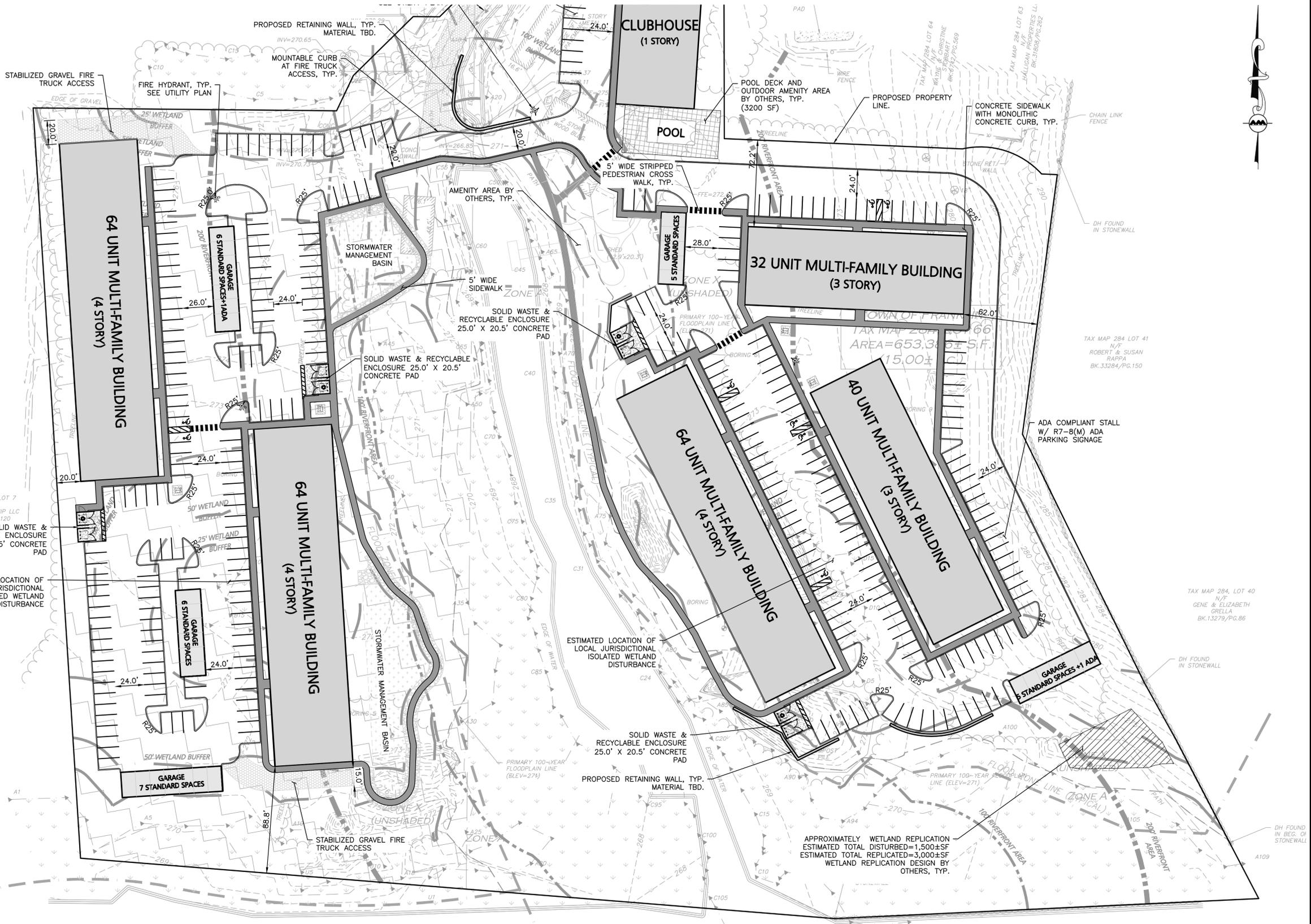
TRIP DISTRIBUTION DATA

TRIP-GENERATION CALCULATIONS

CAPACITY ANALYSIS WORKSHEETS

PROJECT SITE PLAN

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DRAFT SET ISSUED FOR REVIEW
JANUARY 10, 2026

PROFESSIONAL ENGINEER FOR
 ALLEN & MAJOR ASSOCIATES, INC.

APPLICANT/OWNER:
 TAG CENTRAL LLC
 275 REGATTA DRIVE
 JUPITER, FL 33477

PROJECT:
 40B MULTIFAMILY
 444 EAST CENTRAL STREET
 FRANKLIN, MA

PROJECT NO.	3317-01	DATE:	XX-XX-XX
SCALE:	1" = 40'	DWG. NAME:	C-3317-01
DESIGNED BY:	MTB	CHECKED BY:	CMQ

PREPARED BY:

ALLEN & MAJOR ASSOCIATES, INC.
 civil engineering • land surveying
 environmental consulting • landscape architecture
 www.allenmajor.com
 100 COMMERCE WAY, SUITE 5
 WOBURN MA 01801
 TEL: (781) 935-6889
 FAX: (781) 935-2896

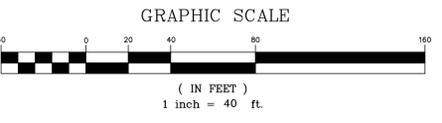
WOBURN, MA • LAKEVILLE, MA • MANCHESTER, NH

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 1-888-344-7233



TAX MAP 299, LOT 49
 N/F
 TOWN OF FRANKLIN
 BK.26253/PG.126

TAX MAP 299, LOT 53
 N/F
 DOUGLAS & TRICIA
 GRIFFI
 BK.34313/PG.308

TAX MAP 299, LOT 54
 N/F
 JOHN & NANCY
 QUIGLEY

AUTOMATIC TRAFFIC RECORDER COUNT DATA

Accurate Counts
978-664-2565

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Accurate Counts
978-664-2565

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r

M r

r

M r

r

r

TURNING MOVEMENT COUNT DATA

Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830001
 Site Code : 98830001
 Start Date : 12/5/2024
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Chestnut St From North			Route 140 From East			King St From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	6	47	18	34	46	8	1	79	40	27	57	5	368
07:15 AM	2	42	23	45	80	8	8	70	57	14	69	10	428
07:30 AM	2	43	14	35	71	13	3	76	61	20	86	8	432
07:45 AM	9	46	9	48	75	5	3	87	57	21	67	4	431
Total	19	178	64	162	272	34	15	312	215	82	279	27	1659
08:00 AM	1	38	19	48	38	12	4	54	56	14	69	4	357
08:15 AM	1	39	13	47	64	9	4	53	47	15	49	9	350
08:30 AM	2	46	15	49	72	16	6	48	67	21	73	6	421
08:45 AM	4	41	14	43	59	16	6	55	45	13	81	7	384
Total	8	164	61	187	233	53	20	210	215	63	272	26	1512
Grand Total	27	342	125	349	505	87	35	522	430	145	551	53	3171
Apprch %	5.5	69.2	25.3	37.1	53.7	9.2	3.5	52.9	43.6	19.4	73.6	7.1	
Total %	0.9	10.8	3.9	11	15.9	2.7	1.1	16.5	13.6	4.6	17.4	1.7	
Cars	25	329	121	335	498	82	33	505	425	141	543	51	3088
% Cars	92.6	96.2	96.8	96	98.6	94.3	94.3	96.7	98.8	97.2	98.5	96.2	97.4
Trucks	2	13	4	14	7	5	2	17	5	4	8	2	83
% Trucks	7.4	3.8	3.2	4	1.4	5.7	5.7	3.3	1.2	2.8	1.5	3.8	2.6

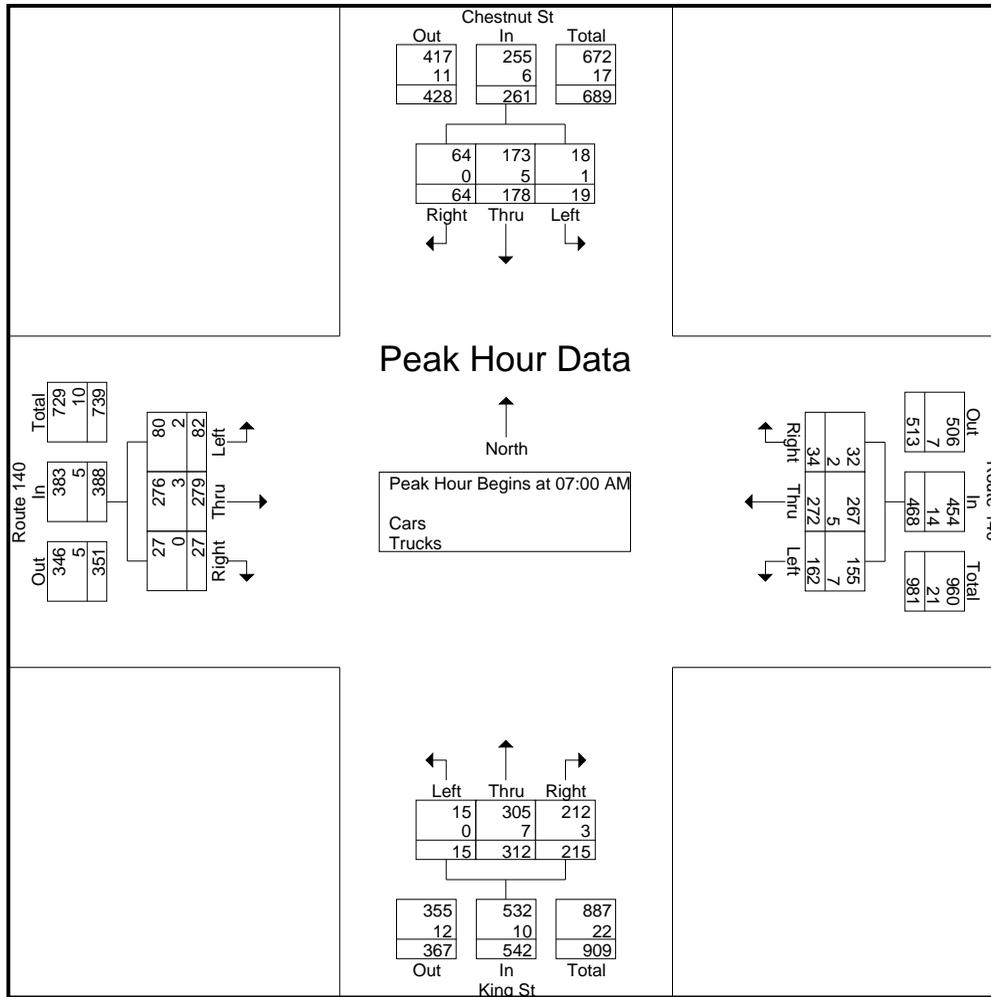
Start Time	Chestnut St From North				Route 140 From East				King St From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	6	47	18	71	34	46	8	88	1	79	40	120	27	57	5	89	368
07:15 AM	2	42	23	67	45	80	8	133	8	70	57	135	14	69	10	93	428
07:30 AM	2	43	14	59	35	71	13	119	3	76	61	140	20	86	8	114	432
07:45 AM	9	46	9	64	48	75	5	128	3	87	57	147	21	67	4	92	431
Total Volume	19	178	64	261	162	272	34	468	15	312	215	542	82	279	27	388	1659
% App. Total	7.3	68.2	24.5		34.6	58.1	7.3		2.8	57.6	39.7		21.1	71.9	7		
PHF	.528	.947	.696	.919	.844	.850	.654	.880	.469	.897	.881	.922	.759	.811	.675	.851	.960
Cars	18	173	64	255	155	267	32	454	15	305	212	532	80	276	27	383	1624
% Cars	94.7	97.2	100	97.7	95.7	98.2	94.1	97.0	100	97.8	98.6	98.2	97.6	98.9	100	98.7	97.9
Trucks	1	5	0	6	7	5	2	14	0	7	3	10	2	3	0	5	35
% Trucks	5.3	2.8	0	2.3	4.3	1.8	5.9	3.0	0	2.2	1.4	1.8	2.4	1.1	0	1.3	2.1

Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830001
 Site Code : 98830001
 Start Date : 12/5/2024
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				07:45 AM				07:00 AM				07:00 AM			
+0 mins.	6	47	18	71	48	75	5	128	1	79	40	120	27	57	5	89
+15 mins.	2	42	23	67	48	38	12	98	8	70	57	135	14	69	10	93
+30 mins.	2	43	14	59	47	64	9	120	3	76	61	140	20	86	8	114
+45 mins.	9	46	9	64	49	72	16	137	3	87	57	147	21	67	4	92
Total Volume	19	178	64	261	192	249	42	483	15	312	215	542	82	279	27	388
% App. Total	7.3	68.2	24.5		39.8	51.6	8.7		2.8	57.6	39.7		21.1	71.9	7	
PHF	.528	.947	.696	.919	.980	.830	.656	.881	.469	.897	.881	.922	.759	.811	.675	.851
Cars	18	173	64	255	184	247	39	470	15	305	212	532	80	276	27	383
% Cars	94.7	97.2	100	97.7	95.8	99.2	92.9	97.3	100	97.8	98.6	98.2	97.6	98.9	100	98.7
Trucks	1	5	0	6	8	2	3	13	0	7	3	10	2	3	0	5
% Trucks	5.3	2.8	0	2.3	4.2	0.8	7.1	2.7	0	2.2	1.4	1.8	2.4	1.1	0	1.3

Accurate Counts

978-664-2565

File Name : 98830001

Site Code : 98830001

Start Date : 12/5/2024

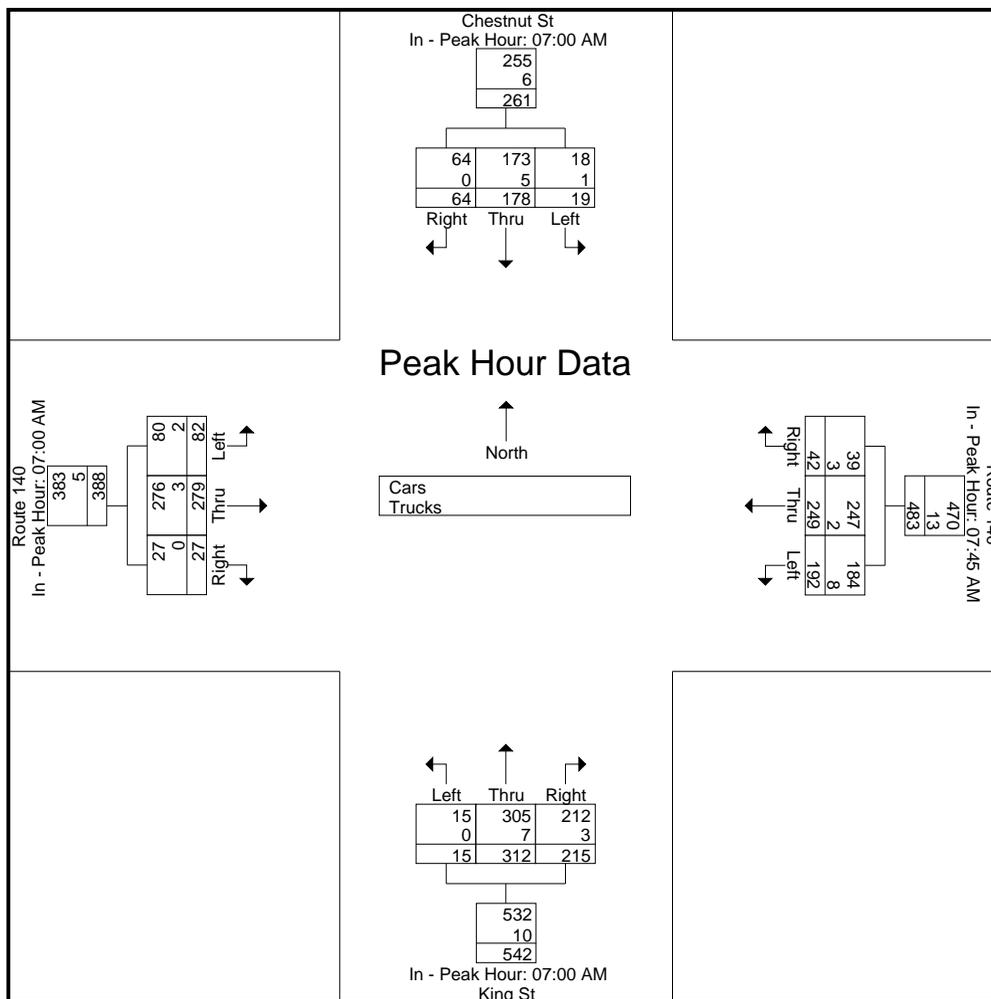
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N/S Street : Chestnut St / King St

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830001
 Site Code : 98830001
 Start Date : 12/5/2024
 Page No : 4

Groups Printed- Cars

Start Time	Chestnut St From North			Route 140 From East			King St From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	6	45	18	33	44	7	1	78	39	27	56	5	359
07:15 AM	2	42	23	43	80	8	8	66	56	14	68	10	420
07:30 AM	1	42	14	33	69	12	3	75	60	18	85	8	420
07:45 AM	9	44	9	46	74	5	3	86	57	21	67	4	425
Total	18	173	64	155	267	32	15	305	212	80	276	27	1624
08:00 AM	1	35	17	46	37	11	4	52	55	14	67	3	342
08:15 AM	1	37	12	45	64	8	3	50	46	13	49	8	336
08:30 AM	2	44	15	47	72	15	6	47	67	21	72	6	414
08:45 AM	3	40	13	42	58	16	5	51	45	13	79	7	372
Total	7	156	57	180	231	50	18	200	213	61	267	24	1464
Grand Total	25	329	121	335	498	82	33	505	425	141	543	51	3088
Apprch %	5.3	69.3	25.5	36.6	54.4	9	3.4	52.4	44.1	19.2	73.9	6.9	
Total %	0.8	10.7	3.9	10.8	16.1	2.7	1.1	16.4	13.8	4.6	17.6	1.7	

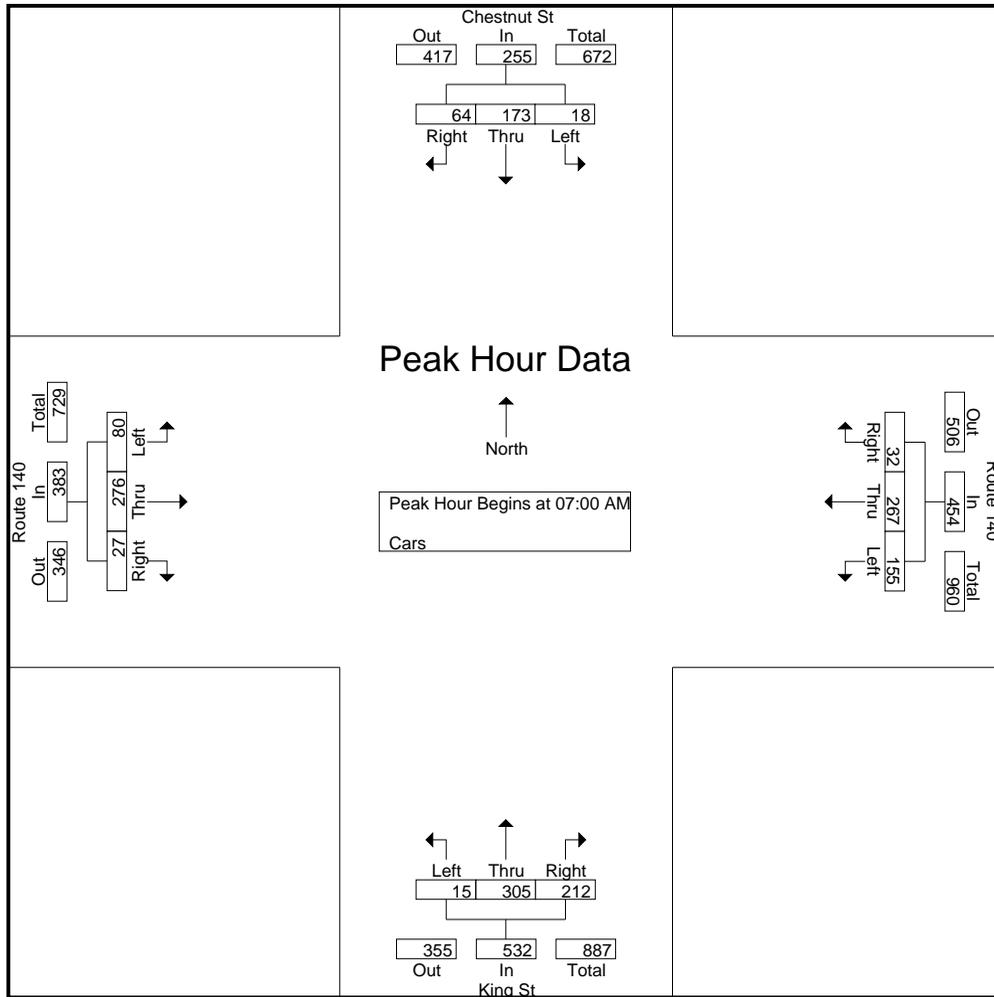
Start Time	Chestnut St From North				Route 140 From East				King St From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	6	45	18	69	33	44	7	84	1	78	39	118	27	56	5	88	359
07:15 AM	2	42	23	67	43	80	8	131	8	66	56	130	14	68	10	92	420
07:30 AM	1	42	14	57	33	69	12	114	3	75	60	138	18	85	8	111	420
07:45 AM	9	44	9	62	46	74	5	125	3	86	57	146	21	67	4	92	425
Total Volume	18	173	64	255	155	267	32	454	15	305	212	532	80	276	27	383	1624
% App. Total	7.1	67.8	25.1		34.1	58.8	7		2.8	57.3	39.8		20.9	72.1	7		
PHF	.500	.961	.696	.924	.842	.834	.667	.866	.469	.887	.883	.911	.741	.812	.675	.863	.955

Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830001
 Site Code : 98830001
 Start Date : 12/5/2024
 Page No : 5



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

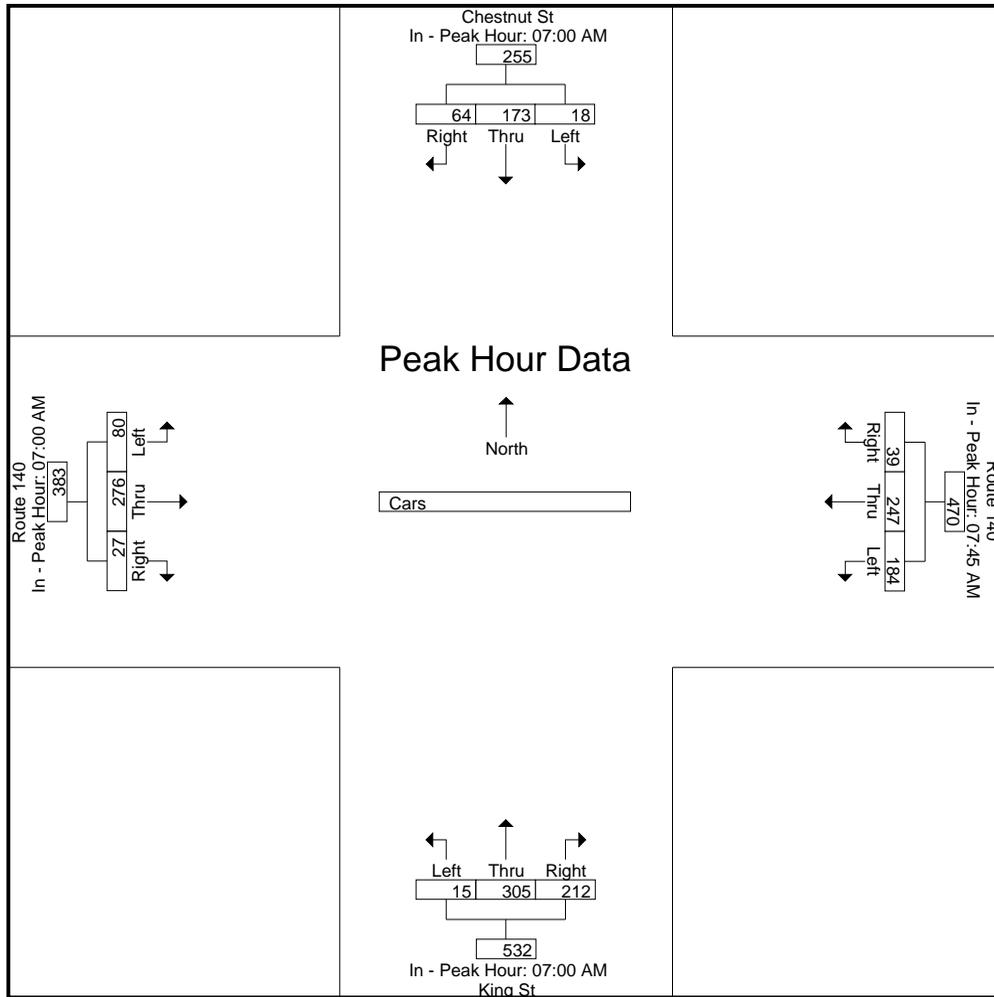
	07:00 AM				07:45 AM				07:00 AM				07:00 AM			
+0 mins.	6	45	18	69	46	74	5	125	1	78	39	118	27	56	5	88
+15 mins.	2	42	23	67	46	37	11	94	8	66	56	130	14	68	10	92
+30 mins.	1	42	14	57	45	64	8	117	3	75	60	138	18	85	8	111
+45 mins.	9	44	9	62	47	72	15	134	3	86	57	146	21	67	4	92
Total Volume	18	173	64	255	184	247	39	470	15	305	212	532	80	276	27	383
% App. Total	7.1	67.8	25.1		39.1	52.6	8.3		2.8	57.3	39.8		20.9	72.1	7	
PHF	.500	.961	.696	.924	.979	.834	.650	.877	.469	.887	.883	.911	.741	.812	.675	.863

Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St
E/W Street : Route 140
City/State : Franklin, MA
Weather : Snow/Cloudy

File Name : 98830001
Site Code : 98830001
Start Date : 12/5/2024
Page No : 6



Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830001
 Site Code : 98830001
 Start Date : 12/5/2024
 Page No : 7

Groups Printed- Trucks

Start Time	Chestnut St From North			Route 140 From East			King St From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	2	0	1	2	1	0	1	1	0	1	0	9
07:15 AM	0	0	0	2	0	0	0	4	1	0	1	0	8
07:30 AM	1	1	0	2	2	1	0	1	1	2	1	0	12
07:45 AM	0	2	0	2	1	0	0	1	0	0	0	0	6
Total	1	5	0	7	5	2	0	7	3	2	3	0	35
08:00 AM	0	3	2	2	1	1	0	2	1	0	2	1	15
08:15 AM	0	2	1	2	0	1	1	3	1	2	0	1	14
08:30 AM	0	2	0	2	0	1	0	1	0	0	1	0	7
08:45 AM	1	1	1	1	1	0	1	4	0	0	2	0	12
Total	1	8	4	7	2	3	2	10	2	2	5	2	48
Grand Total	2	13	4	14	7	5	2	17	5	4	8	2	83
Apprch %	10.5	68.4	21.1	53.8	26.9	19.2	8.3	70.8	20.8	28.6	57.1	14.3	
Total %	2.4	15.7	4.8	16.9	8.4	6	2.4	20.5	6	4.8	9.6	2.4	

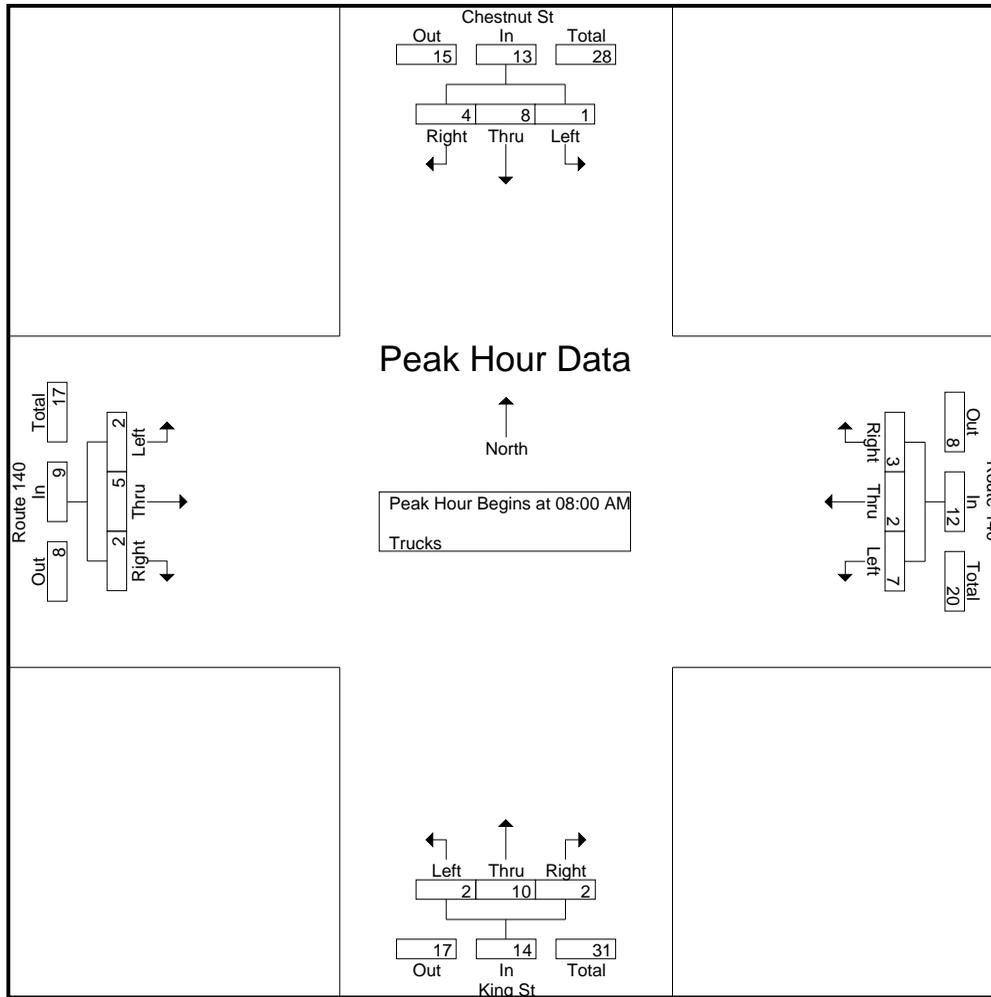
Start Time	Chestnut St From North				Route 140 From East				King St From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	3	2	5	2	1	1	4	0	2	1	3	0	2	1	3	15
08:15 AM	0	2	1	3	2	0	1	3	1	3	1	5	2	0	1	3	14
08:30 AM	0	2	0	2	2	0	1	3	0	1	0	1	0	1	0	1	7
08:45 AM	1	1	1	3	1	1	0	2	1	4	0	5	0	2	0	2	12
Total Volume	1	8	4	13	7	2	3	12	2	10	2	14	2	5	2	9	48
% App. Total	7.7	61.5	30.8		58.3	16.7	25		14.3	71.4	14.3		22.2	55.6	22.2		
PHF	.250	.667	.500	.650	.875	.500	.750	.750	.500	.625	.500	.700	.250	.625	.500	.750	.800

Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830001
 Site Code : 98830001
 Start Date : 12/5/2024
 Page No : 8



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				08:00 AM				07:30 AM			
+0 mins.	0	3	2	5	2	2	1	5	0	2	1	3	2	1	0	3
+15 mins.	0	2	1	3	2	1	0	3	1	3	1	5	0	0	0	0
+30 mins.	0	2	0	2	2	1	1	4	0	1	0	1	0	2	1	3
+45 mins.	1	1	1	3	2	0	1	3	1	4	0	5	2	0	1	3
Total Volume	1	8	4	13	8	4	3	15	2	10	2	14	4	3	2	9
% App. Total	7.7	61.5	30.8		53.3	26.7	20		14.3	71.4	14.3		44.4	33.3	22.2	
PHF	.250	.667	.500	.650	1.000	.500	.750	.750	.500	.625	.500	.700	.500	.375	.500	.750

Accurate Counts

978-664-2565

File Name : 98830001

Site Code : 98830001

Start Date : 12/5/2024

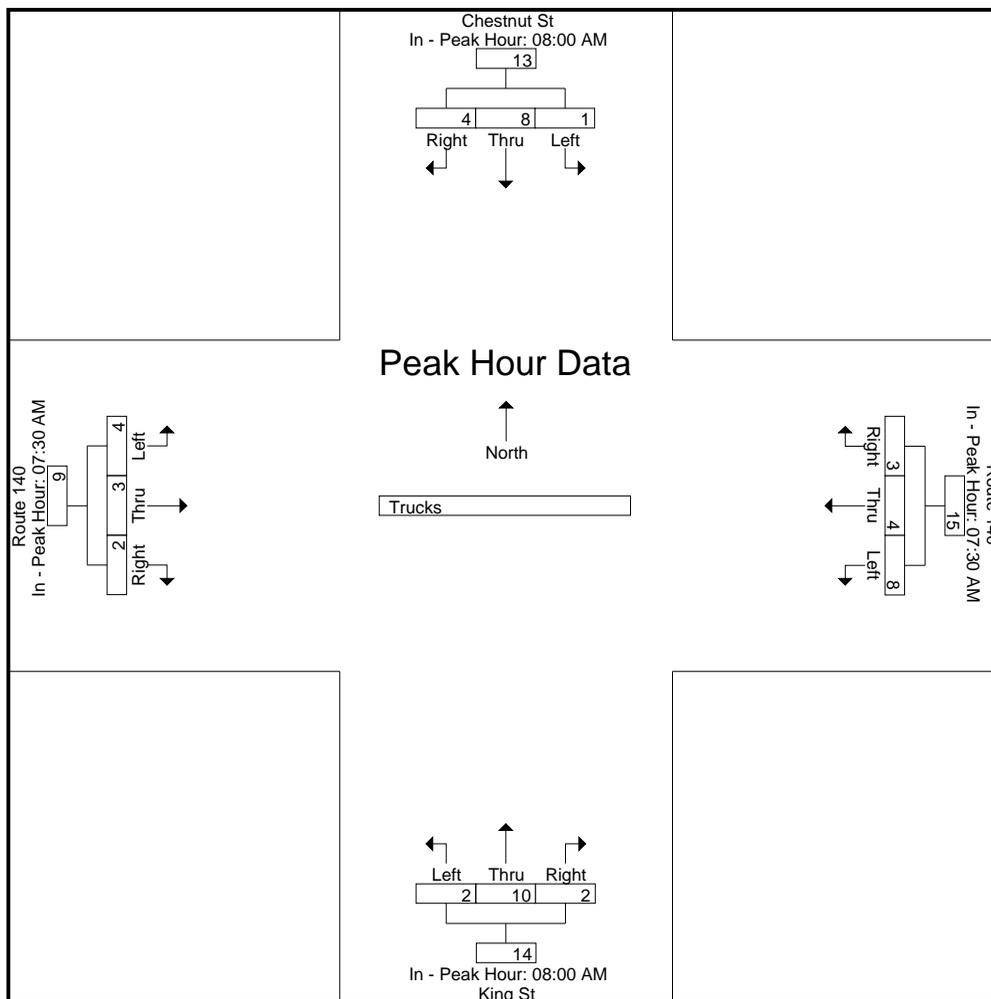
Page No : 9

N/S Street : Chestnut St / King St

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830001
 Site Code : 98830001
 Start Date : 12/5/2024
 Page No : 10

Groups Printed- Bikes Peds

Start Time	Chestnut St From North				Route 140 From East				King St From South				Route 140 From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	0
07:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	3	0	3
08:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
08:45 AM	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	4	0	4
Total	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	1	6	0	6
Grand Total	0	0	0	6	0	0	0	0	0	0	0	1	0	0	0	2	9	0	9
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0				
Total %																	100	0	

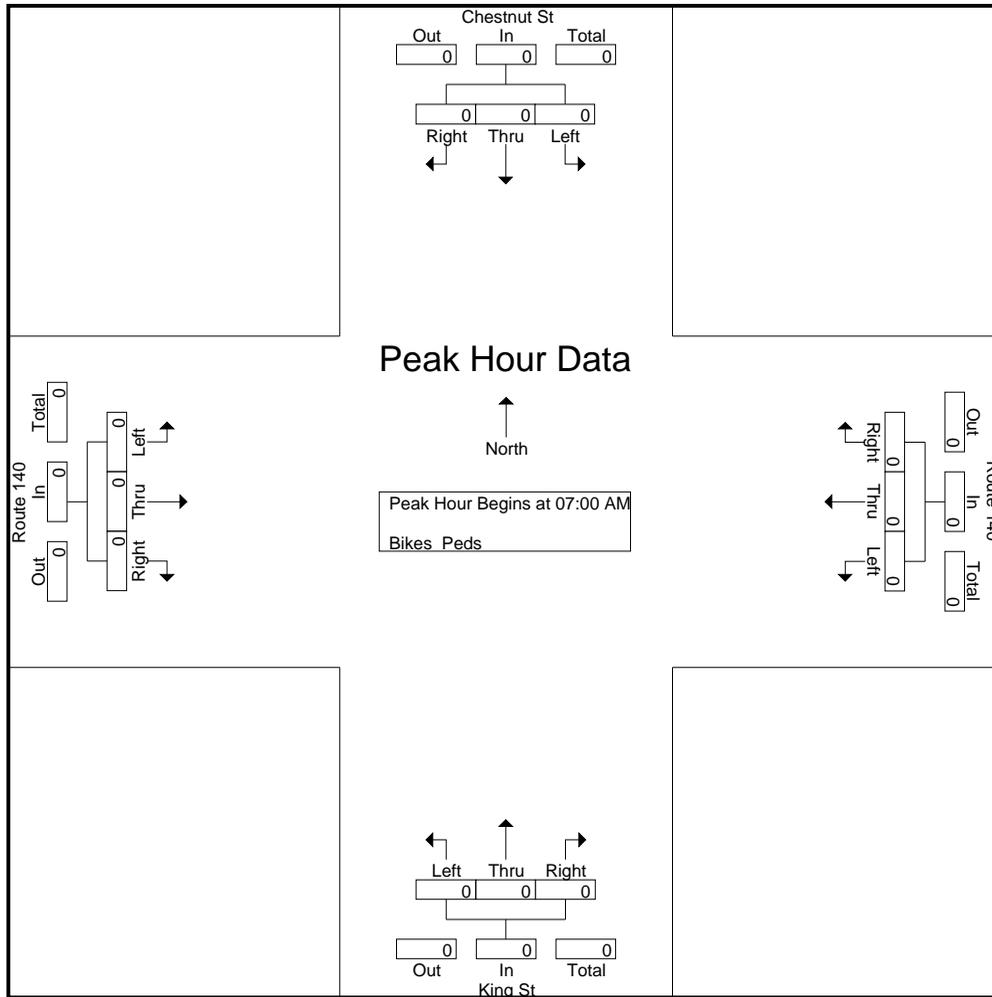
Start Time	Chestnut St From North				Route 140 From East				King St From South				Route 140 From West				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:00 AM																		
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0			
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830001
 Site Code : 98830001
 Start Date : 12/5/2024
 Page No : 11



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

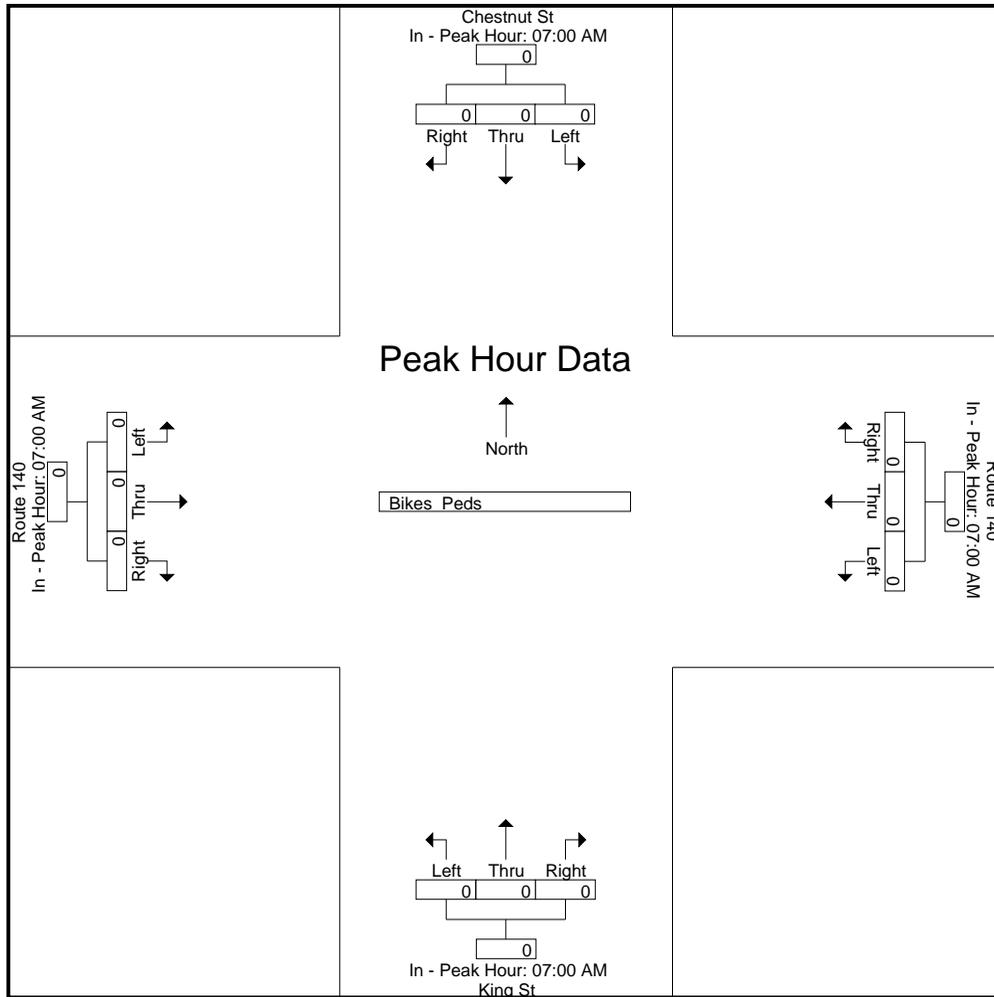
	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St
E/W Street : Route 140
City/State : Franklin, MA
Weather : Snow/Cloudy

File Name : 98830001
Site Code : 98830001
Start Date : 12/5/2024
Page No : 12



Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy

File Name : 98830001

Site Code : 98830001

Start Date : 12/5/2024

Page No : 1

Groups Printed- Cars - Trucks

Start Time	Chestnut St From North			Route 140 From East			King St From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	2	68	26	93	110	6	6	48	63	32	109	9	572
04:15 PM	6	71	28	79	103	4	7	51	68	33	95	9	554
04:30 PM	3	72	18	77	95	10	8	62	69	29	91	11	545
04:45 PM	9	71	23	77	108	9	14	49	61	26	93	9	549
Total	20	282	95	326	416	29	35	210	261	120	388	38	2220
05:00 PM	3	63	20	78	106	6	6	63	82	27	110	9	573
05:15 PM	5	60	22	69	102	5	7	54	77	26	102	11	540
05:30 PM	6	52	19	73	98	8	6	62	61	25	90	9	509
05:45 PM	5	76	21	56	99	8	5	53	63	25	83	20	514
Total	19	251	82	276	405	27	24	232	283	103	385	49	2136
Grand Total	39	533	177	602	821	56	59	442	544	223	773	87	4356
Apprch %	5.2	71.2	23.6	40.7	55.5	3.8	5.6	42.3	52.1	20.6	71.4	8	
Total %	0.9	12.2	4.1	13.8	18.8	1.3	1.4	10.1	12.5	5.1	17.7	2	
Cars	39	531	177	600	817	55	59	440	542	223	767	87	4337
% Cars	100	99.6	100	99.7	99.5	98.2	100	99.5	99.6	100	99.2	100	99.6
Trucks	0	2	0	2	4	1	0	2	2	0	6	0	19
% Trucks	0	0.4	0	0.3	0.5	1.8	0	0.5	0.4	0	0.8	0	0.4

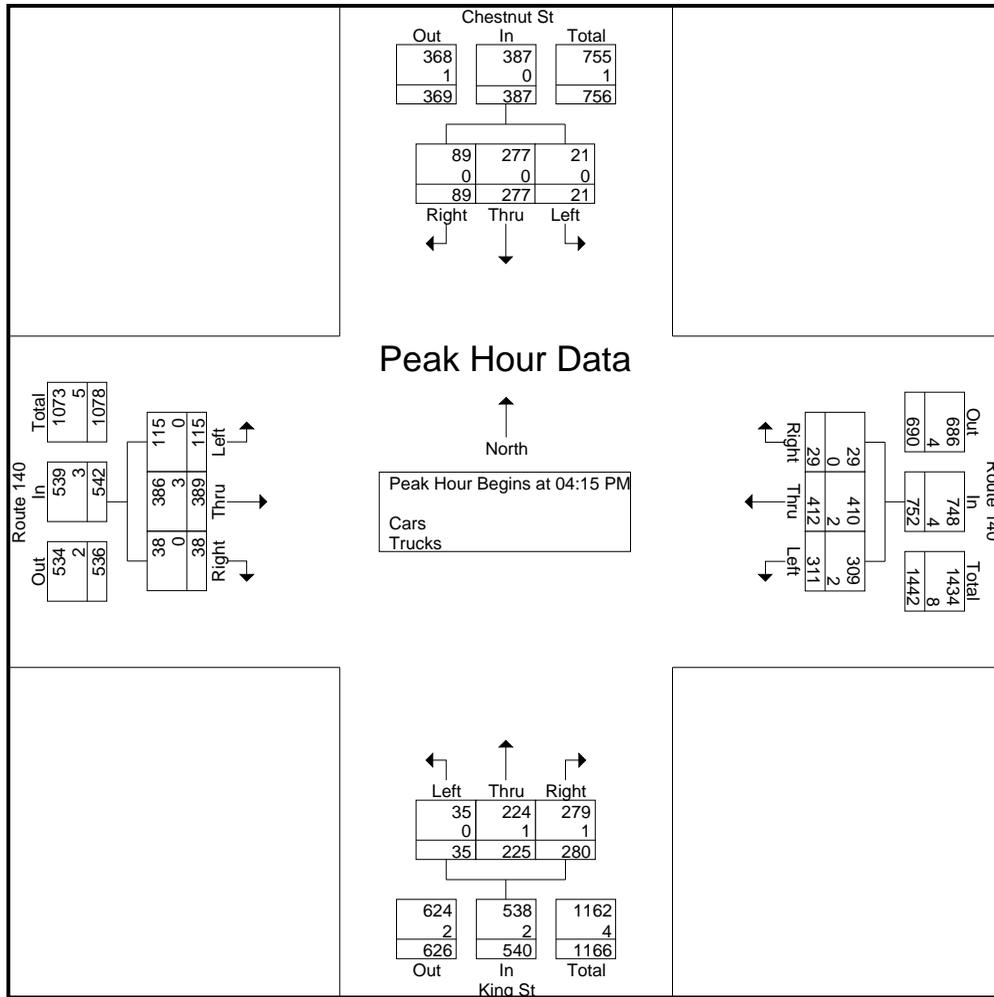
Start Time	Chestnut St From North				Route 140 From East				King St From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	6	71	28	105	79	103	4	186	7	51	68	126	33	95	9	137	554
04:30 PM	3	72	18	93	77	95	10	182	8	62	69	139	29	91	11	131	545
04:45 PM	9	71	23	103	77	108	9	194	14	49	61	124	26	93	9	128	549
05:00 PM	3	63	20	86	78	106	6	190	6	63	82	151	27	110	9	146	573
Total Volume	21	277	89	387	311	412	29	752	35	225	280	540	115	389	38	542	2221
% App. Total	5.4	71.6	23		41.4	54.8	3.9		6.5	41.7	51.9		21.2	71.8	7		
PHF	.583	.962	.795	.921	.984	.954	.725	.969	.625	.893	.854	.894	.871	.884	.864	.928	.969
Cars	21	277	89	387	309	410	29	748	35	224	279	538	115	386	38	539	2212
% Cars	100	100	100	100	99.4	99.5	100	99.5	100	99.6	99.6	99.6	100	99.2	100	99.4	99.6
Trucks	0	0	0	0	2	2	0	4	0	1	1	2	0	3	0	3	9
% Trucks	0	0	0	0	0.6	0.5	0	0.5	0	0.4	0.4	0.4	0	0.8	0	0.6	0.4

Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830001
 Site Code : 98830001
 Start Date : 12/5/2024
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:30 PM				04:00 PM			
+0 mins.	2	68	26	96	93	110	6	209	8	62	69	139	32	109	9	150
+15 mins.	6	71	28	105	79	103	4	186	14	49	61	124	33	95	9	137
+30 mins.	3	72	18	93	77	95	10	182	6	63	82	151	29	91	11	131
+45 mins.	9	71	23	103	77	108	9	194	7	54	77	138	26	93	9	128
Total Volume	20	282	95	397	326	416	29	771	35	228	289	552	120	388	38	546
% App. Total	5	71	23.9		42.3	54	3.8		6.3	41.3	52.4		22	71.1	7	
PHF	.556	.979	.848	.945	.876	.945	.725	.922	.625	.905	.881	.914	.909	.890	.864	.910
Cars	20	282	95	397	324	414	29	767	35	227	288	550	120	385	38	543
% Cars	100	100	100	100	99.4	99.5	100	99.5	100	99.6	99.7	99.6	100	99.2	100	99.5
Trucks	0	0	0	0	2	2	0	4	0	1	1	2	0	3	0	3
% Trucks	0	0	0	0	0.6	0.5	0	0.5	0	0.4	0.3	0.4	0	0.8	0	0.5

Accurate Counts

978-664-2565

File Name : 98830001

Site Code : 98830001

Start Date : 12/5/2024

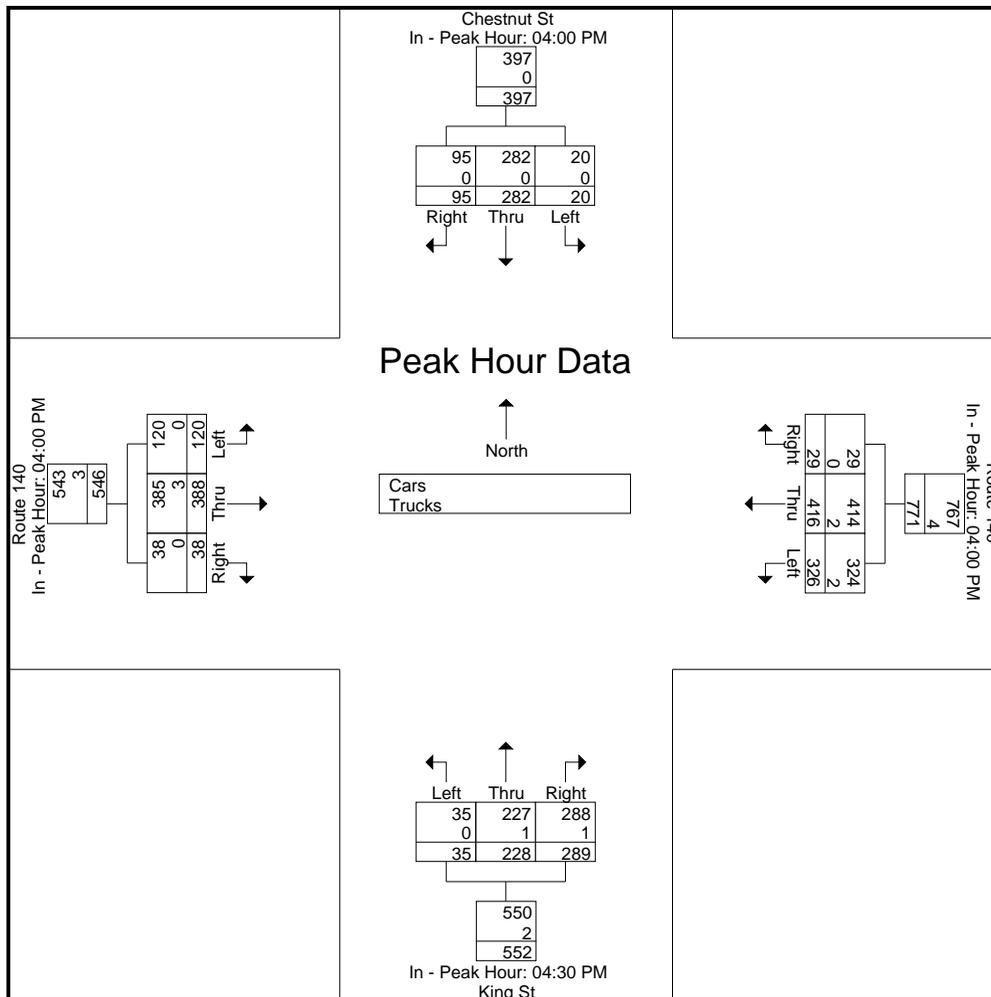
Page No : 3

N/S Street : Chestnut St / King St

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830001
 Site Code : 98830001
 Start Date : 12/5/2024
 Page No : 4

Groups Printed- Cars

Start Time	Chestnut St From North			Route 140 From East			King St From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	2	68	26	93	110	6	6	47	62	32	109	9	570
04:15 PM	6	71	28	79	103	4	7	51	68	33	93	9	552
04:30 PM	3	72	18	75	94	10	8	62	69	29	90	11	541
04:45 PM	9	71	23	77	107	9	14	49	61	26	93	9	548
Total	20	282	95	324	414	29	35	209	260	120	385	38	2211
05:00 PM	3	63	20	78	106	6	6	62	81	27	110	9	571
05:15 PM	5	60	22	69	102	5	7	54	77	26	102	11	540
05:30 PM	6	51	19	73	97	7	6	62	61	25	88	9	504
05:45 PM	5	75	21	56	98	8	5	53	63	25	82	20	511
Total	19	249	82	276	403	26	24	231	282	103	382	49	2126
Grand Total	39	531	177	600	817	55	59	440	542	223	767	87	4337
Apprch %	5.2	71.1	23.7	40.8	55.5	3.7	5.7	42.3	52.1	20.7	71.2	8.1	
Total %	0.9	12.2	4.1	13.8	18.8	1.3	1.4	10.1	12.5	5.1	17.7	2	

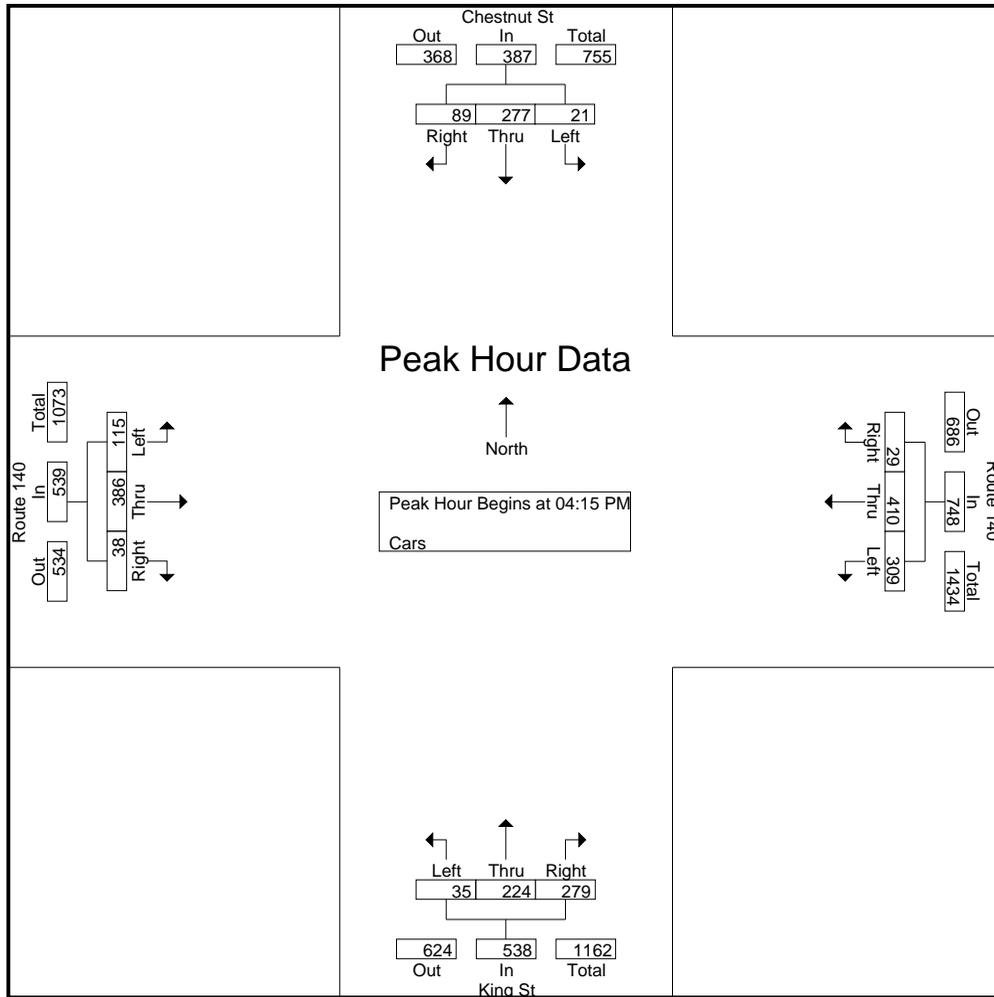
Start Time	Chestnut St From North				Route 140 From East				King St From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	6	71	28	105	79	103	4	186	7	51	68	126	33	93	9	135	552
04:30 PM	3	72	18	93	75	94	10	179	8	62	69	139	29	90	11	130	541
04:45 PM	9	71	23	103	77	107	9	193	14	49	61	124	26	93	9	128	548
05:00 PM	3	63	20	86	78	106	6	190	6	62	81	149	27	110	9	146	571
Total Volume	21	277	89	387	309	410	29	748	35	224	279	538	115	386	38	539	2212
% App. Total	5.4	71.6	23		41.3	54.8	3.9		6.5	41.6	51.9		21.3	71.6	7.1		
PHF	.583	.962	.795	.921	.978	.958	.725	.969	.625	.903	.861	.903	.871	.877	.864	.923	.968

Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830001
 Site Code : 98830001
 Start Date : 12/5/2024
 Page No : 5



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:30 PM				04:00 PM			
+0 mins.	2	68	26	96	93	110	6	209	8	62	69	139	32	109	9	150
+15 mins.	6	71	28	105	79	103	4	186	14	49	61	124	33	93	9	135
+30 mins.	3	72	18	93	75	94	10	179	6	62	81	149	29	90	11	130
+45 mins.	9	71	23	103	77	107	9	193	7	54	77	138	26	93	9	128
Total Volume	20	282	95	397	324	414	29	767	35	227	288	550	120	385	38	543
% App. Total	5	71	23.9		42.2	54	3.8		6.4	41.3	52.4		22.1	70.9	7	
PHF	.556	.979	.848	.945	.871	.941	.725	.917	.625	.915	.889	.923	.909	.883	.864	.905

Accurate Counts

978-664-2565

File Name : 98830001

Site Code : 98830001

Start Date : 12/5/2024

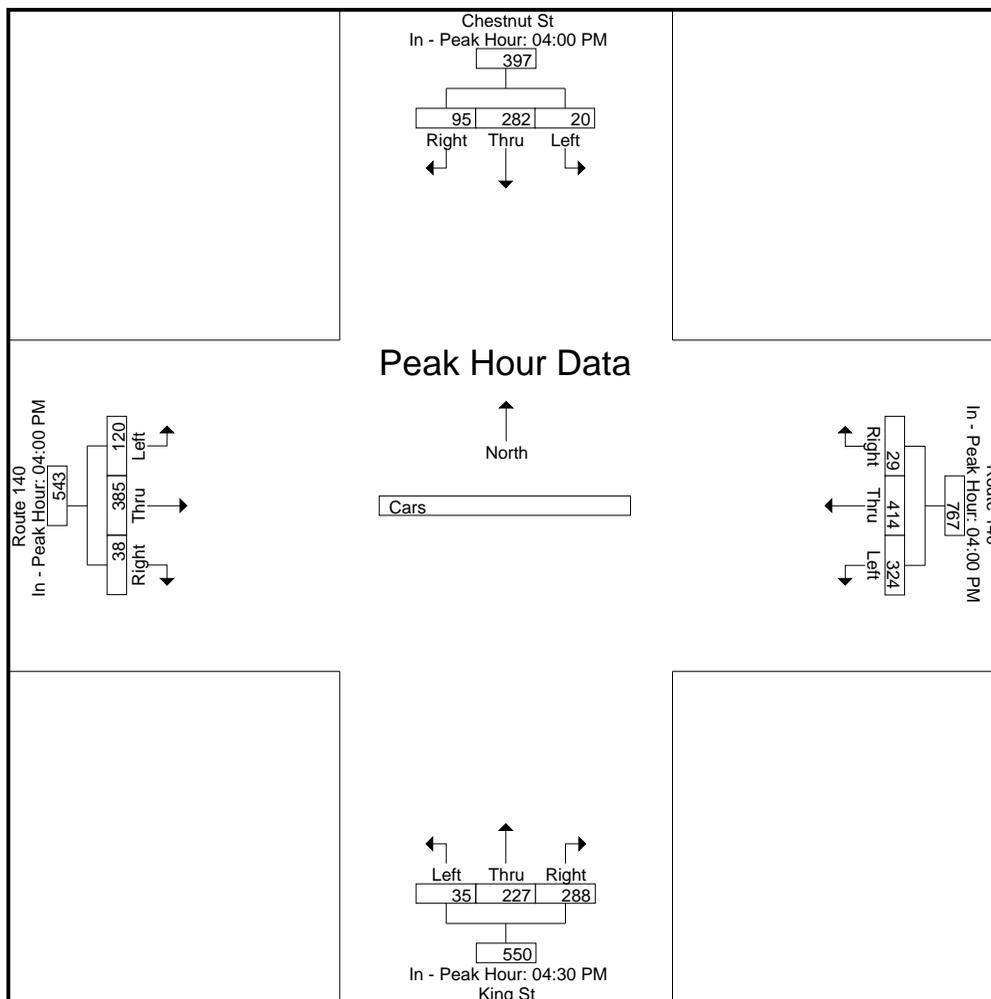
Page No : 6

N/S Street : Chestnut St / King St

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy

File Name : 98830001

Site Code : 98830001

Start Date : 12/5/2024

Page No : 7

Groups Printed- Trucks

Start Time	Chestnut St From North			Route 140 From East			King St From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	0	0	0	0	0	0	0	1	1	0	0	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
04:30 PM	0	0	0	2	1	0	0	0	0	0	1	0	4
04:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	2	2	0	0	1	1	0	3	0	9
05:00 PM	0	0	0	0	0	0	0	1	1	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	0	0	1	1	0	0	0	0	2	0	5
05:45 PM	0	1	0	0	1	0	0	0	0	0	1	0	3
Total	0	2	0	0	2	1	0	1	1	0	3	0	10
Grand Total	0	2	0	2	4	1	0	2	2	0	6	0	19
Apprch %	0	100	0	28.6	57.1	14.3	0	50	50	0	100	0	
Total %	0	10.5	0	10.5	21.1	5.3	0	10.5	10.5	0	31.6	0	

Start Time	Chestnut St From North				Route 140 From East				King St From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	0	1	0	1	1	2	0	0	0	0	0	2	0	2	5
05:45 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	1	0	1	3
Total Volume	0	2	0	2	0	2	1	3	0	1	1	2	0	3	0	3	10
% App. Total	0	100	0		0	66.7	33.3		0	50	50		0	100	0		
PHF	.000	.500	.000	.500	.000	.500	.250	.375	.000	.250	.250	.250	.000	.375	.000	.375	.500

Accurate Counts

978-664-2565

File Name : 98830001

Site Code : 98830001

Start Date : 12/5/2024

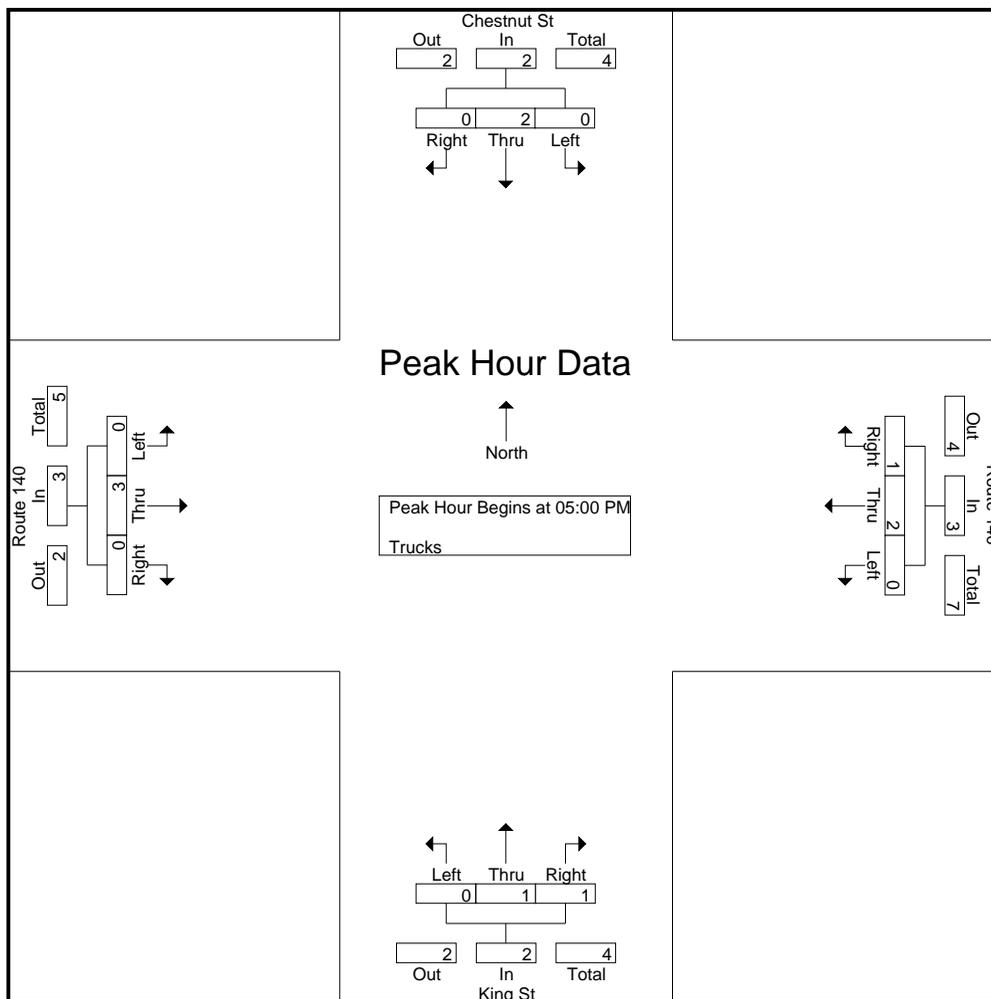
Page No : 8

N/S Street : Chestnut St / King St

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
+30 mins.	0	1	0	1	2	1	0	3	0	0	0	0	0	1	0	1
+45 mins.	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	0	2	0	2	2	2	0	4	0	1	1	2	0	3	0	3
% App. Total	0	100	0		50	50	0		0	50	50		0	100	0	
PHF	.000	.500	.000	.500	.250	.500	.000	.333	.000	.250	.250	.250	.000	.375	.000	.375

Accurate Counts

978-664-2565

File Name : 98830001

Site Code : 98830001

Start Date : 12/5/2024

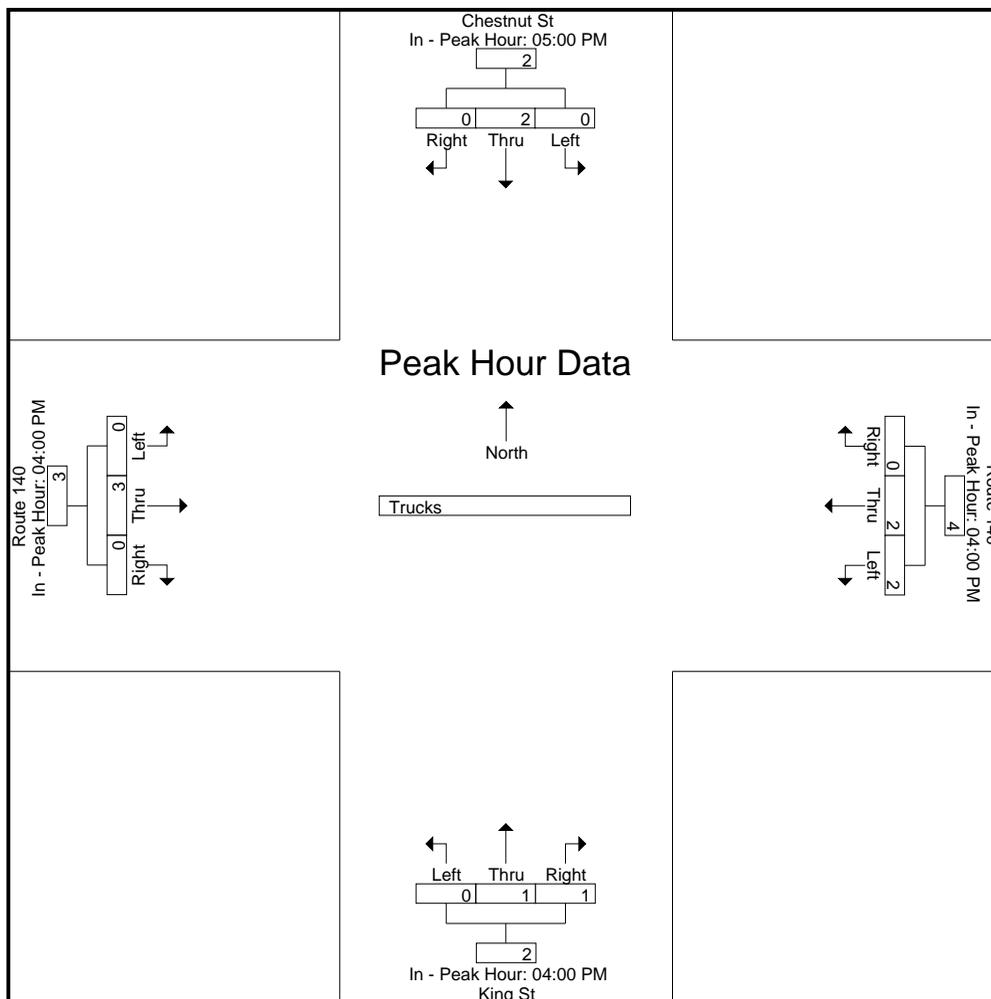
Page No : 9

N/S Street : Chestnut St / King St

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy

File Name : 98830001

Site Code : 98830001

Start Date : 12/5/2024

Page No : 10

Groups Printed- Bikes Peds

Start Time	Chestnut St From North				Route 140 From East				King St From South				Route 140 From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	3	6	0	6
04:30 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	2	0	2	0	0	0	0	0	1	0	0	0	3	6	2	8
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
05:45 PM	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	4	0	4
Total	0	0	0	2	0	0	0	0	0	0	0	3	1	0	0	1	6	1	7
Grand Total	0	0	0	4	0	2	0	0	0	0	0	4	1	0	0	4	12	3	15
Apprch %	0	0	0		0	100	0		0	0	0		100	0	0				
Total %	0	0	0		0	66.7	0		0	0	0		33.3	0	0		80	20	

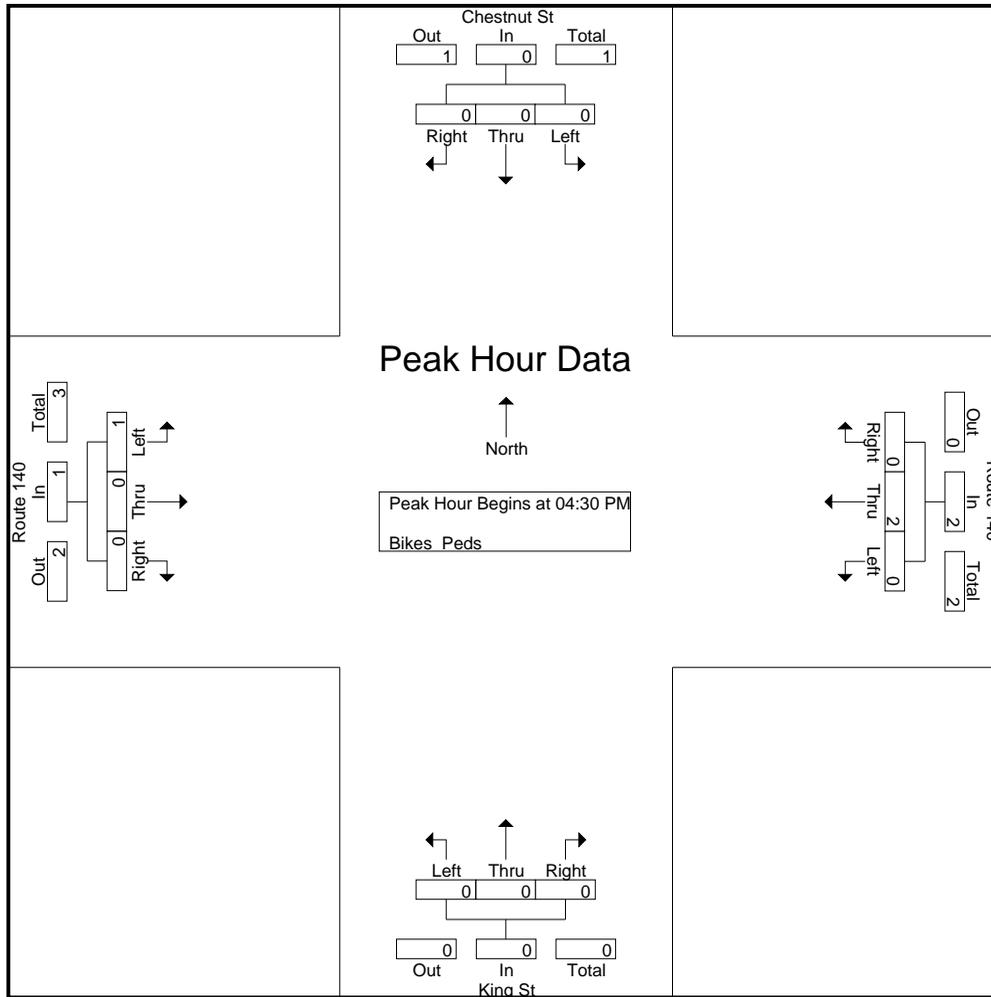
Start Time	Chestnut St From North				Route 140 From East				King St From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	1	0	0	1	3
% App. Total	0	0	0		0	100	0		0	0	0		100	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250	.000	.000	.250	.375

Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830001
 Site Code : 98830001
 Start Date : 12/5/2024
 Page No : 11



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

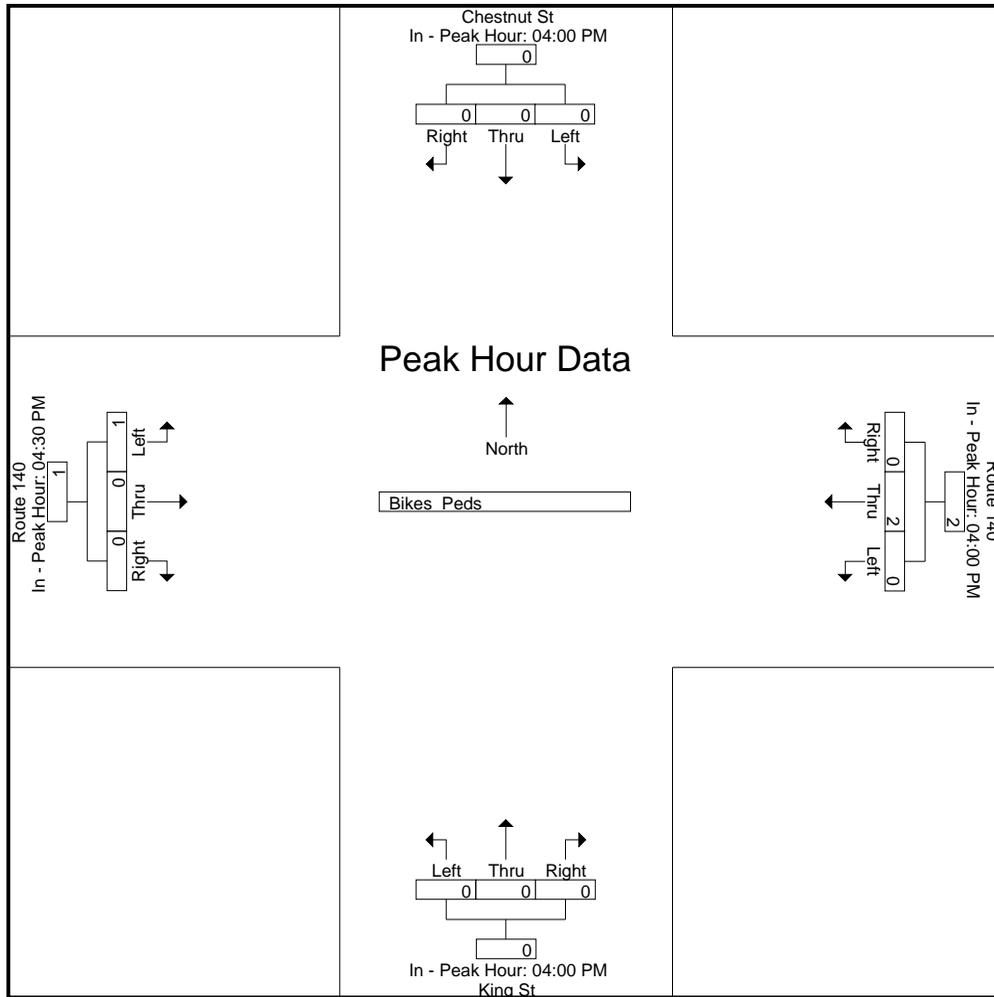
	04:00 PM				04:00 PM				04:00 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	1	0	0	1
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	100	0	0	0
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250	.000	.000	.250

Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St
E/W Street : Route 140
City/State : Franklin, MA
Weather : Snow/Cloudy

File Name : 98830001
Site Code : 98830001
Start Date : 12/5/2024
Page No : 12



Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear

File Name : 988300S1

Site Code : 98830001

Start Date : 12/14/2024

Page No : 1

Groups Printed- Cars - Trucks

Start Time	Chestnut St From North			Route 140 From East			King St From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:00 AM	9	38	26	65	123	17	8	53	74	28	130	11	582
11:15 AM	8	66	32	82	123	10	18	46	81	33	114	11	624
11:30 AM	10	42	31	80	111	16	6	32	65	30	125	11	559
11:45 AM	13	45	17	78	113	13	13	41	85	30	101	17	566
Total	40	191	106	305	470	56	45	172	305	121	470	50	2331
12:00 PM	16	49	25	82	106	13	9	36	66	30	122	14	568
12:15 PM	6	55	26	86	134	9	3	41	76	27	123	13	599
12:30 PM	6	63	24	80	122	13	9	39	77	25	103	13	574
12:45 PM	9	41	19	71	131	12	7	48	76	34	113	13	574
Total	37	208	94	319	493	47	28	164	295	116	461	53	2315
01:00 PM	6	49	35	70	110	11	14	35	78	38	114	18	578
01:15 PM	1	47	30	68	108	11	11	50	74	45	102	13	560
01:30 PM	3	42	28	65	103	16	11	38	69	25	105	17	522
01:45 PM	8	46	26	78	104	6	2	46	78	24	110	15	543
Total	18	184	119	281	425	44	38	169	299	132	431	63	2203
Grand Total	95	583	319	905	1388	147	111	505	899	369	1362	166	6849
Apprch %	9.5	58.5	32	37.1	56.9	6	7.3	33.3	59.3	19.5	71.8	8.8	
Total %	1.4	8.5	4.7	13.2	20.3	2.1	1.6	7.4	13.1	5.4	19.9	2.4	
Cars	95	578	319	902	1383	147	110	500	896	369	1359	166	6824
% Cars	100	99.1	100	99.7	99.6	100	99.1	99	99.7	100	99.8	100	99.6
Trucks	0	5	0	3	5	0	1	5	3	0	3	0	25
% Trucks	0	0.9	0	0.3	0.4	0	0.9	1	0.3	0	0.2	0	0.4

Start Time	Chestnut St From North				Route 140 From East				King St From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:00 AM																	
11:00 AM	9	38	26	73	65	123	17	205	8	53	74	135	28	130	11	169	582
11:15 AM	8	66	32	106	82	123	10	215	18	46	81	145	33	114	11	158	624
11:30 AM	10	42	31	83	80	111	16	207	6	32	65	103	30	125	11	166	559
11:45 AM	13	45	17	75	78	113	13	204	13	41	85	139	30	101	17	148	566
Total Volume	40	191	106	337	305	470	56	831	45	172	305	522	121	470	50	641	2331
% App. Total	11.9	56.7	31.5		36.7	56.6	6.7		8.6	33	58.4		18.9	73.3	7.8		
PHF	.769	.723	.828	.795	.930	.955	.824	.966	.625	.811	.897	.900	.917	.904	.735	.948	.934
Cars	40	189	106	335	303	467	56	826	45	168	304	517	121	470	50	641	2319
% Cars	100	99.0	100	99.4	99.3	99.4	100	99.4	100	97.7	99.7	99.0	100	100	100	100	99.5
Trucks	0	2	0	2	2	3	0	5	0	4	1	5	0	0	0	0	12
% Trucks	0	1.0	0	0.6	0.7	0.6	0	0.6	0	2.3	0.3	1.0	0	0	0	0	0.5

Accurate Counts

978-664-2565

File Name : 988300S1

Site Code : 98830001

Start Date : 12/14/2024

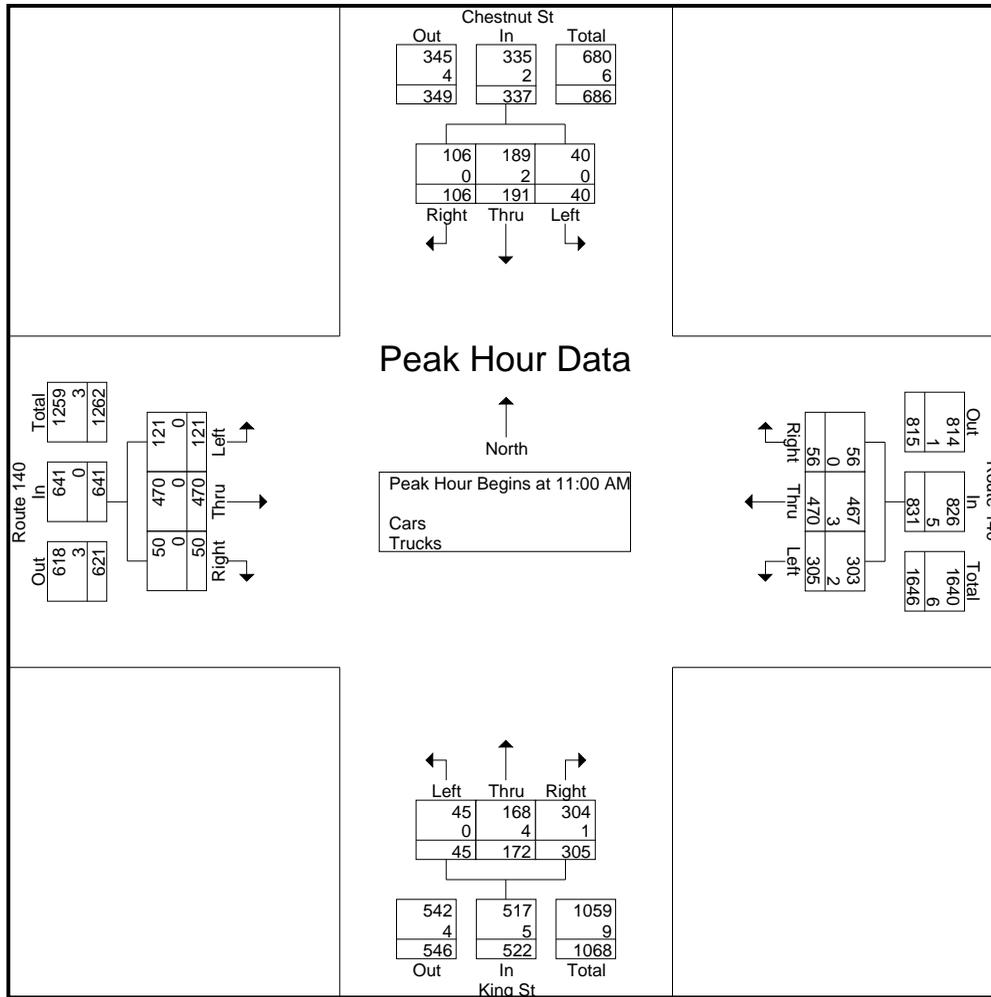
Page No : 2

N/S Street : Chestnut St / King St

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:15 AM				12:00 PM				11:00 AM				11:30 AM			
+0 mins.	8	66	32	106	82	106	13	201	8	53	74	135	30	125	11	166
+15 mins.	10	42	31	83	86	134	9	229	18	46	81	145	30	101	17	148
+30 mins.	13	45	17	75	80	122	13	215	6	32	65	103	30	122	14	166
+45 mins.	16	49	25	90	71	131	12	214	13	41	85	139	27	123	13	163
Total Volume	47	202	105	354	319	493	47	859	45	172	305	522	117	471	55	643
% App. Total	13.3	57.1	29.7		37.1	57.4	5.5		8.6	33	58.4		18.2	73.3	8.6	
PHF	.734	.765	.820	.835	.927	.920	.904	.938	.625	.811	.897	.900	.975	.942	.809	.968
Cars	47	202	105	354	318	492	47	857	45	168	304	517	117	471	55	643
% Cars	100	100	100	100	99.7	99.8	100	99.8	100	97.7	99.7	99	100	100	100	100
Trucks	0	0	0	0	1	1	0	2	0	4	1	5	0	0	0	0
% Trucks	0	0	0	0	0.3	0.2	0	0.2	0	2.3	0.3	1	0	0	0	0

Accurate Counts

978-664-2565

File Name : 988300S1

Site Code : 98830001

Start Date : 12/14/2024

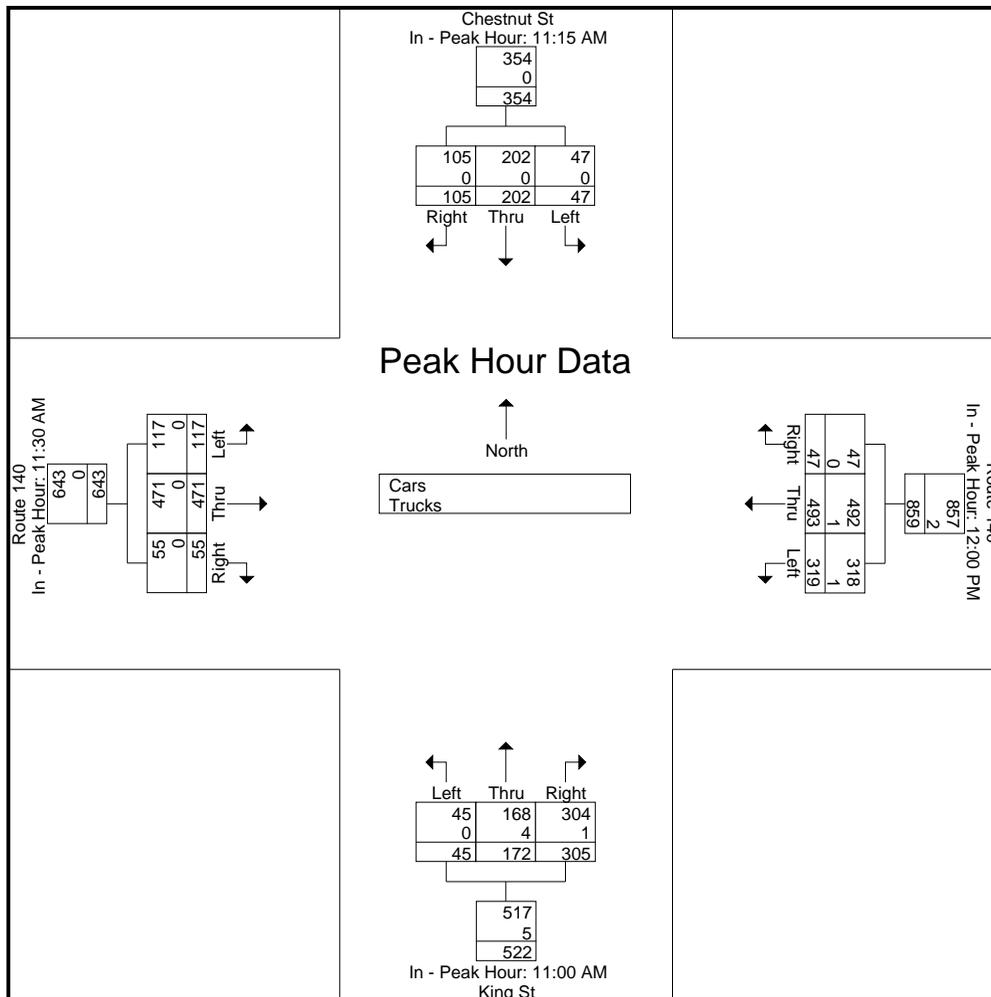
Page No : 3

N/S Street : Chestnut St / King St

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear

File Name : 988300S1

Site Code : 98830001

Start Date : 12/14/2024

Page No : 4

Groups Printed- Cars

Start Time	Chestnut St From North			Route 140 From East			King St From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:00 AM	9	36	26	65	122	17	8	52	74	28	130	11	578
11:15 AM	8	66	32	82	122	10	18	43	81	33	114	11	620
11:30 AM	10	42	31	80	111	16	6	32	65	30	125	11	559
11:45 AM	13	45	17	76	112	13	13	41	84	30	101	17	562
Total	40	189	106	303	467	56	45	168	304	121	470	50	2319
12:00 PM	16	49	25	82	106	13	9	36	66	30	122	14	568
12:15 PM	6	54	26	85	134	9	3	41	76	27	123	13	597
12:30 PM	6	63	24	80	122	13	9	39	77	25	102	13	573
12:45 PM	9	40	19	71	130	12	7	48	75	34	113	13	571
Total	37	206	94	318	492	47	28	164	294	116	460	53	2309
01:00 PM	6	49	35	70	110	11	14	35	78	38	114	18	578
01:15 PM	1	47	30	68	107	11	10	50	74	45	102	13	558
01:30 PM	3	42	28	65	103	16	11	38	68	25	104	17	520
01:45 PM	8	45	26	78	104	6	2	45	78	24	109	15	540
Total	18	183	119	281	424	44	37	168	298	132	429	63	2196
Grand Total	95	578	319	902	1383	147	110	500	896	369	1359	166	6824
Apprch %	9.6	58.3	32.2	37.1	56.9	6	7.3	33.2	59.5	19.5	71.8	8.8	
Total %	1.4	8.5	4.7	13.2	20.3	2.2	1.6	7.3	13.1	5.4	19.9	2.4	

Start Time	Chestnut St From North				Route 140 From East				King St From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:00 AM																	
11:00 AM	9	36	26	71	65	122	17	204	8	52	74	134	28	130	11	169	578
11:15 AM	8	66	32	106	82	122	10	214	18	43	81	142	33	114	11	158	620
11:30 AM	10	42	31	83	80	111	16	207	6	32	65	103	30	125	11	166	559
11:45 AM	13	45	17	75	76	112	13	201	13	41	84	138	30	101	17	148	562
Total Volume	40	189	106	335	303	467	56	826	45	168	304	517	121	470	50	641	2319
% App. Total	11.9	56.4	31.6		36.7	56.5	6.8		8.7	32.5	58.8		18.9	73.3	7.8		
PHF	.769	.716	.828	.790	.924	.957	.824	.965	.625	.808	.905	.910	.917	.904	.735	.948	.935

Accurate Counts

978-664-2565

File Name : 988300S1

Site Code : 98830001

Start Date : 12/14/2024

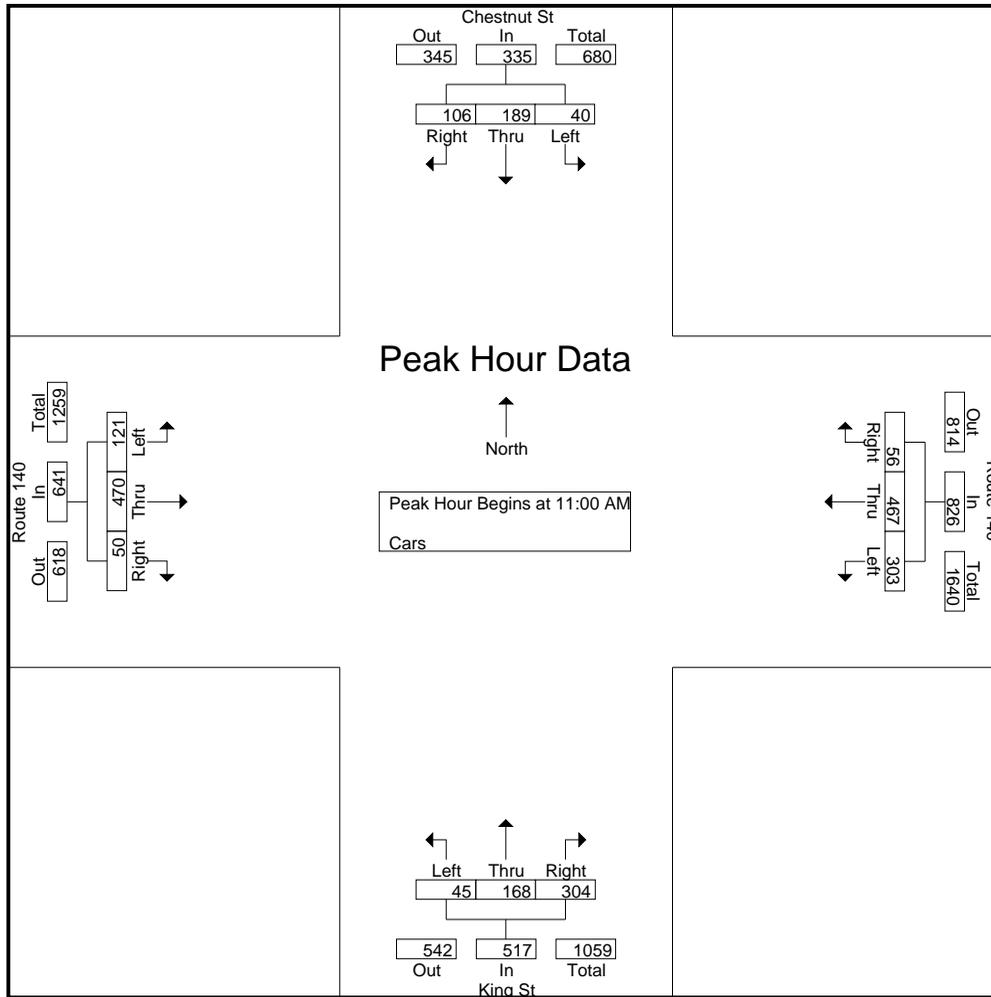
Page No : 5

N/S Street : Chestnut St / King St

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

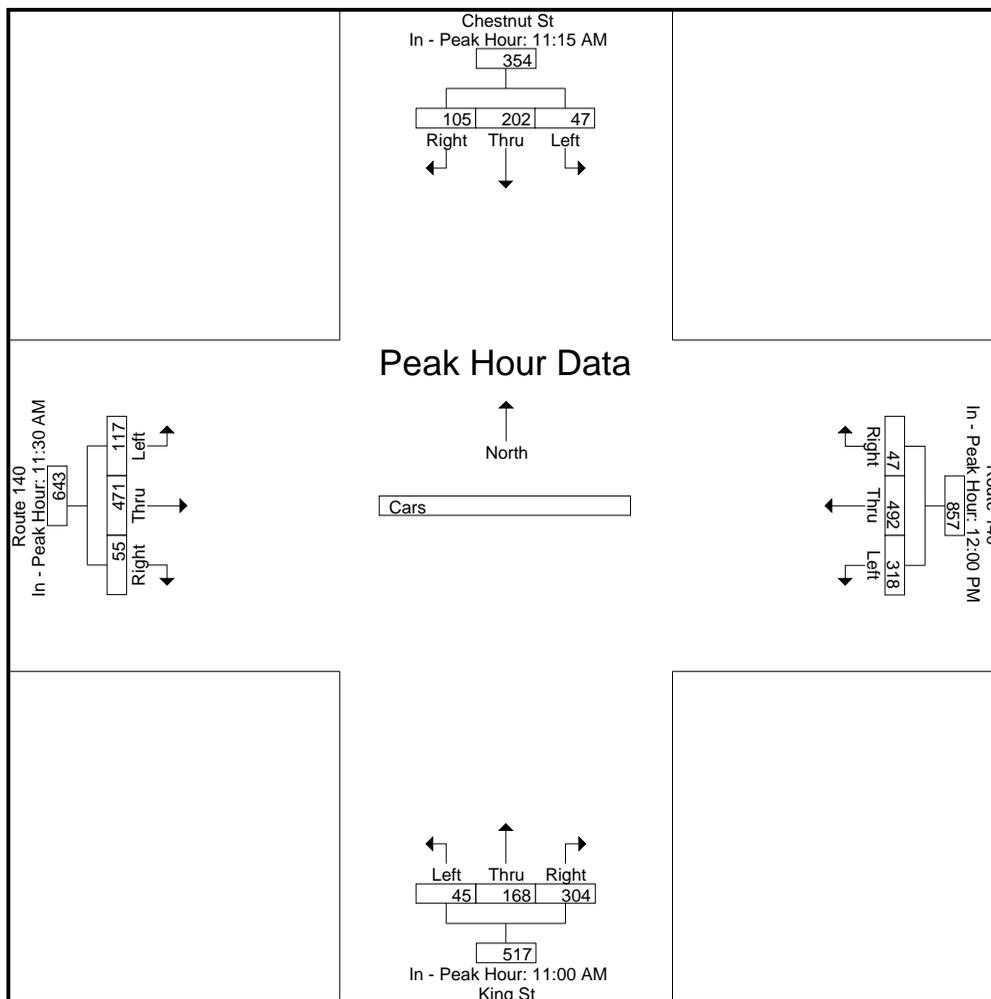
	11:15 AM				12:00 PM				11:00 AM				11:30 AM			
+0 mins.	8	66	32	106	82	106	13	201	8	52	74	134	30	125	11	166
+15 mins.	10	42	31	83	85	134	9	228	18	43	81	142	30	101	17	148
+30 mins.	13	45	17	75	80	122	13	215	6	32	65	103	30	122	14	166
+45 mins.	16	49	25	90	71	130	12	213	13	41	84	138	27	123	13	163
Total Volume	47	202	105	354	318	492	47	857	45	168	304	517	117	471	55	643
% App. Total	13.3	57.1	29.7		37.1	57.4	5.5		8.7	32.5	58.8		18.2	73.3	8.6	
PHF	.734	.765	.820	.835	.935	.918	.904	.940	.625	.808	.905	.910	.975	.942	.809	.968

Accurate Counts

978-664-2565

File Name : 988300S1
 Site Code : 98830001
 Start Date : 12/14/2024
 Page No : 6

N/S Street : Chestnut St / King St
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear

File Name : 988300S1
 Site Code : 98830001
 Start Date : 12/14/2024
 Page No : 7

Groups Printed- Trucks

Start Time	Chestnut St From North			Route 140 From East			King St From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:00 AM	0	2	0	0	1	0	0	1	0	0	0	0	4
11:15 AM	0	0	0	0	1	0	0	3	0	0	0	0	4
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	2	1	0	0	0	1	0	0	0	4
Total	0	2	0	2	3	0	0	4	1	0	0	0	12
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
12:45 PM	0	1	0	0	1	0	0	0	1	0	0	0	3
Total	0	2	0	1	1	0	0	0	1	0	1	0	6
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	1	0	1	0	0	0	0	0	2
01:30 PM	0	0	0	0	0	0	0	0	1	0	1	0	2
01:45 PM	0	1	0	0	0	0	0	1	0	0	1	0	3
Total	0	1	0	0	1	0	1	1	1	0	2	0	7
Grand Total	0	5	0	3	5	0	1	5	3	0	3	0	25
Apprch %	0	100	0	37.5	62.5	0	11.1	55.6	33.3	0	100	0	
Total %	0	20	0	12	20	0	4	20	12	0	12	0	

Start Time	Chestnut St From North				Route 140 From East				King St From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:00 AM																	
11:00 AM	0	2	0	2	0	1	0	1	0	1	0	1	0	0	0	0	4
11:15 AM	0	0	0	0	0	1	0	1	0	3	0	3	0	0	0	0	4
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	2	1	0	3	0	0	1	1	0	0	0	0	4
Total Volume	0	2	0	2	2	3	0	5	0	4	1	5	0	0	0	0	12
% App. Total	0	100	0		40	60	0		0	80	20		0	0	0		
PHF	.000	.250	.000	.250	.250	.750	.000	.417	.000	.333	.250	.417	.000	.000	.000	.000	.750

Accurate Counts

978-664-2565

File Name : 988300S1

Site Code : 98830001

Start Date : 12/14/2024

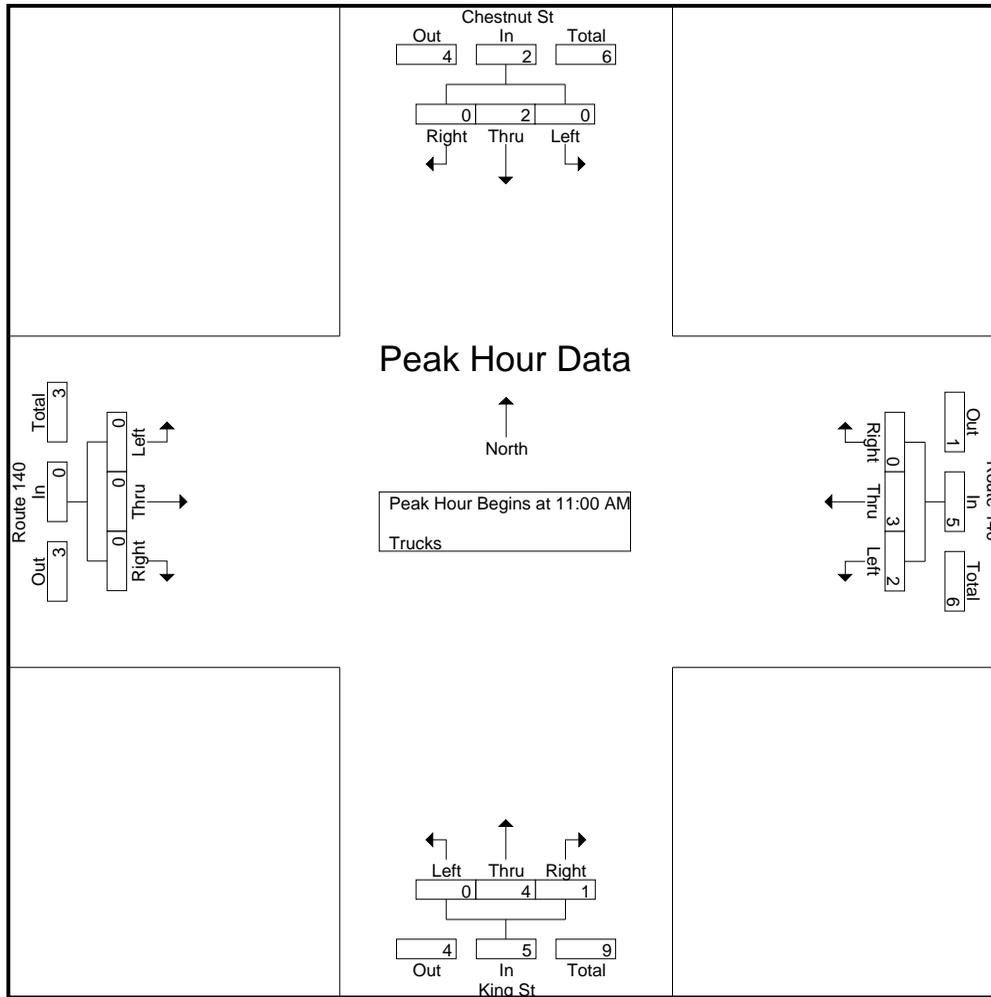
Page No : 8

N/S Street : Chestnut St / King St

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:00 AM				11:00 AM				11:00 AM				01:00 PM			
+0 mins.	0	2	0	2	0	1	0	1	0	1	0	1	0	0	0	0
+15 mins.	0	0	0	0	0	1	0	1	0	3	0	3	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	2	1	0	3	0	0	1	1	0	1	0	1
Total Volume	0	2	0	2	2	3	0	5	0	4	1	5	0	2	0	2
% App. Total	0	100	0		40	60	0		0	80	20		0	100	0	
PHF	.000	.250	.000	.250	.250	.750	.000	.417	.000	.333	.250	.417	.000	.500	.000	.500

Accurate Counts

978-664-2565

File Name : 988300S1

Site Code : 98830001

Start Date : 12/14/2024

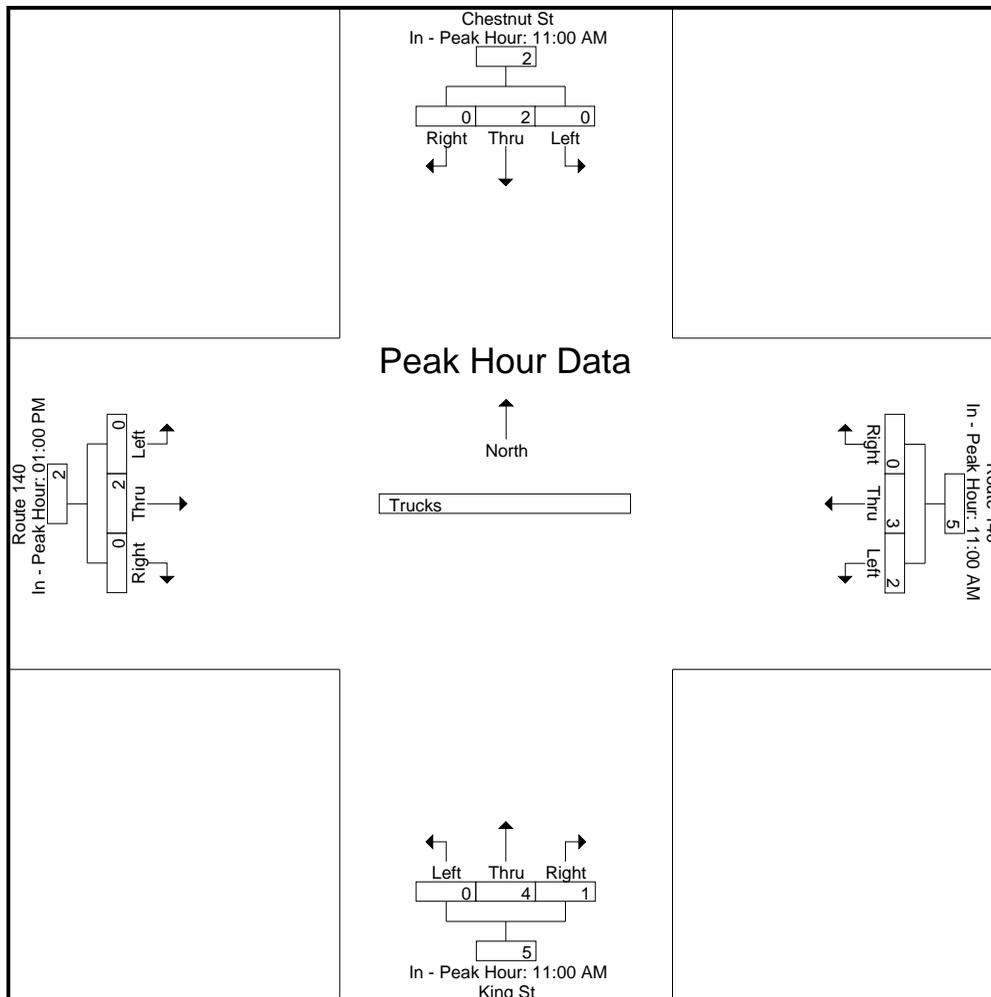
Page No : 9

N/S Street : Chestnut St / King St

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Chestnut St / King St
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear

File Name : 988300S1
 Site Code : 98830001
 Start Date : 12/14/2024
 Page No : 10

Groups Printed- Bikes Peds

Start Time	Chestnut St From North				Route 140 From East				King St From South				Route 140 From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
11:00 AM	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	2	6	0	6
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	4	0	4
11:30 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	3	5	0	5
11:45 AM	0	0	0	2	0	0	0	1	0	0	0	2	0	0	0	0	5	0	5
Total	0	0	0	6	0	0	0	3	0	0	0	3	0	0	0	8	20	0	20
12:00 PM	0	0	0	2	0	0	0	1	0	0	0	3	0	0	0	0	6	0	6
12:15 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
12:30 PM	0	0	0	4	0	0	0	1	0	0	0	2	0	0	0	3	10	0	10
12:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	9	0	0	0	2	0	0	0	5	0	0	0	3	19	0	19
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	3	3
01:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
01:30 PM	0	0	0	2	0	1	0	0	0	0	0	1	0	0	0	1	4	1	5
01:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	3	0	1	0	1	0	0	0	1	1	2	0	1	6	4	10
Grand Total	0	0	0	18	0	1	0	6	0	0	0	9	1	2	0	12	45	4	49
Apprch %	0	0	0		0	100	0		0	0	0		33.3	66.7	0				
Total %	0	0	0		0	25	0		0	0	0		25	50	0		91.8	8.2	

Start Time	Chestnut St From North				Route 140 From East				King St From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:45 PM																	
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	3
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	1	2	0	3	4
% App. Total	0	0	0		0	100	0		0	0	0		33.3	66.7	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250	.250	.000	.250	.333

Accurate Counts

978-664-2565

File Name : 988300S1

Site Code : 98830001

Start Date : 12/14/2024

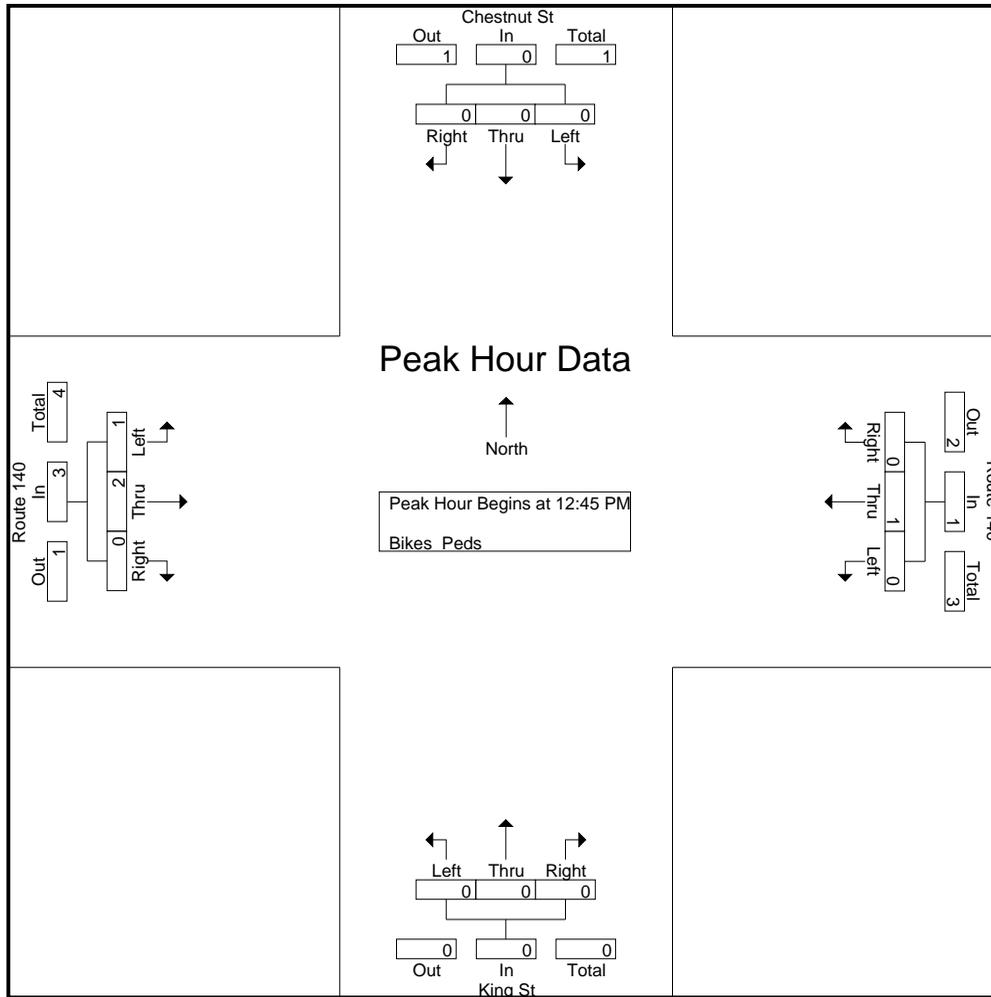
Page No : 11

N/S Street : Chestnut St / King St

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:00 AM				12:45 PM				11:00 AM				12:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	1	2	0	3
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	1	2	0	3
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	33.3	66.7	0	0
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250	.250	.000	.250

Accurate Counts

978-664-2565

File Name : 988300S1

Site Code : 98830001

Start Date : 12/14/2024

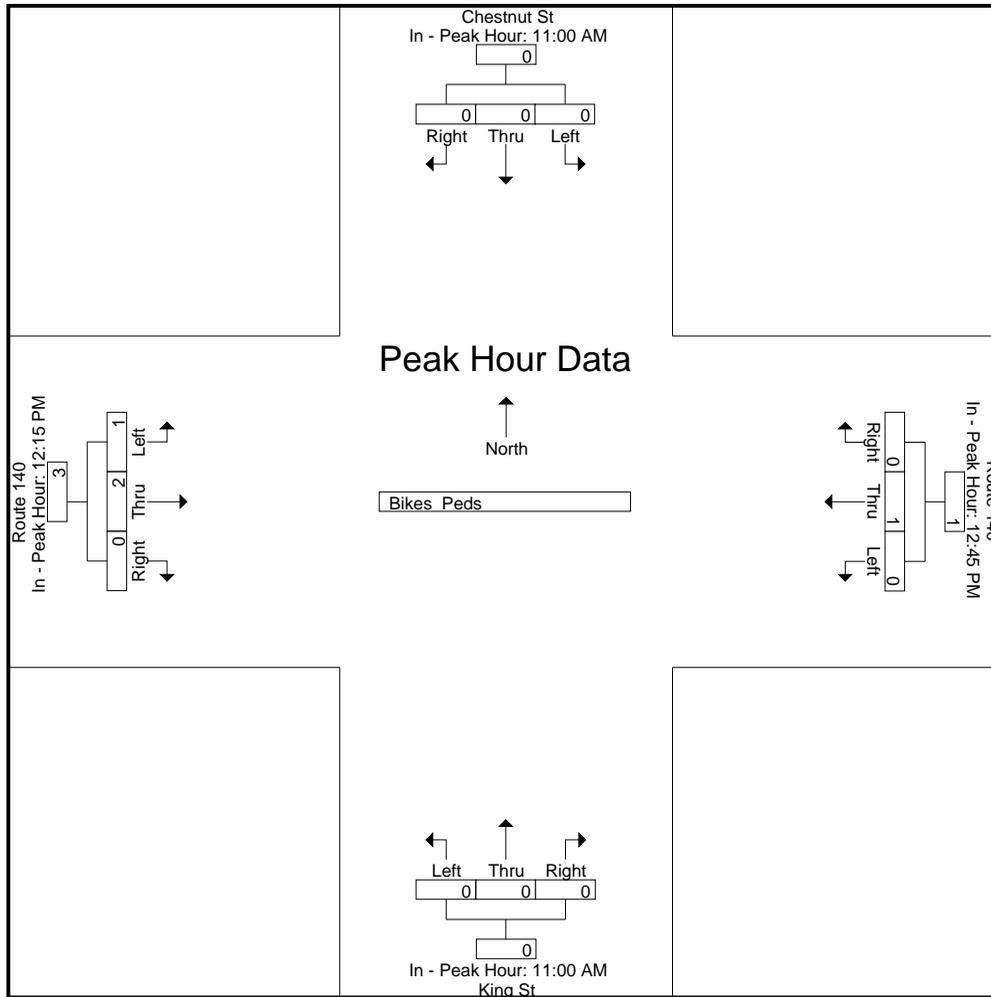
Page No : 12

N/S Street : Chestnut St / King St

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830002
 Site Code : 98830002
 Start Date : 12/5/2024
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Horace Mann Plaza From North			Route 140 From East			CVS From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	7	1	4	1	81	14	2	0	1	5	88	2	206
07:15 AM	10	0	8	0	114	6	0	0	0	15	120	1	274
07:30 AM	5	0	9	0	100	9	0	1	3	6	135	3	271
07:45 AM	13	2	9	1	113	10	2	1	0	9	128	3	291
Total	35	3	30	2	408	39	4	2	4	35	471	9	1042
08:00 AM	19	1	12	3	80	15	2	2	2	7	122	2	267
08:15 AM	12	1	12	2	102	15	3	2	0	9	81	5	244
08:30 AM	8	3	11	0	118	14	4	2	1	9	126	3	299
08:45 AM	18	0	21	0	72	17	5	0	1	12	108	3	257
Total	57	5	56	5	372	61	14	6	4	37	437	13	1067
Grand Total	92	8	86	7	780	100	18	8	8	72	908	22	2109
Apprch %	49.5	4.3	46.2	0.8	87.9	11.3	52.9	23.5	23.5	7.2	90.6	2.2	
Total %	4.4	0.4	4.1	0.3	37	4.7	0.9	0.4	0.4	3.4	43.1	1	
Cars	88	8	86	7	754	97	18	8	8	70	896	22	2062
% Cars	95.7	100	100	100	96.7	97	100	100	100	97.2	98.7	100	97.8
Trucks	4	0	0	0	26	3	0	0	0	2	12	0	47
% Trucks	4.3	0	0	0	3.3	3	0	0	0	2.8	1.3	0	2.2

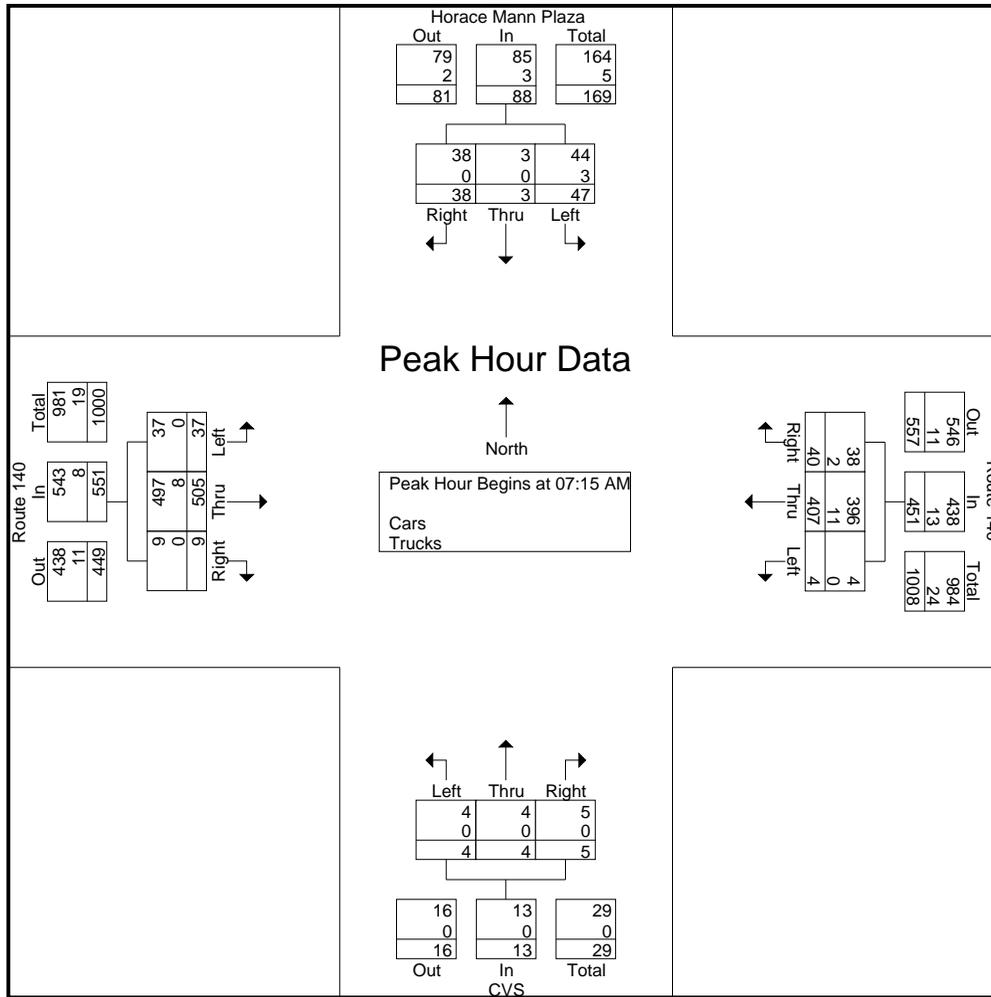
Start Time	Horace Mann Plaza From North				Route 140 From East				CVS From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	10	0	8	18	0	114	6	120	0	0	0	0	15	120	1	136	274
07:30 AM	5	0	9	14	0	100	9	109	0	1	3	4	6	135	3	144	271
07:45 AM	13	2	9	24	1	113	10	124	2	1	0	3	9	128	3	140	291
08:00 AM	19	1	12	32	3	80	15	98	2	2	2	6	7	122	2	131	267
Total Volume	47	3	38	88	4	407	40	451	4	4	5	13	37	505	9	551	1103
% App. Total	53.4	3.4	43.2		0.9	90.2	8.9		30.8	30.8	38.5		6.7	91.7	1.6		
PHF	.618	.375	.792	.688	.333	.893	.667	.909	.500	.500	.417	.542	.617	.935	.750	.957	.948
Cars	44	3	38	85	4	396	38	438	4	4	5	13	37	497	9	543	1079
% Cars	93.6	100	100	96.6	100	97.3	95.0	97.1	100	100	100	100	100	98.4	100	98.5	97.8
Trucks	3	0	0	3	0	11	2	13	0	0	0	0	0	8	0	8	24
% Trucks	6.4	0	0	3.4	0	2.7	5.0	2.9	0	0	0	0	0	1.6	0	1.5	2.2

Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830002
 Site Code : 98830002
 Start Date : 12/5/2024
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

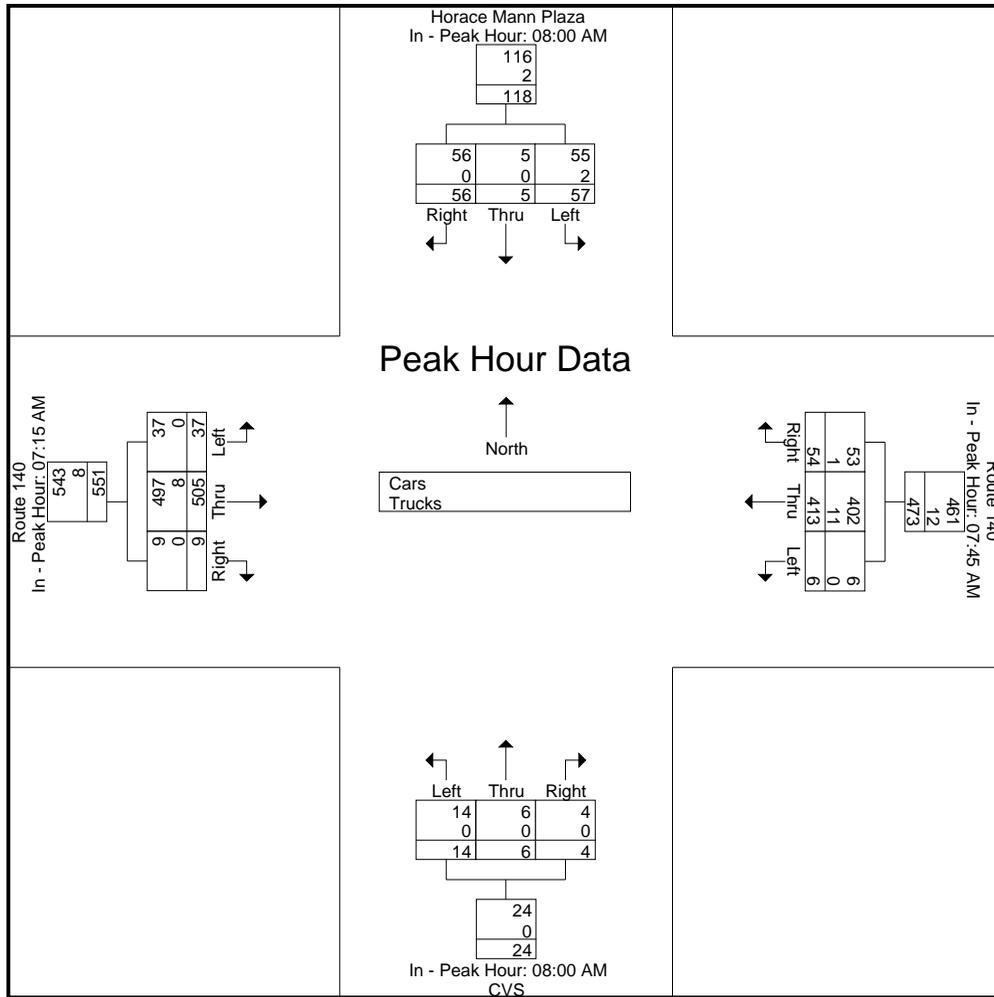
	08:00 AM				07:45 AM				08:00 AM				07:15 AM			
+0 mins.	19	1	12	32	1	113	10	124	2	2	2	6	15	120	1	136
+15 mins.	12	1	12	25	3	80	15	98	3	2	0	5	6	135	3	144
+30 mins.	8	3	11	22	2	102	15	119	4	2	1	7	9	128	3	140
+45 mins.	18	0	21	39	0	118	14	132	5	0	1	6	7	122	2	131
Total Volume	57	5	56	118	6	413	54	473	14	6	4	24	37	505	9	551
% App. Total	48.3	4.2	47.5		1.3	87.3	11.4		58.3	25	16.7		6.7	91.7	1.6	
PHF	.750	.417	.667	.756	.500	.875	.900	.896	.700	.750	.500	.857	.617	.935	.750	.957
Cars	55	5	56	116	6	402	53	461	14	6	4	24	37	497	9	543
% Cars	96.5	100	100	98.3	100	97.3	98.1	97.5	100	100	100	100	100	98.4	100	98.5
Trucks	2	0	0	2	0	11	1	12	0	0	0	0	0	8	0	8
% Trucks	3.5	0	0	1.7	0	2.7	1.9	2.5	0	0	0	0	0	1.6	0	1.5

Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830002
 Site Code : 98830002
 Start Date : 12/5/2024
 Page No : 3



Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830002
 Site Code : 98830002
 Start Date : 12/5/2024
 Page No : 4

Groups Printed- Cars

Start Time	Horace Mann Plaza From North			Route 140 From East			CVS From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	7	1	4	1	75	13	2	0	1	4	87	2	197
07:15 AM	9	0	8	0	112	5	0	0	0	15	118	1	268
07:30 AM	4	0	9	0	95	9	0	1	3	6	133	3	263
07:45 AM	13	2	9	1	111	10	2	1	0	9	128	3	289
Total	33	3	30	2	393	37	4	2	4	34	466	9	1017
08:00 AM	18	1	12	3	78	14	2	2	2	7	118	2	259
08:15 AM	12	1	12	2	98	15	3	2	0	9	80	5	239
08:30 AM	8	3	11	0	115	14	4	2	1	9	125	3	295
08:45 AM	17	0	21	0	70	17	5	0	1	11	107	3	252
Total	55	5	56	5	361	60	14	6	4	36	430	13	1045
Grand Total	88	8	86	7	754	97	18	8	8	70	896	22	2062
Apprch %	48.4	4.4	47.3	0.8	87.9	11.3	52.9	23.5	23.5	7.1	90.7	2.2	
Total %	4.3	0.4	4.2	0.3	36.6	4.7	0.9	0.4	0.4	3.4	43.5	1.1	

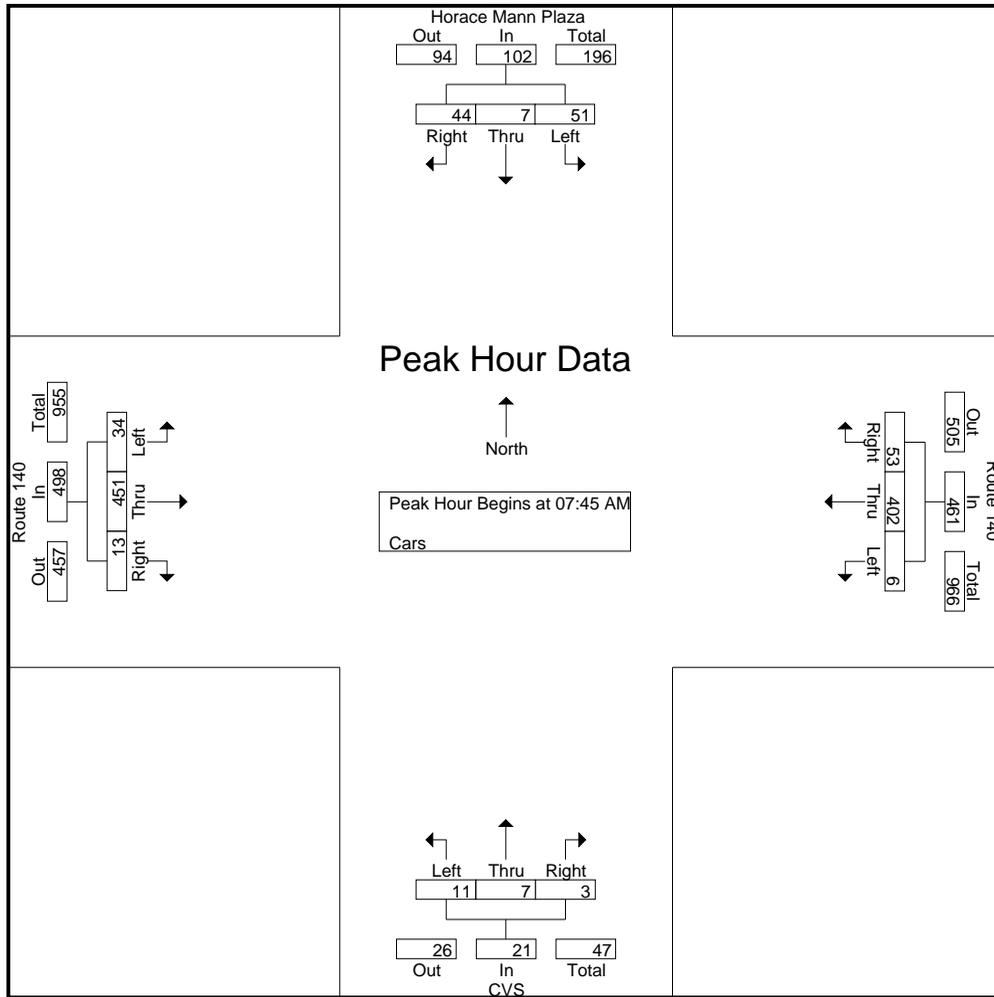
Start Time	Horace Mann Plaza From North				Route 140 From East				CVS From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	13	2	9	24	1	111	10	122	2	1	0	3	9	128	3	140	289
08:00 AM	18	1	12	31	3	78	14	95	2	2	2	6	7	118	2	127	259
08:15 AM	12	1	12	25	2	98	15	115	3	2	0	5	9	80	5	94	239
08:30 AM	8	3	11	22	0	115	14	129	4	2	1	7	9	125	3	137	295
Total Volume	51	7	44	102	6	402	53	461	11	7	3	21	34	451	13	498	1082
% App. Total	50	6.9	43.1		1.3	87.2	11.5		52.4	33.3	14.3		6.8	90.6	2.6		
PHF	.708	.583	.917	.823	.500	.874	.883	.893	.688	.875	.375	.750	.944	.881	.650	.889	.917

Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830002
 Site Code : 98830002
 Start Date : 12/5/2024
 Page No : 5



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				08:00 AM				07:15 AM			
+0 mins.	18	1	12	31	1	111	10	122	2	2	2	6	15	118	1	134
+15 mins.	12	1	12	25	3	78	14	95	3	2	0	5	6	133	3	142
+30 mins.	8	3	11	22	2	98	15	115	4	2	1	7	9	128	3	140
+45 mins.	17	0	21	38	0	115	14	129	5	0	1	6	7	118	2	127
Total Volume	55	5	56	116	6	402	53	461	14	6	4	24	37	497	9	543
% App. Total	47.4	4.3	48.3		1.3	87.2	11.5		58.3	25	16.7		6.8	91.5	1.7	
PHF	.764	.417	.667	.763	.500	.874	.883	.893	.700	.750	.500	.857	.617	.934	.750	.956

Accurate Counts

978-664-2565

File Name : 98830002

Site Code : 98830002

Start Date : 12/5/2024

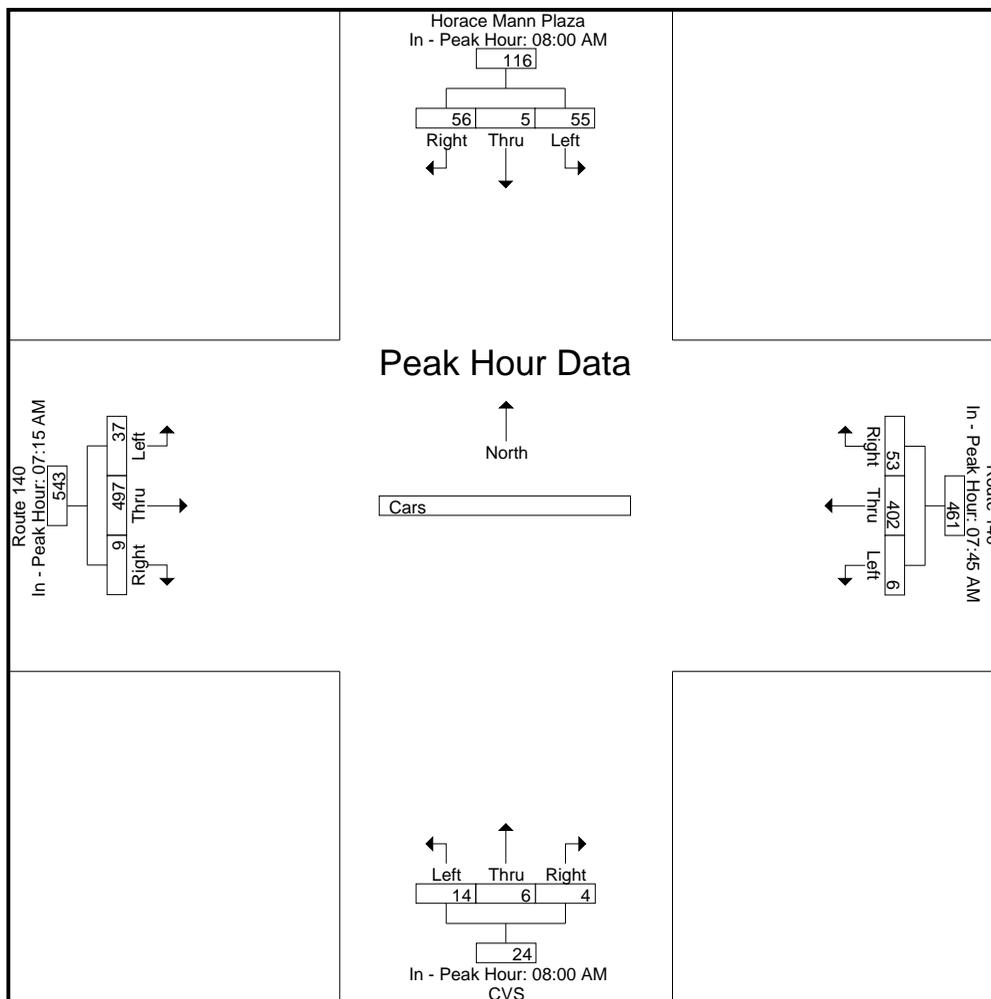
Page No : 6

N/S Street : Horace Mann Plaza / CVS

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830002
 Site Code : 98830002
 Start Date : 12/5/2024
 Page No : 7

Groups Printed- Trucks

Start Time	Horace Mann Plaza From North			Route 140 From East			CVS From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	0	0	0	6	1	0	0	0	1	1	0	9
07:15 AM	1	0	0	0	2	1	0	0	0	0	2	0	6
07:30 AM	1	0	0	0	5	0	0	0	0	0	2	0	8
07:45 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
Total	2	0	0	0	15	2	0	0	0	1	5	0	25
08:00 AM	1	0	0	0	2	1	0	0	0	0	4	0	8
08:15 AM	0	0	0	0	4	0	0	0	0	0	1	0	5
08:30 AM	0	0	0	0	3	0	0	0	0	0	1	0	4
08:45 AM	1	0	0	0	2	0	0	0	0	1	1	0	5
Total	2	0	0	0	11	1	0	0	0	1	7	0	22
Grand Total	4	0	0	0	26	3	0	0	0	2	12	0	47
Apprch %	100	0	0	0	89.7	10.3	0	0	0	14.3	85.7	0	
Total %	8.5	0	0	0	55.3	6.4	0	0	0	4.3	25.5	0	

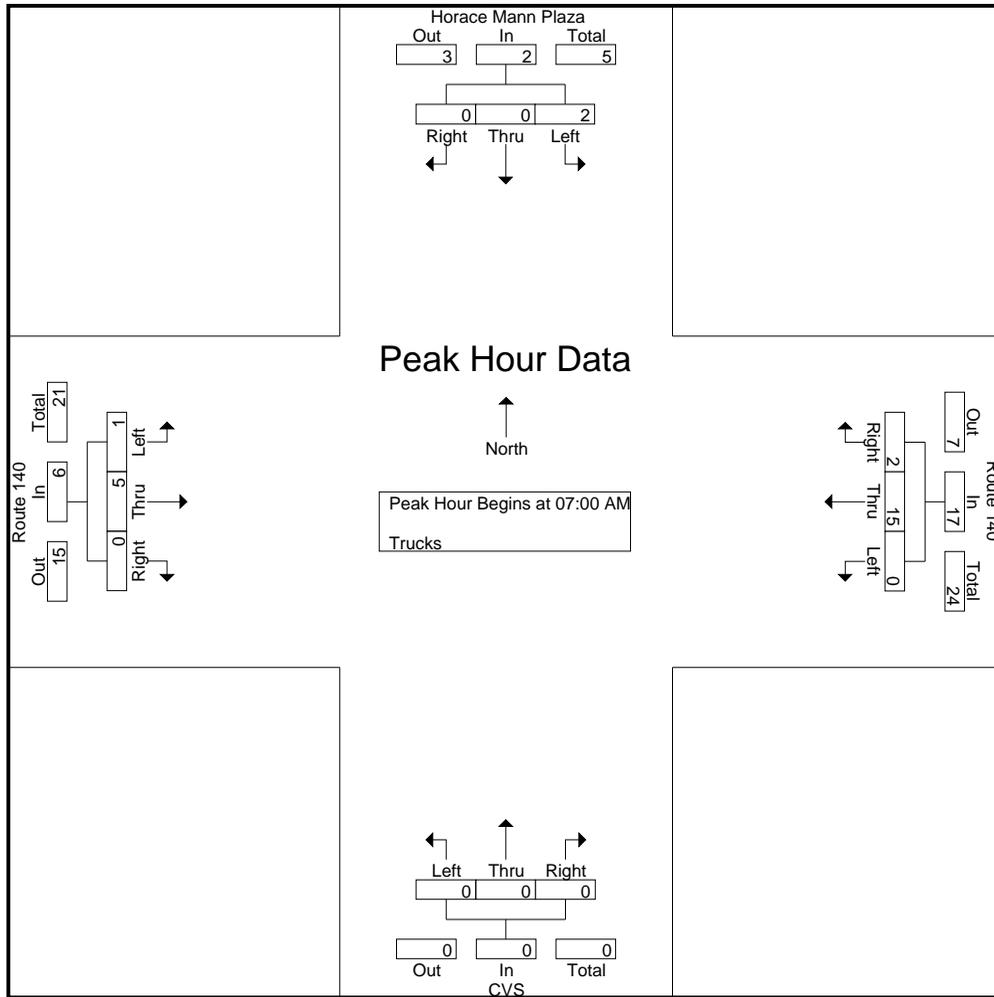
Start Time	Horace Mann Plaza From North				Route 140 From East				CVS From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	6	1	7	0	0	0	0	1	1	0	2	9
07:15 AM	1	0	0	1	0	2	1	3	0	0	0	0	0	2	0	2	6
07:30 AM	1	0	0	1	0	5	0	5	0	0	0	0	0	2	0	2	8
07:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
Total Volume	2	0	0	2	0	15	2	17	0	0	0	0	1	5	0	6	25
% App. Total	100	0	0	0	0	88.2	11.8	0	0	0	0	0	16.7	83.3	0	0	0
PHF	.500	.000	.000	.500	.000	.625	.500	.607	.000	.000	.000	.000	.250	.625	.000	.750	.694

Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830002
 Site Code : 98830002
 Start Date : 12/5/2024
 Page No : 8



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:00 AM				07:15 AM			
+0 mins.	1	0	0	1	0	6	1	7	0	0	0	0	0	2	0	2
+15 mins.	1	0	0	1	0	2	1	3	0	0	0	0	0	2	0	2
+30 mins.	0	0	0	0	0	5	0	5	0	0	0	0	0	0	0	0
+45 mins.	1	0	0	1	0	2	0	2	0	0	0	0	0	4	0	4
Total Volume	3	0	0	3	0	15	2	17	0	0	0	0	0	8	0	8
% App. Total	100	0	0		0	88.2	11.8		0	0	0		0	100	0	
PHF	.750	.000	.000	.750	.000	.625	.500	.607	.000	.000	.000	.000	.000	.500	.000	.500

Accurate Counts

978-664-2565

File Name : 98830002

Site Code : 98830002

Start Date : 12/5/2024

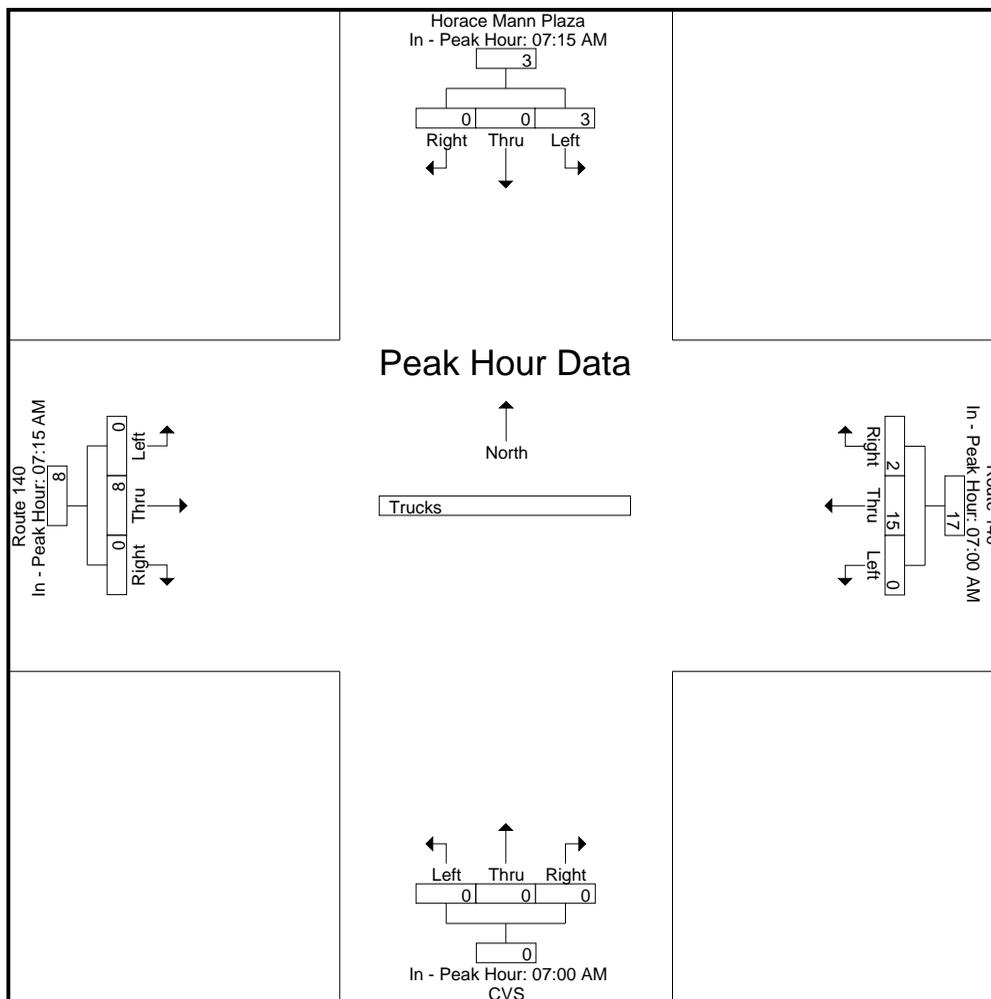
Page No : 9

N/S Street : Horace Mann Plaza / CVS

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy

File Name : 98830002

Site Code : 98830002

Start Date : 12/5/2024

Page No : 10

Groups Printed- Bikes Peds

Start Time	Horace Mann Plaza From North				Route 140 From East				CVS From South				Route 140 From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0				
Total %																	100	0	

Start Time	Horace Mann Plaza From North				Route 140 From East				CVS From South				Route 140 From West				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:00 AM																		
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0			
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS

E/W Street : Route 140

City/State : Franklin, MA

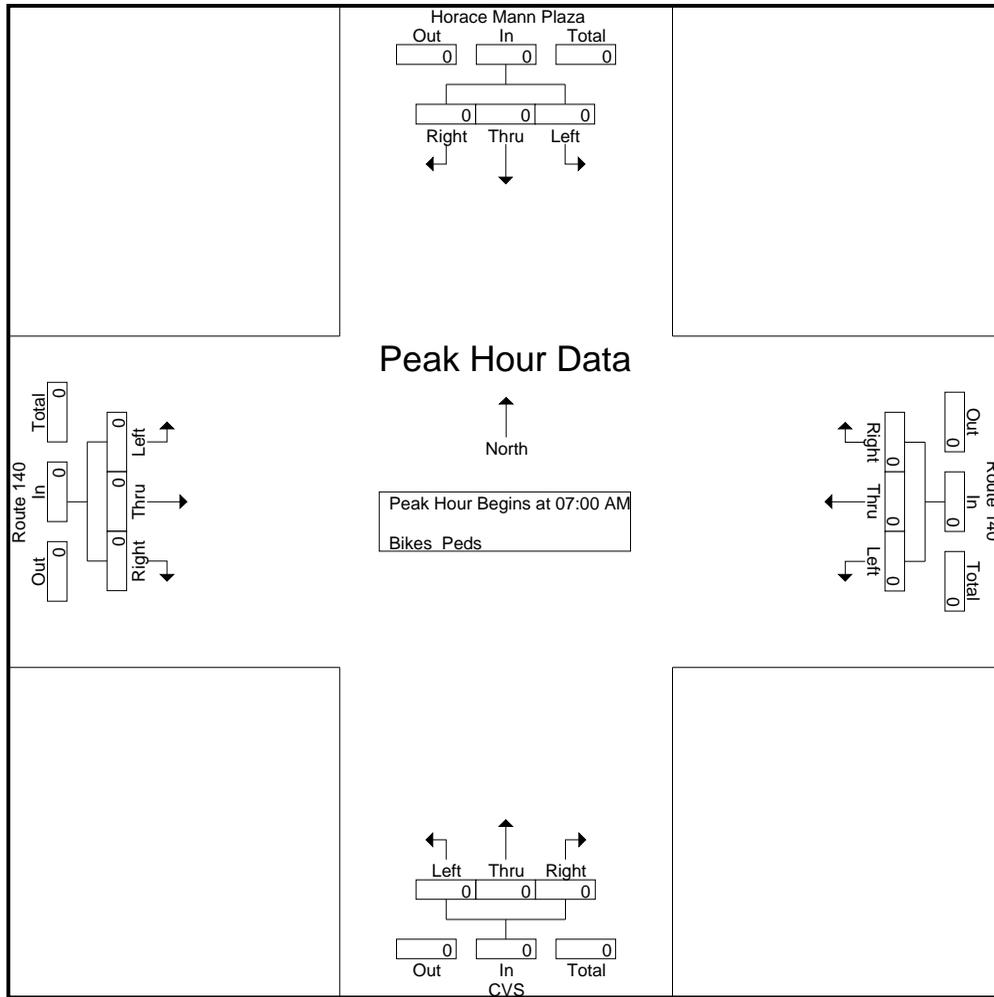
Weather : Snow/Cloudy

File Name : 98830002

Site Code : 98830002

Start Date : 12/5/2024

Page No : 11



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

File Name : 98830002

Site Code : 98830002

Start Date : 12/5/2024

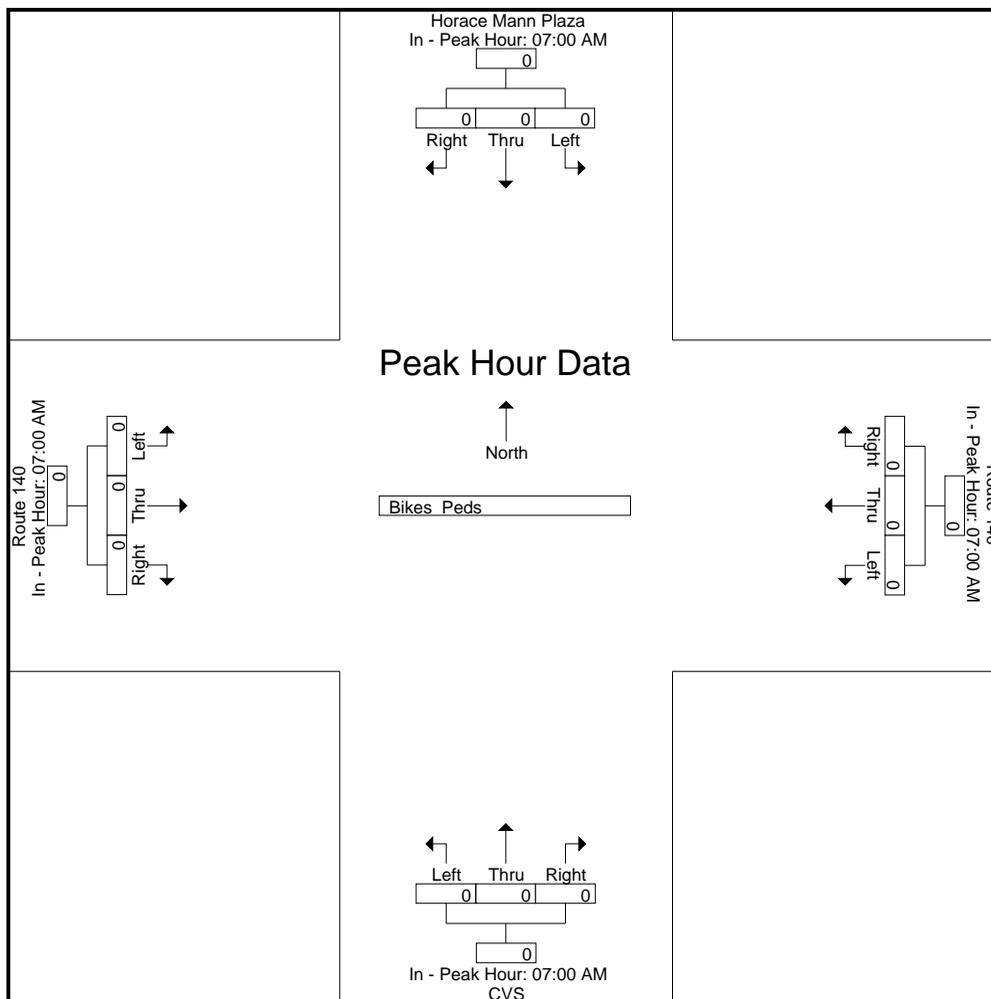
Page No : 12

N/S Street : Horace Mann Plaza / CVS

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830002
 Site Code : 98830002
 Start Date : 12/5/2024
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Horace Mann Plaza From North			Route 140 From East			CVS From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	24	4	59	5	163	27	12	4	4	35	131	5	473
04:15 PM	28	4	51	6	127	25	7	3	3	36	117	9	416
04:30 PM	26	4	38	2	128	31	12	5	4	35	121	14	420
04:45 PM	20	3	56	4	148	31	6	4	5	31	126	5	439
Total	98	15	204	17	566	114	37	16	16	137	495	33	1748
05:00 PM	27	4	46	2	118	38	9	5	6	36	140	17	448
05:15 PM	24	8	39	8	145	34	6	8	8	39	127	10	456
05:30 PM	31	3	43	1	110	24	11	6	5	44	113	7	398
05:45 PM	28	5	38	2	107	31	10	2	4	22	120	20	389
Total	110	20	166	13	480	127	36	21	23	141	500	54	1691
Grand Total	208	35	370	30	1046	241	73	37	39	278	995	87	3439
Apprch %	33.9	5.7	60.4	2.3	79.4	18.3	49	24.8	26.2	20.4	73.2	6.4	
Total %	6	1	10.8	0.9	30.4	7	2.1	1.1	1.1	8.1	28.9	2.5	
Cars	208	35	369	30	1040	241	73	37	39	278	986	87	3423
% Cars	100	100	99.7	100	99.4	100	100	100	100	100	99.1	100	99.5
Trucks	0	0	1	0	6	0	0	0	0	0	9	0	16
% Trucks	0	0	0.3	0	0.6	0	0	0	0	0	0.9	0	0.5

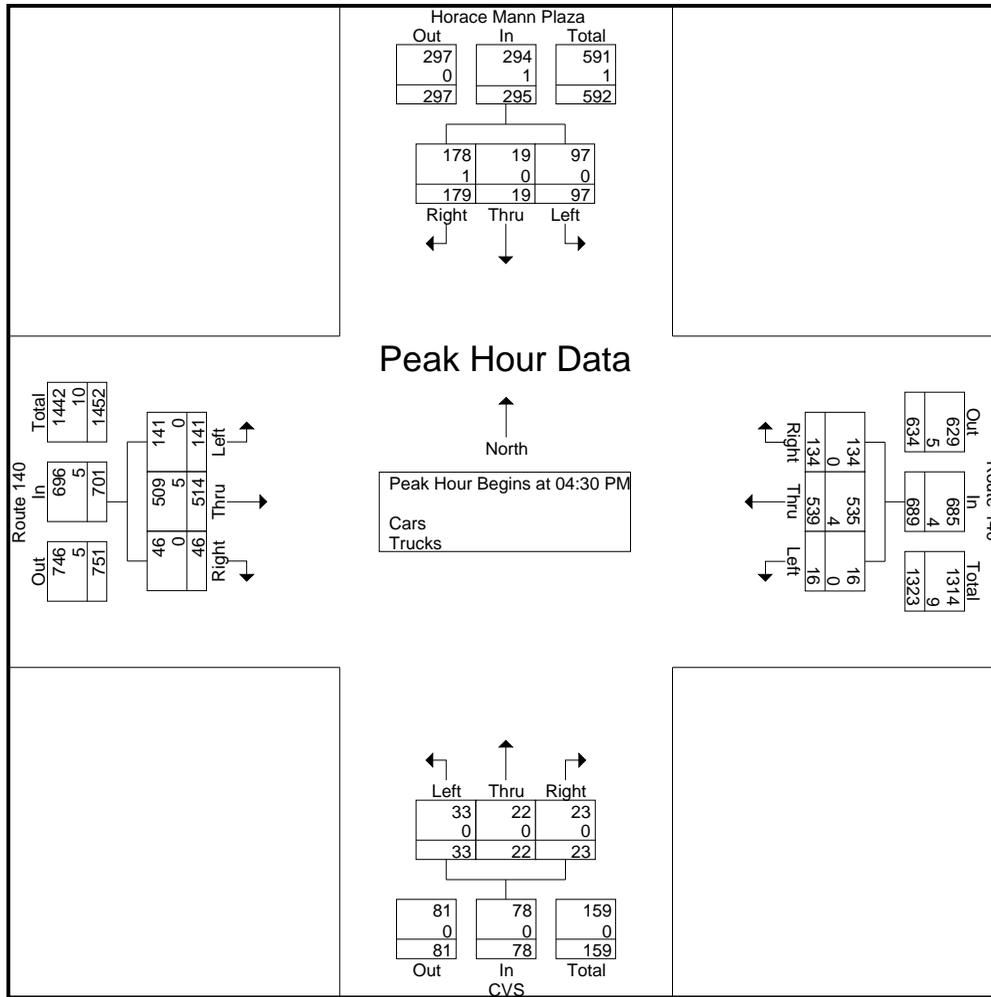
Start Time	Horace Mann Plaza From North				Route 140 From East				CVS From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	26	4	38	68	2	128	31	161	12	5	4	21	35	121	14	170	420
04:45 PM	20	3	56	79	4	148	31	183	6	4	5	15	31	126	5	162	439
05:00 PM	27	4	46	77	2	118	38	158	9	5	6	20	36	140	17	193	448
05:15 PM	24	8	39	71	8	145	34	187	6	8	8	22	39	127	10	176	456
Total Volume	97	19	179	295	16	539	134	689	33	22	23	78	141	514	46	701	1763
% App. Total	32.9	6.4	60.7		2.3	78.2	19.4		42.3	28.2	29.5		20.1	73.3	6.6		
PHF	.898	.594	.799	.934	.500	.910	.882	.921	.688	.688	.719	.886	.904	.918	.676	.908	.967
Cars	97	19	178	294	16	535	134	685	33	22	23	78	141	509	46	696	1753
% Cars	100	100	99.4	99.7	100	99.3	100	99.4	100	100	100	100	100	99.0	100	99.3	99.4
Trucks	0	0	1	1	0	4	0	4	0	0	0	0	0	5	0	5	10
% Trucks	0	0	0.6	0.3	0	0.7	0	0.6	0	0	0	0	0	1.0	0	0.7	0.6

Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830002
 Site Code : 98830002
 Start Date : 12/5/2024
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

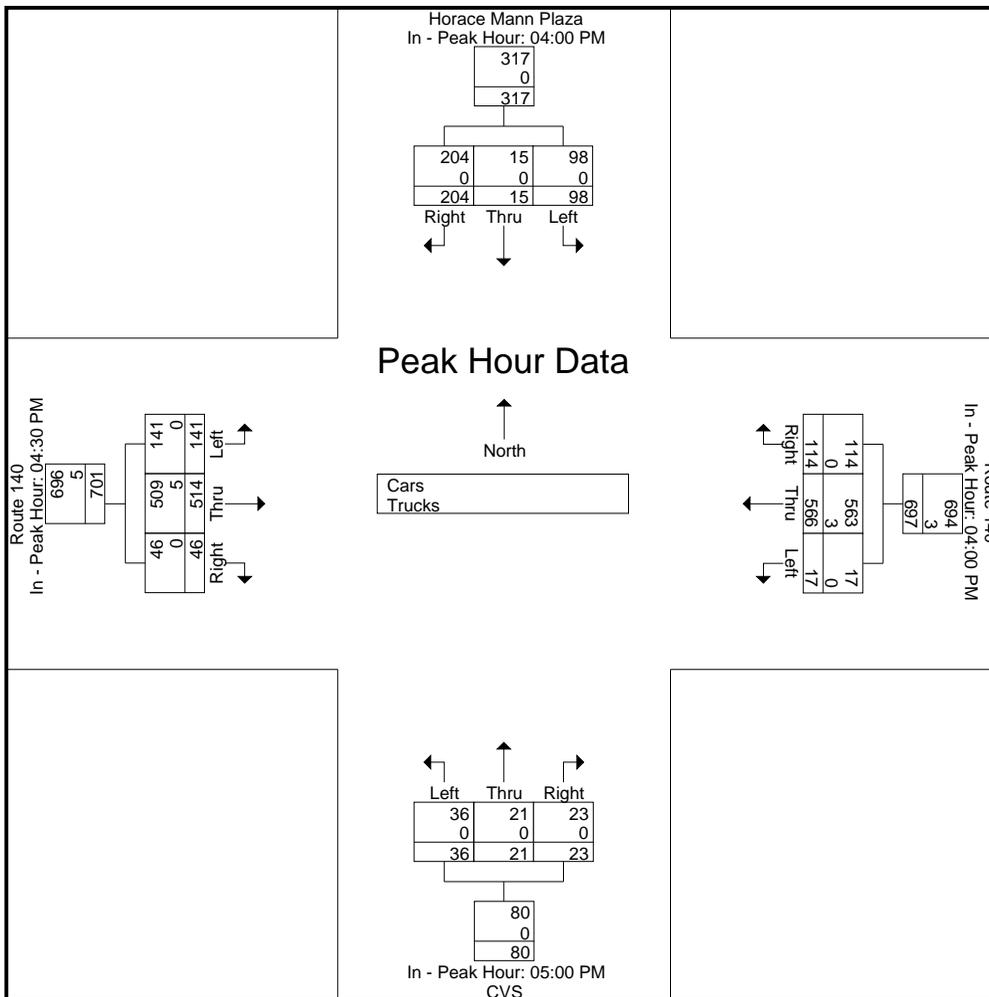
	04:00 PM				04:00 PM				05:00 PM				04:30 PM			
+0 mins.	24	4	59	87	5	163	27	195	9	5	6	20	35	121	14	170
+15 mins.	28	4	51	83	6	127	25	158	6	8	8	22	31	126	5	162
+30 mins.	26	4	38	68	2	128	31	161	11	6	5	22	36	140	17	193
+45 mins.	20	3	56	79	4	148	31	183	10	2	4	16	39	127	10	176
Total Volume	98	15	204	317	17	566	114	697	36	21	23	80	141	514	46	701
% App. Total	30.9	4.7	64.4		2.4	81.2	16.4		45	26.2	28.8		20.1	73.3	6.6	
PHF	.875	.938	.864	.911	.708	.868	.919	.894	.818	.656	.719	.909	.904	.918	.676	.908
Cars	98	15	204	317	17	563	114	694	36	21	23	80	141	509	46	696
% Cars	100	100	100	100	100	99.5	100	99.6	100	100	100	100	100	99	100	99.3
Trucks	0	0	0	0	0	3	0	3	0	0	0	0	0	5	0	5
% Trucks	0	0	0	0	0	0.5	0	0.4	0	0	0	0	0	1	0	0.7

Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830002
 Site Code : 98830002
 Start Date : 12/5/2024
 Page No : 3



Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy

File Name : 98830002

Site Code : 98830002

Start Date : 12/5/2024

Page No : 4

Groups Printed- Cars

Start Time	Horace Mann Plaza From North			Route 140 From East			CVS From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	24	4	59	5	163	27	12	4	4	35	130	5	472
04:15 PM	28	4	51	6	127	25	7	3	3	36	117	9	416
04:30 PM	26	4	38	2	126	31	12	5	4	35	118	14	415
04:45 PM	20	3	56	4	147	31	6	4	5	31	125	5	437
Total	98	15	204	17	563	114	37	16	16	137	490	33	1740
05:00 PM	27	4	45	2	118	38	9	5	6	36	139	17	446
05:15 PM	24	8	39	8	144	34	6	8	8	39	127	10	455
05:30 PM	31	3	43	1	109	24	11	6	5	44	111	7	395
05:45 PM	28	5	38	2	106	31	10	2	4	22	119	20	387
Total	110	20	165	13	477	127	36	21	23	141	496	54	1683
Grand Total	208	35	369	30	1040	241	73	37	39	278	986	87	3423
Apprch %	34	5.7	60.3	2.3	79.3	18.4	49	24.8	26.2	20.6	73	6.4	
Total %	6.1	1	10.8	0.9	30.4	7	2.1	1.1	1.1	8.1	28.8	2.5	

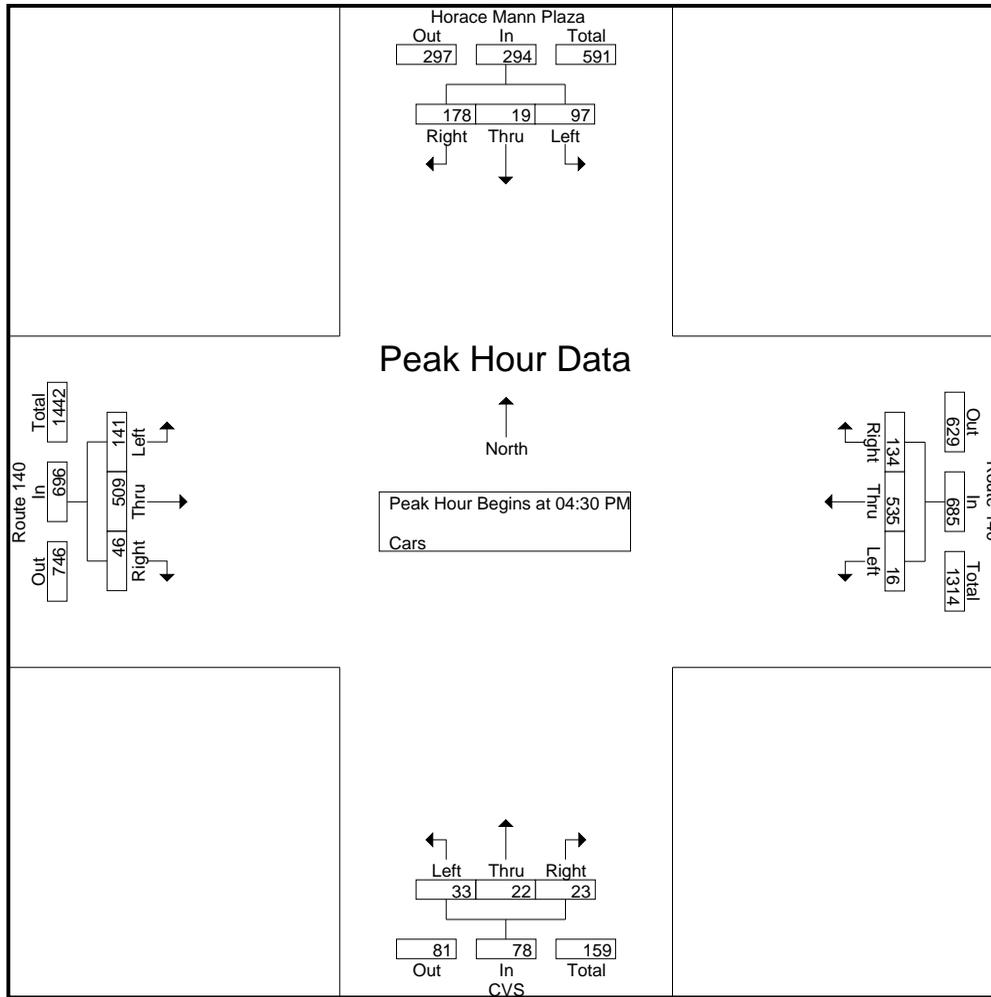
Start Time	Horace Mann Plaza From North				Route 140 From East				CVS From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	26	4	38	68	2	126	31	159	12	5	4	21	35	118	14	167	415
04:45 PM	20	3	56	79	4	147	31	182	6	4	5	15	31	125	5	161	437
05:00 PM	27	4	45	76	2	118	38	158	9	5	6	20	36	139	17	192	446
05:15 PM	24	8	39	71	8	144	34	186	6	8	8	22	39	127	10	176	455
Total Volume	97	19	178	294	16	535	134	685	33	22	23	78	141	509	46	696	1753
% App. Total	33	6.5	60.5		2.3	78.1	19.6		42.3	28.2	29.5		20.3	73.1	6.6		
PHF	.898	.594	.795	.930	.500	.910	.882	.921	.688	.688	.719	.886	.904	.915	.676	.906	.963

Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830002
 Site Code : 98830002
 Start Date : 12/5/2024
 Page No : 5



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM				05:00 PM				04:30 PM							
+0 mins.	24	4	59	87	5	163	27	195	9	5	6	20	35	118	14	167
+15 mins.	28	4	51	83	6	127	25	158	6	8	8	22	31	125	5	161
+30 mins.	26	4	38	68	2	126	31	159	11	6	5	22	36	139	17	192
+45 mins.	20	3	56	79	4	147	31	182	10	2	4	16	39	127	10	176
Total Volume	98	15	204	317	17	563	114	694	36	21	23	80	141	509	46	696
% App. Total	30.9	4.7	64.4		2.4	81.1	16.4		45	26.2	28.8		20.3	73.1	6.6	
PHF	.875	.938	.864	.911	.708	.863	.919	.890	.818	.656	.719	.909	.904	.915	.676	.906

Accurate Counts

978-664-2565

File Name : 98830002

Site Code : 98830002

Start Date : 12/5/2024

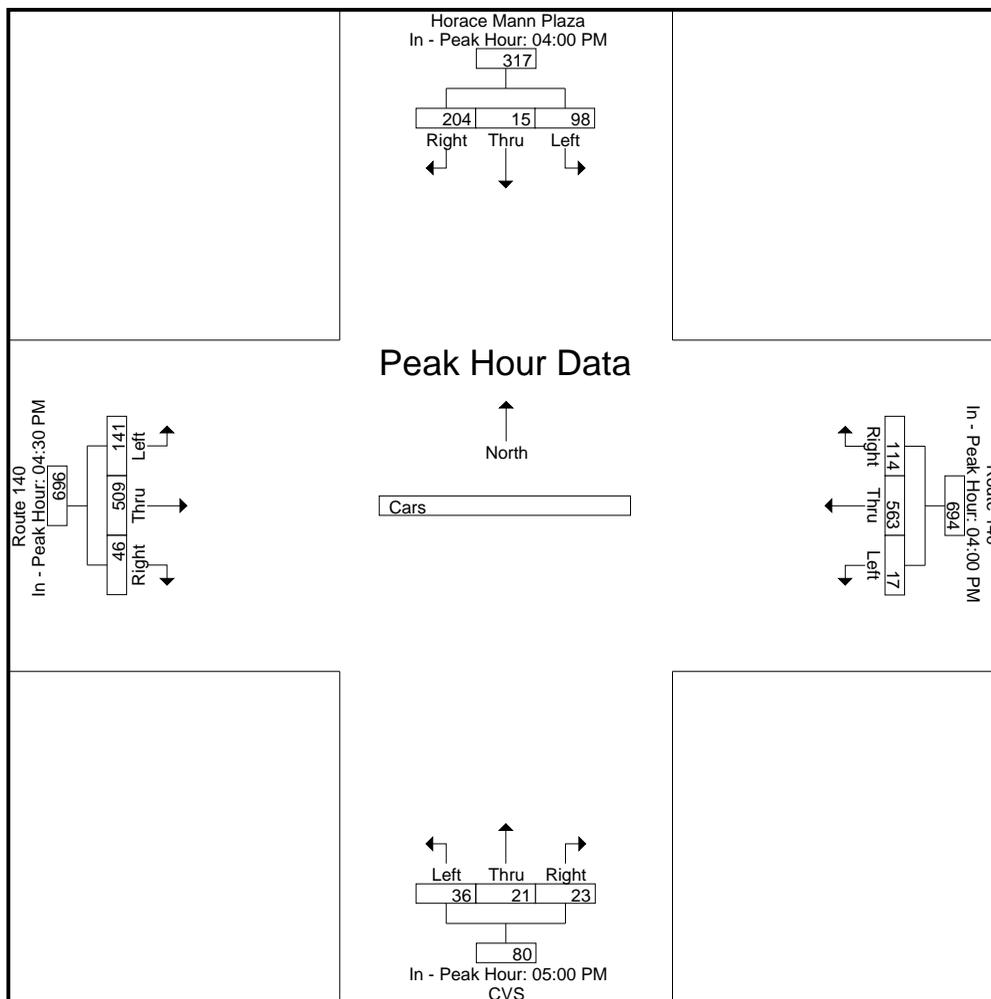
Page No : 6

N/S Street : Horace Mann Plaza / CVS

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830002
 Site Code : 98830002
 Start Date : 12/5/2024
 Page No : 7

Groups Printed- Trucks

Start Time	Horace Mann Plaza From North			Route 140 From East			CVS From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	2	0	0	0	0	0	3	0	5
04:45 PM	0	0	0	0	1	0	0	0	0	0	1	0	2
Total	0	0	0	0	3	0	0	0	0	0	5	0	8
05:00 PM	0	0	1	0	0	0	0	0	0	0	1	0	2
05:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	1	0	0	0	0	0	2	0	3
05:45 PM	0	0	0	0	1	0	0	0	0	0	1	0	2
Total	0	0	1	0	3	0	0	0	0	0	4	0	8
Grand Total	0	0	1	0	6	0	0	0	0	0	9	0	16
Apprch %	0	0	100	0	100	0	0	0	0	0	100	0	
Total %	0	0	6.2	0	37.5	0	0	0	0	0	56.2	0	

Start Time	Horace Mann Plaza From North				Route 140 From East				CVS From South				Route 140 From West				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:30 PM																		
04:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	3	0	3	5
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	2
05:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	2
05:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	1	1	0	4	0	4	0	0	0	0	0	0	5	0	5	10
% App. Total	0	0	100		0	100	0		0	0	0		0	100	0			
PHF	.000	.000	.250	.250	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.417	.000	.417	.500

Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS

E/W Street : Route 140

City/State : Franklin, MA

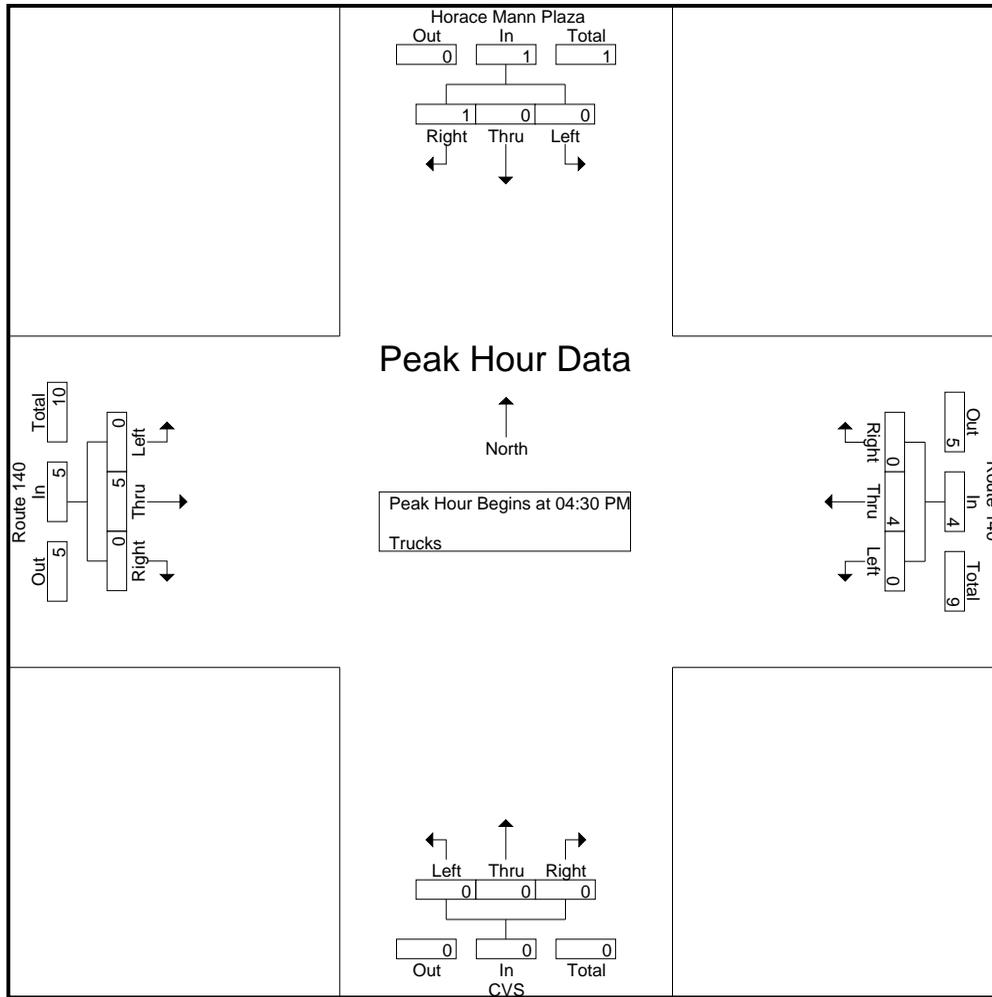
Weather : Snow/Cloudy

File Name : 98830002

Site Code : 98830002

Start Date : 12/5/2024

Page No : 8



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:15 PM				04:30 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
+45 mins.	0	0	1	1	0	1	0	1	0	0	0	0	0	1	0	1
Total Volume	0	0	1	1	0	4	0	4	0	0	0	0	0	5	0	5
% App. Total	0	0	100	100	0	100	0	100	0	0	0	0	0	100	0	100
PHF	.000	.000	.250	.250	.000	.500	.000	.500	.000	.000	.000	.000	.000	.417	.000	.417

Accurate Counts

978-664-2565

File Name : 98830002

Site Code : 98830002

Start Date : 12/5/2024

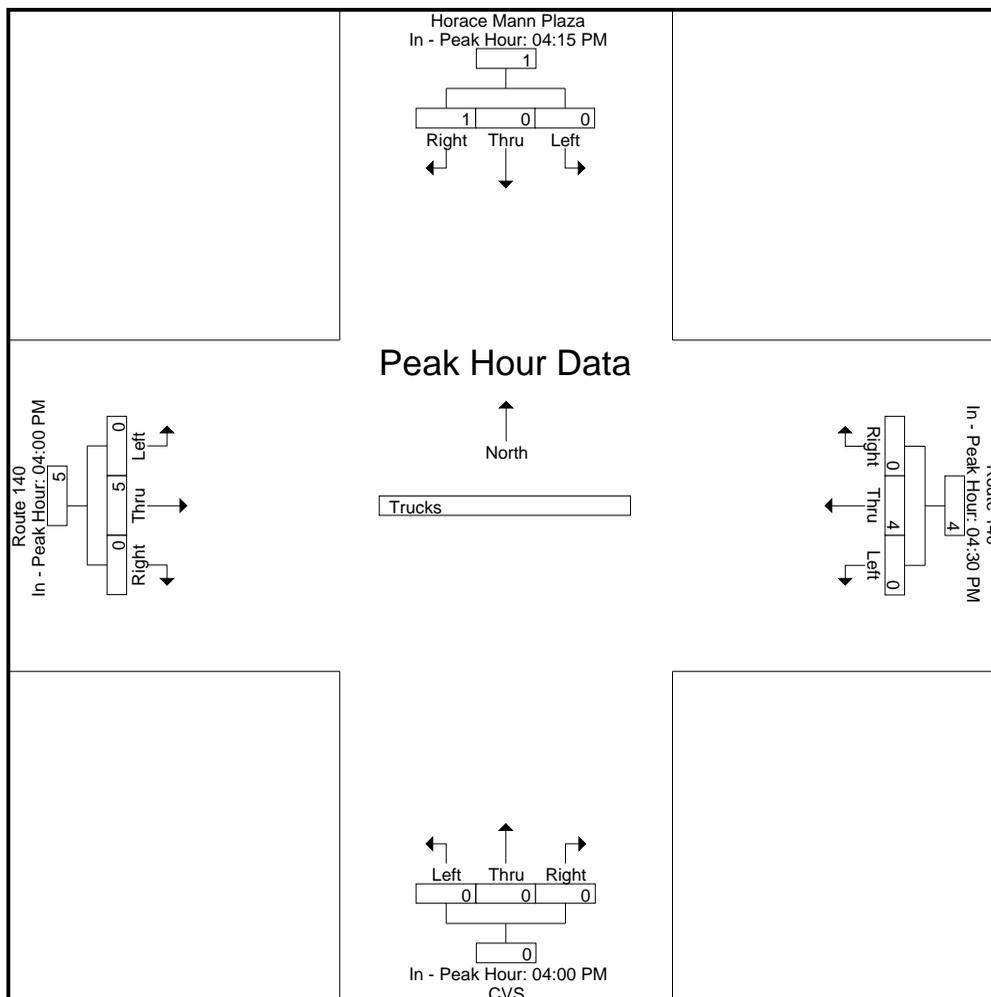
Page No : 9

N/S Street : Horace Mann Plaza / CVS

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy

File Name : 98830002

Site Code : 98830002

Start Date : 12/5/2024

Page No : 10

Groups Printed- Bikes Peds

Start Time	Horace Mann Plaza From North				Route 140 From East				CVS From South				Route 140 From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	0	5
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	2	0	0	0	1	0	0	0	1	0	0	0	1	5	0	5
Total	0	0	0	2	0	0	0	1	0	0	0	6	0	0	0	1	10	0	10
Grand Total	0	0	0	2	0	1	0	1	0	0	0	6	0	0	0	1	10	1	11
Apprch %	0	0	0		0	100	0		0	0	0		0	0	0				
Total %	0	0	0		0	100	0		0	0	0		0	0	0		90.9	9.1	

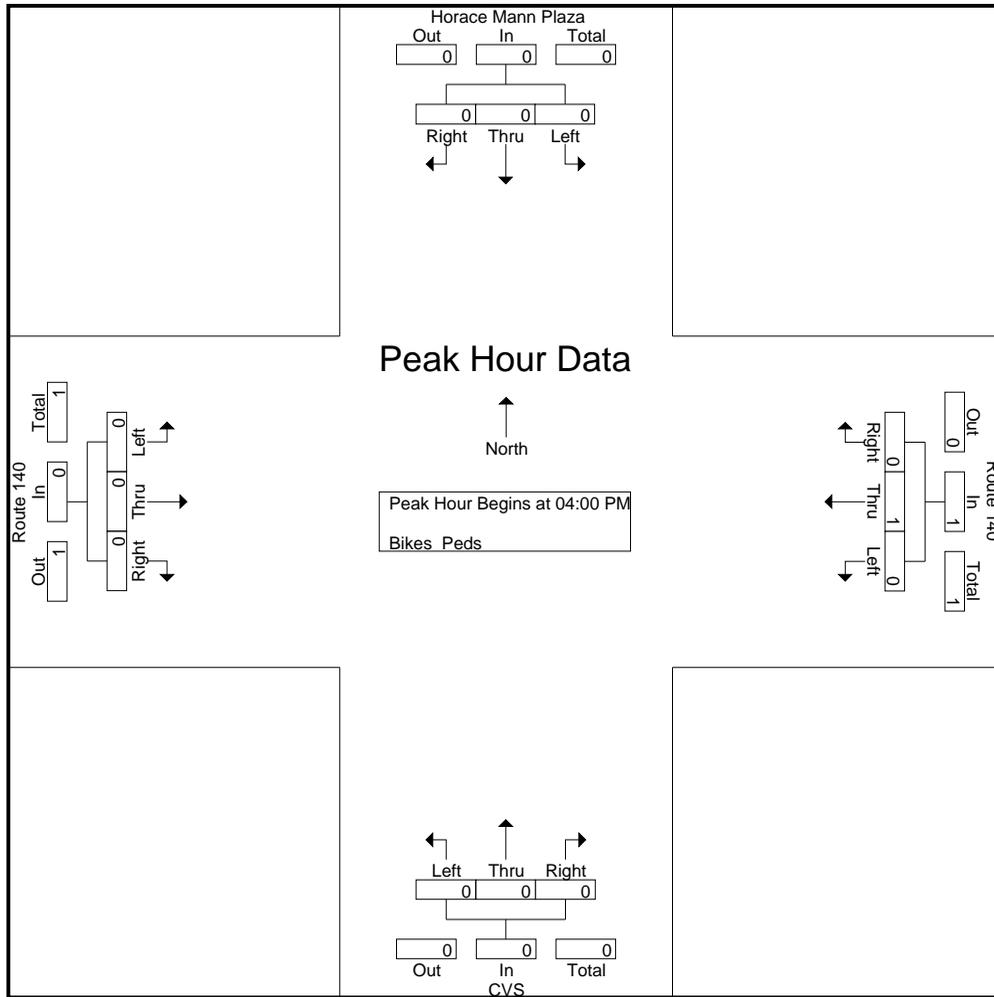
Start Time	Horace Mann Plaza From North				Route 140 From East				CVS From South				Route 140 From West				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:00 PM																		
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0			
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830002
 Site Code : 98830002
 Start Date : 12/5/2024
 Page No : 11



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

File Name : 98830002

Site Code : 98830002

Start Date : 12/5/2024

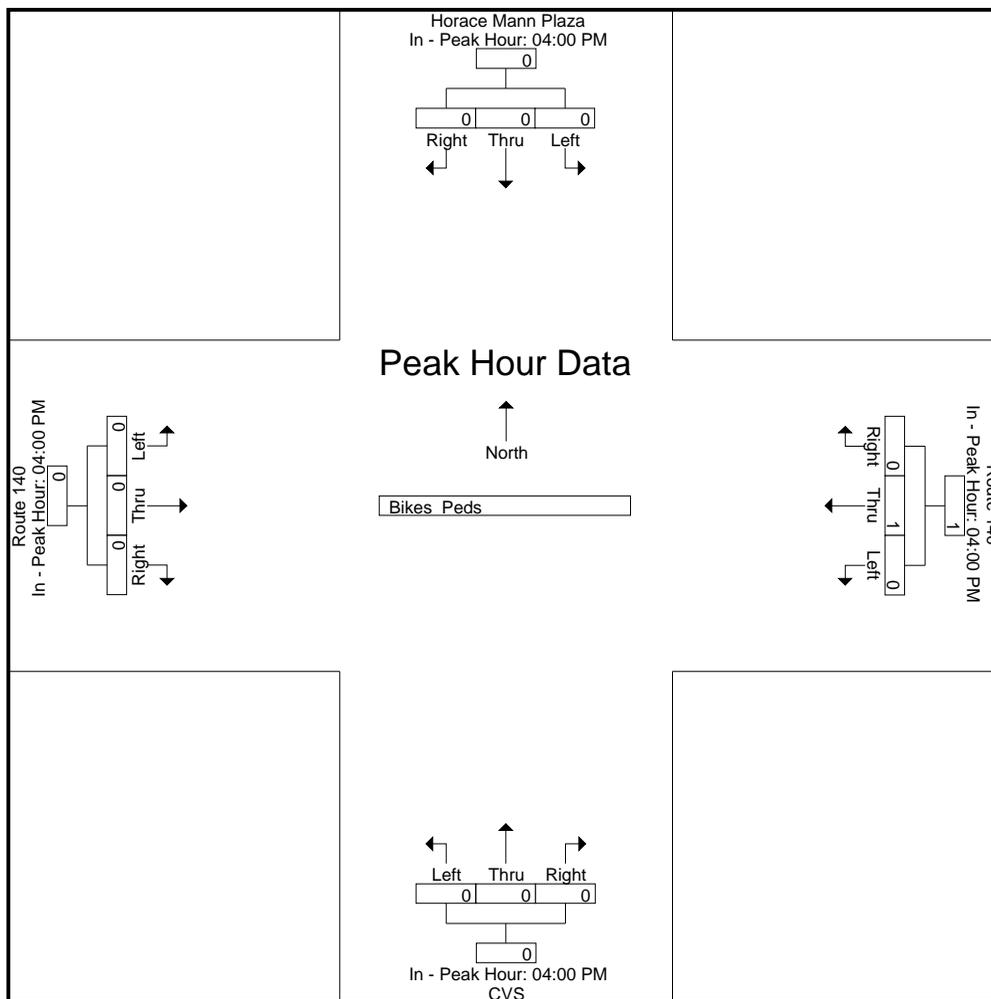
Page No : 12

N/S Street : Horace Mann Plaza / CVS

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear

File Name : 988300S2
 Site Code : 98830002
 Start Date : 12/7/2024
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Horace Mann Plaza From North			Route 140 From East			CVS From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:00 AM	39	10	61	6	134	49	9	6	10	46	106	12	488
11:15 AM	49	1	47	9	161	37	6	7	10	48	122	7	504
11:30 AM	47	11	58	6	139	52	5	6	12	65	134	14	549
11:45 AM	35	1	60	5	138	44	11	6	7	49	126	10	492
Total	170	23	226	26	572	182	31	25	39	208	488	43	2033
12:00 PM	41	7	73	9	138	54	5	5	10	56	158	7	563
12:15 PM	34	7	57	6	136	42	10	7	7	51	146	10	513
12:30 PM	51	7	46	0	119	36	13	5	1	55	119	11	463
12:45 PM	29	2	58	2	134	45	3	7	8	55	117	9	469
Total	155	23	234	17	527	177	31	24	26	217	540	37	2008
01:00 PM	36	3	64	7	142	39	5	4	4	52	111	11	478
01:15 PM	42	6	60	2	132	35	13	5	6	37	125	24	487
01:30 PM	41	5	49	3	132	39	13	6	9	65	128	16	506
01:45 PM	36	5	42	7	113	47	9	6	10	71	115	9	470
Total	155	19	215	19	519	160	40	21	29	225	479	60	1941
Grand Total	480	65	675	62	1618	519	102	70	94	650	1507	140	5982
Apprch %	39.3	5.3	55.3	2.8	73.6	23.6	38.3	26.3	35.3	28.3	65.6	6.1	
Total %	8	1.1	11.3	1	27	8.7	1.7	1.2	1.6	10.9	25.2	2.3	
Cars	480	65	672	62	1610	519	102	70	94	649	1502	140	5965
% Cars	100	100	99.6	100	99.5	100	100	100	100	99.8	99.7	100	99.7
Trucks	0	0	3	0	8	0	0	0	0	1	5	0	17
% Trucks	0	0	0.4	0	0.5	0	0	0	0	0.2	0.3	0	0.3

Start Time	Horace Mann Plaza From North				Route 140 From East				CVS From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:30 AM																	
11:30 AM	47	11	58	116	6	139	52	197	5	6	12	23	65	134	14	213	549
11:45 AM	35	1	60	96	5	138	44	187	11	6	7	24	49	126	10	185	492
12:00 PM	41	7	73	121	9	138	54	201	5	5	10	20	56	158	7	221	563
12:15 PM	34	7	57	98	6	136	42	184	10	7	7	24	51	146	10	207	513
Total Volume	157	26	248	431	26	551	192	769	31	24	36	91	221	564	41	826	2117
% App. Total	36.4	6	57.5		3.4	71.7	25		34.1	26.4	39.6		26.8	68.3	5		
PHF	.835	.591	.849	.890	.722	.991	.889	.956	.705	.857	.750	.948	.850	.892	.732	.934	.940
Cars	157	26	245	428	26	550	192	768	31	24	36	91	221	561	41	823	2110
% Cars	100	100	98.8	99.3	100	99.8	100	99.9	100	100	100	100	100	99.5	100	99.6	99.7
Trucks	0	0	3	3	0	1	0	1	0	0	0	0	0	3	0	3	7
% Trucks	0	0	1.2	0.7	0	0.2	0	0.1	0	0	0	0	0	0.5	0	0.4	0.3

Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS

E/W Street : Route 140

City/State : Franklin, MA

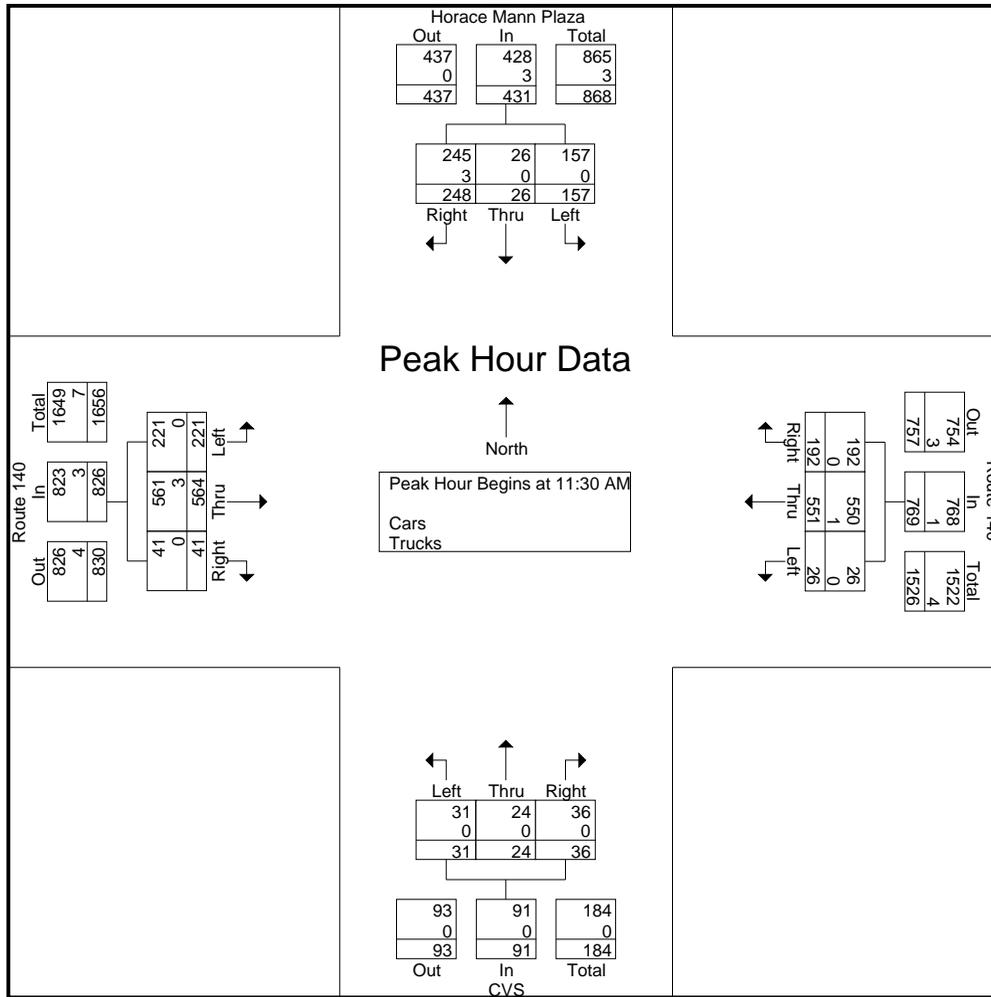
Weather : Clear

File Name : 988300S2

Site Code : 98830002

Start Date : 12/7/2024

Page No : 2



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:30 AM				11:15 AM				11:00 AM				11:30 AM			
+0 mins.	47	11	58	116	9	161	37	207	9	6	10	25	65	134	14	213
+15 mins.	35	1	60	96	6	139	52	197	6	7	10	23	49	126	10	185
+30 mins.	41	7	73	121	5	138	44	187	5	6	12	23	56	158	7	221
+45 mins.	34	7	57	98	9	138	54	201	11	6	7	24	51	146	10	207
Total Volume	157	26	248	431	29	576	187	792	31	25	39	95	221	564	41	826
% App. Total	36.4	6	57.5		3.7	72.7	23.6		32.6	26.3	41.1		26.8	68.3	5	
PHF	.835	.591	.849	.890	.806	.894	.866	.957	.705	.893	.813	.950	.850	.892	.732	.934
Cars	157	26	245	428	29	574	187	790	31	25	39	95	221	561	41	823
% Cars	100	100	98.8	99.3	100	99.7	100	99.7	100	100	100	100	100	99.5	100	99.6
Trucks	0	0	3	3	0	2	0	2	0	0	0	0	0	3	0	3
% Trucks	0	0	1.2	0.7	0	0.3	0	0.3	0	0	0	0	0	0.5	0	0.4

Accurate Counts

978-664-2565

File Name : 988300S2

Site Code : 98830002

Start Date : 12/7/2024

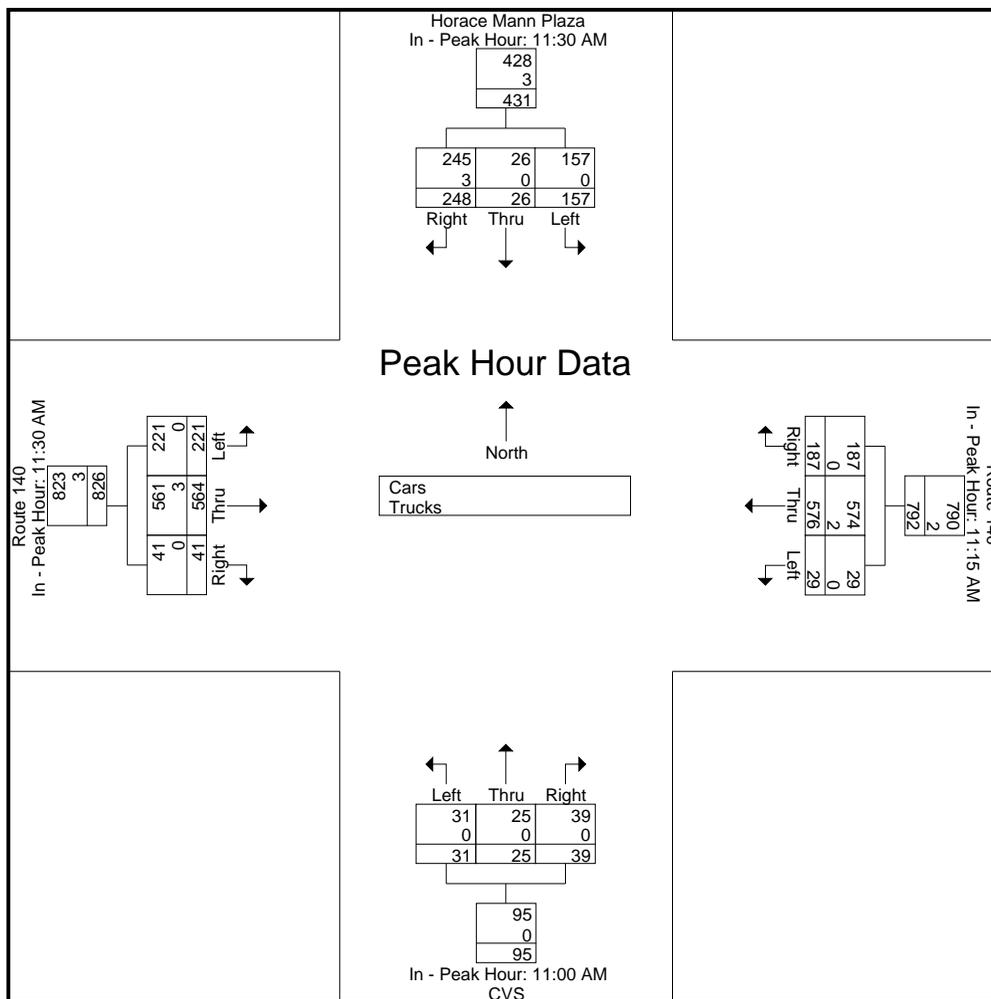
Page No : 3

N/S Street : Horace Mann Plaza / CVS

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear

File Name : 988300S2
 Site Code : 98830002
 Start Date : 12/7/2024
 Page No : 4

Groups Printed- Cars

Start Time	Horace Mann Plaza From North			Route 140 From East			CVS From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:00 AM	39	10	61	6	132	49	9	6	10	46	106	12	486
11:15 AM	49	1	47	9	160	37	6	7	10	48	122	7	503
11:30 AM	47	11	58	6	139	52	5	6	12	65	134	14	549
11:45 AM	35	1	57	5	137	44	11	6	7	49	124	10	486
Total	170	23	223	26	568	182	31	25	39	208	486	43	2024
12:00 PM	41	7	73	9	138	54	5	5	10	56	158	7	563
12:15 PM	34	7	57	6	136	42	10	7	7	51	145	10	512
12:30 PM	51	7	46	0	119	36	13	5	1	55	118	11	462
12:45 PM	29	2	58	2	133	45	3	7	8	55	117	9	468
Total	155	23	234	17	526	177	31	24	26	217	538	37	2005
01:00 PM	36	3	64	7	141	39	5	4	4	52	111	11	477
01:15 PM	42	6	60	2	131	35	13	5	6	37	124	24	485
01:30 PM	41	5	49	3	132	39	13	6	9	64	128	16	505
01:45 PM	36	5	42	7	112	47	9	6	10	71	115	9	469
Total	155	19	215	19	516	160	40	21	29	224	478	60	1936
Grand Total	480	65	672	62	1610	519	102	70	94	649	1502	140	5965
Apprch %	39.4	5.3	55.2	2.8	73.5	23.7	38.3	26.3	35.3	28.3	65.6	6.1	
Total %	8	1.1	11.3	1	27	8.7	1.7	1.2	1.6	10.9	25.2	2.3	

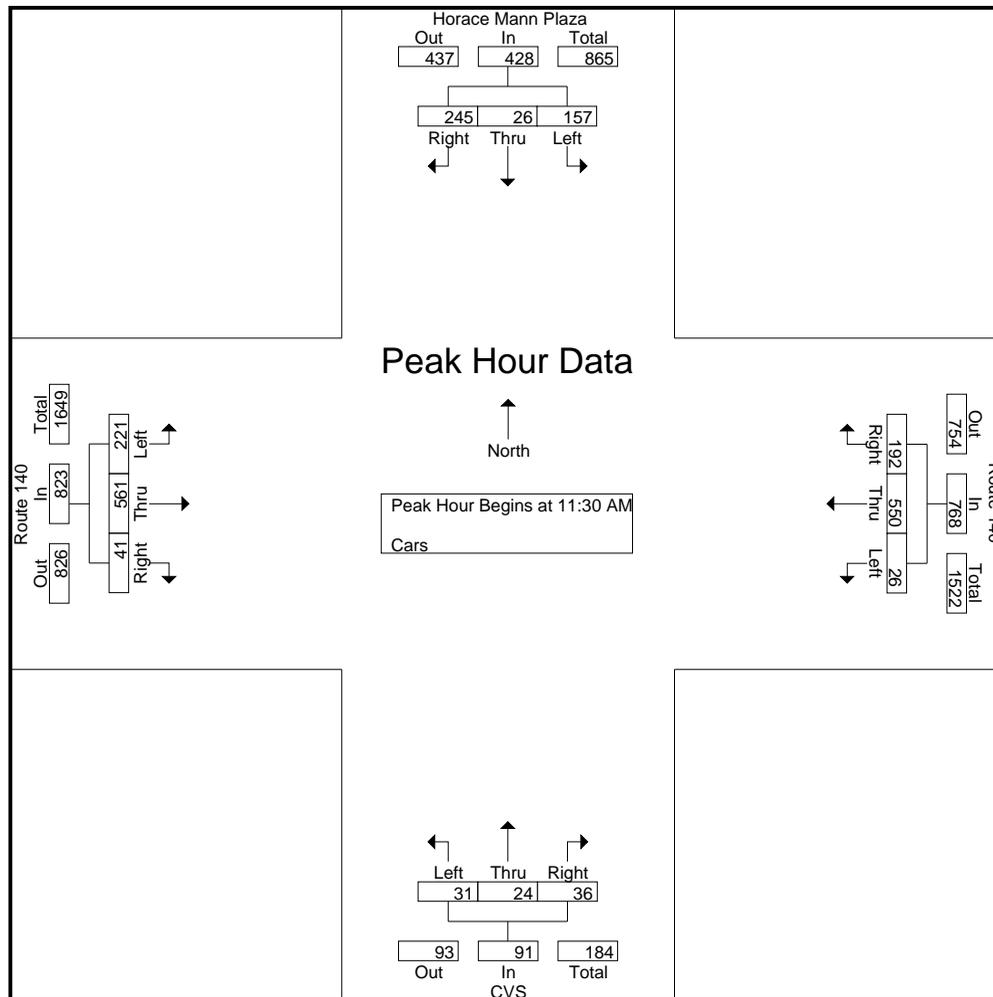
Start Time	Horace Mann Plaza From North				Route 140 From East				CVS From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:30 AM																	
11:30 AM	47	11	58	116	6	139	52	197	5	6	12	23	65	134	14	213	549
11:45 AM	35	1	57	93	5	137	44	186	11	6	7	24	49	124	10	183	486
12:00 PM	41	7	73	121	9	138	54	201	5	5	10	20	56	158	7	221	563
12:15 PM	34	7	57	98	6	136	42	184	10	7	7	24	51	145	10	206	512
Total Volume	157	26	245	428	26	550	192	768	31	24	36	91	221	561	41	823	2110
% App. Total	36.7	6.1	57.2		3.4	71.6	25		34.1	26.4	39.6		26.9	68.2	5		
PHF	.835	.591	.839	.884	.722	.989	.889	.955	.705	.857	.750	.948	.850	.888	.732	.931	.937

Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear

File Name : 988300S2
 Site Code : 98830002
 Start Date : 12/7/2024
 Page No : 5



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:30 AM				11:15 AM				11:00 AM				11:30 AM			
+0 mins.	47	11	58	116	9	160	37	206	9	6	10	25	65	134	14	213
+15 mins.	35	1	57	93	6	139	52	197	6	7	10	23	49	124	10	183
+30 mins.	41	7	73	121	5	137	44	186	5	6	12	23	56	158	7	221
+45 mins.	34	7	57	98	9	138	54	201	11	6	7	24	51	145	10	206
Total Volume	157	26	245	428	29	574	187	790	31	25	39	95	221	561	41	823
% App. Total	36.7	6.1	57.2		3.7	72.7	23.7		32.6	26.3	41.1		26.9	68.2	5	
PHF	.835	.591	.839	.884	.806	.897	.866	.959	.705	.893	.813	.950	.850	.888	.732	.931

Accurate Counts

978-664-2565

File Name : 988300S2

Site Code : 98830002

Start Date : 12/7/2024

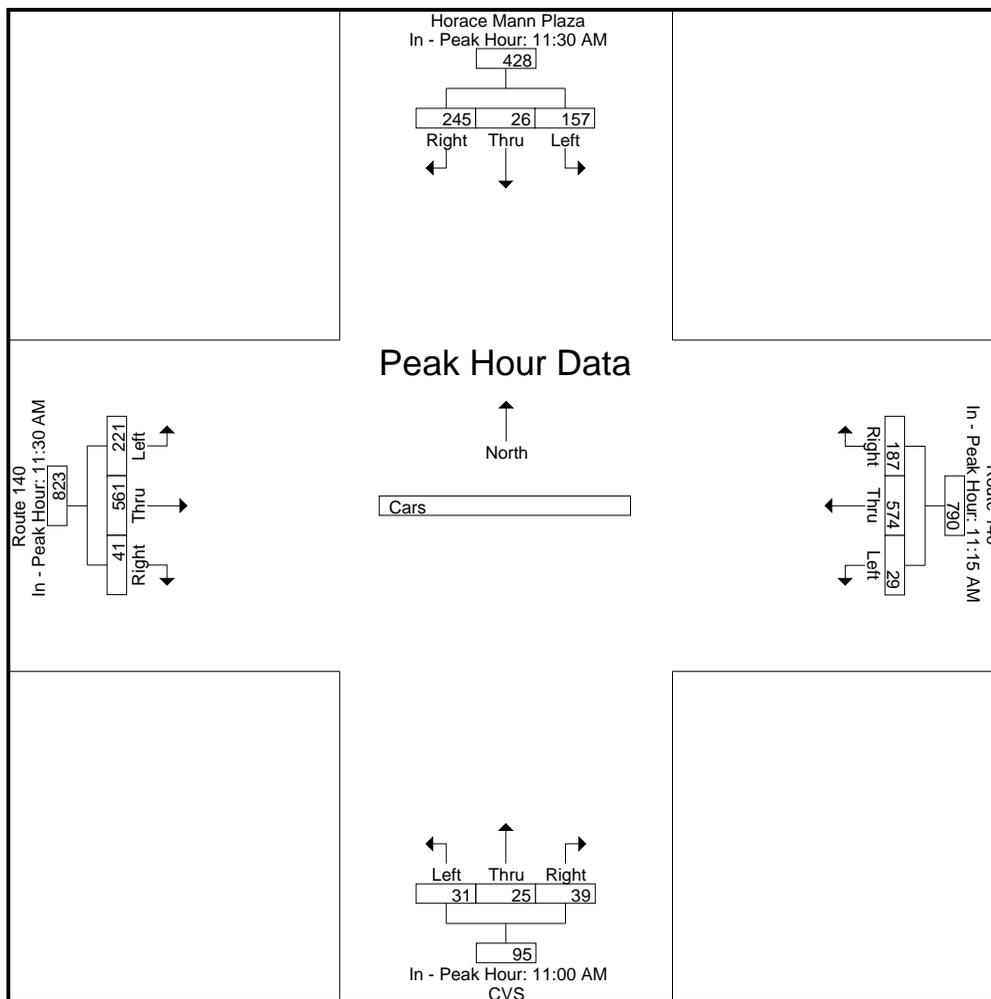
Page No : 6

N/S Street : Horace Mann Plaza / CVS

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear

File Name : 988300S2

Site Code : 98830002

Start Date : 12/7/2024

Page No : 7

Groups Printed- Trucks

Start Time	Horace Mann Plaza From North			Route 140 From East			CVS From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
11:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	3	0	1	0	0	0	0	0	2	0	6
Total	0	0	3	0	4	0	0	0	0	0	2	0	9
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
12:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	0	0	0	0	0	2	0	3
01:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
01:15 PM	0	0	0	0	1	0	0	0	0	0	1	0	2
01:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
01:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	3	0	0	0	0	1	1	0	5
Grand Total	0	0	3	0	8	0	0	0	0	1	5	0	17
Apprch %	0	0	100	0	100	0	0	0	0	16.7	83.3	0	
Total %	0	0	17.6	0	47.1	0	0	0	0	5.9	29.4	0	

Start Time	Horace Mann Plaza From North				Route 140 From East				CVS From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:00 AM																	
11:00 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
11:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	3	3	0	1	0	1	0	0	0	0	0	2	0	2	6
Total Volume	0	0	3	3	0	4	0	4	0	0	0	0	0	2	0	2	9
% App. Total	0	0	100		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.250	.250	.000	.500	.000	.500	.000	.000	.000	.000	.000	.250	.000	.250	.375

Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS

E/W Street : Route 140

City/State : Franklin, MA

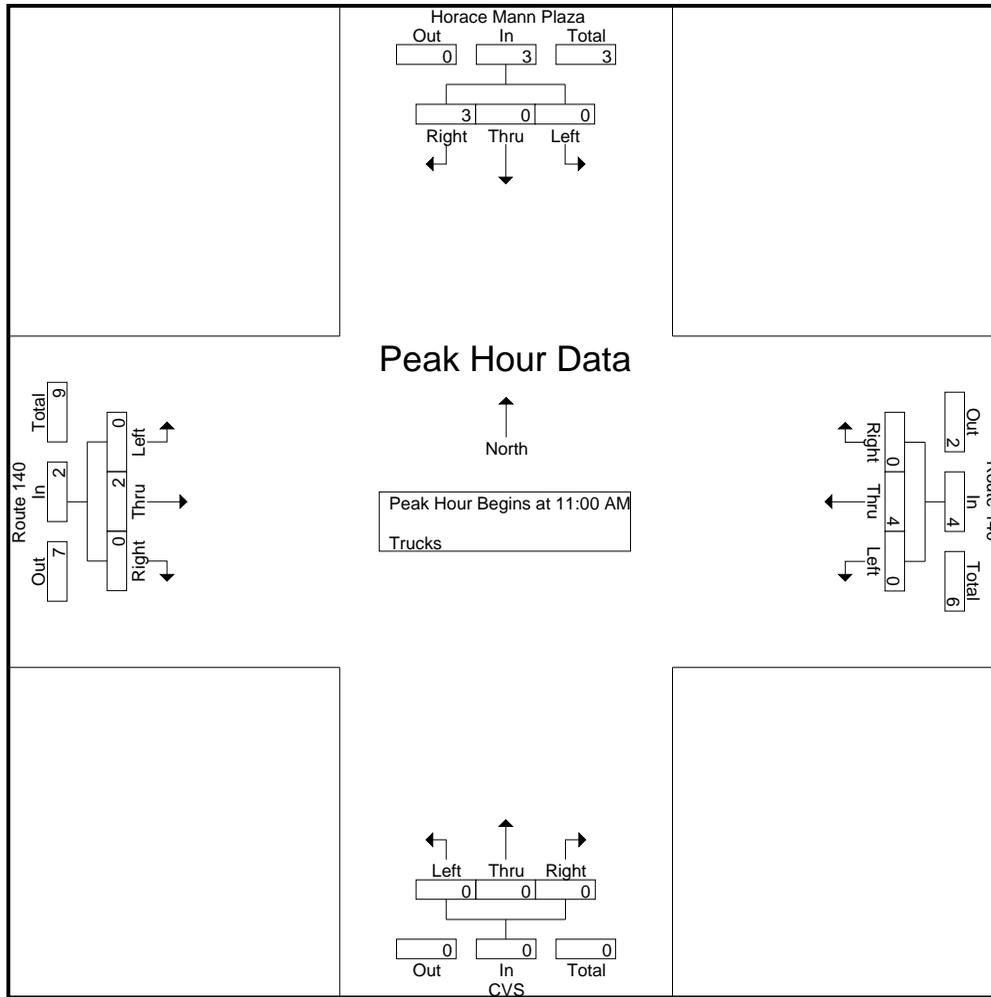
Weather : Clear

File Name : 988300S2

Site Code : 98830002

Start Date : 12/7/2024

Page No : 8



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:00 AM				11:00 AM				11:00 AM				11:45 AM			
+0 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+45 mins.	0	0	3	3	0	1	0	1	0	0	0	0	0	1	0	1
Total Volume	0	0	3	3	0	4	0	4	0	0	0	0	0	4	0	4
% App. Total	0	0	100	100	0	100	0	100	0	0	0	0	0	100	0	100
PHF	.000	.000	.250	.250	.000	.500	.000	.500	.000	.000	.000	.000	.000	.500	.000	.500

Accurate Counts

978-664-2565

File Name : 988300S2

Site Code : 98830002

Start Date : 12/7/2024

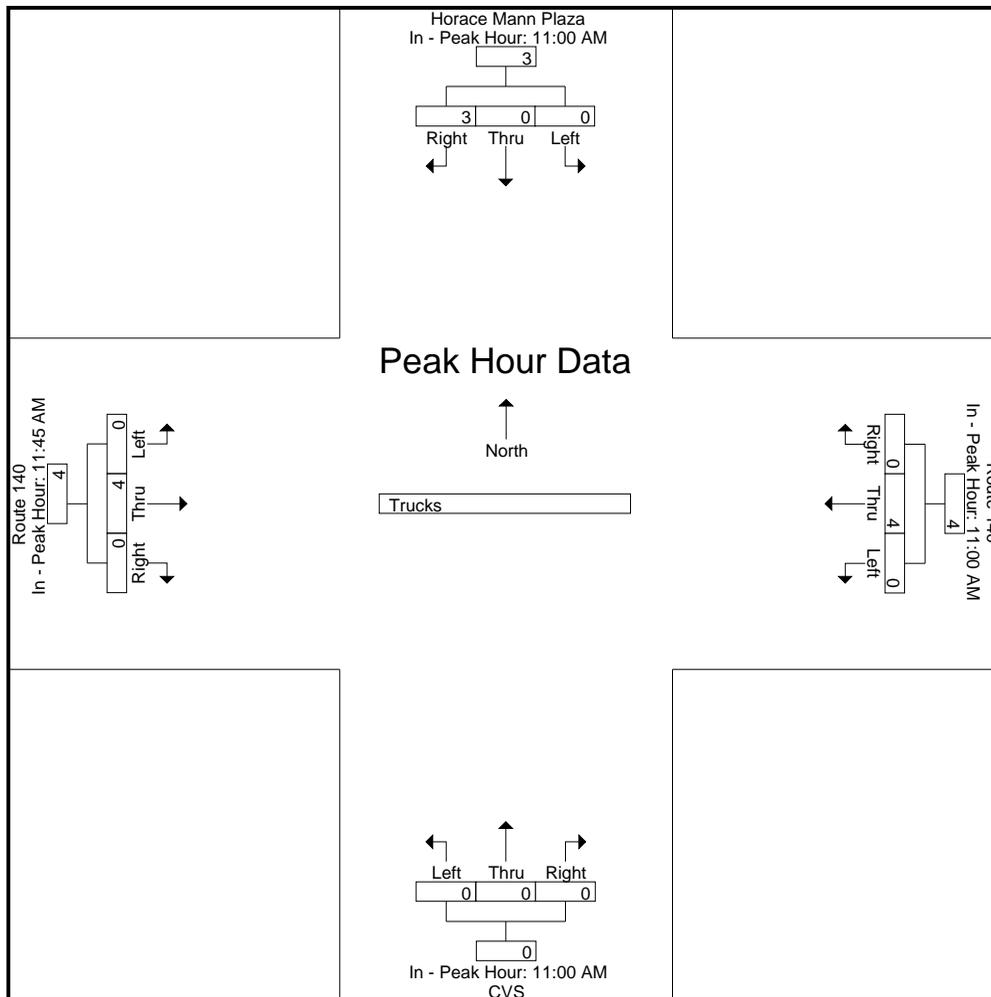
Page No : 9

N/S Street : Horace Mann Plaza / CVS

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear

File Name : 988300S2

Site Code : 98830002

Start Date : 12/7/2024

Page No : 10

Groups Printed- Bikes Peds

Start Time	Horace Mann Plaza From North				Route 140 From East				CVS From South				Route 140 From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
11:00 AM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	0	2
11:15 AM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0	2
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	2
11:45 AM	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	3	0	3
Total	0	0	0	2	0	0	0	2	0	0	0	5	0	0	0	0	9	0	9
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	1	2
12:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	0	2
12:45 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	2
Total	0	0	0	0	0	0	1	3	0	0	0	1	0	1	0	0	4	2	6
01:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
01:15 PM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0	2
01:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
01:45 PM	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2	0	2
Total	0	0	0	3	0	0	0	2	0	0	0	1	0	1	0	0	6	1	7
Grand Total	0	0	0	5	0	0	1	7	0	0	0	7	0	2	0	0	19	3	22
Apprch %	0	0	0		0	0	100		0	0	0		0	100	0				
Total %	0	0	0		0	0	33.3		0	0	0		0	66.7	0		86.4	13.6	

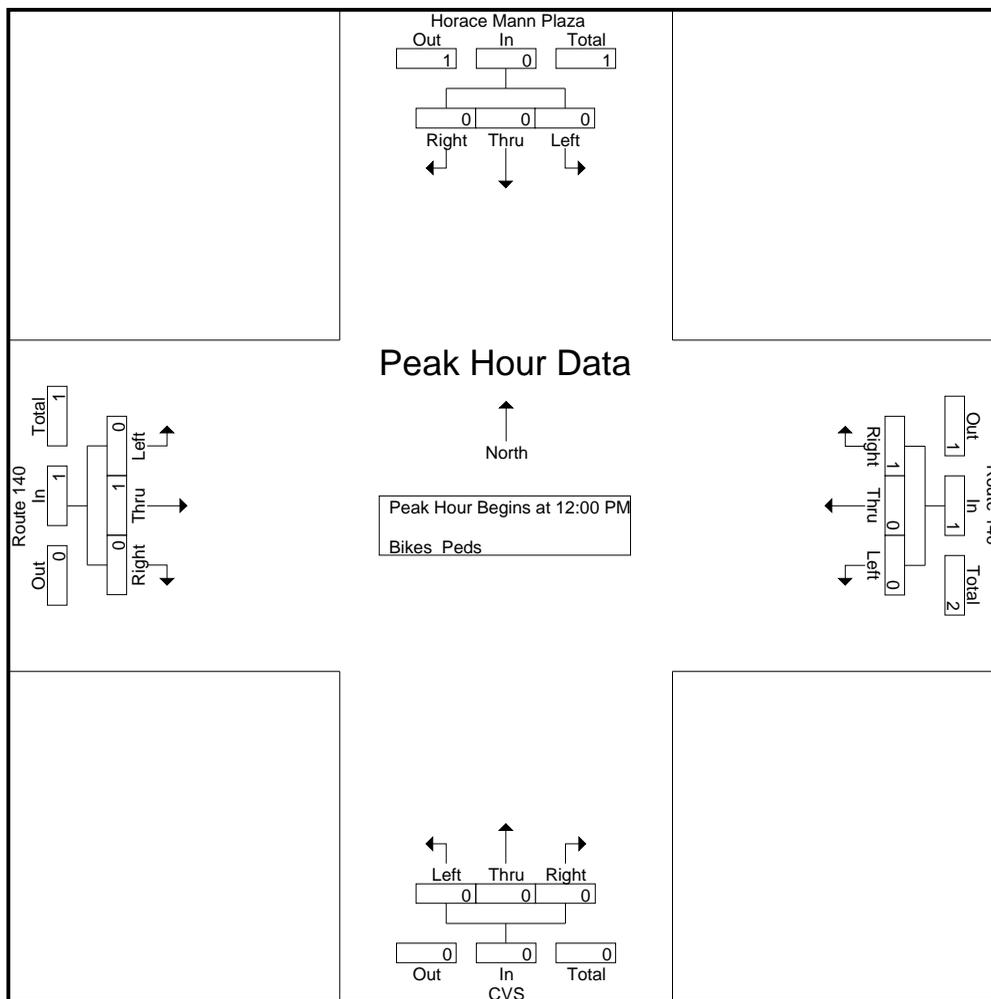
Start Time	Horace Mann Plaza From North				Route 140 From East				CVS From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	2
% App. Total	0	0	0		0	0	100		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000	.000	.250	.000	.250	.500

Accurate Counts

978-664-2565

N/S Street : Horace Mann Plaza / CVS
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear

File Name : 988300S2
 Site Code : 98830002
 Start Date : 12/7/2024
 Page No : 11



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:00 AM				12:00 PM				11:00 AM				11:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1
% App. Total	0	0	0	0	0	0	100	.250	0	0	0	0	0	100	0	.250
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000	.000	.250	.000	.250

Accurate Counts

978-664-2565

File Name : 988300S2

Site Code : 98830002

Start Date : 12/7/2024

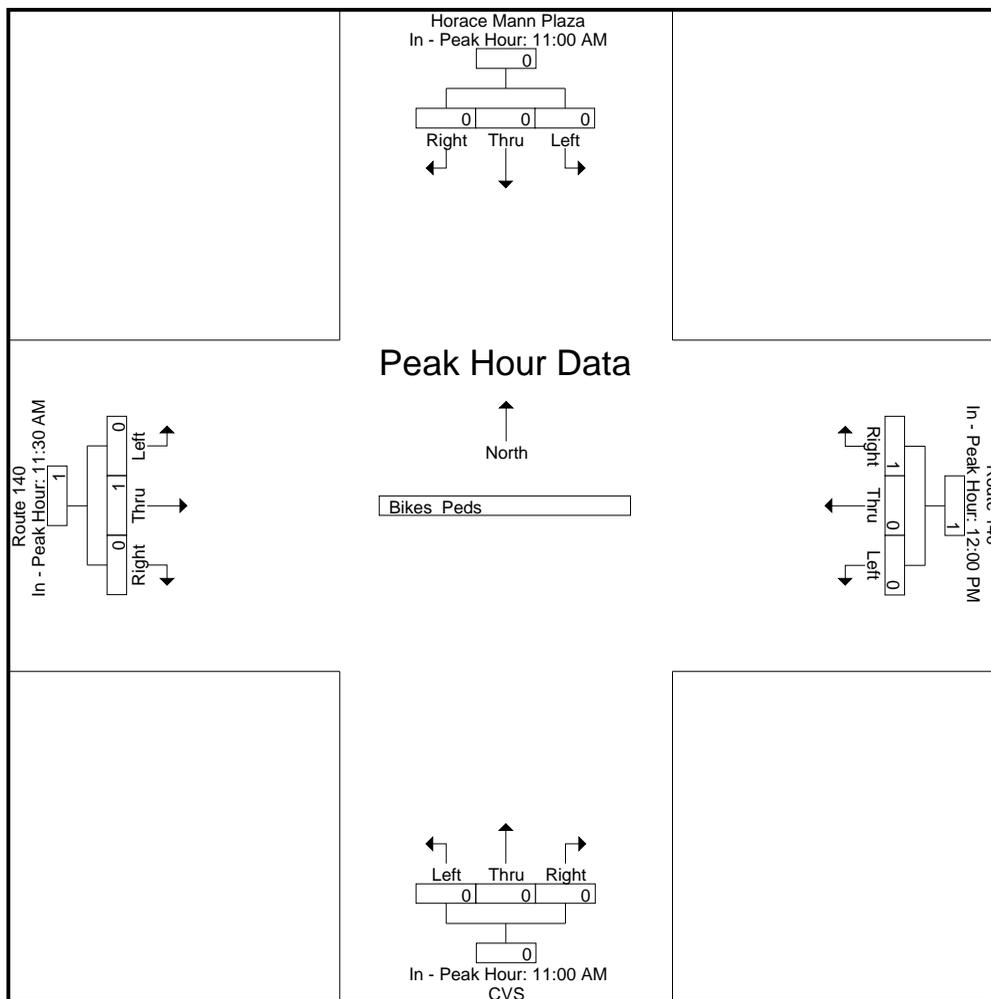
Page No : 12

N/S Street : Horace Mann Plaza / CVS

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy

File Name : 98830003

Site Code : 98830003

Start Date : 12/5/2024

Page No : 1

Groups Printed- Cars - Trucks

Start Time	Glen Meadow Rd From North			Route 140 From East			Starbucks From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	3	0	4	0	75	0	20	0	8	2	71	21	204
07:15 AM	2	0	5	3	91	0	19	0	8	1	108	23	260
07:30 AM	4	0	7	2	83	0	19	0	5	3	126	11	260
07:45 AM	2	0	3	3	99	0	22	0	2	1	112	23	267
Total	11	0	19	8	348	0	80	0	23	7	417	78	991
08:00 AM	3	1	7	3	78	1	14	0	6	3	122	16	254
08:15 AM	4	0	7	4	111	3	5	0	6	2	81	8	231
08:30 AM	1	0	3	7	103	0	20	0	10	7	107	20	278
08:45 AM	3	0	3	3	72	0	13	0	4	1	115	11	225
Total	11	1	20	17	364	4	52	0	26	13	425	55	988
Grand Total	22	1	39	25	712	4	132	0	49	20	842	133	1979
Apprch %	35.5	1.6	62.9	3.4	96.1	0.5	72.9	0	27.1	2	84.6	13.4	
Total %	1.1	0.1	2	1.3	36	0.2	6.7	0	2.5	1	42.5	6.7	
Cars	22	1	38	25	687	4	131	0	49	18	831	133	1939
% Cars	100	100	97.4	100	96.5	100	99.2	0	100	90	98.7	100	98
Trucks	0	0	1	0	25	0	1	0	0	2	11	0	40
% Trucks	0	0	2.6	0	3.5	0	0.8	0	0	10	1.3	0	2

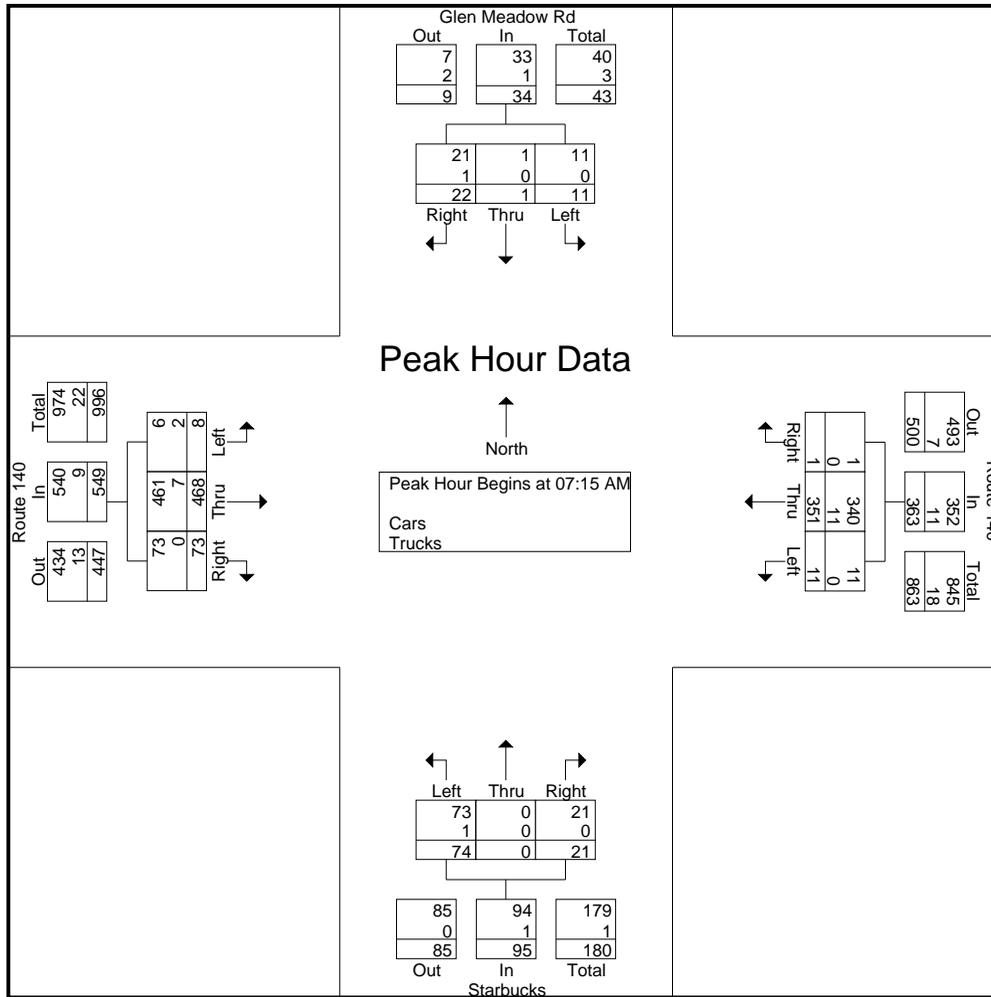
Start Time	Glen Meadow Rd From North				Route 140 From East				Starbucks From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	2	0	5	7	3	91	0	94	19	0	8	27	1	108	23	132	260
07:30 AM	4	0	7	11	2	83	0	85	19	0	5	24	3	126	11	140	260
07:45 AM	2	0	3	5	3	99	0	102	22	0	2	24	1	112	23	136	267
08:00 AM	3	1	7	11	3	78	1	82	14	0	6	20	3	122	16	141	254
Total Volume	11	1	22	34	11	351	1	363	74	0	21	95	8	468	73	549	1041
% App. Total	32.4	2.9	64.7		3	96.7	0.3		77.9	0	22.1		1.5	85.2	13.3		
PHF	.688	.250	.786	.773	.917	.886	.250	.890	.841	.000	.656	.880	.667	.929	.793	.973	.975
Cars	11	1	21	33	11	340	1	352	73	0	21	94	6	461	73	540	1019
% Cars	100	100	95.5	97.1	100	96.9	100	97.0	98.6	0	100	98.9	75.0	98.5	100	98.4	97.9
Trucks	0	0	1	1	0	11	0	11	1	0	0	1	2	7	0	9	22
% Trucks	0	0	4.5	2.9	0	3.1	0	3.0	1.4	0	0	1.1	25.0	1.5	0	1.6	2.1

Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830003
 Site Code : 98830003
 Start Date : 12/5/2024
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM				07:45 AM				07:00 AM				07:15 AM			
+0 mins.	4	0	7	11	3	99	0	102	20	0	8	28	1	108	23	132
+15 mins.	2	0	3	5	3	78	1	82	19	0	8	27	3	126	11	140
+30 mins.	3	1	7	11	4	111	3	118	19	0	5	24	1	112	23	136
+45 mins.	4	0	7	11	7	103	0	110	22	0	2	24	3	122	16	141
Total Volume	13	1	24	38	17	391	4	412	80	0	23	103	8	468	73	549
% App. Total	34.2	2.6	63.2		4.1	94.9	1		77.7	0	22.3		1.5	85.2	13.3	
PHF	.813	.250	.857	.864	.607	.881	.333	.873	.909	.000	.719	.920	.667	.929	.793	.973
Cars	13	1	23	37	17	380	4	401	79	0	23	102	6	461	73	540
% Cars	100	100	95.8	97.4	100	97.2	100	97.3	98.8	0	100	99	75	98.5	100	98.4
Trucks	0	0	1	1	0	11	0	11	1	0	0	1	2	7	0	9
% Trucks	0	0	4.2	2.6	0	2.8	0	2.7	1.2	0	0	1	25	1.5	0	1.6

Accurate Counts

978-664-2565

File Name : 98830003

Site Code : 98830003

Start Date : 12/5/2024

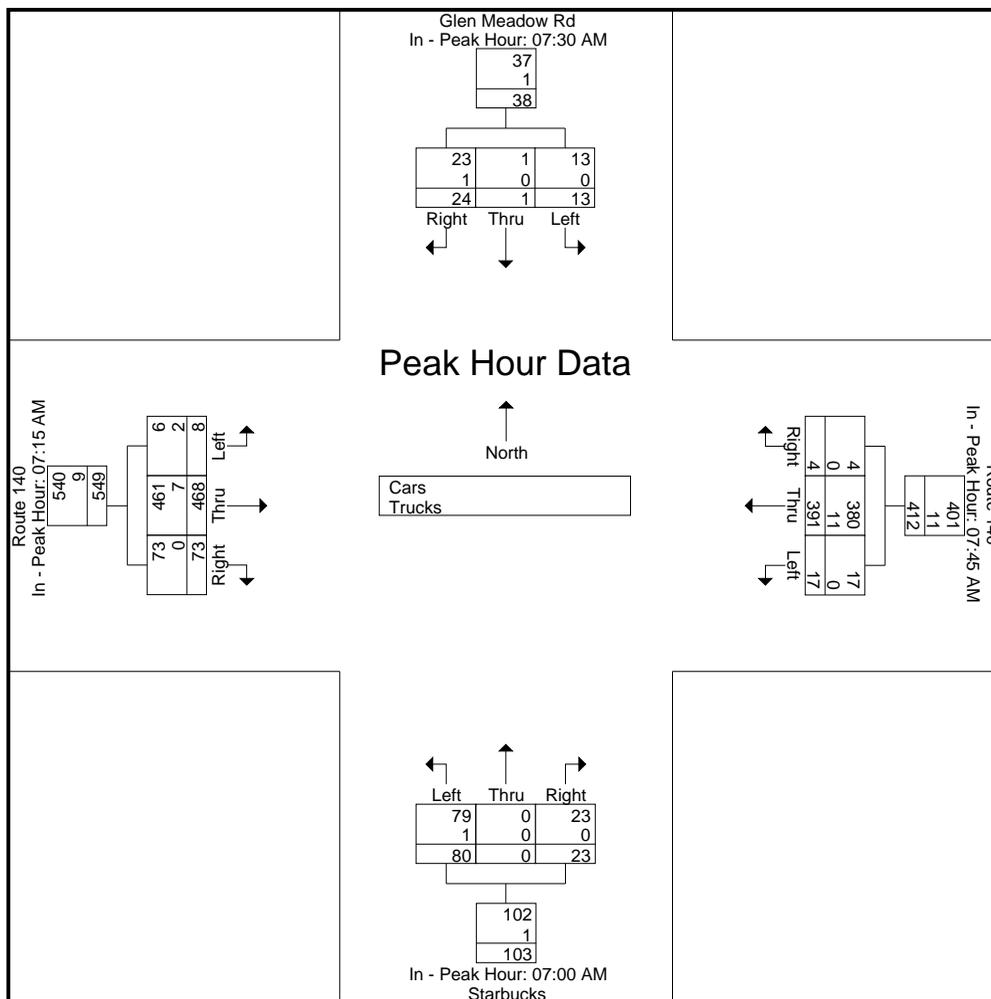
Page No : 3

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830003
 Site Code : 98830003
 Start Date : 12/5/2024
 Page No : 4

Groups Printed- Cars

Start Time	Glen Meadow Rd From North			Route 140 From East			Starbucks From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	3	0	4	0	70	0	20	0	8	2	69	21	197
07:15 AM	2	0	5	3	90	0	19	0	8	1	105	23	256
07:30 AM	4	0	7	2	78	0	19	0	5	3	123	11	252
07:45 AM	2	0	3	3	98	0	21	0	2	1	112	23	265
Total	11	0	19	8	336	0	79	0	23	7	409	78	970
08:00 AM	3	1	6	3	74	1	14	0	6	1	121	16	246
08:15 AM	4	0	7	4	107	3	5	0	6	2	81	8	227
08:30 AM	1	0	3	7	101	0	20	0	10	7	106	20	275
08:45 AM	3	0	3	3	69	0	13	0	4	1	114	11	221
Total	11	1	19	17	351	4	52	0	26	11	422	55	969
Grand Total	22	1	38	25	687	4	131	0	49	18	831	133	1939
Apprch %	36.1	1.6	62.3	3.5	95.9	0.6	72.8	0	27.2	1.8	84.6	13.5	
Total %	1.1	0.1	2	1.3	35.4	0.2	6.8	0	2.5	0.9	42.9	6.9	

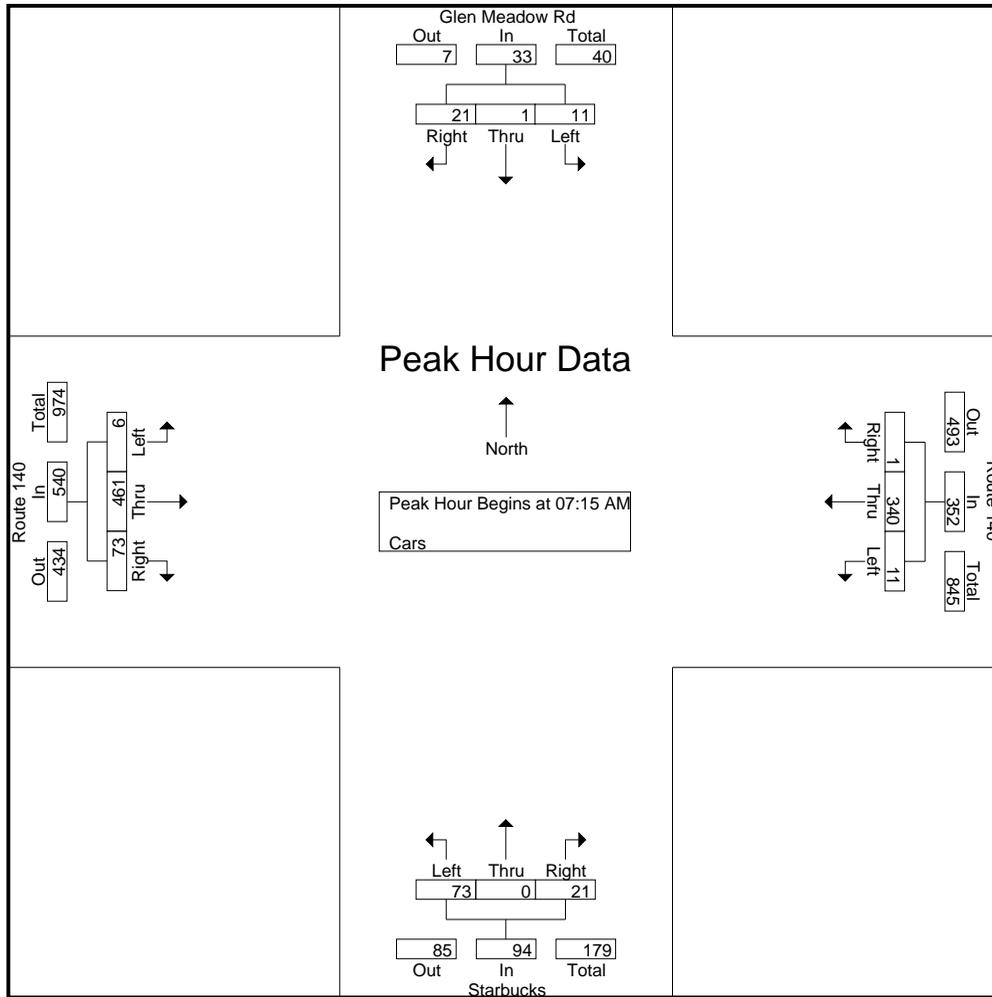
Start Time	Glen Meadow Rd From North				Route 140 From East				Starbucks From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	2	0	5	7	3	90	0	93	19	0	8	27	1	105	23	129	256
07:30 AM	4	0	7	11	2	78	0	80	19	0	5	24	3	123	11	137	252
07:45 AM	2	0	3	5	3	98	0	101	21	0	2	23	1	112	23	136	265
08:00 AM	3	1	6	10	3	74	1	78	14	0	6	20	1	121	16	138	246
Total Volume	11	1	21	33	11	340	1	352	73	0	21	94	6	461	73	540	1019
% App. Total	33.3	3	63.6		3.1	96.6	0.3		77.7	0	22.3		1.1	85.4	13.5		
PHF	.688	.250	.750	.750	.917	.867	.250	.871	.869	.000	.656	.870	.500	.937	.793	.978	.961

Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830003
 Site Code : 98830003
 Start Date : 12/5/2024
 Page No : 5



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:30 AM				07:45 AM				07:00 AM				07:15 AM			
+0 mins.	4	0	7	11	3	98	0	101	20	0	8	28	1	105	23	129
+15 mins.	2	0	3	5	3	74	1	78	19	0	8	27	3	123	11	137
+30 mins.	3	1	6	10	4	107	3	114	19	0	5	24	1	112	23	136
+45 mins.	4	0	7	11	7	101	0	108	21	0	2	23	1	121	16	138
Total Volume	13	1	23	37	17	380	4	401	79	0	23	102	6	461	73	540
% App. Total	35.1	2.7	62.2		4.2	94.8	1		77.5	0	22.5		1.1	85.4	13.5	
PHF	.813	.250	.821	.841	.607	.888	.333	.879	.940	.000	.719	.911	.500	.937	.793	.978

Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

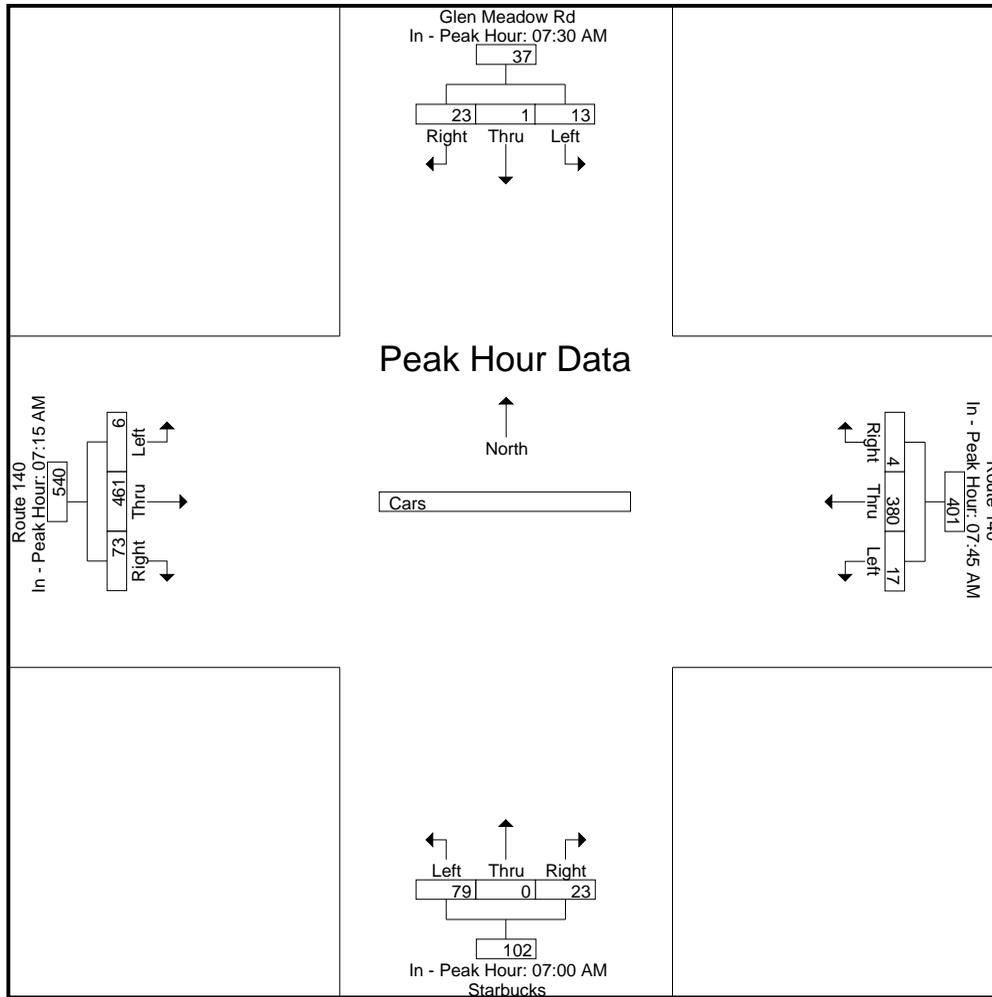
Weather : Snow/Cloudy

File Name : 98830003

Site Code : 98830003

Start Date : 12/5/2024

Page No : 6



Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830003
 Site Code : 98830003
 Start Date : 12/5/2024
 Page No : 7

Groups Printed- Trucks

Start Time	Glen Meadow Rd From North			Route 140 From East			Starbucks From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	0	0	0	5	0	0	0	0	0	2	0	7
07:15 AM	0	0	0	0	1	0	0	0	0	0	3	0	4
07:30 AM	0	0	0	0	5	0	0	0	0	0	3	0	8
07:45 AM	0	0	0	0	1	0	1	0	0	0	0	0	2
Total	0	0	0	0	12	0	1	0	0	0	8	0	21
08:00 AM	0	0	1	0	4	0	0	0	0	2	1	0	8
08:15 AM	0	0	0	0	4	0	0	0	0	0	0	0	4
08:30 AM	0	0	0	0	2	0	0	0	0	0	1	0	3
08:45 AM	0	0	0	0	3	0	0	0	0	0	1	0	4
Total	0	0	1	0	13	0	0	0	0	2	3	0	19
Grand Total	0	0	1	0	25	0	1	0	0	2	11	0	40
Apprch %	0	0	100	0	100	0	100	0	0	15.4	84.6	0	
Total %	0	0	2.5	0	62.5	0	2.5	0	0	5	27.5	0	

Start Time	Glen Meadow Rd From North				Route 140 From East				Starbucks From South				Route 140 From West				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:15 AM																		
07:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	3	0	3	4
07:30 AM	0	0	0	0	0	5	0	5	0	0	0	0	0	0	3	0	3	8
07:45 AM	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	0	2
08:00 AM	0	0	1	1	0	4	0	4	0	0	0	0	2	1	0	3	3	8
Total Volume	0	0	1	1	0	11	0	11	1	0	0	1	2	7	0	9	9	22
% App. Total	0	0	100		0	100	0		100	0	0		22.2	77.8	0			
PHF	.000	.000	.250	.250	.000	.550	.000	.550	.250	.000	.000	.250	.250	.583	.000	.750		.688

Accurate Counts

978-664-2565

File Name : 98830003

Site Code : 98830003

Start Date : 12/5/2024

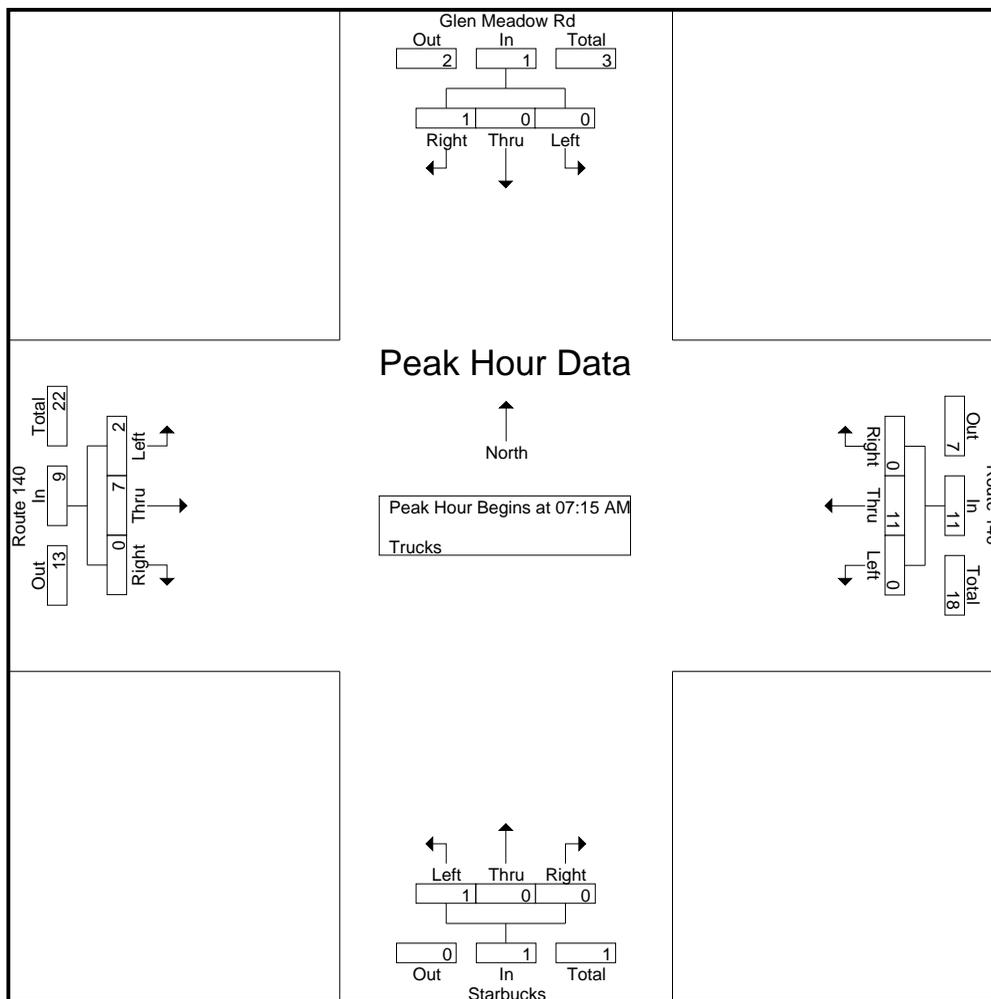
Page No : 8

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15 AM				07:30 AM				07:00 AM				07:15 AM			
+0 mins.	0	0	0	0	0	5	0	5	0	0	0	0	0	3	0	3
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	3
+30 mins.	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0
+45 mins.	0	0	1	1	0	4	0	4	1	0	0	1	2	1	0	3
Total Volume	0	0	1	1	0	14	0	14	1	0	0	1	2	7	0	9
% App. Total	0	0	100	100	0	100	0	100	100	0	0	100	22.2	77.8	0	100
PHF	.000	.000	.250	.250	.000	.700	.000	.700	.250	.000	.000	.250	.250	.583	.000	.750

Accurate Counts

978-664-2565

File Name : 98830003

Site Code : 98830003

Start Date : 12/5/2024

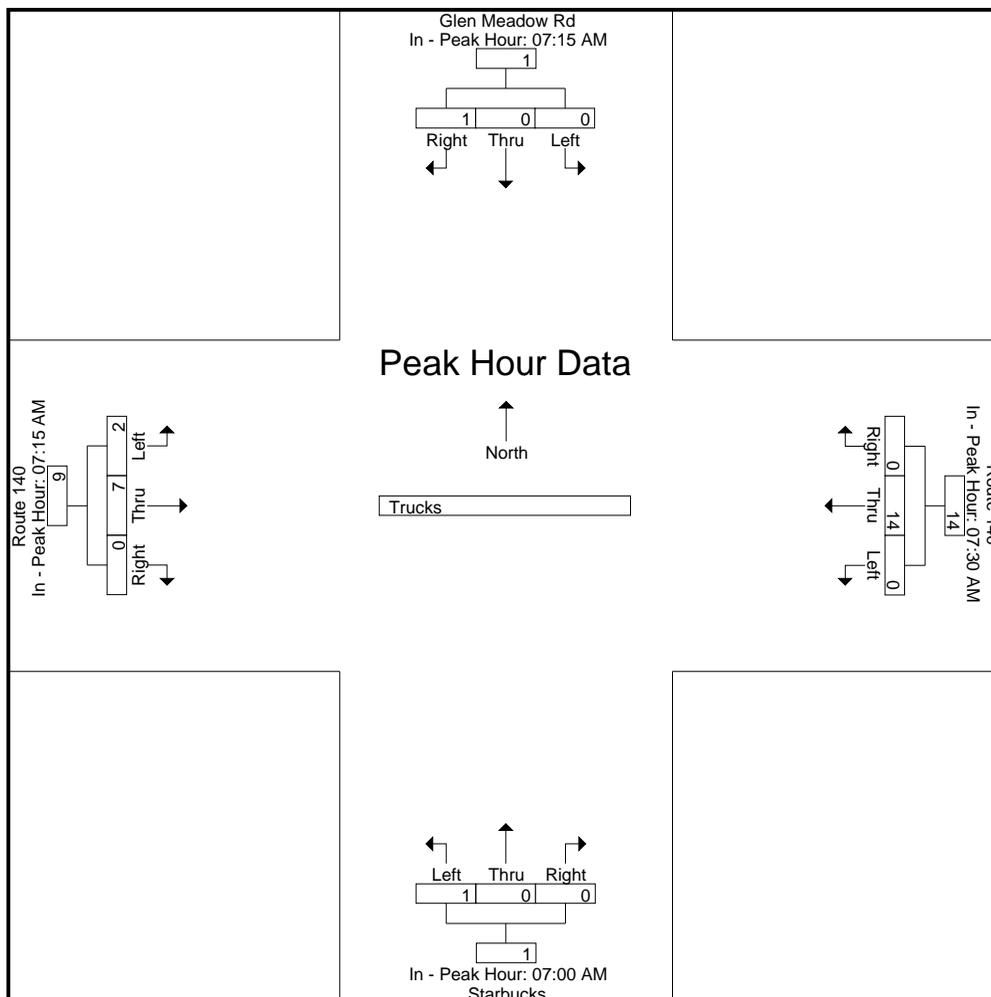
Page No : 9

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy

File Name : 98830003

Site Code : 98830003

Start Date : 12/5/2024

Page No : 10

Groups Printed- Bikes Peds

Start Time	Glen Meadow Rd From North				Route 140 From East				Starbucks From South				Route 140 From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0				
Total %																	100	0	

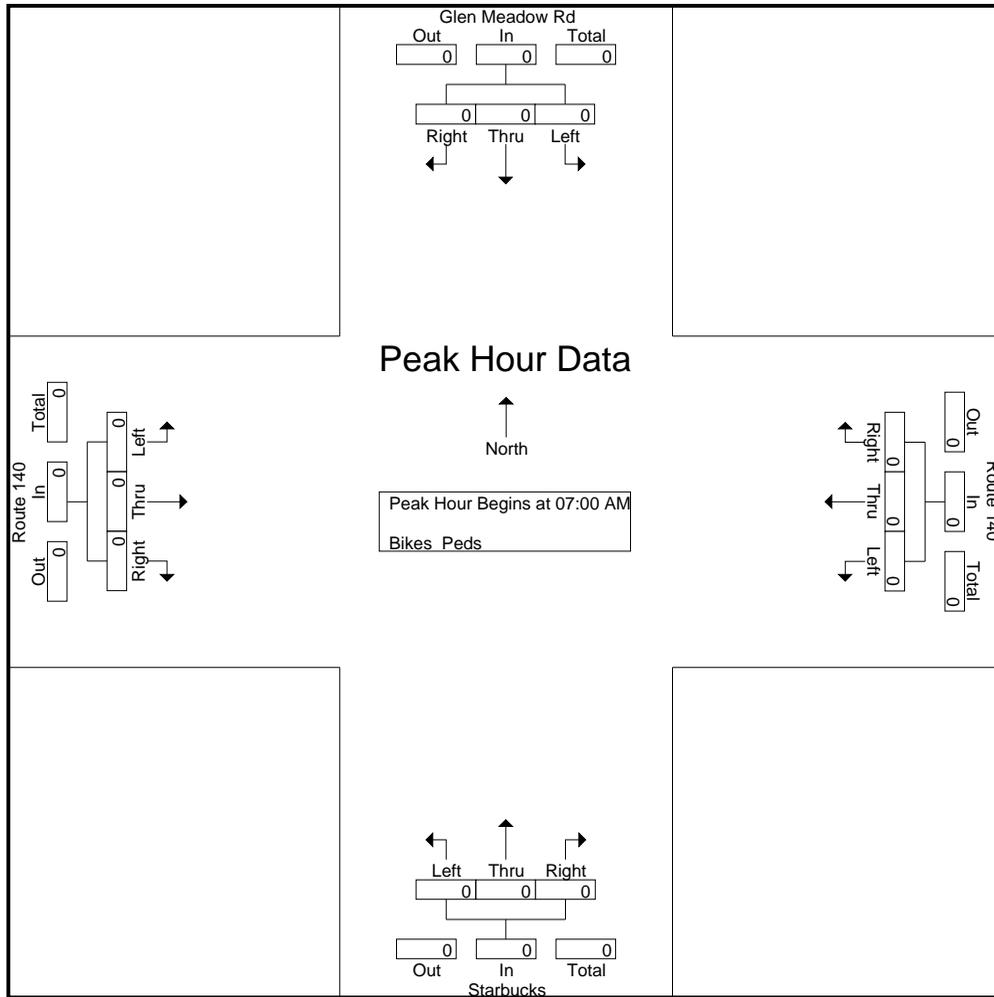
Start Time	Glen Meadow Rd From North				Route 140 From East				Starbucks From South				Route 140 From West				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:00 AM																		
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0			
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830003
 Site Code : 98830003
 Start Date : 12/5/2024
 Page No : 11



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

File Name : 98830003

Site Code : 98830003

Start Date : 12/5/2024

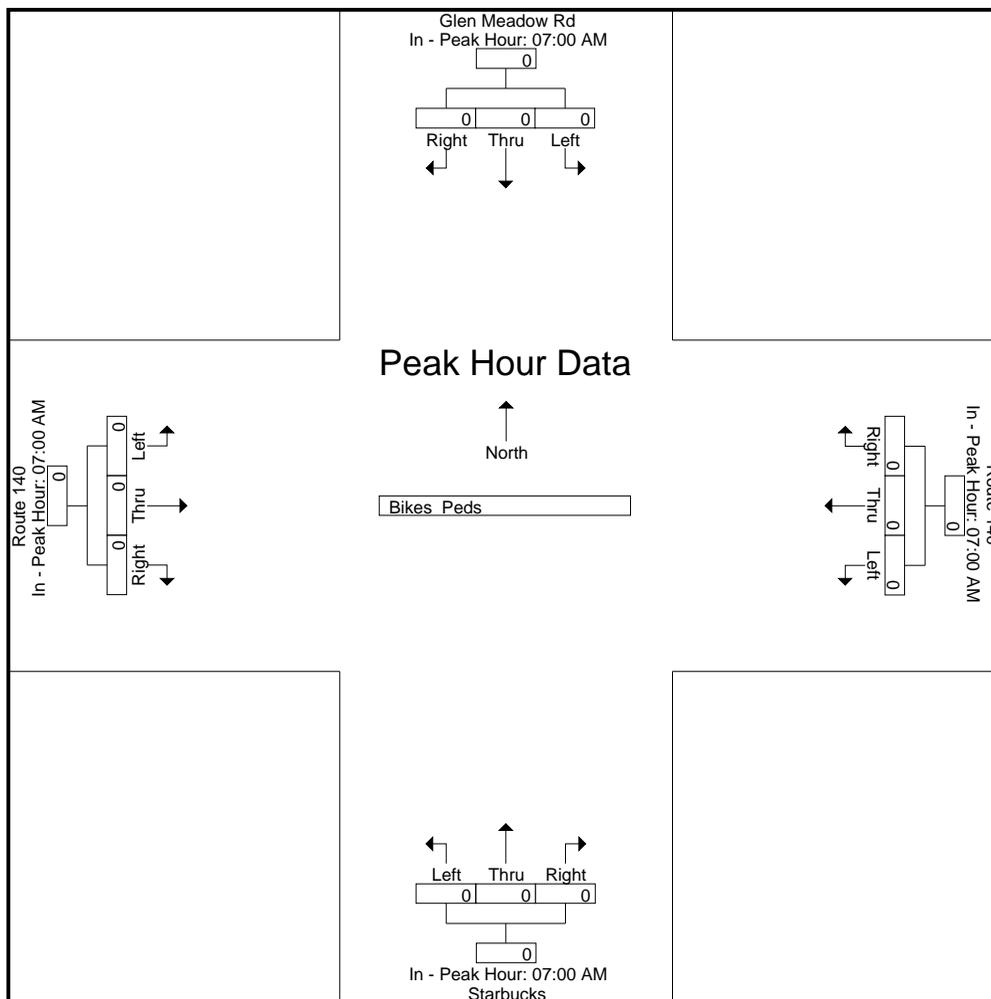
Page No : 12

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830003
 Site Code : 98830003
 Start Date : 12/5/2024
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Glen Meadow Rd From North			Route 140 From East			Starbucks From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	0	0	7	0	178	1	8	0	3	3	135	8	343
04:15 PM	0	0	4	5	141	3	9	1	1	8	124	12	308
04:30 PM	2	0	5	2	151	2	6	0	1	4	134	8	315
04:45 PM	1	1	3	1	160	3	11	0	2	5	125	16	328
Total	3	1	19	8	630	9	34	1	7	20	518	44	1294
05:00 PM	1	0	9	2	145	7	5	1	1	8	149	9	337
05:15 PM	0	0	5	2	168	3	9	1	4	5	140	14	351
05:30 PM	2	0	6	3	114	3	8	0	3	8	130	12	289
05:45 PM	2	0	4	0	116	3	15	1	2	2	133	11	289
Total	5	0	24	7	543	16	37	3	10	23	552	46	1266
Grand Total	8	1	43	15	1173	25	71	4	17	43	1070	90	2560
Apprch %	15.4	1.9	82.7	1.2	96.7	2.1	77.2	4.3	18.5	3.6	88.9	7.5	
Total %	0.3	0	1.7	0.6	45.8	1	2.8	0.2	0.7	1.7	41.8	3.5	
Cars	8	1	43	15	1168	25	70	4	17	43	1060	90	2544
% Cars	100	100	100	100	99.6	100	98.6	100	100	100	99.1	100	99.4
Trucks	0	0	0	0	5	0	1	0	0	0	10	0	16
% Trucks	0	0	0	0	0.4	0	1.4	0	0	0	0.9	0	0.6

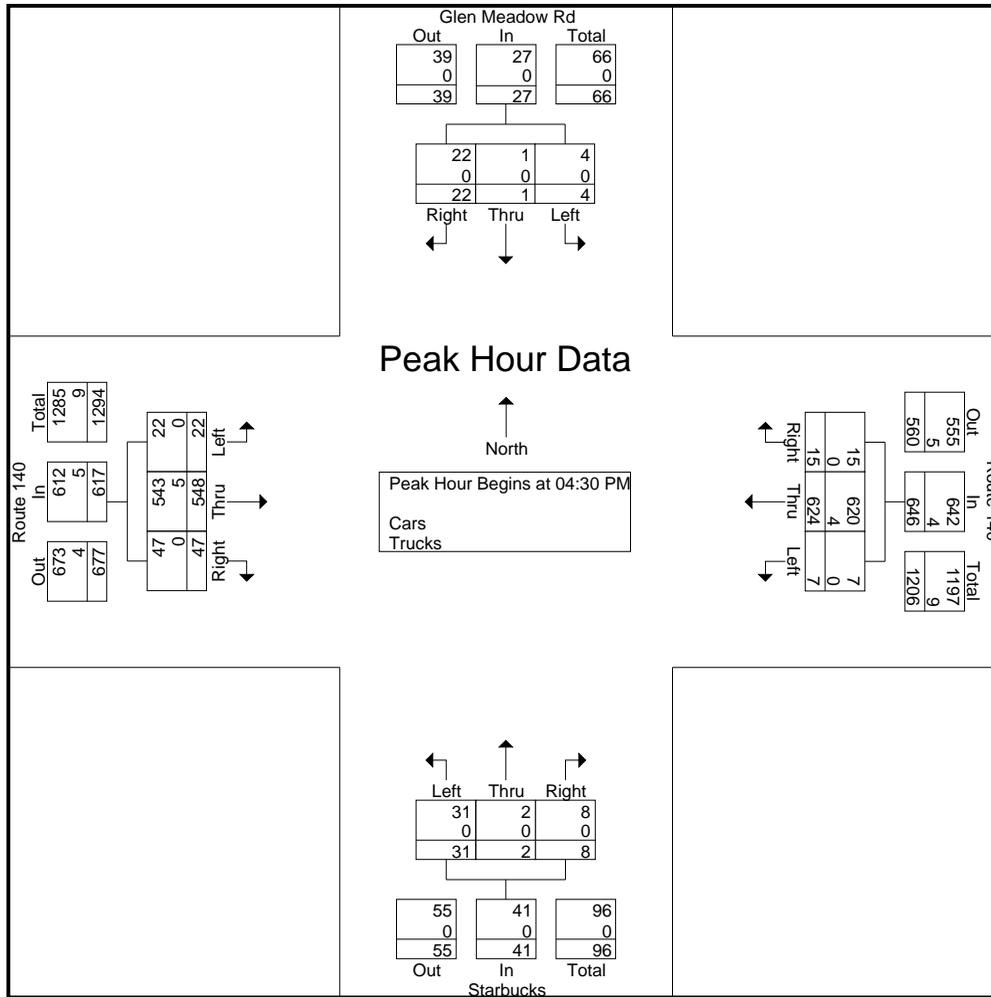
Start Time	Glen Meadow Rd From North				Route 140 From East				Starbucks From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	2	0	5	7	2	151	2	155	6	0	1	7	4	134	8	146	315
04:45 PM	1	1	3	5	1	160	3	164	11	0	2	13	5	125	16	146	328
05:00 PM	1	0	9	10	2	145	7	154	5	1	1	7	8	149	9	166	337
05:15 PM	0	0	5	5	2	168	3	173	9	1	4	14	5	140	14	159	351
Total Volume	4	1	22	27	7	624	15	646	31	2	8	41	22	548	47	617	1331
% App. Total	14.8	3.7	81.5		1.1	96.6	2.3		75.6	4.9	19.5		3.6	88.8	7.6		
PHF	.500	.250	.611	.675	.875	.929	.536	.934	.705	.500	.500	.732	.688	.919	.734	.929	.948
Cars	4	1	22	27	7	620	15	642	31	2	8	41	22	543	47	612	1322
% Cars	100	100	100	100	100	99.4	100	99.4	100	100	100	100	100	99.1	100	99.2	99.3
Trucks	0	0	0	0	0	4	0	4	0	0	0	0	0	5	0	5	9
% Trucks	0	0	0	0	0	0.6	0	0.6	0	0	0	0	0	0.9	0	0.8	0.7

Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830003
 Site Code : 98830003
 Start Date : 12/5/2024
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				05:00 PM				04:45 PM			
+0 mins.	1	0	9	10	0	178	1	179	5	1	1	7	5	125	16	146
+15 mins.	0	0	5	5	5	141	3	149	9	1	4	14	8	149	9	166
+30 mins.	2	0	6	8	2	151	2	155	8	0	3	11	5	140	14	159
+45 mins.	2	0	4	6	1	160	3	164	15	1	2	18	8	130	12	150
Total Volume	5	0	24	29	8	630	9	647	37	3	10	50	26	544	51	621
% App. Total	17.2	0	82.8		1.2	97.4	1.4		74	6	20		4.2	87.6	8.2	
PHF	.625	.000	.667	.725	.400	.885	.750	.904	.617	.750	.625	.694	.813	.913	.797	.935
Cars	5	0	24	29	8	627	9	644	36	3	10	49	26	539	51	616
% Cars	100	0	100	100	100	99.5	100	99.5	97.3	100	100	98	100	99.1	100	99.2
Trucks	0	0	0	0	0	3	0	3	1	0	0	1	0	5	0	5
% Trucks	0	0	0	0	0	0.5	0	0.5	2.7	0	0	2	0	0.9	0	0.8

Accurate Counts

978-664-2565

File Name : 98830003

Site Code : 98830003

Start Date : 12/5/2024

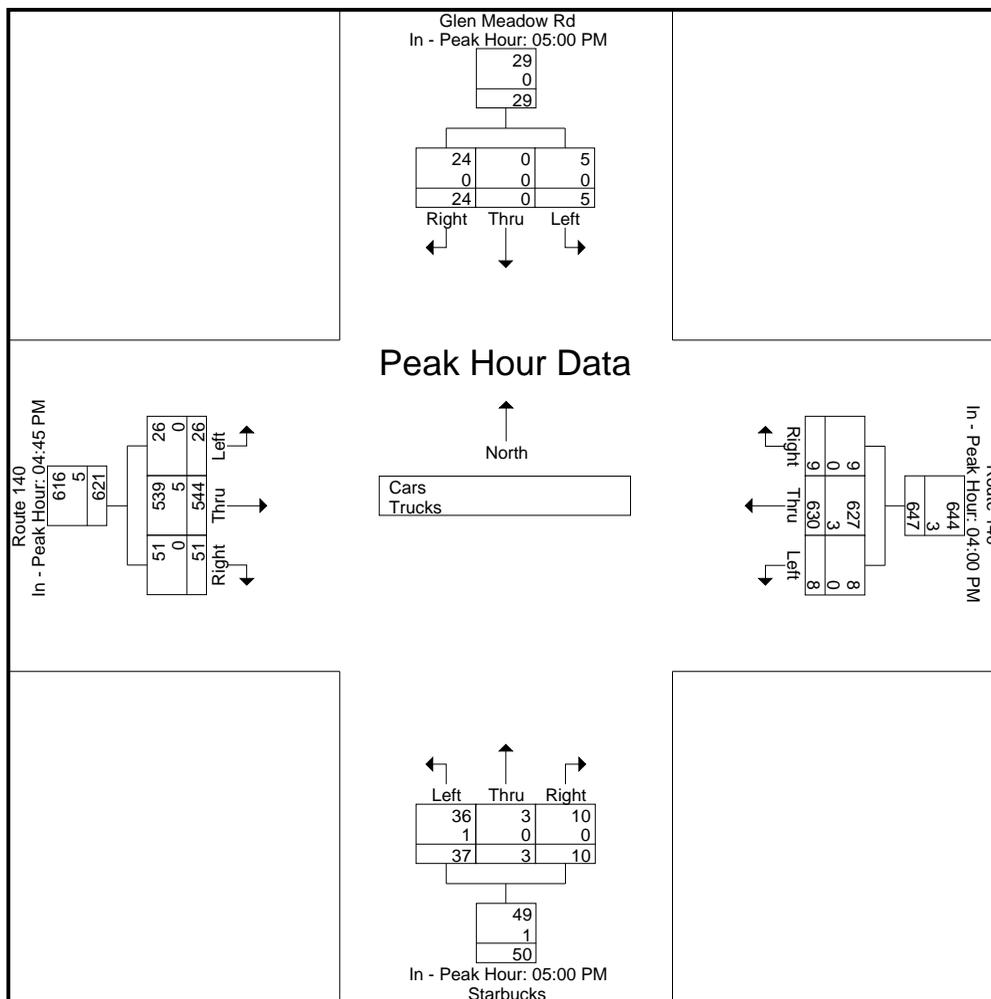
Page No : 3

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy

File Name : 98830003

Site Code : 98830003

Start Date : 12/5/2024

Page No : 4

Groups Printed- Cars

Start Time	Glen Meadow Rd From North			Route 140 From East			Starbucks From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	0	0	7	0	178	1	8	0	3	3	133	8	341
04:15 PM	0	0	4	5	141	3	9	1	1	8	124	12	308
04:30 PM	2	0	5	2	149	2	6	0	1	4	132	8	311
04:45 PM	1	1	3	1	159	3	11	0	2	5	123	16	325
Total	3	1	19	8	627	9	34	1	7	20	512	44	1285
05:00 PM	1	0	9	2	145	7	5	1	1	8	148	9	336
05:15 PM	0	0	5	2	167	3	9	1	4	5	140	14	350
05:30 PM	2	0	6	3	113	3	8	0	3	8	128	12	286
05:45 PM	2	0	4	0	116	3	14	1	2	2	132	11	287
Total	5	0	24	7	541	16	36	3	10	23	548	46	1259
Grand Total	8	1	43	15	1168	25	70	4	17	43	1060	90	2544
Apprch %	15.4	1.9	82.7	1.2	96.7	2.1	76.9	4.4	18.7	3.6	88.9	7.5	
Total %	0.3	0	1.7	0.6	45.9	1	2.8	0.2	0.7	1.7	41.7	3.5	

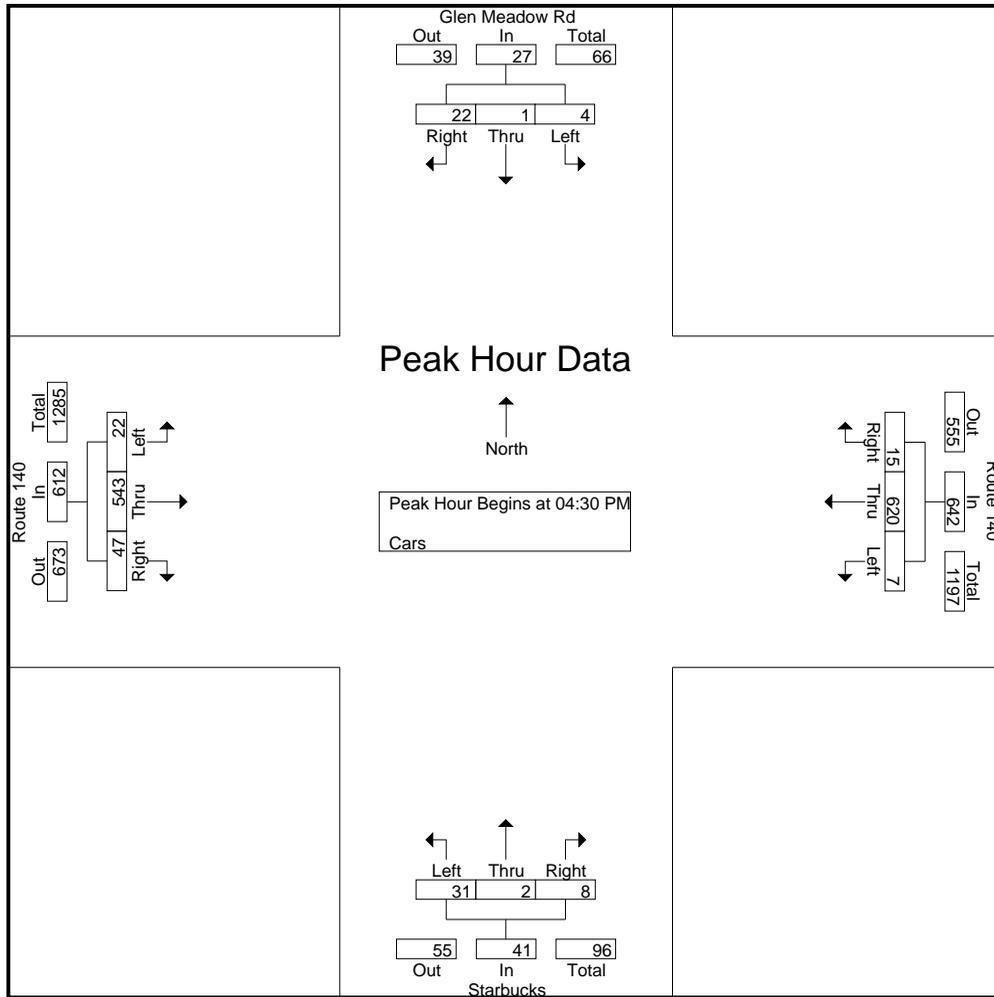
Start Time	Glen Meadow Rd From North				Route 140 From East				Starbucks From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	2	0	5	7	2	149	2	153	6	0	1	7	4	132	8	144	311
04:45 PM	1	1	3	5	1	159	3	163	11	0	2	13	5	123	16	144	325
05:00 PM	1	0	9	10	2	145	7	154	5	1	1	7	8	148	9	165	336
05:15 PM	0	0	5	5	2	167	3	172	9	1	4	14	5	140	14	159	350
Total Volume	4	1	22	27	7	620	15	642	31	2	8	41	22	543	47	612	1322
% App. Total	14.8	3.7	81.5		1.1	96.6	2.3		75.6	4.9	19.5		3.6	88.7	7.7		
PHF	.500	.250	.611	.675	.875	.928	.536	.933	.705	.500	.500	.732	.688	.917	.734	.927	.944

Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830003
 Site Code : 98830003
 Start Date : 12/5/2024
 Page No : 5



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				05:00 PM				05:00 PM			
+0 mins.	1	0	9	10	0	178	1	179	5	1	1	7	8	148	9	165
+15 mins.	0	0	5	5	5	141	3	149	9	1	4	14	5	140	14	159
+30 mins.	2	0	6	8	2	149	2	153	8	0	3	11	8	128	12	148
+45 mins.	2	0	4	6	1	159	3	163	14	1	2	17	2	132	11	145
Total Volume	5	0	24	29	8	627	9	644	36	3	10	49	23	548	46	617
% App. Total	17.2	0	82.8		1.2	97.4	1.4		73.5	6.1	20.4		3.7	88.8	7.5	
PHF	.625	.000	.667	.725	.400	.881	.750	.899	.643	.750	.625	.721	.719	.926	.821	.935

Accurate Counts

978-664-2565

File Name : 98830003

Site Code : 98830003

Start Date : 12/5/2024

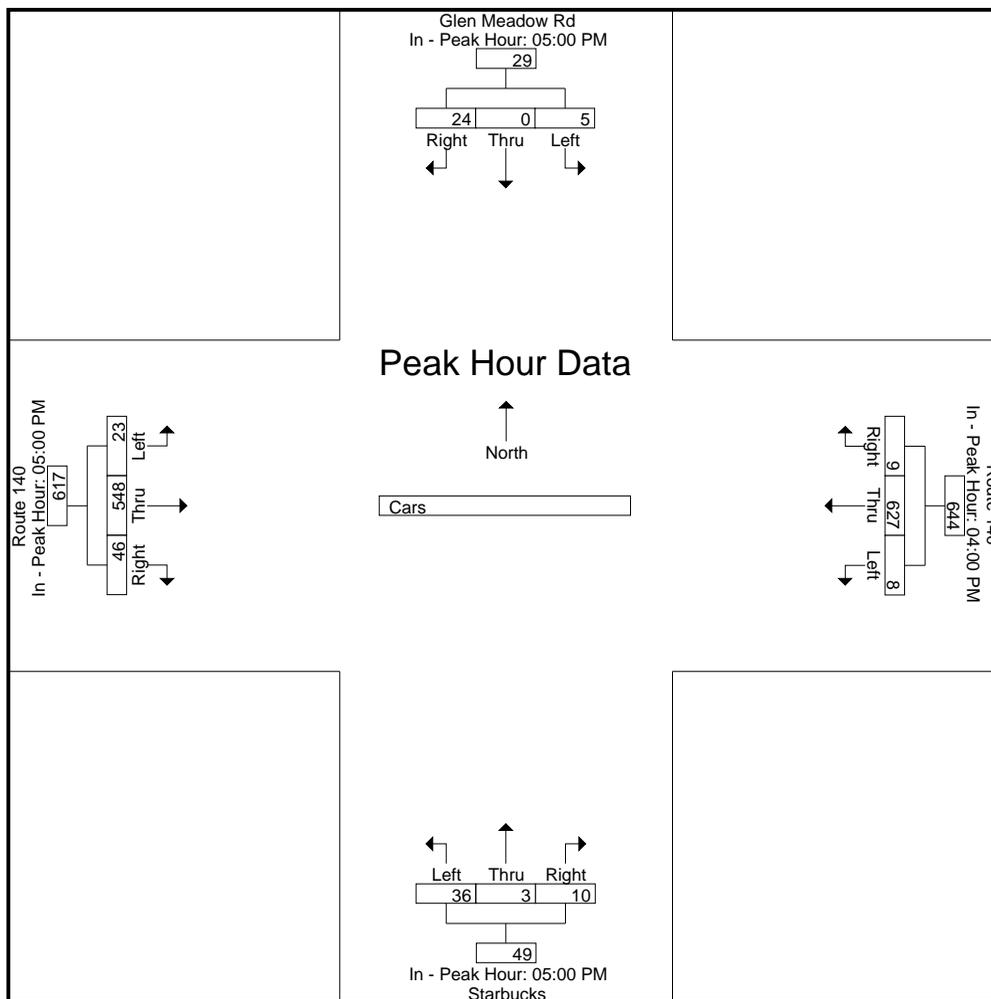
Page No : 6

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830003
 Site Code : 98830003
 Start Date : 12/5/2024
 Page No : 7

Groups Printed- Trucks

Start Time	Glen Meadow Rd From North			Route 140 From East			Starbucks From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	2	0	0	0	0	0	2	0	4
04:45 PM	0	0	0	0	1	0	0	0	0	0	2	0	3
Total	0	0	0	0	3	0	0	0	0	0	6	0	9
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
05:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	1	0	0	0	0	0	2	0	3
05:45 PM	0	0	0	0	0	0	1	0	0	0	1	0	2
Total	0	0	0	0	2	0	1	0	0	0	4	0	7
Grand Total	0	0	0	0	5	0	1	0	0	0	10	0	16
Apprch %	0	0	0	0	100	0	100	0	0	0	100	0	
Total %	0	0	0	0	31.2	0	6.2	0	0	0	62.5	0	

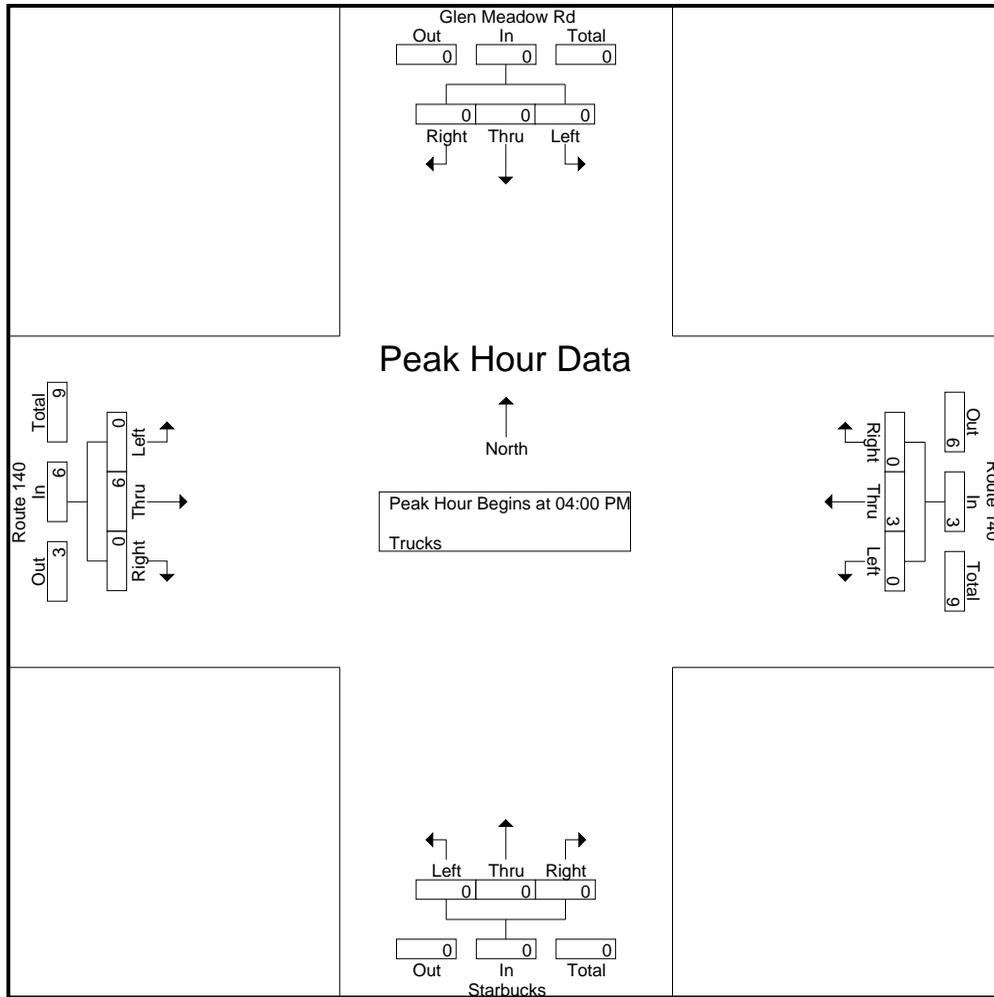
Start Time	Glen Meadow Rd From North				Route 140 From East				Starbucks From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
Total Volume	0	0	0	0	0	3	0	3	0	0	0	0	0	6	0	6	9
% App. Total	0	0	0	0	0	100	0	100	0	0	0	0	0	100	0	100	
PHF	.000	.000	.000	.000	.000	.375	.000	.375	.000	.000	.000	.000	.000	.750	.000	.750	.563

Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830003
 Site Code : 98830003
 Start Date : 12/5/2024
 Page No : 8



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				05:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
+45 mins.	0	0	0	0	0	1	0	1	1	0	0	1	0	2	0	2
Total Volume	0	0	0	0	0	4	0	4	1	0	0	1	0	6	0	6
% App. Total	0	0	0	0	0	100	0	100	100	0	0	100	0	100	0	100
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.250	.000	.000	.250	.000	.750	.000	.750

Accurate Counts

978-664-2565

File Name : 98830003

Site Code : 98830003

Start Date : 12/5/2024

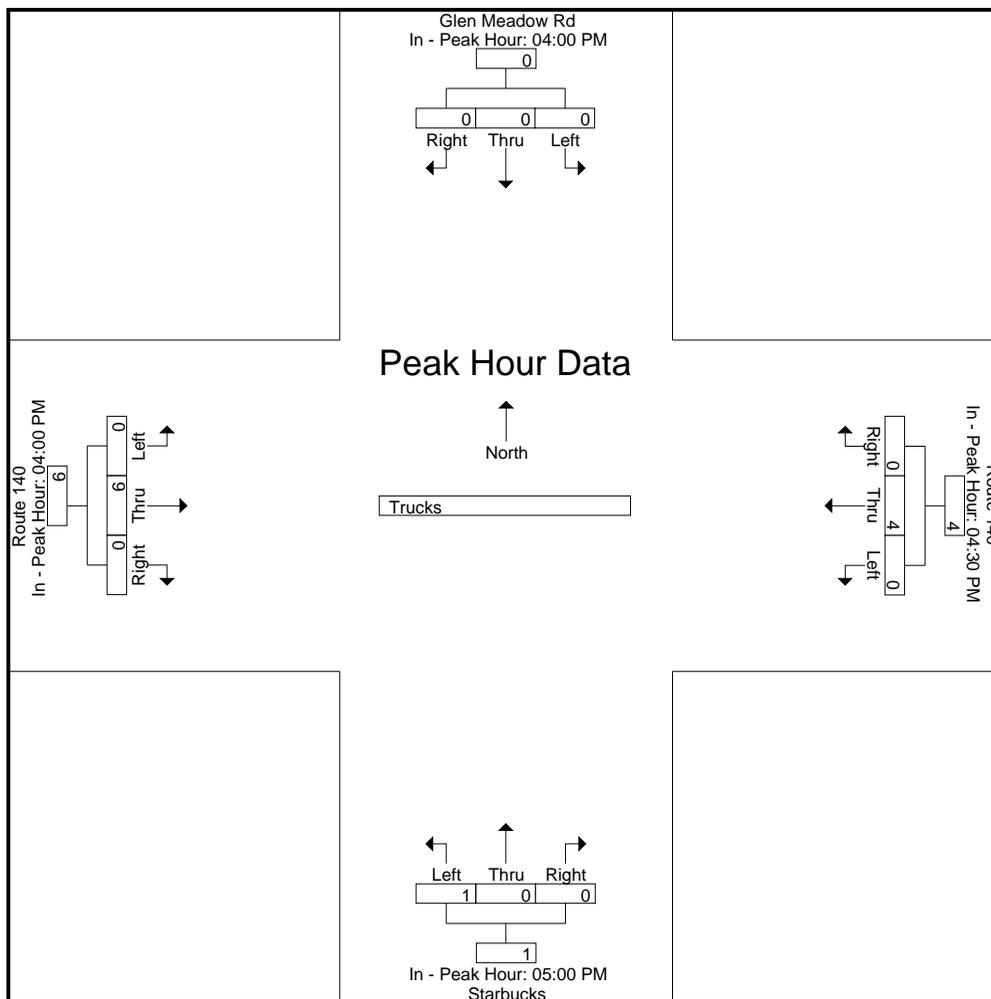
Page No : 9

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy

File Name : 98830003

Site Code : 98830003

Start Date : 12/5/2024

Page No : 10

Groups Printed- Bikes Peds

Start Time	Glen Meadow Rd From North				Route 140 From East				Starbucks From South				Route 140 From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
Grand Total	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	2	1	3
Apprch %	0	0	0		0	100	0		0	0	0		0	0	0				
Total %	0	0	0		0	100	0		0	0	0		0	0	0		66.7	33.3	

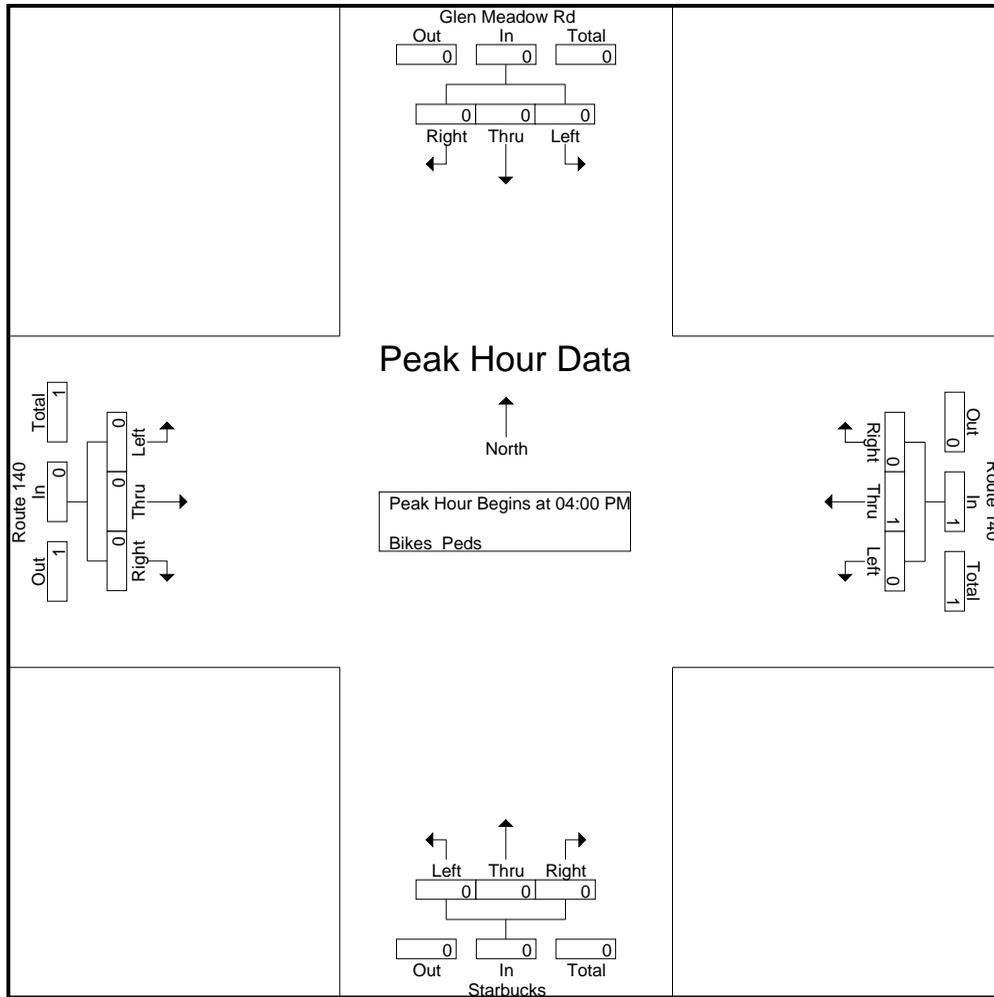
Start Time	Glen Meadow Rd From North				Route 140 From East				Starbucks From South				Route 140 From West				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 04:00 PM																		
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0			
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830003
 Site Code : 98830003
 Start Date : 12/5/2024
 Page No : 11



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

File Name : 98830003

Site Code : 98830003

Start Date : 12/5/2024

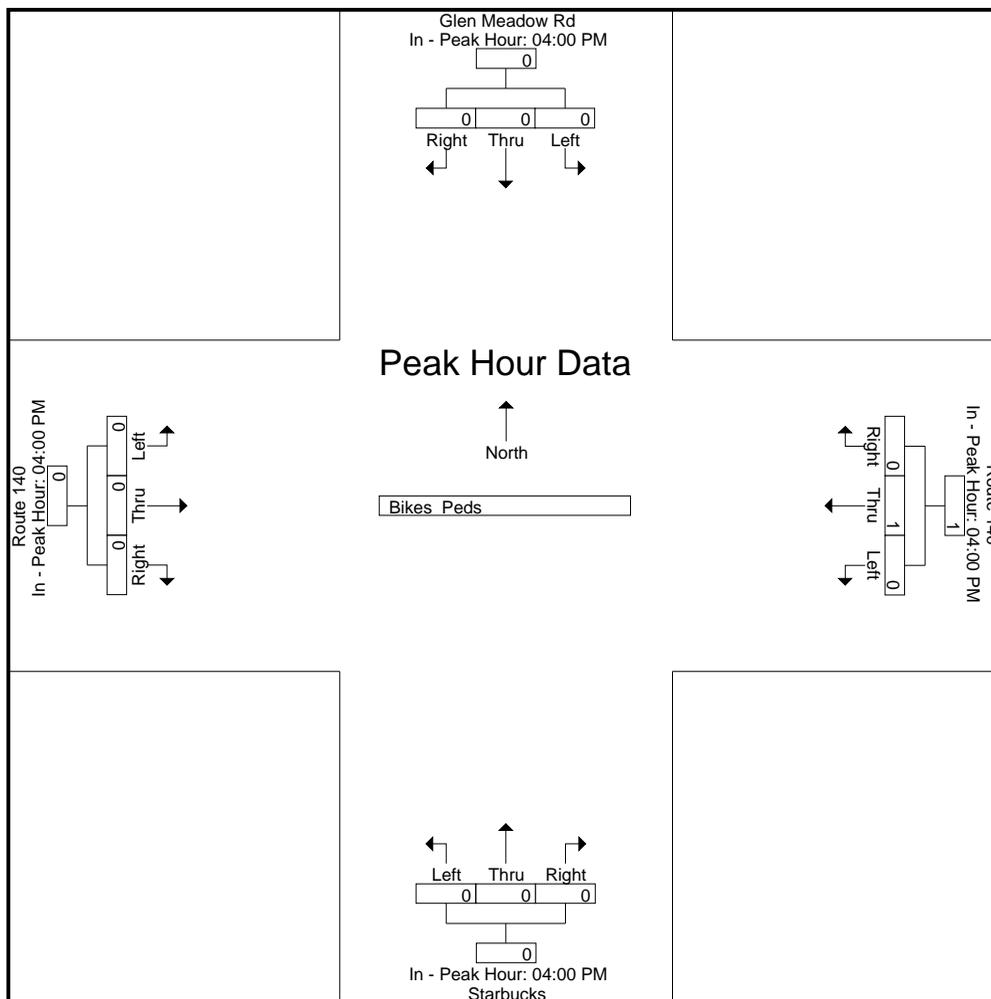
Page No : 12

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear

File Name : 988300S3
 Site Code : 98830003
 Start Date : 12/7/2024
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Glen Meadow Rd From North			Route 140 From East			Starbucks From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:00 AM	3	0	2	4	166	1	16	0	4	2	137	19	354
11:15 AM	1	0	6	1	175	8	17	0	11	4	157	19	399
11:30 AM	2	0	3	4	182	3	13	0	6	2	165	23	403
11:45 AM	4	0	3	0	173	2	9	0	5	1	143	23	363
Total	10	0	14	9	696	14	55	0	26	9	602	84	1519
12:00 PM	0	0	9	5	170	1	11	0	6	3	188	17	410
12:15 PM	2	0	3	2	165	1	11	0	10	4	162	18	378
12:30 PM	2	1	4	3	135	1	14	0	4	3	136	21	324
12:45 PM	6	1	6	0	178	0	12	1	8	4	121	24	361
Total	10	2	22	10	648	3	48	1	28	14	607	80	1473
01:00 PM	1	0	6	3	164	5	10	1	6	4	134	15	349
01:15 PM	0	0	1	0	163	2	10	0	4	4	149	19	352
01:30 PM	1	0	5	4	150	1	11	1	3	6	144	21	347
01:45 PM	2	0	4	2	145	2	14	0	8	3	134	21	335
Total	4	0	16	9	622	10	45	2	21	17	561	76	1383
Grand Total	24	2	52	28	1966	27	148	3	75	40	1770	240	4375
Apprch %	30.8	2.6	66.7	1.4	97.3	1.3	65.5	1.3	33.2	2	86.3	11.7	
Total %	0.5	0	1.2	0.6	44.9	0.6	3.4	0.1	1.7	0.9	40.5	5.5	
Cars	24	2	52	28	1959	27	148	3	75	40	1765	240	4363
% Cars	100	100	100	100	99.6	100	100	100	100	100	99.7	100	99.7
Trucks	0	0	0	0	7	0	0	0	0	0	5	0	12
% Trucks	0	0	0	0	0.4	0	0	0	0	0	0.3	0	0.3

Start Time	Glen Meadow Rd From North				Route 140 From East				Starbucks From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:15 AM																	
11:15 AM	1	0	6	7	1	175	8	184	17	0	11	28	4	157	19	180	399
11:30 AM	2	0	3	5	4	182	3	189	13	0	6	19	2	165	23	190	403
11:45 AM	4	0	3	7	0	173	2	175	9	0	5	14	1	143	23	167	363
12:00 PM	0	0	9	9	5	170	1	176	11	0	6	17	3	188	17	208	410
Total Volume	7	0	21	28	10	700	14	724	50	0	28	78	10	653	82	745	1575
% App. Total	25	0	75		1.4	96.7	1.9		64.1	0	35.9		1.3	87.7	11		
PHF	.438	.000	.583	.778	.500	.962	.438	.958	.735	.000	.636	.696	.625	.868	.891	.895	.960
Cars	7	0	21	28	10	699	14	723	50	0	28	78	10	652	82	744	1573
% Cars	100	0	100	100	100	99.9	100	99.9	100	0	100	100	100	99.8	100	99.9	99.9
Trucks	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
% Trucks	0	0	0	0	0	0.1	0	0.1	0	0	0	0	0	0.2	0	0.1	0.1

Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

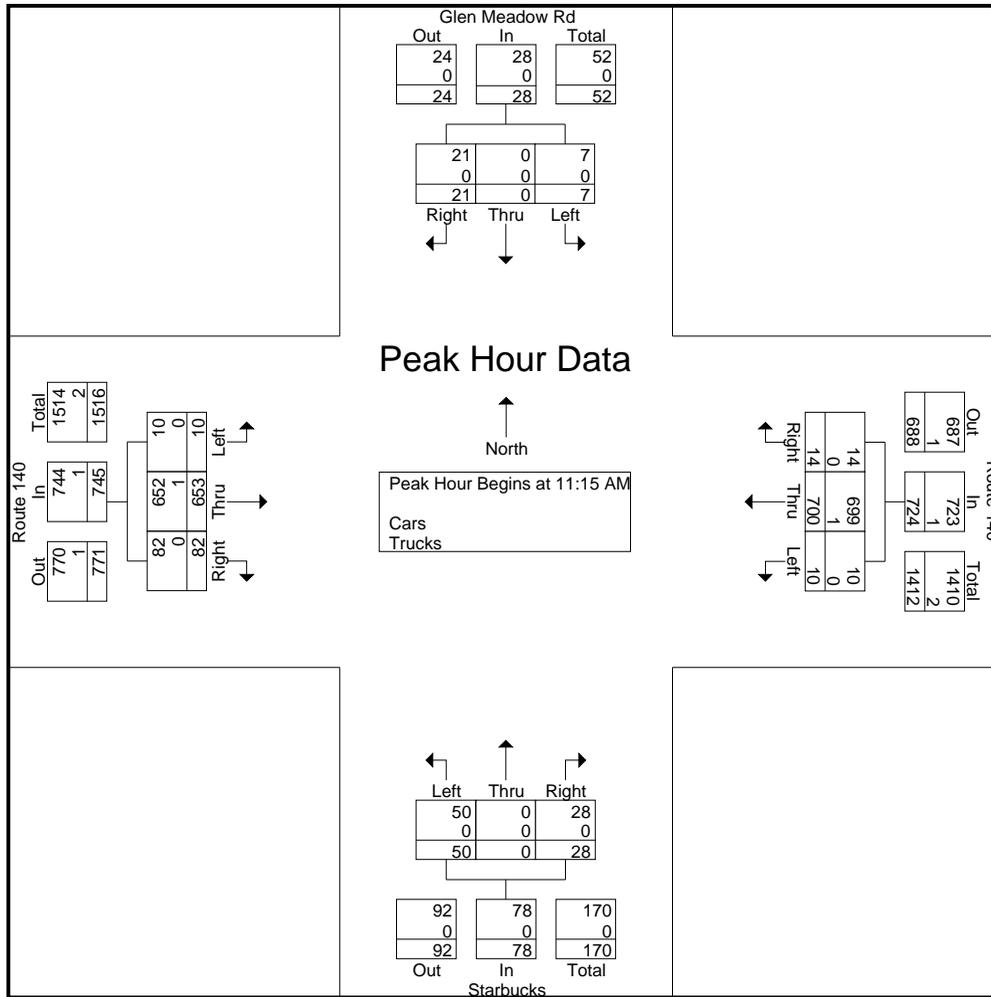
Weather : Clear

File Name : 988300S3

Site Code : 98830003

Start Date : 12/7/2024

Page No : 2



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

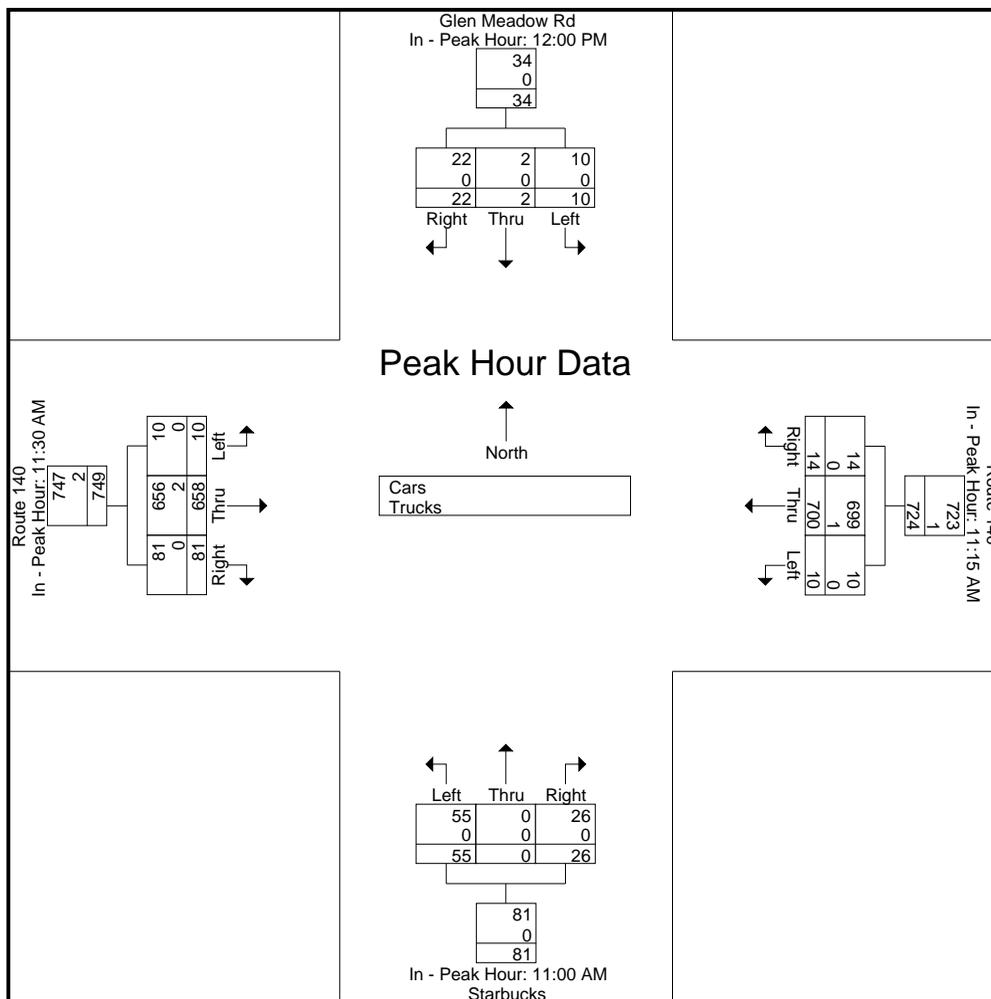
	12:00 PM				11:15 AM				11:00 AM				11:30 AM			
+0 mins.	0	0	9	9	1	175	8	184	16	0	4	20	2	165	23	190
+15 mins.	2	0	3	5	4	182	3	189	17	0	11	28	1	143	23	167
+30 mins.	2	1	4	7	0	173	2	175	13	0	6	19	3	188	17	208
+45 mins.	6	1	6	13	5	170	1	176	9	0	5	14	4	162	18	184
Total Volume	10	2	22	34	10	700	14	724	55	0	26	81	10	658	81	749
% App. Total	29.4	5.9	64.7		1.4	96.7	1.9		67.9	0	32.1		1.3	87.9	10.8	
PHF	.417	.500	.611	.654	.500	.962	.438	.958	.809	.000	.591	.723	.625	.875	.880	.900
Cars	10	2	22	34	10	699	14	723	55	0	26	81	10	656	81	747
% Cars	100	100	100	100	100	99.9	100	99.9	100	0	100	100	100	99.7	100	99.7
Trucks	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2
% Trucks	0	0	0	0	0	0.1	0	0.1	0	0	0	0	0	0.3	0	0.3

Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear

File Name : 988300S3
 Site Code : 98830003
 Start Date : 12/7/2024
 Page No : 3



Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear

File Name : 988300S3
 Site Code : 98830003
 Start Date : 12/7/2024
 Page No : 4

Groups Printed- Cars

Start Time	Glen Meadow Rd From North			Route 140 From East			Starbucks From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:00 AM	3	0	2	4	164	1	16	0	4	2	137	19	352
11:15 AM	1	0	6	1	175	8	17	0	11	4	157	19	399
11:30 AM	2	0	3	4	182	3	13	0	6	2	165	23	403
11:45 AM	4	0	3	0	172	2	9	0	5	1	142	23	361
Total	10	0	14	9	693	14	55	0	26	9	601	84	1515
12:00 PM	0	0	9	5	170	1	11	0	6	3	188	17	410
12:15 PM	2	0	3	2	165	1	11	0	10	4	161	18	377
12:30 PM	2	1	4	3	134	1	14	0	4	3	135	21	322
12:45 PM	6	1	6	0	177	0	12	1	8	4	121	24	360
Total	10	2	22	10	646	3	48	1	28	14	605	80	1469
01:00 PM	1	0	6	3	162	5	10	1	6	4	134	15	347
01:15 PM	0	0	1	0	163	2	10	0	4	4	149	19	352
01:30 PM	1	0	5	4	150	1	11	1	3	6	143	21	346
01:45 PM	2	0	4	2	145	2	14	0	8	3	133	21	334
Total	4	0	16	9	620	10	45	2	21	17	559	76	1379
Grand Total	24	2	52	28	1959	27	148	3	75	40	1765	240	4363
Apprch %	30.8	2.6	66.7	1.4	97.3	1.3	65.5	1.3	33.2	2	86.3	11.7	
Total %	0.6	0	1.2	0.6	44.9	0.6	3.4	0.1	1.7	0.9	40.5	5.5	

Start Time	Glen Meadow Rd From North				Route 140 From East				Starbucks From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:15 AM																	
11:15 AM	1	0	6	7	1	175	8	184	17	0	11	28	4	157	19	180	399
11:30 AM	2	0	3	5	4	182	3	189	13	0	6	19	2	165	23	190	403
11:45 AM	4	0	3	7	0	172	2	174	9	0	5	14	1	142	23	166	361
12:00 PM	0	0	9	9	5	170	1	176	11	0	6	17	3	188	17	208	410
Total Volume	7	0	21	28	10	699	14	723	50	0	28	78	10	652	82	744	1573
% App. Total	25	0	75		1.4	96.7	1.9		64.1	0	35.9		1.3	87.6	11		
PHF	.438	.000	.583	.778	.500	.960	.438	.956	.735	.000	.636	.696	.625	.867	.891	.894	.959

Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

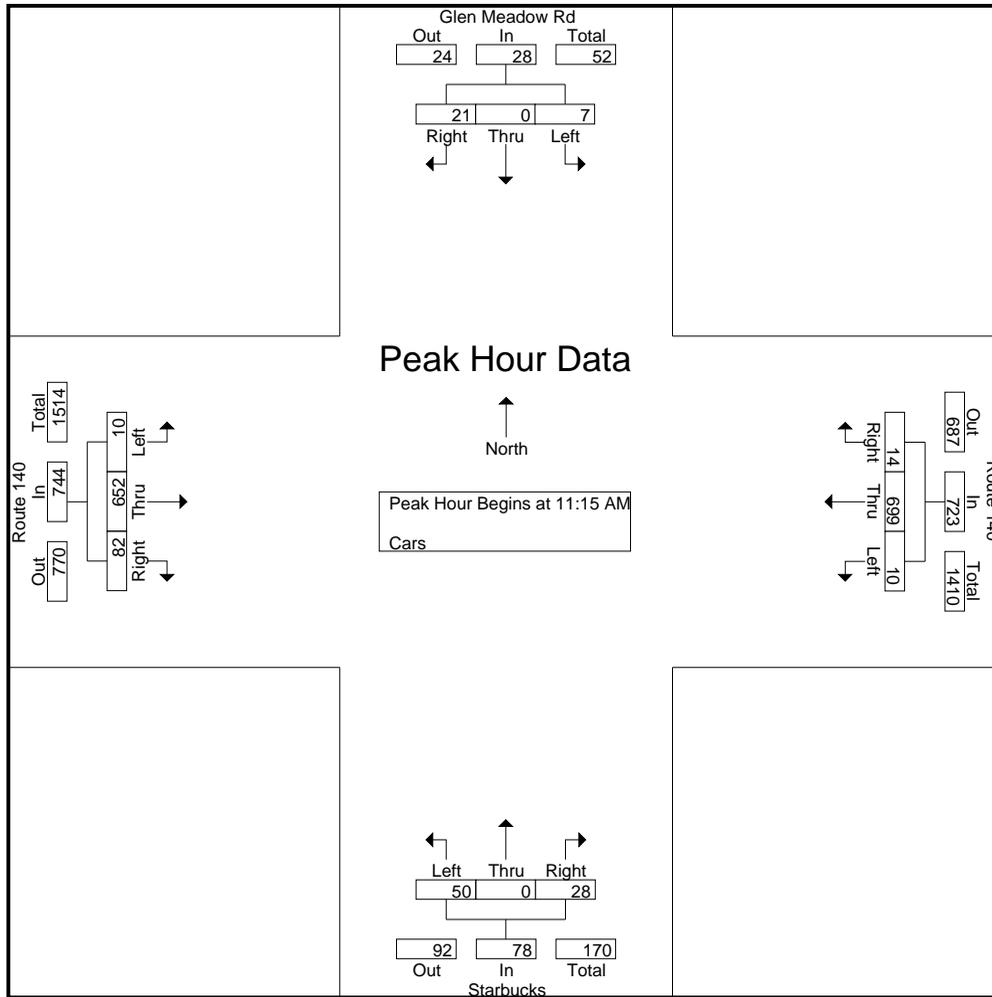
Weather : Clear

File Name : 988300S3

Site Code : 98830003

Start Date : 12/7/2024

Page No : 5



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	12:00 PM				11:15 AM				11:00 AM				11:30 AM			
+0 mins.	0	0	9	9	1	175	8	184	16	0	4	20	2	165	23	190
+15 mins.	2	0	3	5	4	182	3	189	17	0	11	28	1	142	23	166
+30 mins.	2	1	4	7	0	172	2	174	13	0	6	19	3	188	17	208
+45 mins.	6	1	6	13	5	170	1	176	9	0	5	14	4	161	18	183
Total Volume	10	2	22	34	10	699	14	723	55	0	26	81	10	656	81	747
% App. Total	29.4	5.9	64.7		1.4	96.7	1.9		67.9	0	32.1		1.3	87.8	10.8	
PHF	.417	.500	.611	.654	.500	.960	.438	.956	.809	.000	.591	.723	.625	.872	.880	.898

Accurate Counts

978-664-2565

File Name : 988300S3

Site Code : 98830003

Start Date : 12/7/2024

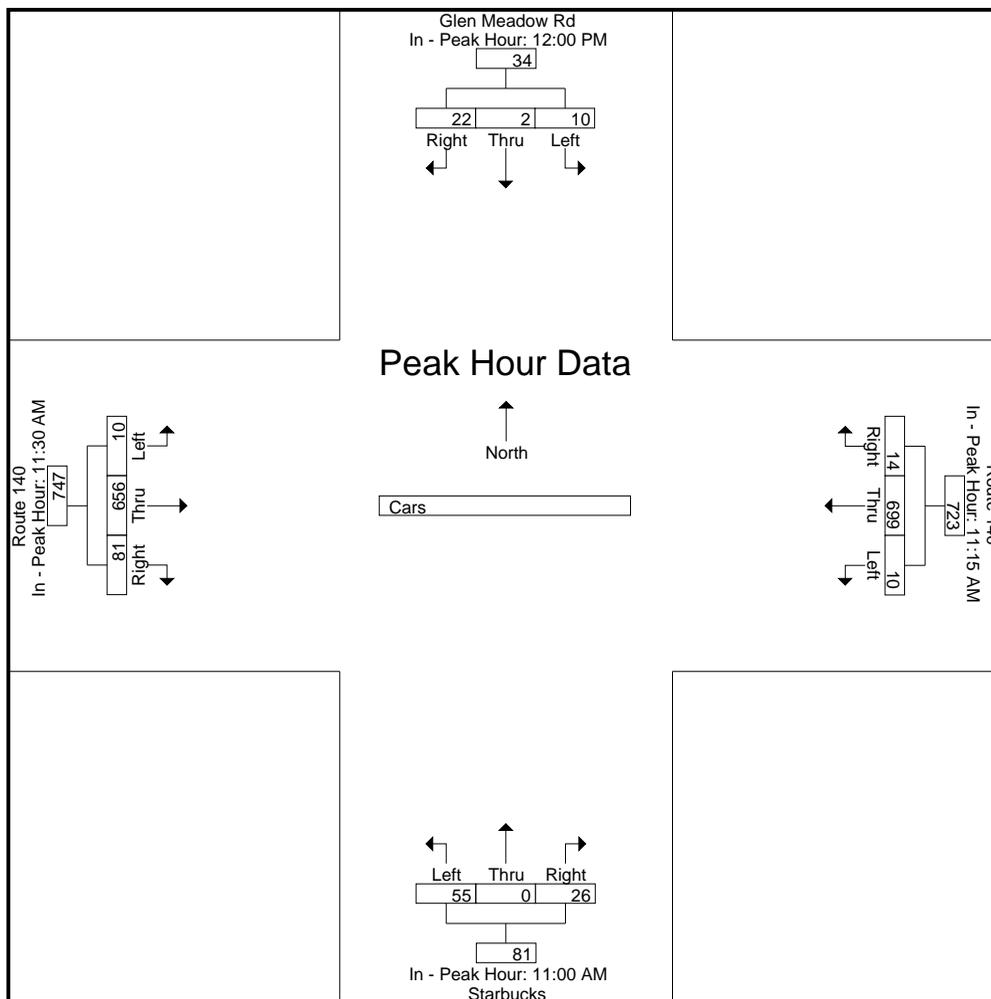
Page No : 6

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear

File Name : 988300S3

Site Code : 98830003

Start Date : 12/7/2024

Page No : 7

Groups Printed- Trucks

Start Time	Glen Meadow Rd From North			Route 140 From East			Starbucks From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
Total	0	0	0	0	3	0	0	0	0	0	1	0	4
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
12:30 PM	0	0	0	0	1	0	0	0	0	0	1	0	2
12:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	2	0	0	0	0	0	2	0	4
01:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
01:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	0	2	0	0	0	0	0	2	0	4
Grand Total	0	0	0	0	7	0	0	0	0	0	5	0	12
Apprch %	0	0	0	0	100	0	0	0	0	0	100	0	
Total %	0	0	0	0	58.3	0	0	0	0	0	41.7	0	

Start Time	Glen Meadow Rd From North				Route 140 From East				Starbucks From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:15 PM																	
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
12:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
12:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
01:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	4	0	4	0	0	0	0	0	2	0	2	6
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0	
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.500	.000	.500	.750

Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

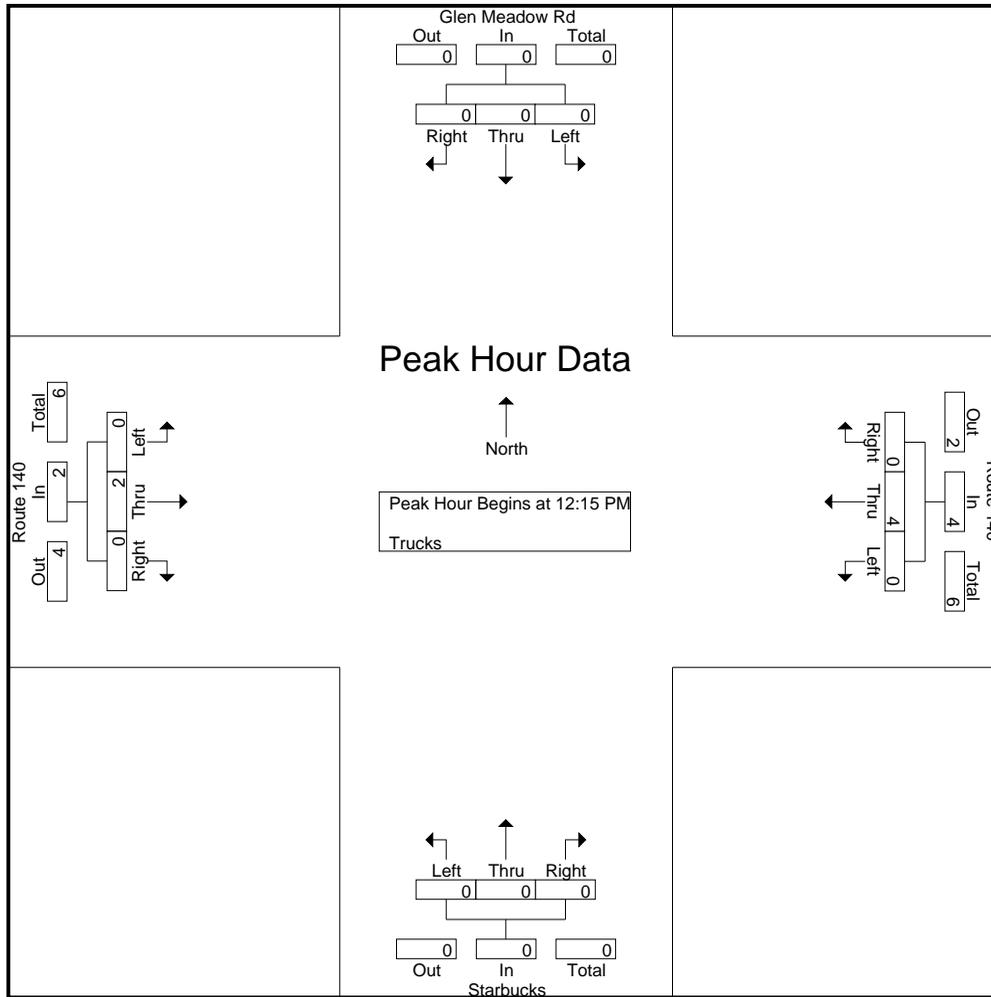
Weather : Clear

File Name : 988300S3

Site Code : 98830003

Start Date : 12/7/2024

Page No : 8



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:00 AM				12:15 PM				11:00 AM				11:45 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	4	0	4	0	0	0	0	0	3	0	3
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.750	.000	.750

Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

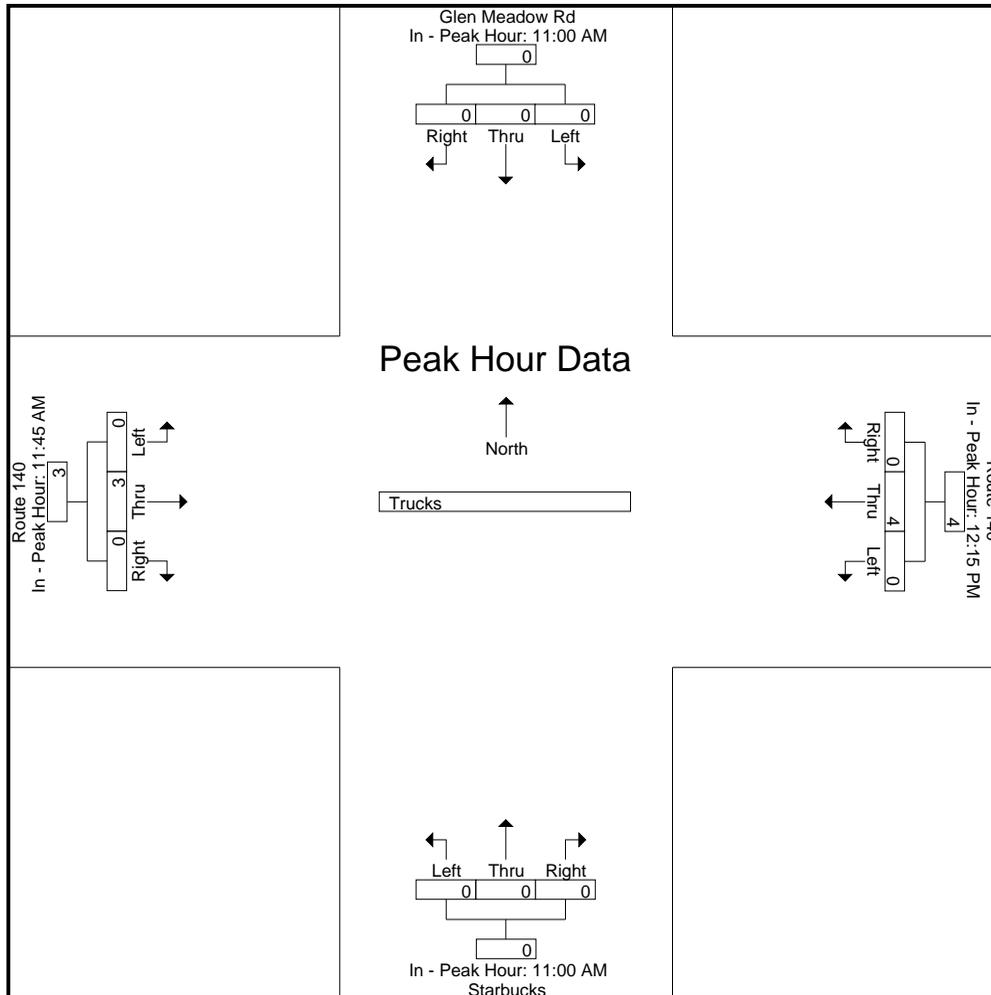
Weather : Clear

File Name : 988300S3

Site Code : 98830003

Start Date : 12/7/2024

Page No : 9



Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear

File Name : 988300S3

Site Code : 98830003

Start Date : 12/7/2024

Page No : 10

Groups Printed- Bikes Peds

Start Time	Glen Meadow Rd From North				Route 140 From East				Starbucks From South				Route 140 From West				Exclu. Total	Inclu. Total	Int. Total				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds							
11:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	1	2	3				
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	2	1	3				
12:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2	0	2				
12:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1				
Total	0	0	0	0	0	1	0	1	0	0	0	1	0	1	0	2	4	2	6				
01:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1				
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
01:30 PM	0	0	0	0	0	1	0	2	0	0	0	1	0	1	0	0	3	2	5				
01:45 PM	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	1	4	0	4				
Total	0	0	0	3	0	1	0	3	0	0	0	1	0	1	0	1	8	2	10				
Grand Total	0	0	0	3	0	3	0	5	0	0	0	2	0	3	0	3	13	6	19				
Apprch %	0	0	0		0	100	0		0	0	0		0	100	0								
Total %	0	0	0		0	50	0		0	0	0		0	50	0		68.4	31.6					

Start Time	Glen Meadow Rd From North				Route 140 From East				Starbucks From South				Route 140 From West				Int. Total		
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total			
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 12:45 PM																			
12:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	1
01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	1	1
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	0	1	1
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0				
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.250	.000	.250			.375

Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

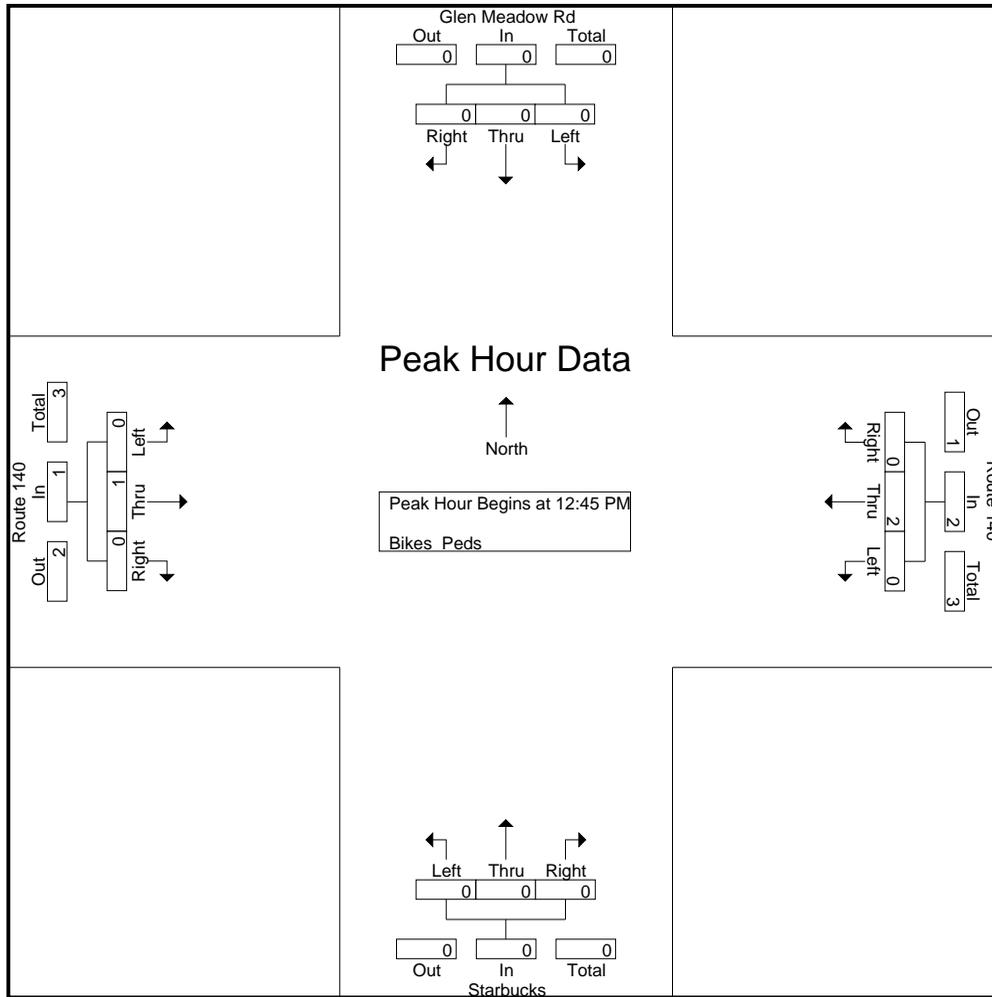
Weather : Clear

File Name : 988300S3

Site Code : 98830003

Start Date : 12/7/2024

Page No : 11



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:00 AM				12:45 PM				11:00 AM				11:30 AM			
+0 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.500	.000	.500

Accurate Counts

978-664-2565

N/S Street : Glen Meadow Rd / Starbucks

E/W Street : Route 140

City/State : Franklin, MA

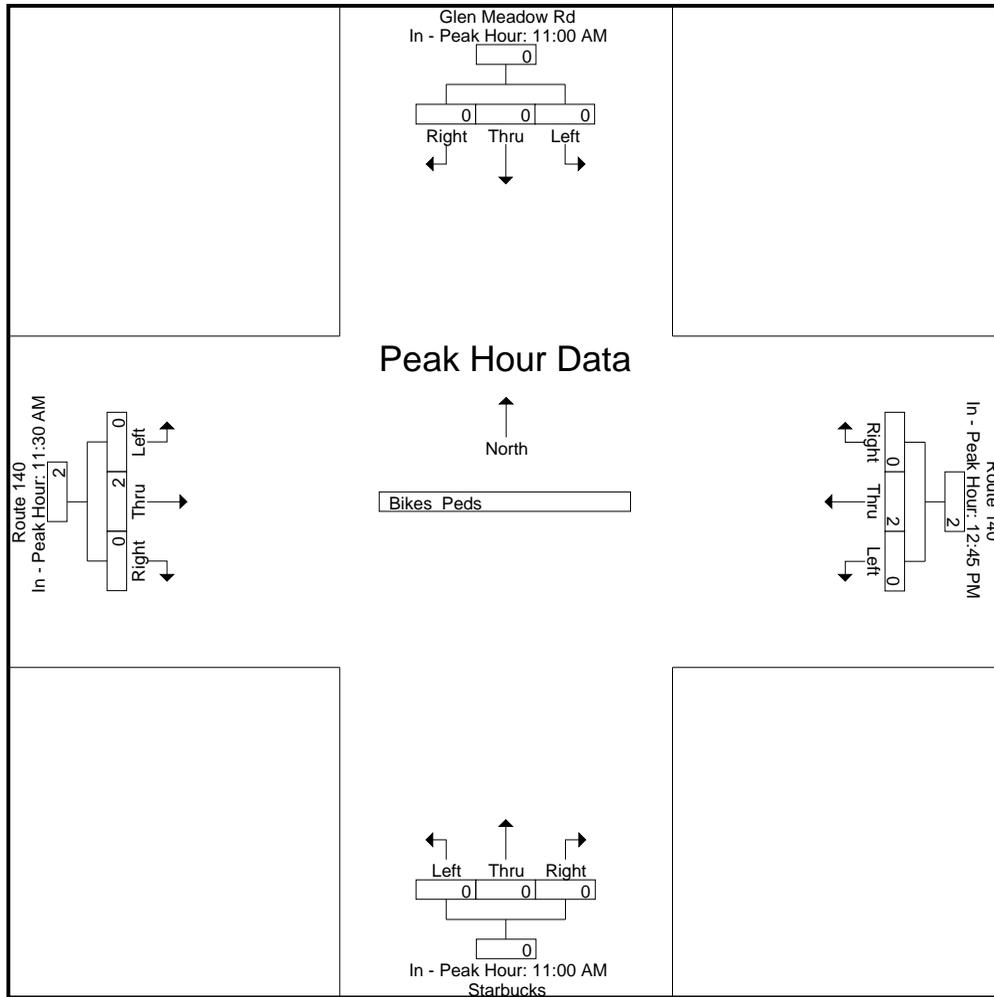
Weather : Clear

File Name : 988300S3

Site Code : 98830003

Start Date : 12/7/2024

Page No : 12



Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830004
 Site Code : 98830004
 Start Date : 12/5/2024
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Town Hall From North			Route 140 From East			Big Y From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	0	1	4	62	0	11	0	5	3	70	0	156
07:15 AM	0	0	0	10	82	2	8	0	6	10	98	0	216
07:30 AM	0	0	2	5	71	3	5	2	6	5	112	0	211
07:45 AM	0	0	2	10	96	3	4	1	6	8	96	0	226
Total	0	0	5	29	311	8	28	3	23	26	376	0	809
08:00 AM	1	0	0	5	69	4	14	0	5	11	106	1	216
08:15 AM	0	0	0	6	110	4	7	1	4	4	80	0	216
08:30 AM	0	0	2	4	87	1	10	0	6	6	97	0	213
08:45 AM	0	0	4	6	59	4	7	0	11	5	107	0	203
Total	1	0	6	21	325	13	38	1	26	26	390	1	848
Grand Total	1	0	11	50	636	21	66	4	49	52	766	1	1657
Apprch %	8.3	0	91.7	7.1	90	3	55.5	3.4	41.2	6.3	93.5	0.1	
Total %	0.1	0	0.7	3	38.4	1.3	4	0.2	3	3.1	46.2	0.1	
Cars	1	0	11	50	619	21	62	4	48	52	758	1	1627
% Cars	100	0	100	100	97.3	100	93.9	100	98	100	99	100	98.2
Trucks	0	0	0	0	17	0	4	0	1	0	8	0	30
% Trucks	0	0	0	0	2.7	0	6.1	0	2	0	1	0	1.8

Start Time	Town Hall From North				Route 140 From East				Big Y From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	2	2	10	96	3	109	4	1	6	11	8	96	0	104	226
08:00 AM	1	0	0	1	5	69	4	78	14	0	5	19	11	106	1	118	216
08:15 AM	0	0	0	0	6	110	4	120	7	1	4	12	4	80	0	84	216
08:30 AM	0	0	2	2	4	87	1	92	10	0	6	16	6	97	0	103	213
Total Volume	1	0	4	5	25	362	12	399	35	2	21	58	29	379	1	409	871
% App. Total	20	0	80		6.3	90.7	3		60.3	3.4	36.2		7.1	92.7	0.2		
PHF	.250	.000	.500	.625	.625	.823	.750	.831	.625	.500	.875	.763	.659	.894	.250	.867	.963
Cars	1	0	4	5	25	355	12	392	33	2	21	56	29	376	1	406	859
% Cars	100	0	100	100	100	98.1	100	98.2	94.3	100	100	96.6	100	99.2	100	99.3	98.6
Trucks	0	0	0	0	0	7	0	7	2	0	0	2	0	3	0	3	12
% Trucks	0	0	0	0	0	1.9	0	1.8	5.7	0	0	3.4	0	0.8	0	0.7	1.4

Accurate Counts

978-664-2565

File Name : 98830004

Site Code : 98830004

Start Date : 12/5/2024

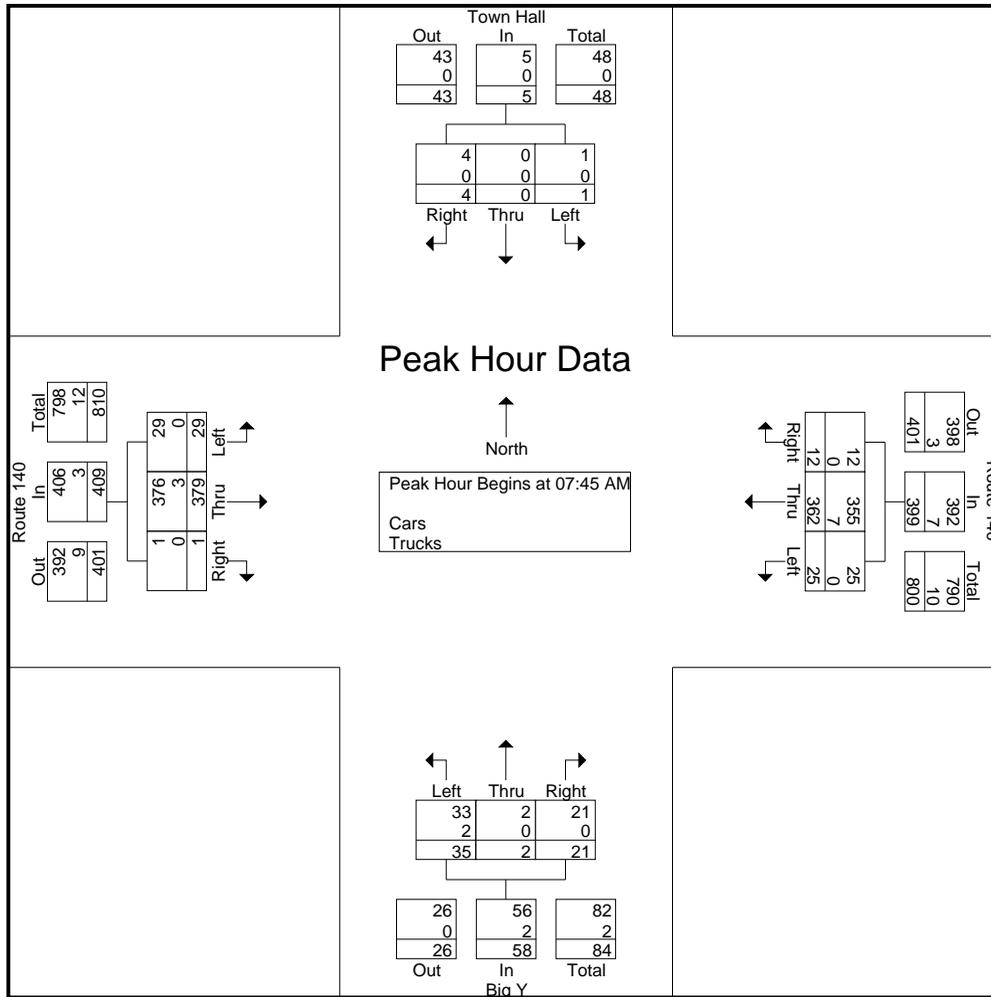
Page No : 2

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				08:00 AM				07:15 AM			
+0 mins.	1	0	0	1	10	96	3	109	14	0	5	19	10	98	0	108
+15 mins.	0	0	0	0	5	69	4	78	7	1	4	12	5	112	0	117
+30 mins.	0	0	2	2	6	110	4	120	10	0	6	16	8	96	0	104
+45 mins.	0	0	4	4	4	87	1	92	7	0	11	18	11	106	1	118
Total Volume	1	0	6	7	25	362	12	399	38	1	26	65	34	412	1	447
% App. Total	14.3	0	85.7		6.3	90.7	3		58.5	1.5	40		7.6	92.2	0.2	
PHF	.250	.000	.375	.438	.625	.823	.750	.831	.679	.250	.591	.855	.773	.920	.250	.947
Cars	1	0	6	7	25	355	12	392	36	1	26	63	34	407	1	442
% Cars	100	0	100	100	100	98.1	100	98.2	94.7	100	100	96.9	100	98.8	100	98.9
Trucks	0	0	0	0	0	7	0	7	2	0	0	2	0	5	0	5
% Trucks	0	0	0	0	0	1.9	0	1.8	5.3	0	0	3.1	0	1.2	0	1.1

Accurate Counts

978-664-2565

File Name : 98830004

Site Code : 98830004

Start Date : 12/5/2024

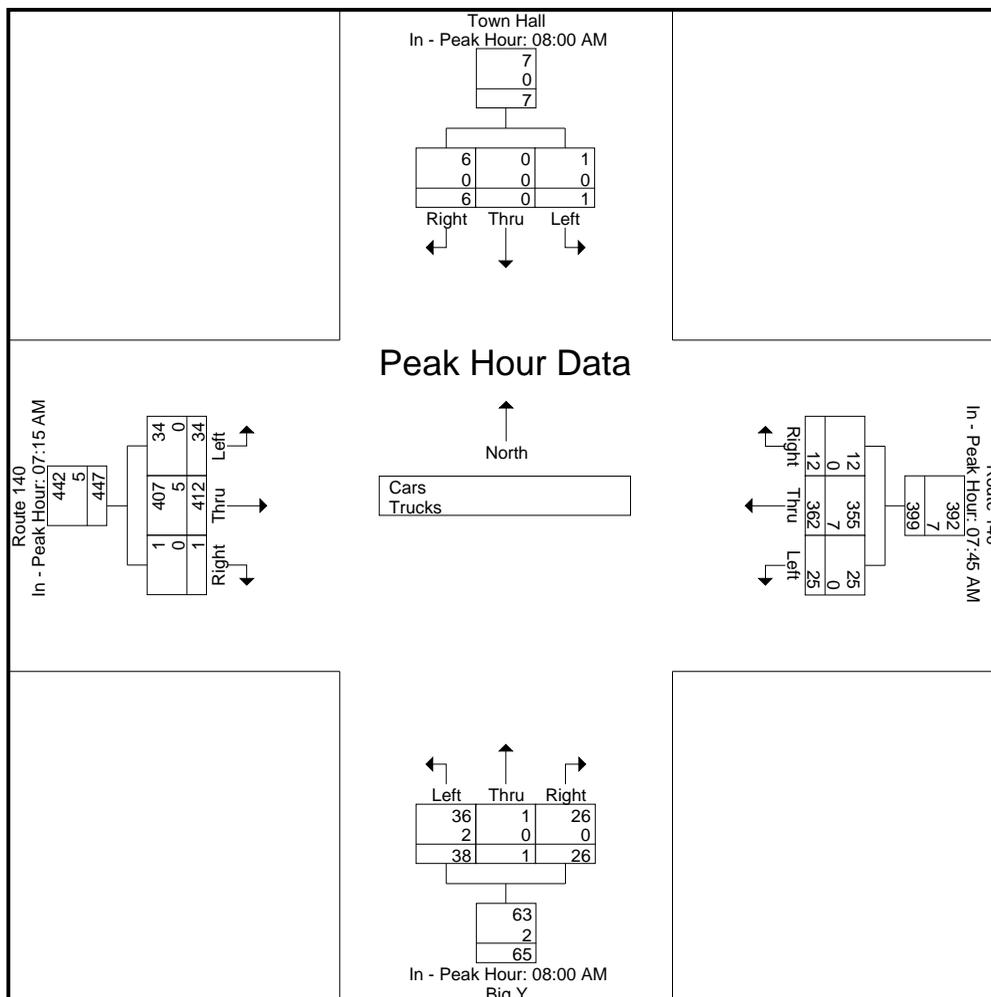
Page No : 3

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830004
 Site Code : 98830004
 Start Date : 12/5/2024
 Page No : 4

Groups Printed- Cars

Start Time	Town Hall From North			Route 140 From East			Big Y From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	0	1	4	59	0	9	0	5	3	69	0	150
07:15 AM	0	0	0	10	81	2	8	0	6	10	96	0	213
07:30 AM	0	0	2	5	67	3	5	2	5	5	111	0	205
07:45 AM	0	0	2	10	95	3	4	1	6	8	95	0	224
Total	0	0	5	29	302	8	26	3	22	26	371	0	792
08:00 AM	1	0	0	5	67	4	13	0	5	11	105	1	212
08:15 AM	0	0	0	6	107	4	6	1	4	4	80	0	212
08:30 AM	0	0	2	4	86	1	10	0	6	6	96	0	211
08:45 AM	0	0	4	6	57	4	7	0	11	5	106	0	200
Total	1	0	6	21	317	13	36	1	26	26	387	1	835
Grand Total	1	0	11	50	619	21	62	4	48	52	758	1	1627
Apprch %	8.3	0	91.7	7.2	89.7	3	54.4	3.5	42.1	6.4	93.5	0.1	
Total %	0.1	0	0.7	3.1	38	1.3	3.8	0.2	3	3.2	46.6	0.1	

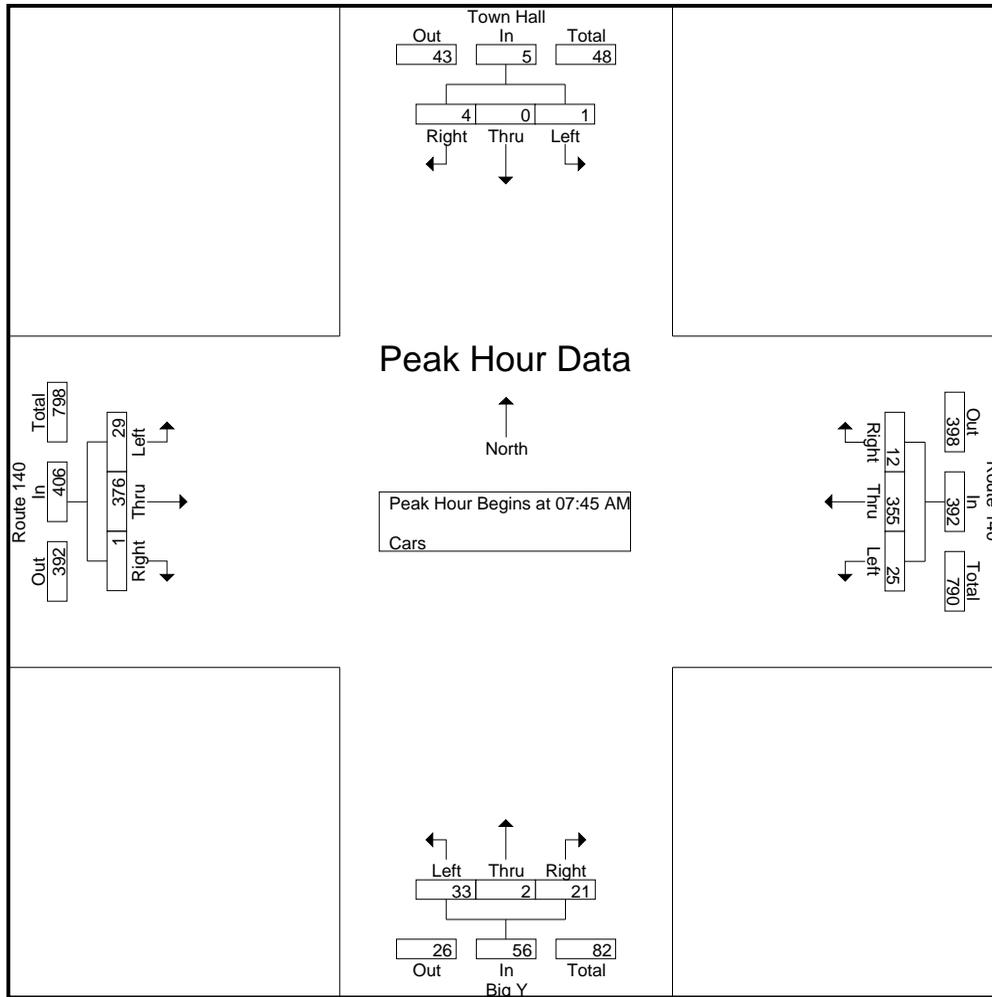
Start Time	Town Hall From North				Route 140 From East				Big Y From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	2	2	10	95	3	108	4	1	6	11	8	95	0	103	224
08:00 AM	1	0	0	1	5	67	4	76	13	0	5	18	11	105	1	117	212
08:15 AM	0	0	0	0	6	107	4	117	6	1	4	11	4	80	0	84	212
08:30 AM	0	0	2	2	4	86	1	91	10	0	6	16	6	96	0	102	211
Total Volume	1	0	4	5	25	355	12	392	33	2	21	56	29	376	1	406	859
% App. Total	20	0	80		6.4	90.6	3.1		58.9	3.6	37.5		7.1	92.6	0.2		
PHF	.250	.000	.500	.625	.625	.829	.750	.838	.635	.500	.875	.778	.659	.895	.250	.868	.959

Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830004
 Site Code : 98830004
 Start Date : 12/5/2024
 Page No : 5



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				08:00 AM				07:15 AM			
+0 mins.	1	0	0	1	10	95	3	108	13	0	5	18	10	96	0	106
+15 mins.	0	0	0	0	5	67	4	76	6	1	4	11	5	111	0	116
+30 mins.	0	0	2	2	6	107	4	117	10	0	6	16	8	95	0	103
+45 mins.	0	0	4	4	4	86	1	91	7	0	11	18	11	105	1	117
Total Volume	1	0	6	7	25	355	12	392	36	1	26	63	34	407	1	442
% App. Total	14.3	0	85.7		6.4	90.6	3.1		57.1	1.6	41.3		7.7	92.1	0.2	
PHF	.250	.000	.375	.438	.625	.829	.750	.838	.692	.250	.591	.875	.773	.917	.250	.944

Accurate Counts

978-664-2565

File Name : 98830004

Site Code : 98830004

Start Date : 12/5/2024

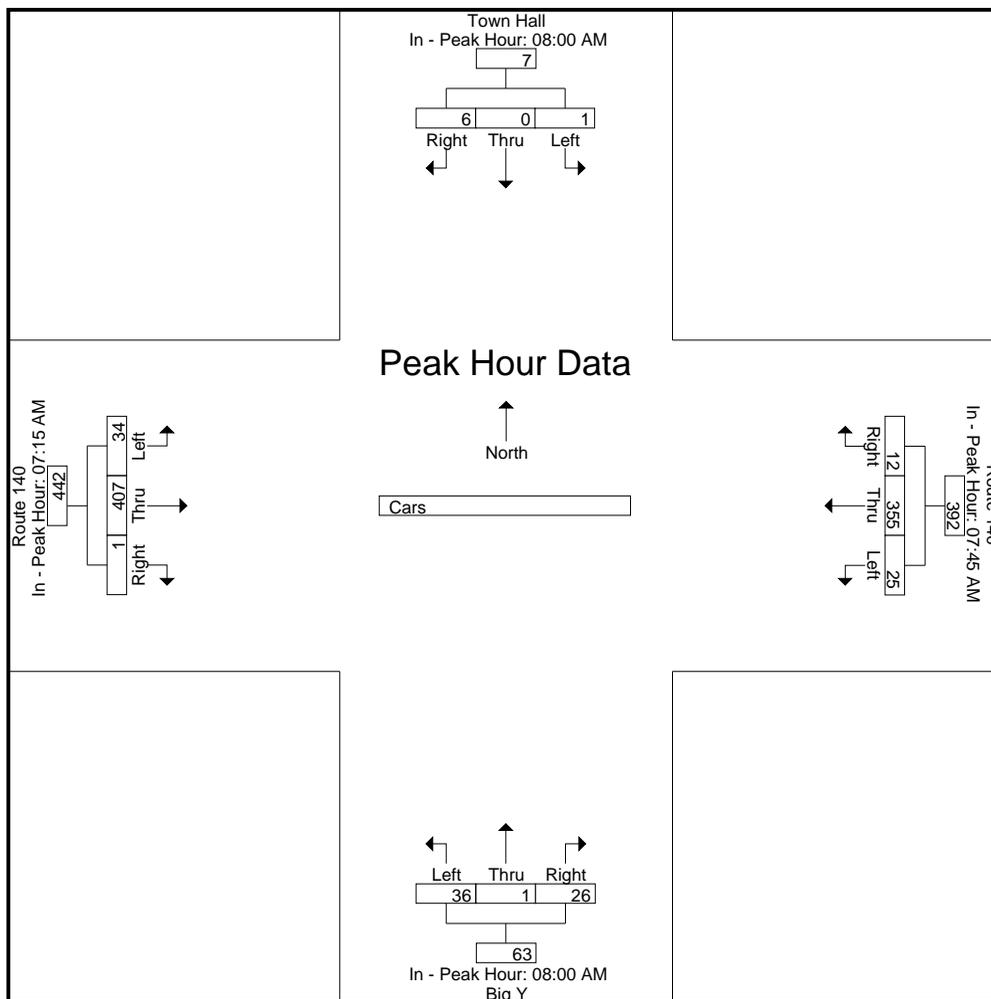
Page No : 6

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy

File Name : 98830004

Site Code : 98830004

Start Date : 12/5/2024

Page No : 7

Groups Printed- Trucks

Start Time	Town Hall From North			Route 140 From East			Big Y From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	0	0	0	0	3	0	2	0	0	0	1	0	6
07:15 AM	0	0	0	0	1	0	0	0	0	0	2	0	3
07:30 AM	0	0	0	0	4	0	0	0	1	0	1	0	6
07:45 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
Total	0	0	0	0	9	0	2	0	1	0	5	0	17
08:00 AM	0	0	0	0	2	0	1	0	0	0	1	0	4
08:15 AM	0	0	0	0	3	0	1	0	0	0	0	0	4
08:30 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
08:45 AM	0	0	0	0	2	0	0	0	0	0	1	0	3
Total	0	0	0	0	8	0	2	0	0	0	3	0	13
Grand Total	0	0	0	0	17	0	4	0	1	0	8	0	30
Apprch %	0	0	0	0	100	0	80	0	20	0	100	0	
Total %	0	0	0	0	56.7	0	13.3	0	3.3	0	26.7	0	

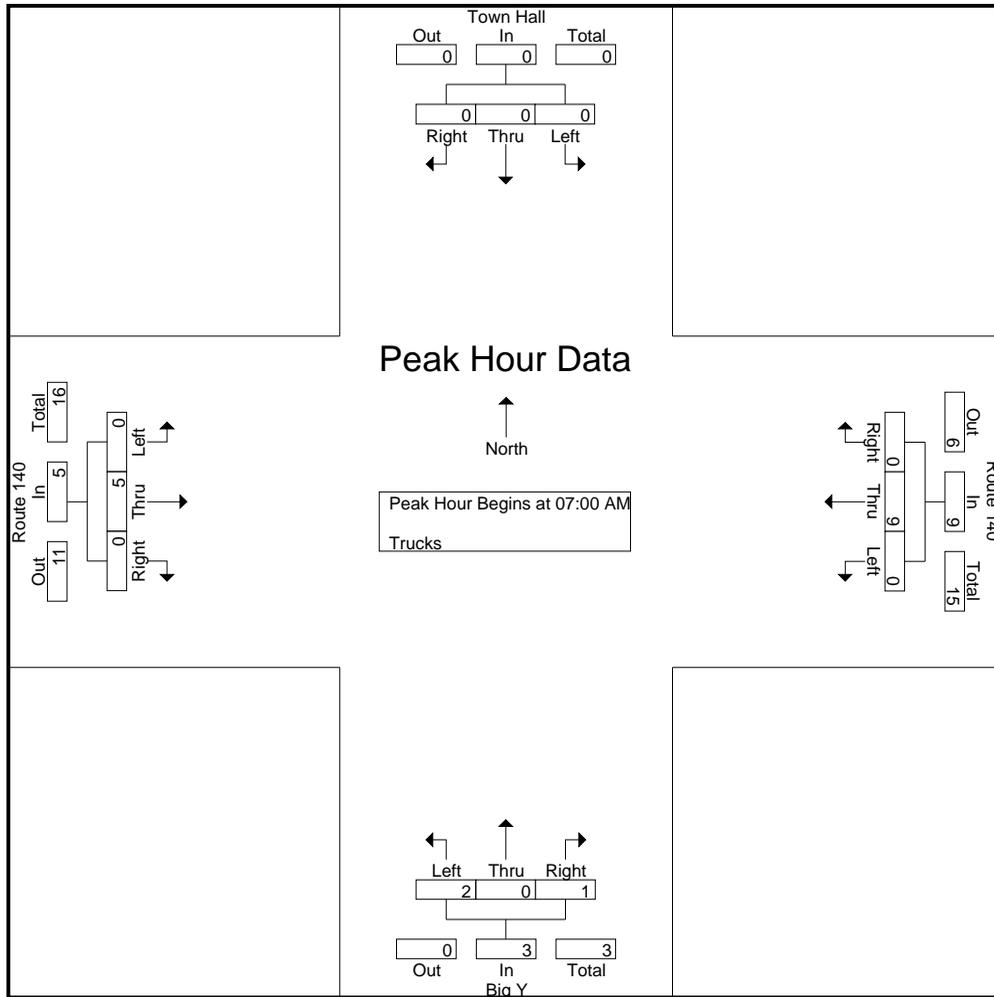
Start Time	Town Hall From North				Route 140 From East				Big Y From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	3	0	3	2	0	0	2	0	1	0	1	6
07:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
07:30 AM	0	0	0	0	0	4	0	4	0	0	1	1	0	1	0	1	6
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
Total Volume	0	0	0	0	0	9	0	9	2	0	1	3	0	5	0	5	17
% App. Total	0	0	0	0	0	100	0		66.7	0	33.3		0	100	0		
PHF	.000	.000	.000	.000	.000	.563	.000	.563	.250	.000	.250	.375	.000	.625	.000	.625	.708

Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830004
 Site Code : 98830004
 Start Date : 12/5/2024
 Page No : 8



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				07:30 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	4	0	4	2	0	0	2	0	1	0	1
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2
+30 mins.	0	0	0	0	0	2	0	2	0	0	1	1	0	1	0	1
+45 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	10	0	10	2	0	1	3	0	5	0	5
% App. Total	0	0	0	0	0	100	0	66.7	0	33.3	0	0	0	100	0	0
PHF	.000	.000	.000	.000	.000	.625	.000	.625	.250	.000	.250	.375	.000	.625	.000	.625

Accurate Counts

978-664-2565

File Name : 98830004

Site Code : 98830004

Start Date : 12/5/2024

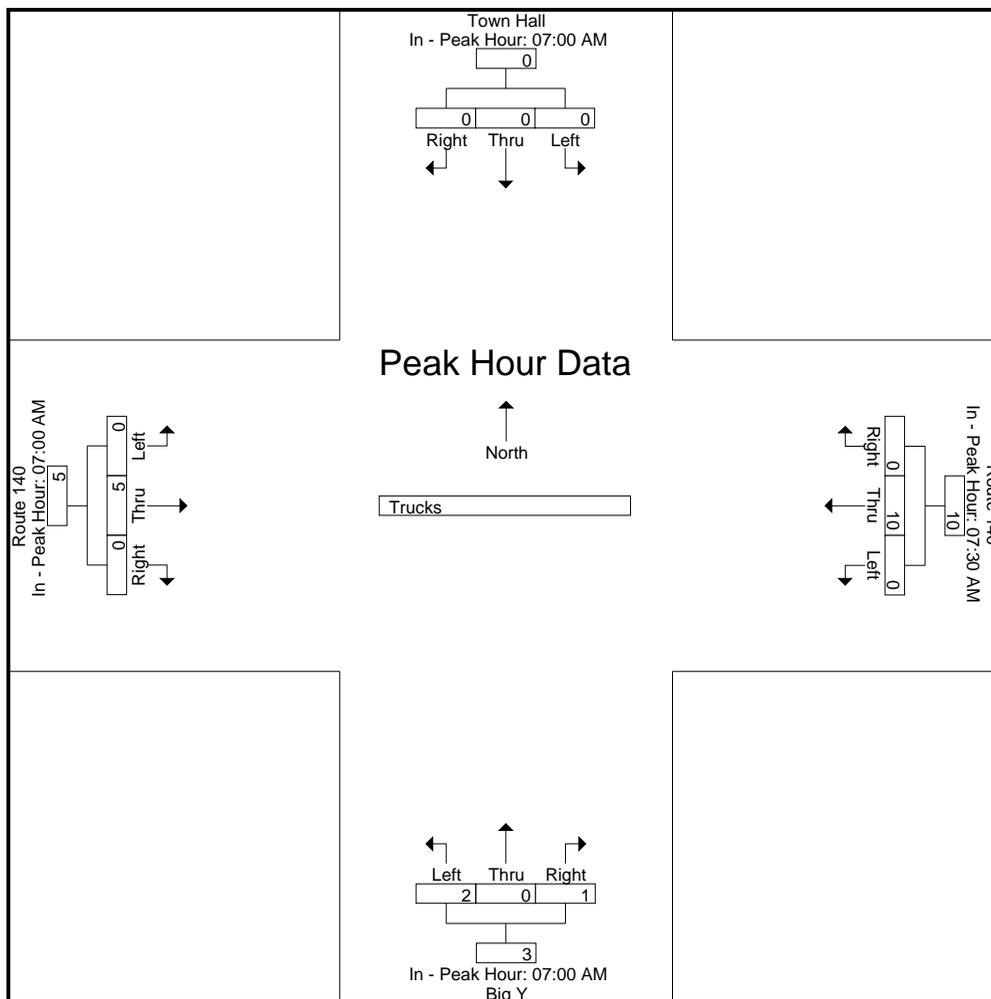
Page No : 9

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy

File Name : 98830004

Site Code : 98830004

Start Date : 12/5/2024

Page No : 10

Groups Printed- Bikes Peds

Start Time	Town Hall From North				Route 140 From East				Big Y From South				Route 140 From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
07:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
07:45 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Total	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0				
Total %																	100	0	

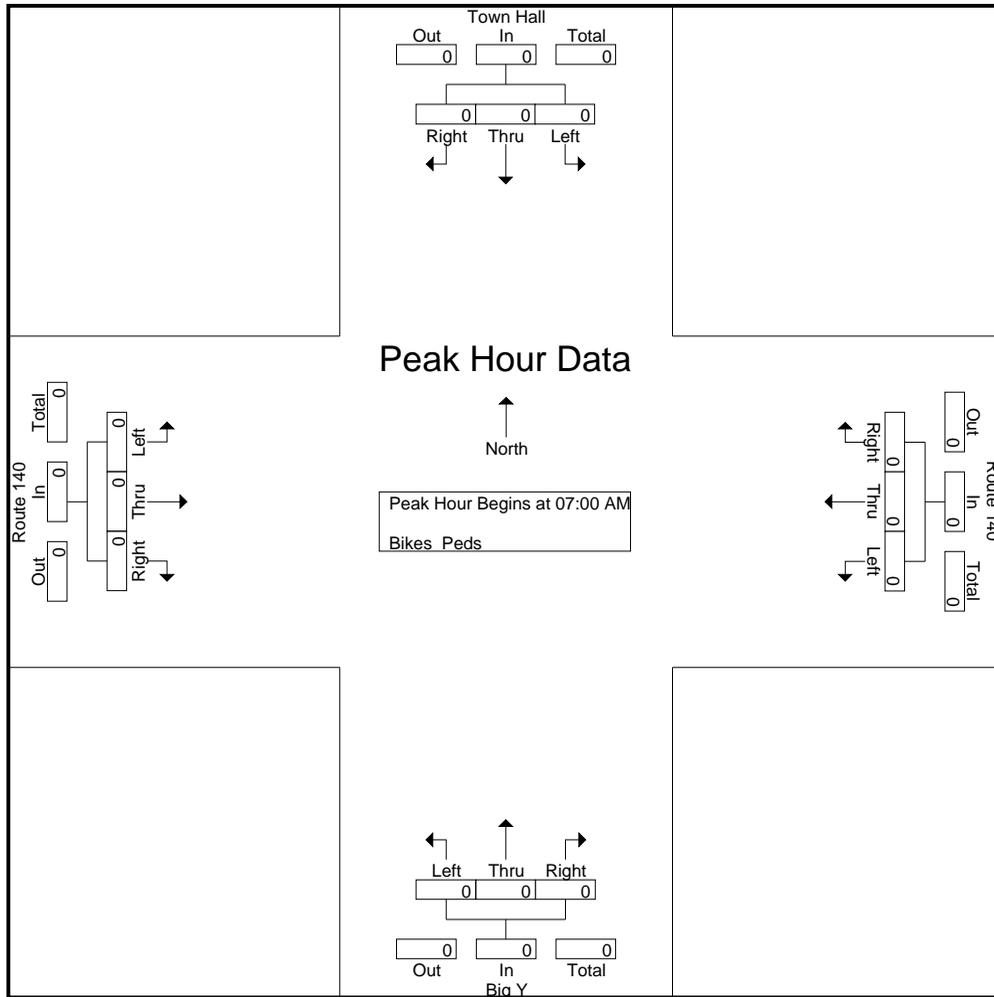
Start Time	Town Hall From North				Route 140 From East				Big Y From South				Route 140 From West				Int. Total	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:00 AM																		
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0			
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830004
 Site Code : 98830004
 Start Date : 12/5/2024
 Page No : 11



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

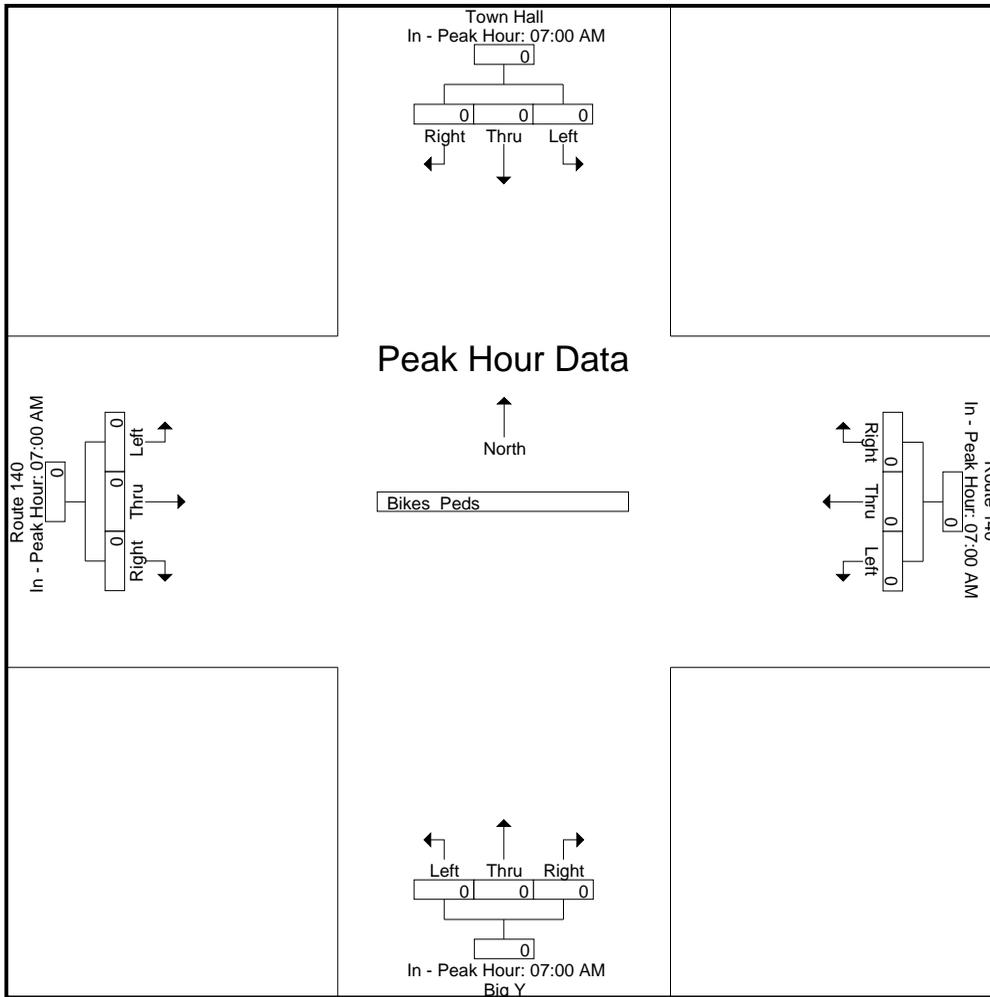
Weather : Snow/Cloudy

File Name : 98830004

Site Code : 98830004

Start Date : 12/5/2024

Page No : 12



Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830004
 Site Code : 98830004
 Start Date : 12/5/2024
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Town Hall From North			Route 140 From East			Big Y From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	8	0	22	13	124	2	21	0	6	1	101	4	302
04:15 PM	3	3	4	14	114	0	23	0	23	3	94	3	284
04:30 PM	1	0	5	7	123	2	28	0	16	1	108	2	293
04:45 PM	1	0	9	13	112	1	23	0	18	6	103	2	288
Total	13	3	40	47	473	5	95	0	63	11	406	11	1167
05:00 PM	0	0	6	8	120	1	19	0	21	4	115	1	295
05:15 PM	1	0	5	15	134	2	25	0	11	2	114	0	309
05:30 PM	0	1	0	11	95	0	12	0	11	3	99	2	234
05:45 PM	1	0	4	7	87	1	16	0	10	1	102	1	230
Total	2	1	15	41	436	4	72	0	53	10	430	4	1068
Grand Total	15	4	55	88	909	9	167	0	116	21	836	15	2235
Apprch %	20.3	5.4	74.3	8.7	90.4	0.9	59	0	41	2.4	95.9	1.7	
Total %	0.7	0.2	2.5	3.9	40.7	0.4	7.5	0	5.2	0.9	37.4	0.7	
Cars	15	4	55	87	904	9	167	0	116	21	827	15	2220
% Cars	100	100	100	98.9	99.4	100	100	0	100	100	98.9	100	99.3
Trucks	0	0	0	1	5	0	0	0	0	0	9	0	15
% Trucks	0	0	0	1.1	0.6	0	0	0	0	0	1.1	0	0.7

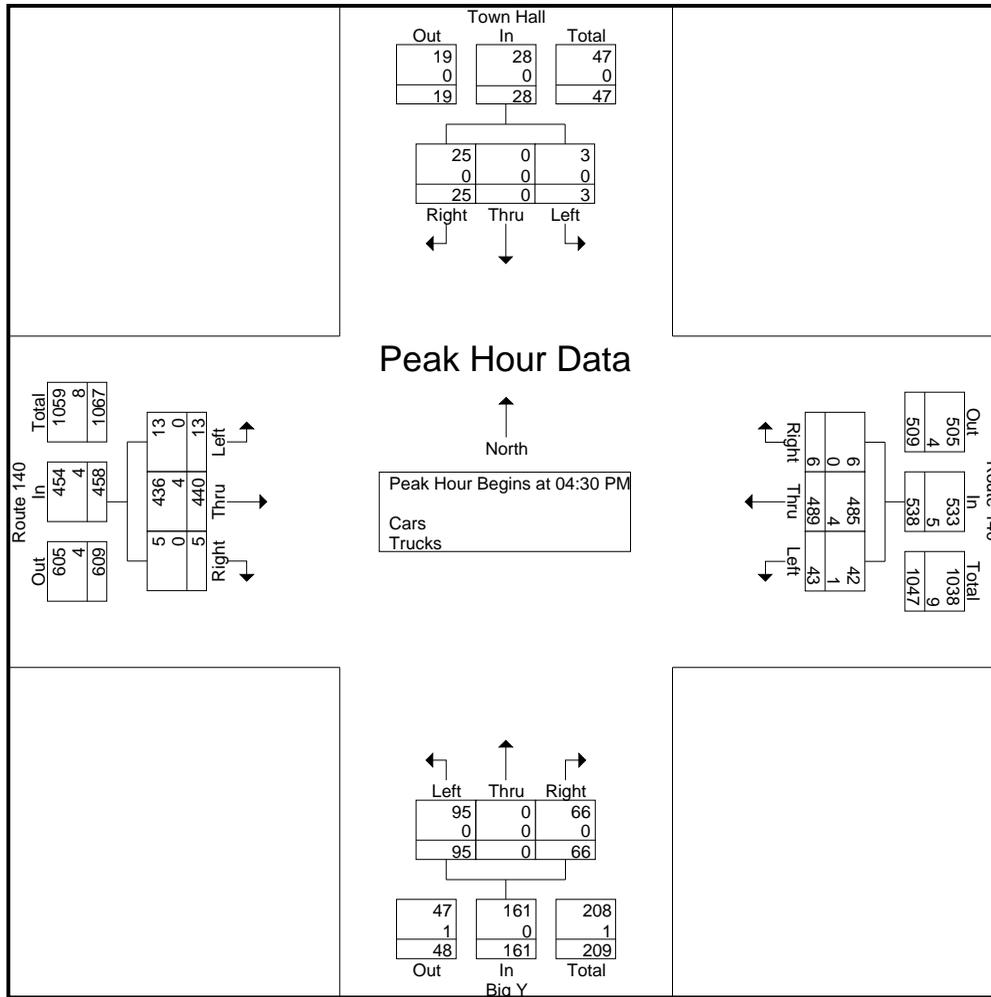
Start Time	Town Hall From North				Route 140 From East				Big Y From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	1	0	5	6	7	123	2	132	28	0	16	44	1	108	2	111	293
04:45 PM	1	0	9	10	13	112	1	126	23	0	18	41	6	103	2	111	288
05:00 PM	0	0	6	6	8	120	1	129	19	0	21	40	4	115	1	120	295
05:15 PM	1	0	5	6	15	134	2	151	25	0	11	36	2	114	0	116	309
Total Volume	3	0	25	28	43	489	6	538	95	0	66	161	13	440	5	458	1185
% App. Total	10.7	0	89.3		8	90.9	1.1		59	0	41		2.8	96.1	1.1		
PHF	.750	.000	.694	.700	.717	.912	.750	.891	.848	.000	.786	.915	.542	.957	.625	.954	.959
Cars	3	0	25	28	42	485	6	533	95	0	66	161	13	436	5	454	1176
% Cars	100	0	100	100	97.7	99.2	100	99.1	100	0	100	100	100	99.1	100	99.1	99.2
Trucks	0	0	0	0	1	4	0	5	0	0	0	0	0	4	0	4	9
% Trucks	0	0	0	0	2.3	0.8	0	0.9	0	0	0	0	0	0.9	0	0.9	0.8

Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830004
 Site Code : 98830004
 Start Date : 12/5/2024
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				04:15 PM				04:30 PM			
+0 mins.	8	0	22	30	7	123	2	132	23	0	23	46	1	108	2	111
+15 mins.	3	3	4	10	13	112	1	126	28	0	16	44	6	103	2	111
+30 mins.	1	0	5	6	8	120	1	129	23	0	18	41	4	115	1	120
+45 mins.	1	0	9	10	15	134	2	151	19	0	21	40	2	114	0	116
Total Volume	13	3	40	56	43	489	6	538	93	0	78	171	13	440	5	458
% App. Total	23.2	5.4	71.4		8	90.9	1.1		54.4	0	45.6		2.8	96.1	1.1	
PHF	.406	.250	.455	.467	.717	.912	.750	.891	.830	.000	.848	.929	.542	.957	.625	.954
Cars	13	3	40	56	42	485	6	533	93	0	78	171	13	436	5	454
% Cars	100	100	100	100	97.7	99.2	100	99.1	100	0	100	100	100	99.1	100	99.1
Trucks	0	0	0	0	1	4	0	5	0	0	0	0	0	4	0	4
% Trucks	0	0	0	0	2.3	0.8	0	0.9	0	0	0	0	0	0.9	0	0.9

Accurate Counts

978-664-2565

File Name : 98830004

Site Code : 98830004

Start Date : 12/5/2024

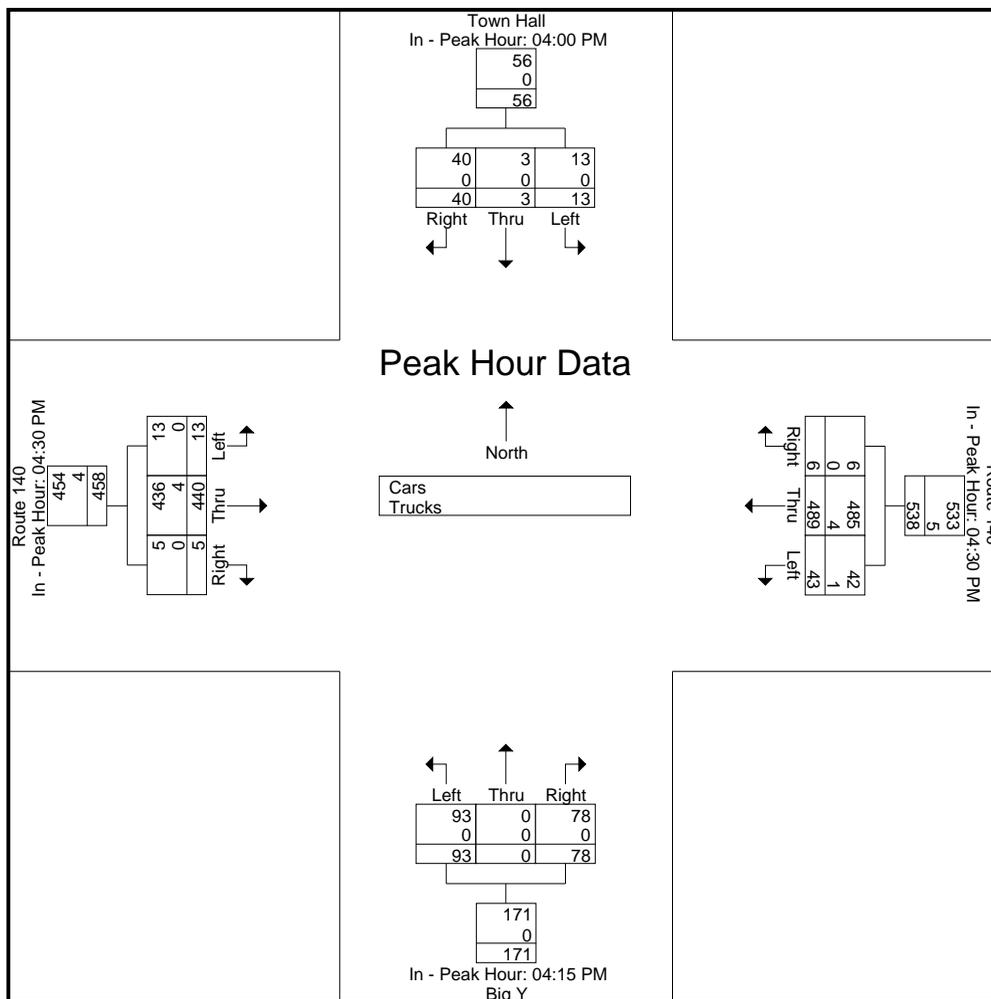
Page No : 3

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830004
 Site Code : 98830004
 Start Date : 12/5/2024
 Page No : 4

Groups Printed- Cars

Start Time	Town Hall From North			Route 140 From East			Big Y From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	8	0	22	13	124	2	21	0	6	1	99	4	300
04:15 PM	3	3	4	14	114	0	23	0	23	3	94	3	284
04:30 PM	1	0	5	7	121	2	28	0	16	1	106	2	289
04:45 PM	1	0	9	13	111	1	23	0	18	6	102	2	286
Total	13	3	40	47	470	5	95	0	63	11	401	11	1159
05:00 PM	0	0	6	8	120	1	19	0	21	4	114	1	294
05:15 PM	1	0	5	14	133	2	25	0	11	2	114	0	307
05:30 PM	0	1	0	11	94	0	12	0	11	3	97	2	231
05:45 PM	1	0	4	7	87	1	16	0	10	1	101	1	229
Total	2	1	15	40	434	4	72	0	53	10	426	4	1061
Grand Total	15	4	55	87	904	9	167	0	116	21	827	15	2220
Apprch %	20.3	5.4	74.3	8.7	90.4	0.9	59	0	41	2.4	95.8	1.7	
Total %	0.7	0.2	2.5	3.9	40.7	0.4	7.5	0	5.2	0.9	37.3	0.7	

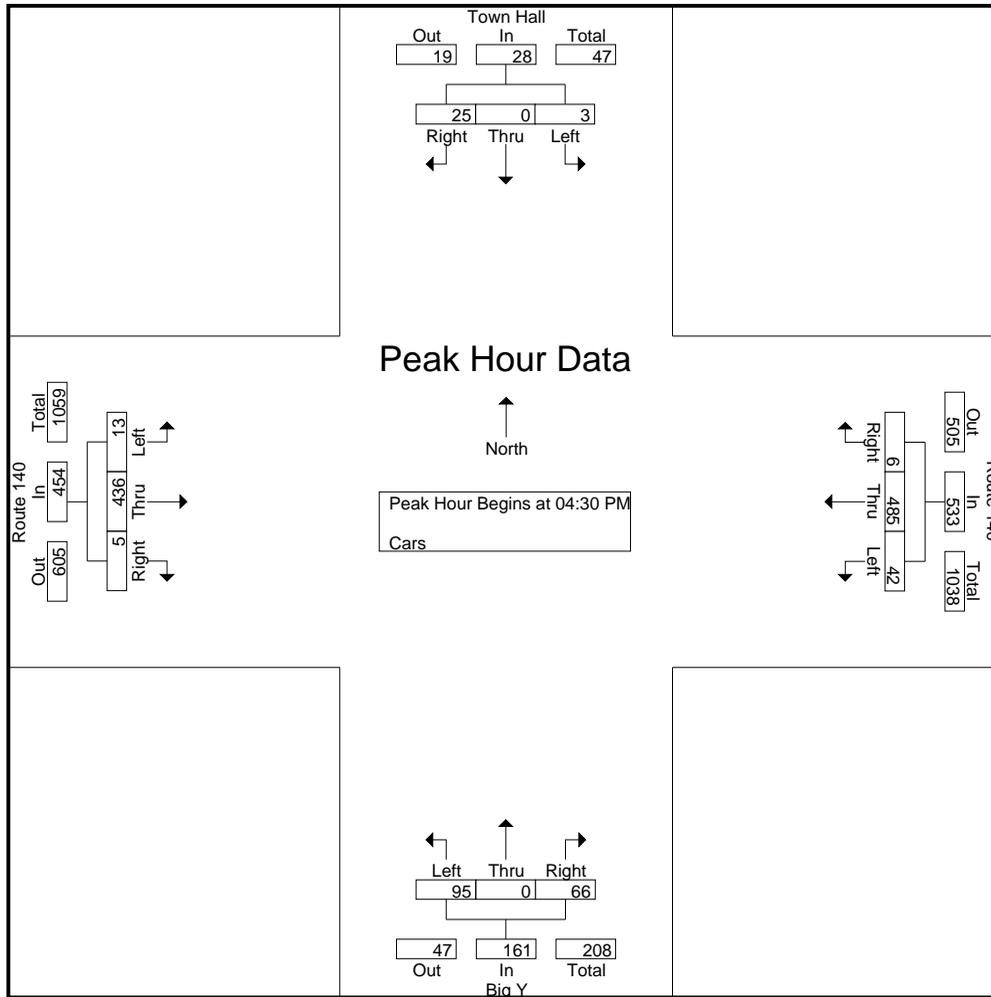
Start Time	Town Hall From North				Route 140 From East				Big Y From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	1	0	5	6	7	121	2	130	28	0	16	44	1	106	2	109	289
04:45 PM	1	0	9	10	13	111	1	125	23	0	18	41	6	102	2	110	286
05:00 PM	0	0	6	6	8	120	1	129	19	0	21	40	4	114	1	119	294
05:15 PM	1	0	5	6	14	133	2	149	25	0	11	36	2	114	0	116	307
Total Volume	3	0	25	28	42	485	6	533	95	0	66	161	13	436	5	454	1176
% App. Total	10.7	0	89.3		7.9	91	1.1		59	0	41		2.9	96	1.1		
PHF	.750	.000	.694	.700	.750	.912	.750	.894	.848	.000	.786	.915	.542	.956	.625	.954	.958

Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830004
 Site Code : 98830004
 Start Date : 12/5/2024
 Page No : 5



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				04:15 PM				04:30 PM			
+0 mins.	8	0	22	30	7	121	2	130	23	0	23	46	1	106	2	109
+15 mins.	3	3	4	10	13	111	1	125	28	0	16	44	6	102	2	110
+30 mins.	1	0	5	6	8	120	1	129	23	0	18	41	4	114	1	119
+45 mins.	1	0	9	10	14	133	2	149	19	0	21	40	2	114	0	116
Total Volume	13	3	40	56	42	485	6	533	93	0	78	171	13	436	5	454
% App. Total	23.2	5.4	71.4		7.9	91	1.1		54.4	0	45.6		2.9	96	1.1	
PHF	.406	.250	.455	.467	.750	.912	.750	.894	.830	.000	.848	.929	.542	.956	.625	.954

Accurate Counts

978-664-2565

File Name : 98830004

Site Code : 98830004

Start Date : 12/5/2024

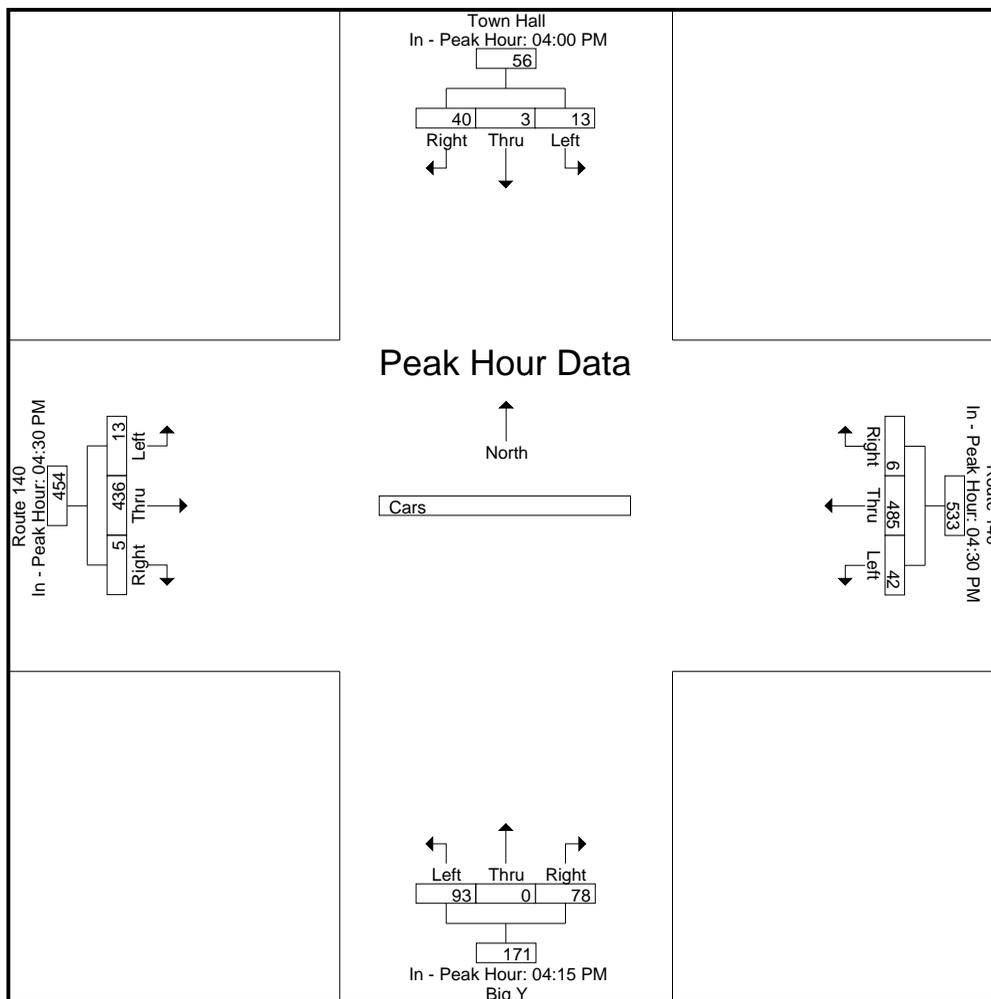
Page No : 6

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy

File Name : 98830004

Site Code : 98830004

Start Date : 12/5/2024

Page No : 7

Groups Printed- Trucks

Start Time	Town Hall From North			Route 140 From East			Big Y From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	2	0	0	0	0	0	2	0	4
04:45 PM	0	0	0	0	1	0	0	0	0	0	1	0	2
Total	0	0	0	0	3	0	0	0	0	0	5	0	8
05:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
05:15 PM	0	0	0	1	1	0	0	0	0	0	0	0	2
05:30 PM	0	0	0	0	1	0	0	0	0	0	2	0	3
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	1	2	0	0	0	0	0	4	0	7
Grand Total	0	0	0	1	5	0	0	0	0	0	9	0	15
Apprch %	0	0	0	16.7	83.3	0	0	0	0	0	100	0	
Total %	0	0	0	6.7	33.3	0	0	0	0	0	60	0	

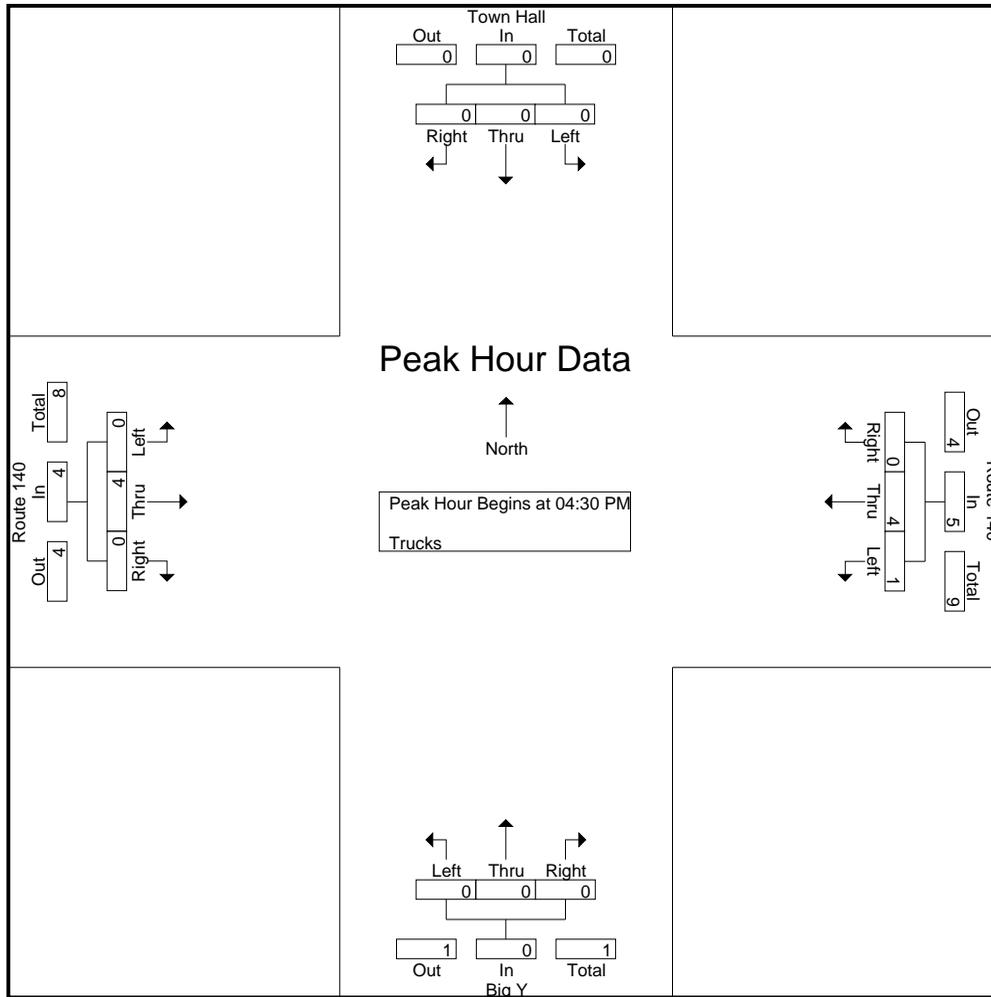
Start Time	Town Hall From North				Route 140 From East				Big Y From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:15 PM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	1	4	0	5	0	0	0	0	0	4	0	4	9
% App. Total	0	0	0	0	20	80	0		0	0	0	0	0	100	0		
PHF	.000	.000	.000	.000	.250	.500	.000	.625	.000	.000	.000	.000	.000	.500	.000	.500	.563

Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830004
 Site Code : 98830004
 Start Date : 12/5/2024
 Page No : 8



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
+45 mins.	0	0	0	0	1	1	0	2	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	1	4	0	5	0	0	0	0	0	5	0	5
% App. Total	0	0	0	0	20	80	0		0	0	0	0	0	100	0	
PHF	.000	.000	.000	.000	.250	.500	.000	.625	.000	.000	.000	.000	.000	.625	.000	.625

Accurate Counts

978-664-2565

File Name : 98830004

Site Code : 98830004

Start Date : 12/5/2024

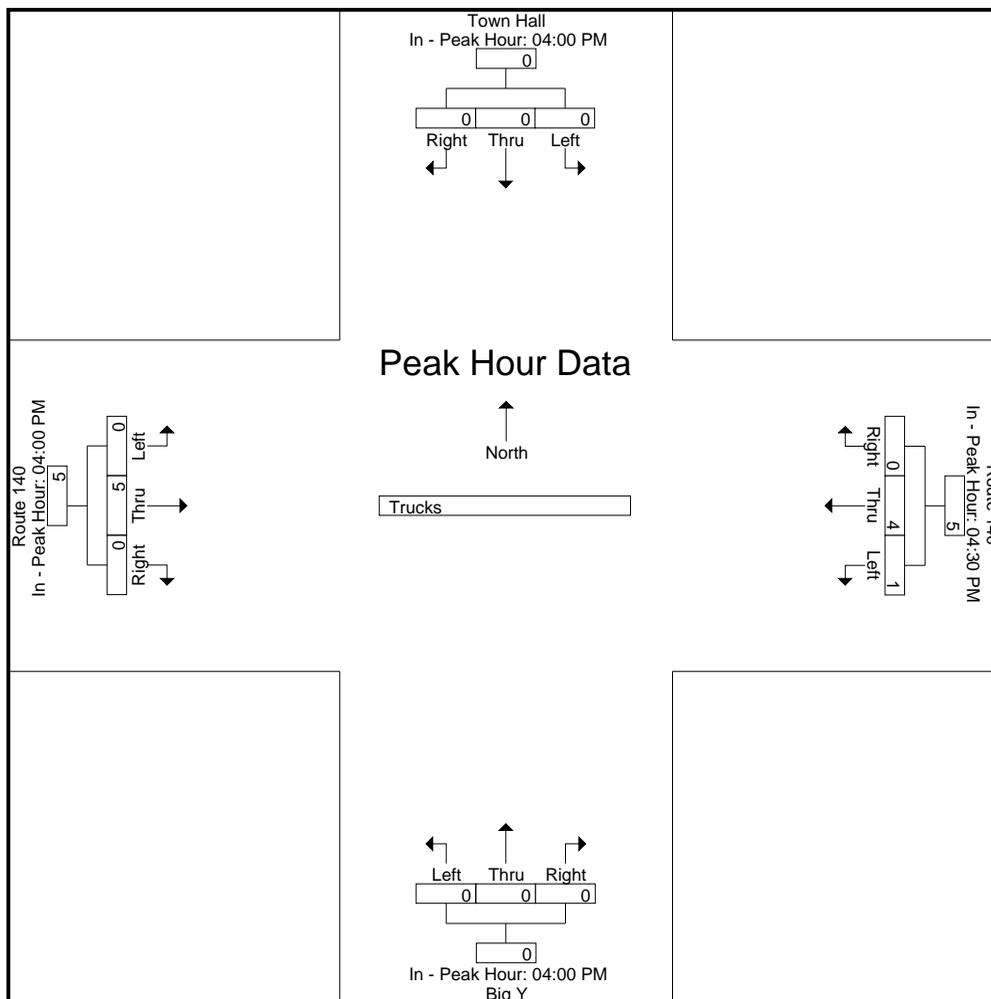
Page No : 9

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy

File Name : 98830004

Site Code : 98830004

Start Date : 12/5/2024

Page No : 10

Groups Printed- Bikes Peds

Start Time	Town Hall From North				Route 140 From East				Big Y From South				Route 140 From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	2
Total	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	2	1	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	3	0	3
Grand Total	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	4	5	1	6
Apprch %	0	0	0		0	100	0		0	0	0		0	0	0				
Total %	0	0	0		0	100	0		0	0	0		0	0	0		83.3	16.7	

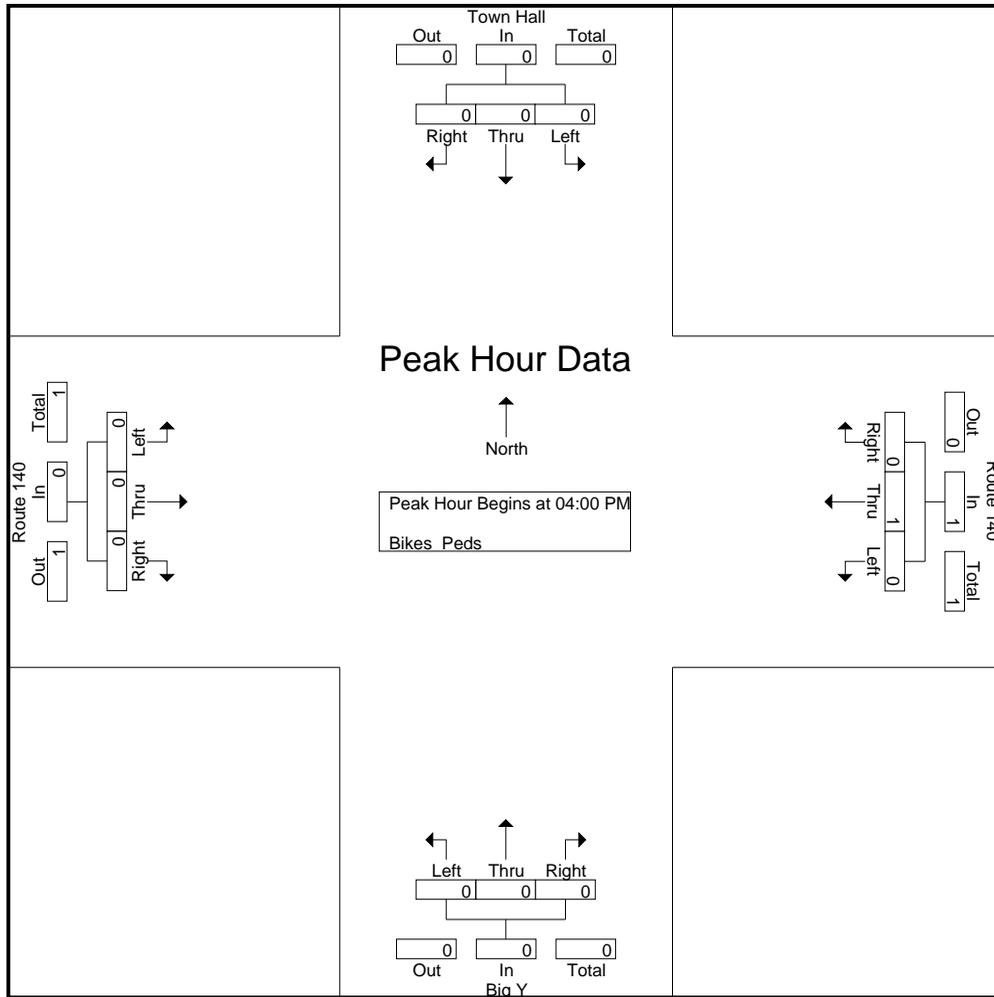
Start Time	Town Hall From North				Route 140 From East				Big Y From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250

Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830004
 Site Code : 98830004
 Start Date : 12/5/2024
 Page No : 11



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

File Name : 98830004

Site Code : 98830004

Start Date : 12/5/2024

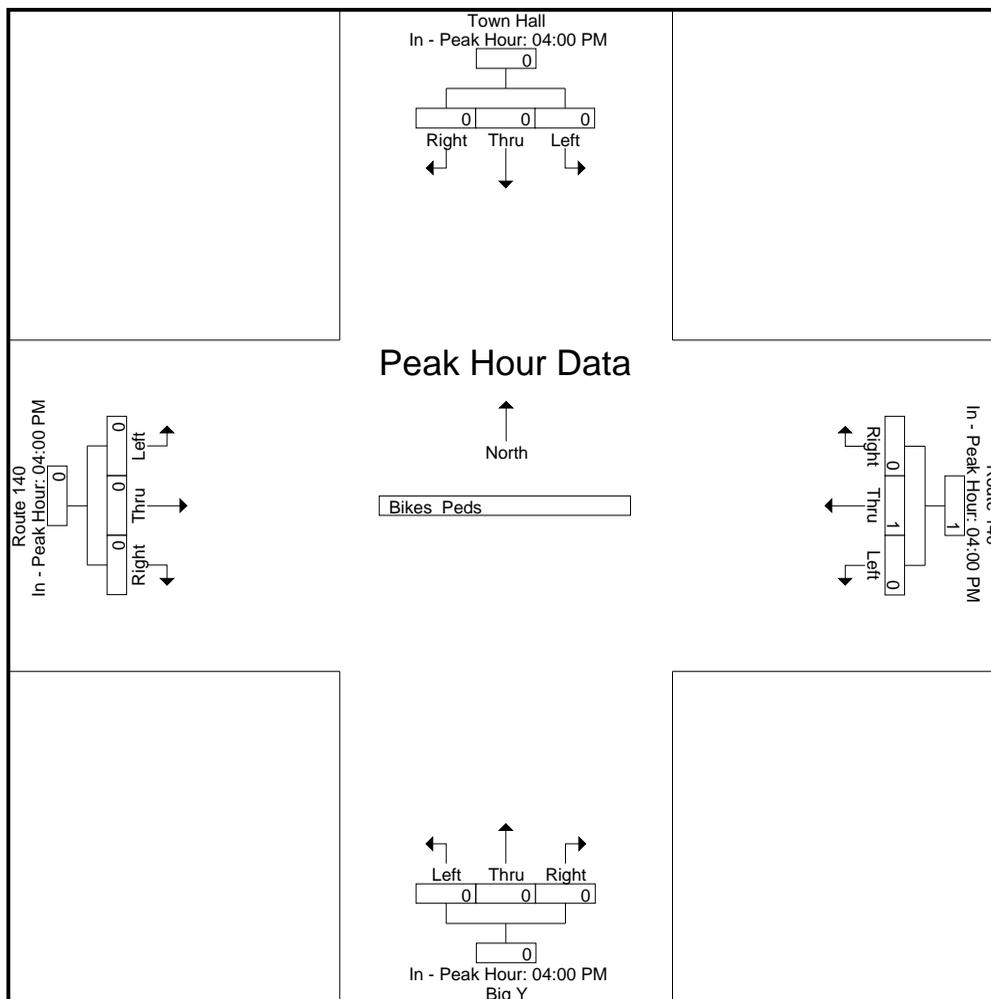
Page No : 12

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear

File Name : 988300S4
 Site Code : 98830004
 Start Date : 12/7/2024
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Town Hall From North			Route 140 From East			Big Y From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:00 AM	1	0	4	22	130	2	26	0	16	3	87	2	293
11:15 AM	0	0	7	19	130	2	38	2	19	3	116	3	339
11:30 AM	1	0	7	11	139	1	27	0	24	5	105	1	321
11:45 AM	2	0	3	21	114	1	37	0	21	1	99	2	301
Total	4	0	21	73	513	6	128	2	80	12	407	8	1254
12:00 PM	0	0	4	13	121	1	33	1	20	0	132	1	326
12:15 PM	2	0	1	19	107	3	32	0	17	4	127	2	314
12:30 PM	0	0	2	19	102	0	31	1	17	4	105	0	281
12:45 PM	2	0	3	11	115	0	43	0	18	3	92	1	288
Total	4	0	10	62	445	4	139	2	72	11	456	4	1209
01:00 PM	2	0	4	9	121	1	22	1	16	4	89	2	271
01:15 PM	3	0	8	14	111	0	29	0	18	5	98	2	288
01:30 PM	1	0	1	9	116	1	19	0	18	2	95	1	263
01:45 PM	0	1	2	13	96	0	28	0	26	2	87	3	258
Total	6	1	15	45	444	2	98	1	78	13	369	8	1080
Grand Total	14	1	46	180	1402	12	365	5	230	36	1232	20	3543
Apprch %	23	1.6	75.4	11.3	88	0.8	60.8	0.8	38.3	2.8	95.7	1.6	
Total %	0.4	0	1.3	5.1	39.6	0.3	10.3	0.1	6.5	1	34.8	0.6	
Cars	14	1	46	180	1397	12	365	5	230	36	1228	20	3534
% Cars	100	100	100	100	99.6	100	100	100	100	100	99.7	100	99.7
Trucks	0	0	0	0	5	0	0	0	0	0	4	0	9
% Trucks	0	0	0	0	0.4	0	0	0	0	0	0.3	0	0.3

Start Time	Town Hall From North				Route 140 From East				Big Y From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:15 AM																	
11:15 AM	0	0	7	7	19	130	2	151	38	2	19	59	3	116	3	122	339
11:30 AM	1	0	7	8	11	139	1	151	27	0	24	51	5	105	1	111	321
11:45 AM	2	0	3	5	21	114	1	136	37	0	21	58	1	99	2	102	301
12:00 PM	0	0	4	4	13	121	1	135	33	1	20	54	0	132	1	133	326
Total Volume	3	0	21	24	64	504	5	573	135	3	84	222	9	452	7	468	1287
% App. Total	12.5	0	87.5		11.2	88	0.9		60.8	1.4	37.8		1.9	96.6	1.5		
PHF	.375	.000	.750	.750	.762	.906	.625	.949	.888	.375	.875	.941	.450	.856	.583	.880	.949
Cars	3	0	21	24	64	503	5	572	135	3	84	222	9	451	7	467	1285
% Cars	100	0	100	100	100	99.8	100	99.8	100	100	100	100	100	99.8	100	99.8	99.8
Trucks	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
% Trucks	0	0	0	0	0	0.2	0	0.2	0	0	0	0	0	0.2	0	0.2	0.2

Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

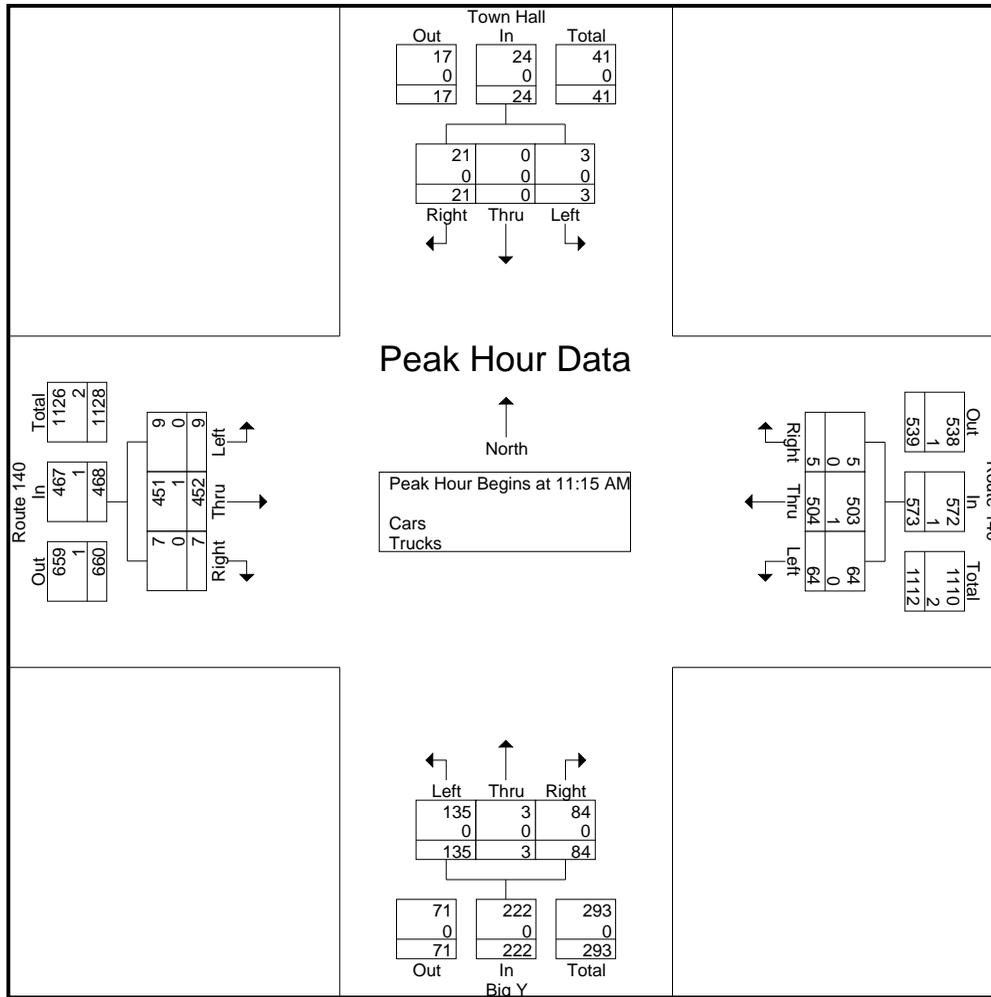
Weather : Clear

File Name : 988300S4

Site Code : 98830004

Start Date : 12/7/2024

Page No : 2



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:00 AM				11:15 AM				11:30 AM							
+0 mins.	1	0	4	5	22	130	2	154	38	2	19	59	5	105	1	111
+15 mins.	0	0	7	7	19	130	2	151	27	0	24	51	1	99	2	102
+30 mins.	1	0	7	8	11	139	1	151	37	0	21	58	0	132	1	133
+45 mins.	2	0	3	5	21	114	1	136	33	1	20	54	4	127	2	133
Total Volume	4	0	21	25	73	513	6	592	135	3	84	222	10	463	6	479
% App. Total	16	0	84		12.3	86.7	1		60.8	1.4	37.8		2.1	96.7	1.3	
PHF	.500	.000	.750	.781	.830	.923	.750	.961	.888	.375	.875	.941	.500	.877	.750	.900
Cars	4	0	21	25	73	510	6	589	135	3	84	222	10	461	6	477
% Cars	100	0	100	100	100	99.4	100	99.5	100	100	100	100	100	99.6	100	99.6
Trucks	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2
% Trucks	0	0	0	0	0	0.6	0	0.5	0	0	0	0	0	0.4	0	0.4

Accurate Counts

978-664-2565

File Name : 988300S4

Site Code : 98830004

Start Date : 12/7/2024

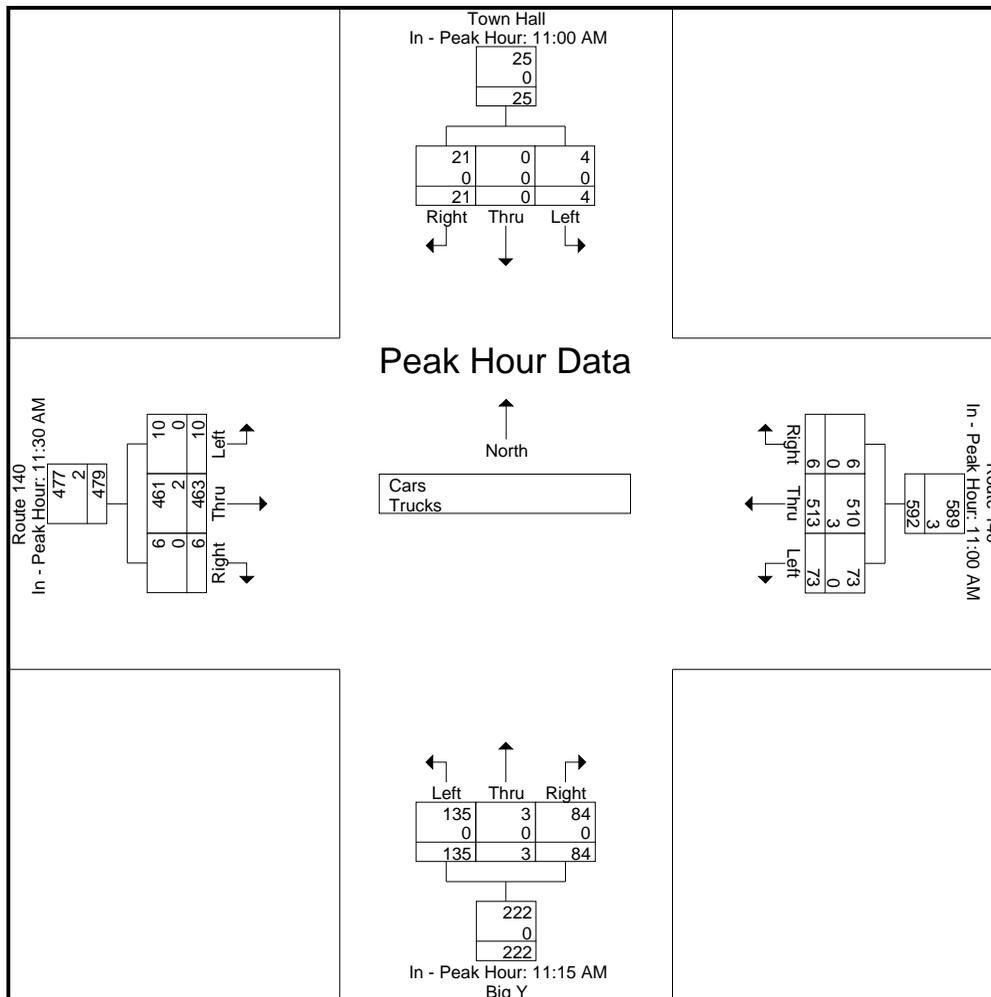
Page No : 3

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear

File Name : 988300S4
 Site Code : 98830004
 Start Date : 12/7/2024
 Page No : 4

Groups Printed- Cars

Start Time	Town Hall From North			Route 140 From East			Big Y From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:00 AM	1	0	4	22	128	2	26	0	16	3	87	2	291
11:15 AM	0	0	7	19	130	2	38	2	19	3	116	3	339
11:30 AM	1	0	7	11	139	1	27	0	24	5	105	1	321
11:45 AM	2	0	3	21	113	1	37	0	21	1	98	2	299
Total	4	0	21	73	510	6	128	2	80	12	406	8	1250
12:00 PM	0	0	4	13	121	1	33	1	20	0	132	1	326
12:15 PM	2	0	1	19	107	3	32	0	17	4	126	2	313
12:30 PM	0	0	2	19	102	0	31	1	17	4	104	0	280
12:45 PM	2	0	3	11	114	0	43	0	18	3	92	1	287
Total	4	0	10	62	444	4	139	2	72	11	454	4	1206
01:00 PM	2	0	4	9	120	1	22	1	16	4	89	2	270
01:15 PM	3	0	8	14	111	0	29	0	18	5	98	2	288
01:30 PM	1	0	1	9	116	1	19	0	18	2	94	1	262
01:45 PM	0	1	2	13	96	0	28	0	26	2	87	3	258
Total	6	1	15	45	443	2	98	1	78	13	368	8	1078
Grand Total	14	1	46	180	1397	12	365	5	230	36	1228	20	3534
Apprch %	23	1.6	75.4	11.3	87.9	0.8	60.8	0.8	38.3	2.8	95.6	1.6	
Total %	0.4	0	1.3	5.1	39.5	0.3	10.3	0.1	6.5	1	34.7	0.6	

Start Time	Town Hall From North				Route 140 From East				Big Y From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:15 AM																	
11:15 AM	0	0	7	7	19	130	2	151	38	2	19	59	3	116	3	122	339
11:30 AM	1	0	7	8	11	139	1	151	27	0	24	51	5	105	1	111	321
11:45 AM	2	0	3	5	21	113	1	135	37	0	21	58	1	98	2	101	299
12:00 PM	0	0	4	4	13	121	1	135	33	1	20	54	0	132	1	133	326
Total Volume	3	0	21	24	64	503	5	572	135	3	84	222	9	451	7	467	1285
% App. Total	12.5	0	87.5		11.2	87.9	0.9		60.8	1.4	37.8		1.9	96.6	1.5		
PHF	.375	.000	.750	.750	.762	.905	.625	.947	.888	.375	.875	.941	.450	.854	.583	.878	.948

Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

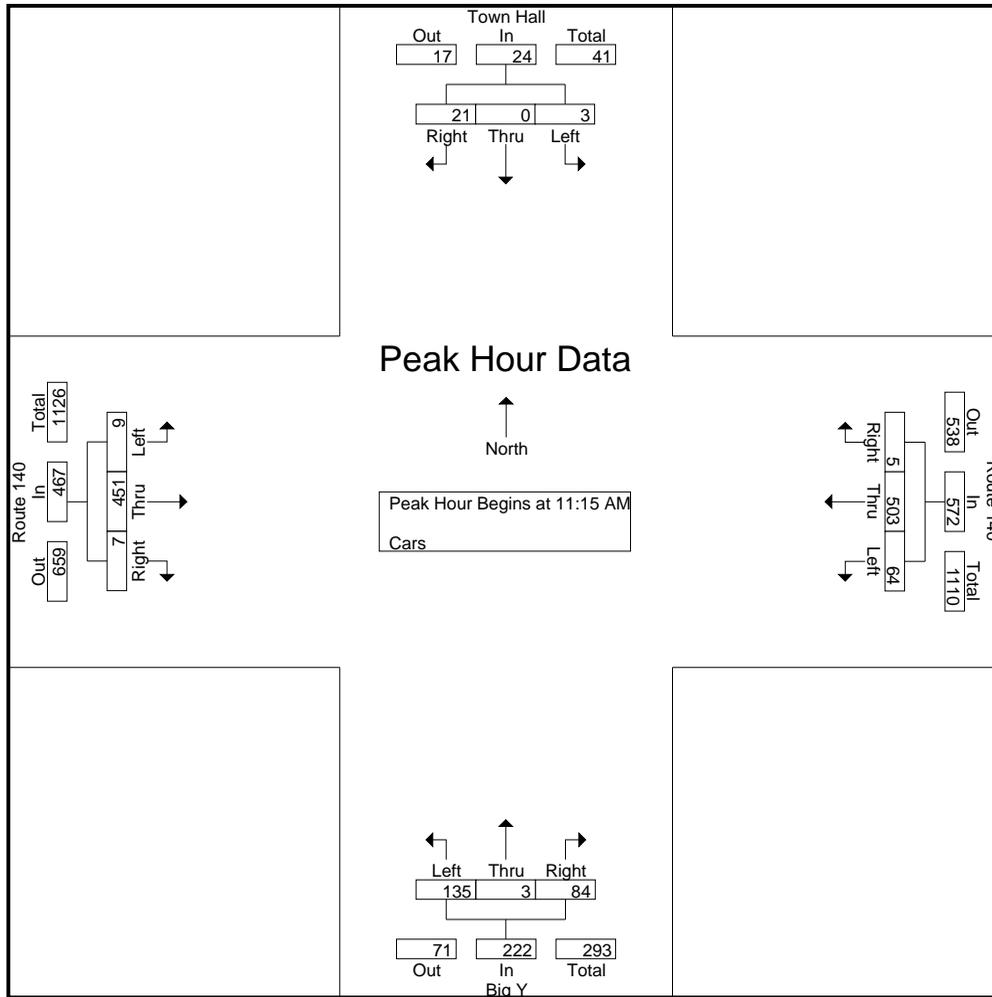
Weather : Clear

File Name : 988300S4

Site Code : 98830004

Start Date : 12/7/2024

Page No : 5



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:00 AM				11:15 AM				11:30 AM							
+0 mins.	1	0	4	5	22	128	2	152	38	2	19	59	5	105	1	111
+15 mins.	0	0	7	7	19	130	2	151	27	0	24	51	1	98	2	101
+30 mins.	1	0	7	8	11	139	1	151	37	0	21	58	0	132	1	133
+45 mins.	2	0	3	5	21	113	1	135	33	1	20	54	4	126	2	132
Total Volume	4	0	21	25	73	510	6	589	135	3	84	222	10	461	6	477
% App. Total	16	0	84		12.4	86.6	1		60.8	1.4	37.8		2.1	96.6	1.3	
PHF	.500	.000	.750	.781	.830	.917	.750	.969	.888	.375	.875	.941	.500	.873	.750	.897

Accurate Counts

978-664-2565

File Name : 988300S4

Site Code : 98830004

Start Date : 12/7/2024

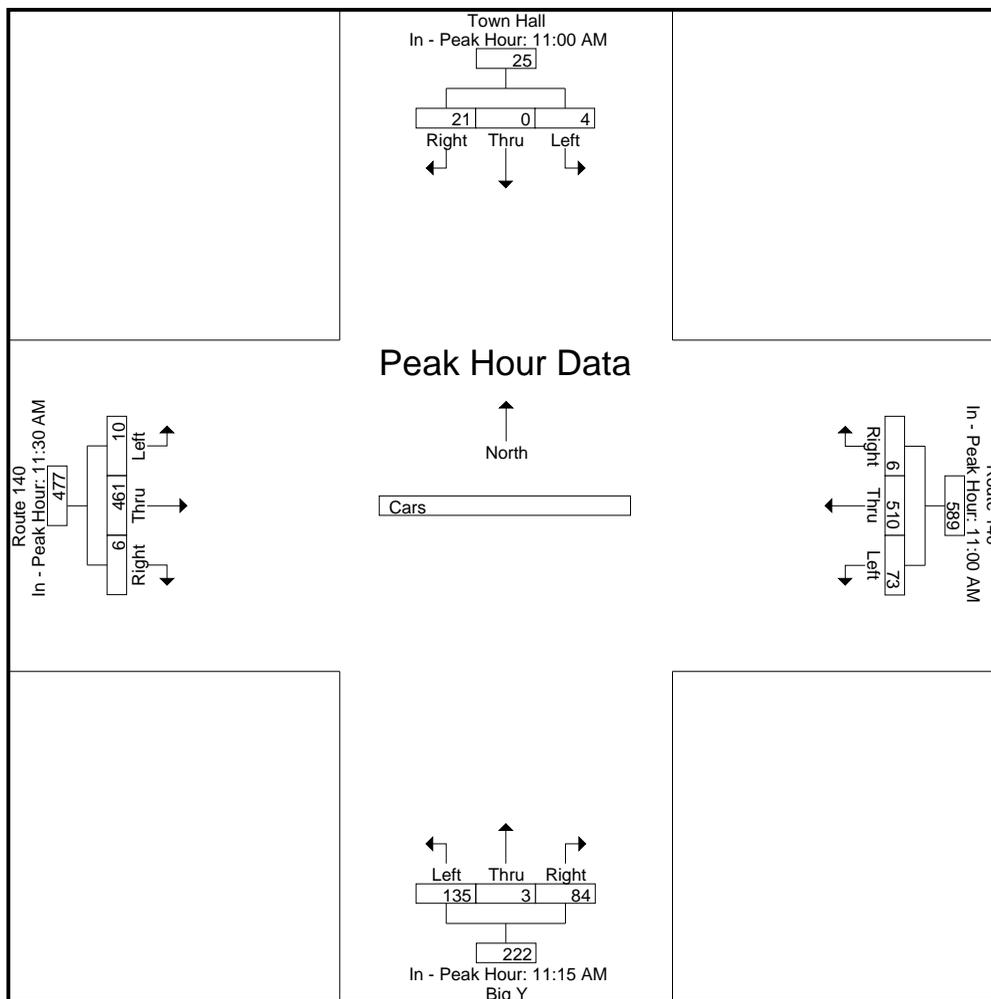
Page No : 6

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear

File Name : 988300S4
 Site Code : 98830004
 Start Date : 12/7/2024
 Page No : 7

Groups Printed- Trucks

Start Time	Town Hall From North			Route 140 From East			Big Y From South			Route 140 From West			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
11:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
Total	0	0	0	0	3	0	0	0	0	0	1	0	4
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
12:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
12:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	0	0	0	0	0	2	0	3
01:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	0	0	0	1	0	2
Grand Total	0	0	0	0	5	0	0	0	0	0	4	0	9
Apprch %	0	0	0	0	100	0	0	0	0	0	100	0	
Total %	0	0	0	0	55.6	0	0	0	0	0	44.4	0	

Start Time	Town Hall From North				Route 140 From East				Big Y From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:00 AM																	
11:00 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
Total Volume	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1	4
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0	
PHF	.000	.000	.000	.000	.000	.375	.000	.375	.000	.000	.000	.000	.000	.250	.000	.250	.500

Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

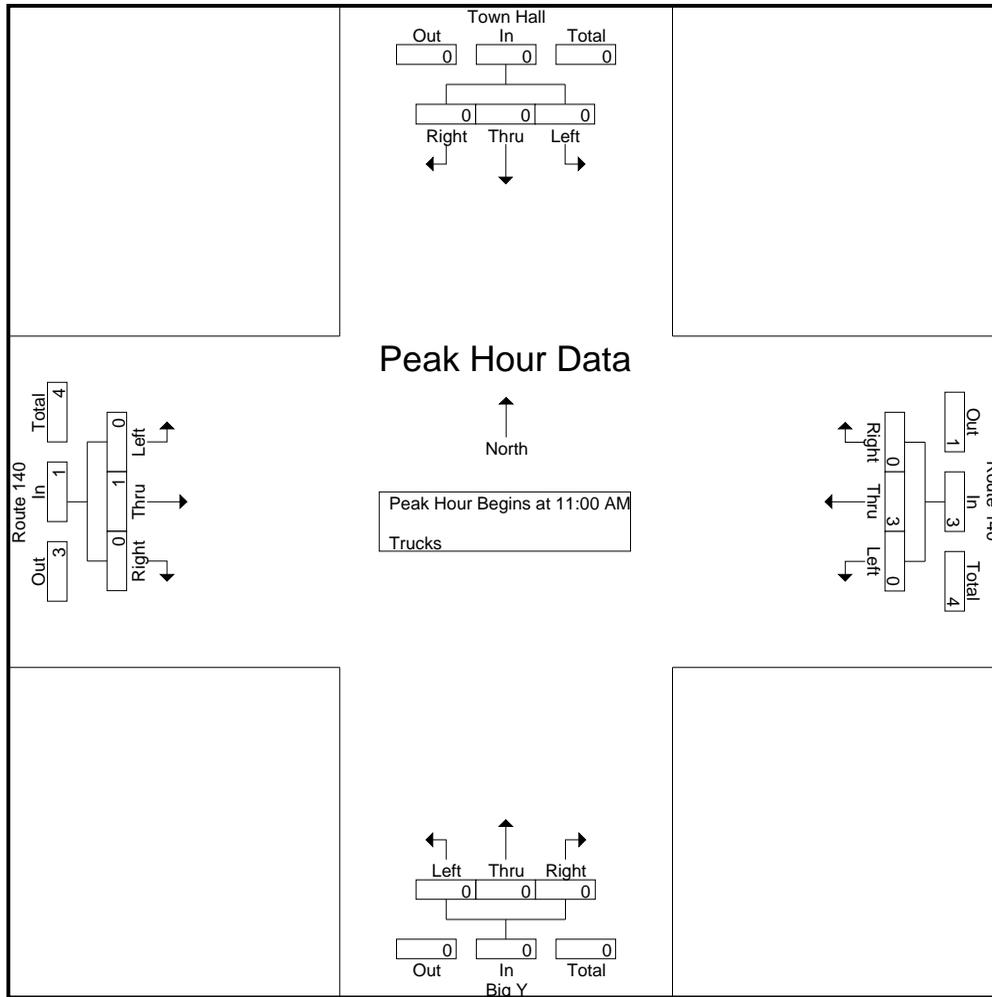
Weather : Clear

File Name : 988300S4

Site Code : 98830004

Start Date : 12/7/2024

Page No : 8



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:00 AM				11:00 AM				11:00 AM				11:45 AM			
+0 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3
% App. Total	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0
PHF	.000	.000	.000	.000	.000	.375	.000	.375	.000	.000	.000	.000	.000	.750	.000	.750

Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

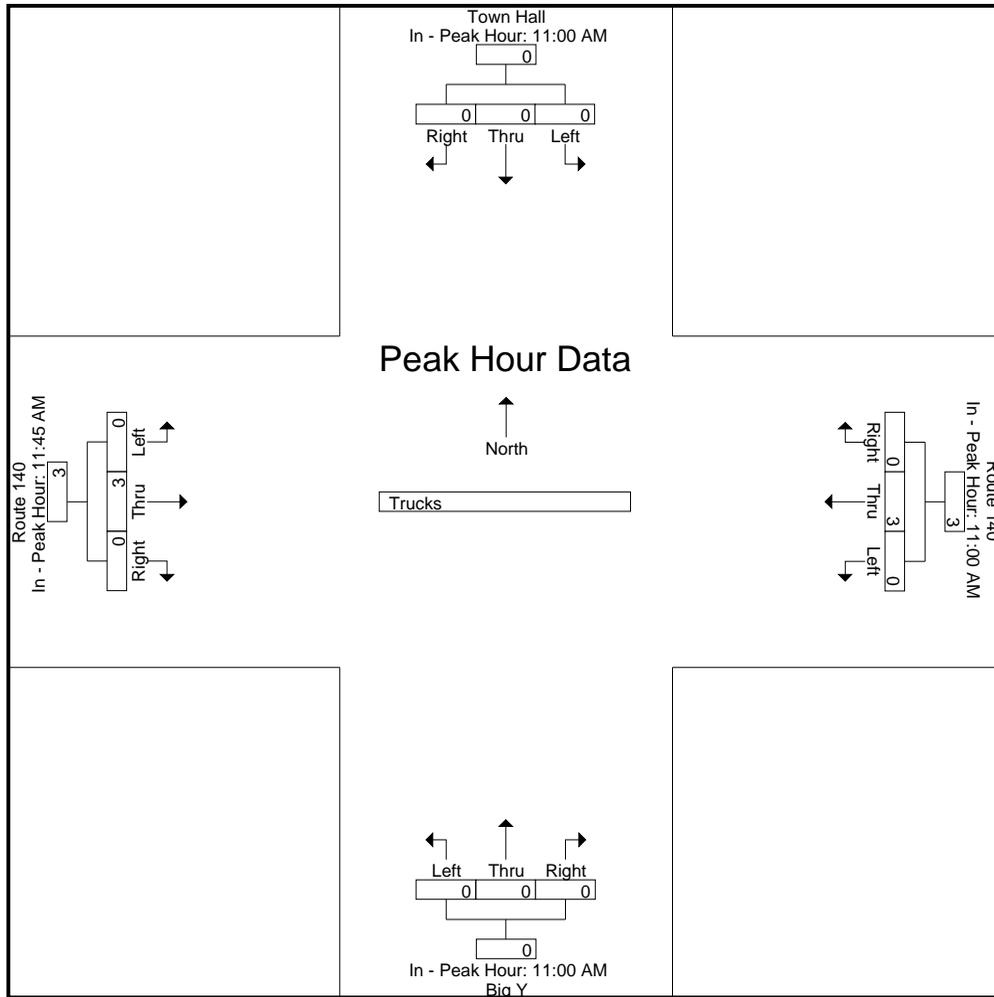
Weather : Clear

File Name : 988300S4

Site Code : 98830004

Start Date : 12/7/2024

Page No : 9



Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear

File Name : 988300S4

Site Code : 98830004

Start Date : 12/7/2024

Page No : 10

Groups Printed- Bikes Peds

Start Time	Town Hall From North				Route 140 From East				Big Y From South				Route 140 From West				Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	0	2
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	1	3	1	4
12:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	0	2
12:15 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	3	0	3
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	2	5	0	5
01:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	0	2
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	1	2
01:45 PM	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	4	0	4
Total	0	0	0	4	0	0	0	0	0	0	0	1	0	1	0	2	7	1	8
Grand Total	0	0	0	7	0	0	0	0	0	0	0	3	0	2	0	5	15	2	17
Apprch %	0	0	0		0	0	0		0	0	0		0	100	0				
Total %	0	0	0		0	0	0		0	0	0		0	100	0		88.2	11.8	

Start Time	Town Hall From North				Route 140 From East				Big Y From South				Route 140 From West				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:00 AM																	
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.250

Accurate Counts

978-664-2565

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

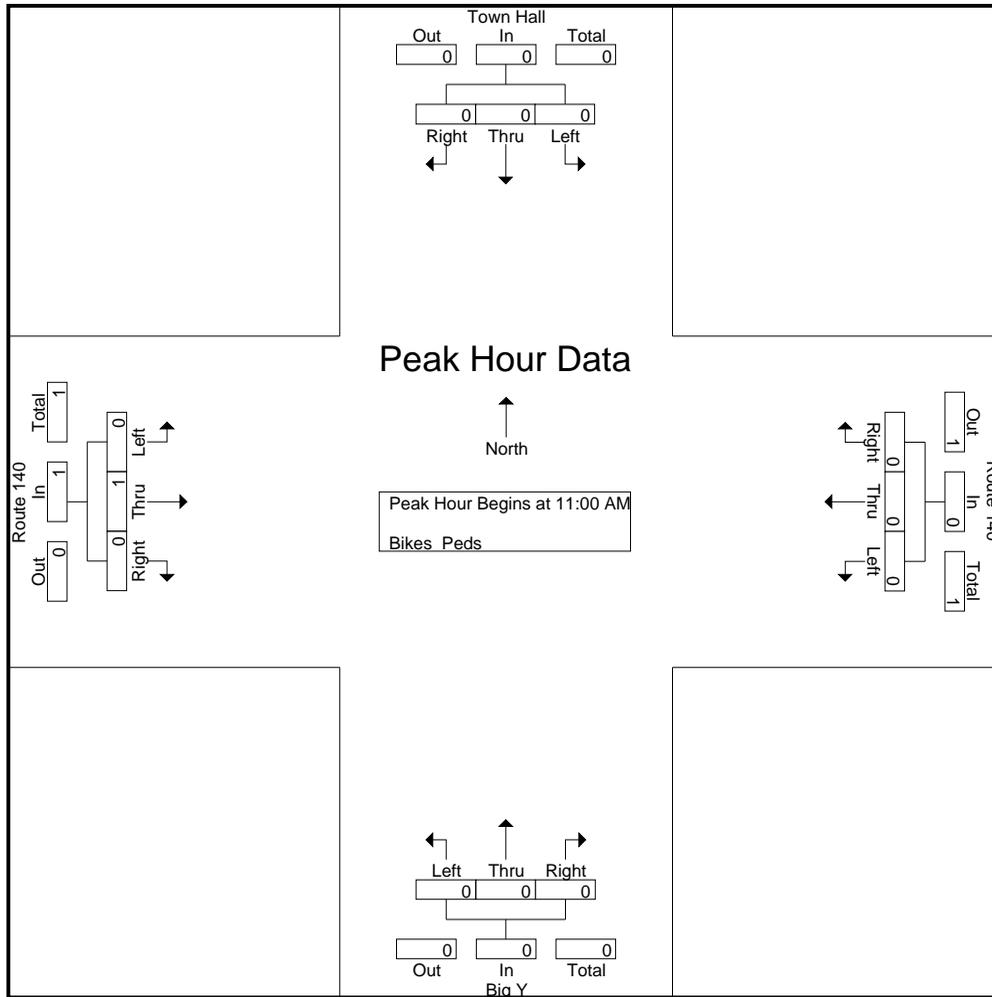
Weather : Clear

File Name : 988300S4

Site Code : 98830004

Start Date : 12/7/2024

Page No : 11



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:00 AM				11:00 AM				11:00 AM				11:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250

Accurate Counts

978-664-2565

File Name : 988300S4

Site Code : 98830004

Start Date : 12/7/2024

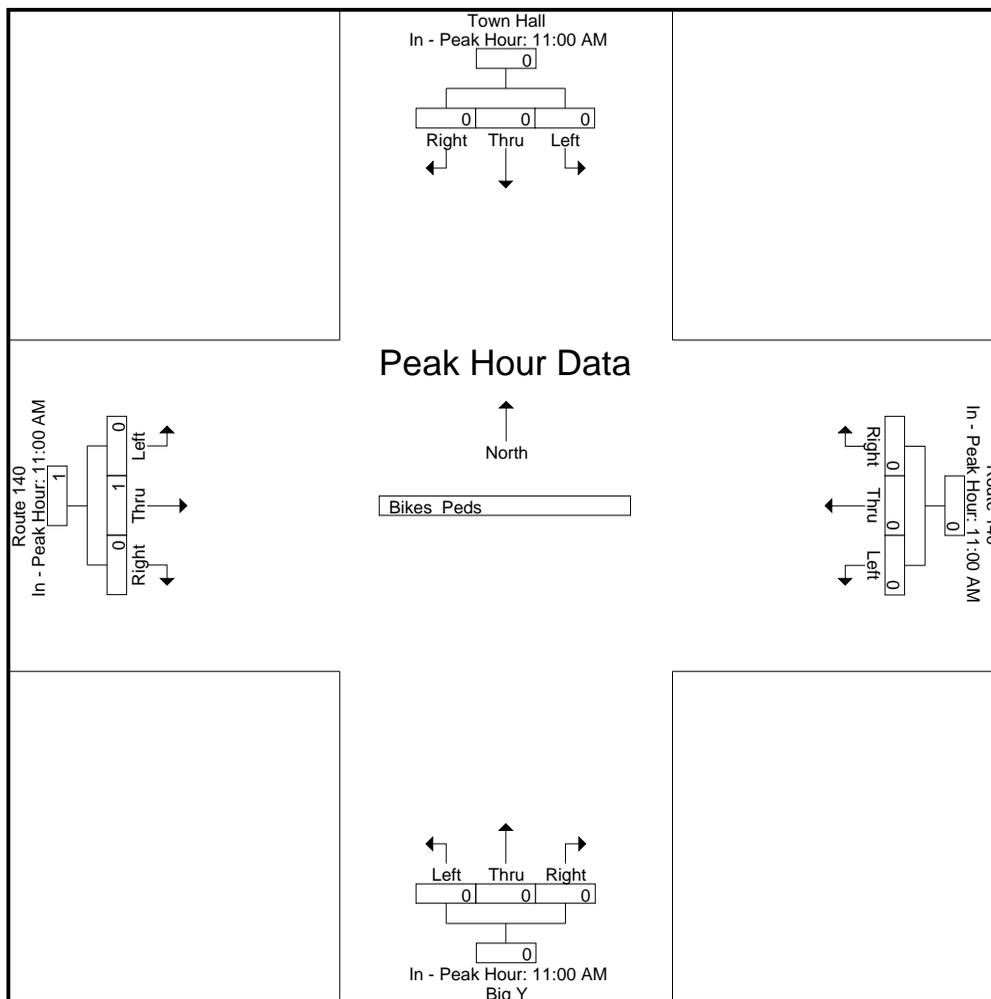
Page No : 12

N/S Street : Town Hall / Big Y

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830005
 Site Code : 98830005
 Start Date : 12/5/2024
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Aspen Way From North		Route 140 From East		Route 140 From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
07:00 AM	2	0	70	0	0	75	147
07:15 AM	2	2	90	0	4	87	185
07:30 AM	2	1	88	0	6	97	194
07:45 AM	1	1	104	2	2	87	197
Total	7	4	352	2	12	346	723
08:00 AM	2	1	78	0	1	102	184
08:15 AM	0	1	119	0	3	88	211
08:30 AM	0	1	93	1	3	89	187
08:45 AM	3	1	67	1	2	101	175
Total	5	4	357	2	9	380	757
Grand Total	12	8	709	4	21	726	1480
Apprch %	60	40	99.4	0.6	2.8	97.2	
Total %	0.8	0.5	47.9	0.3	1.4	49.1	
Cars	11	8	694	4	21	716	1454
% Cars	91.7	100	97.9	100	100	98.6	98.2
Trucks	1	0	15	0	0	10	26
% Trucks	8.3	0	2.1	0	0	1.4	1.8

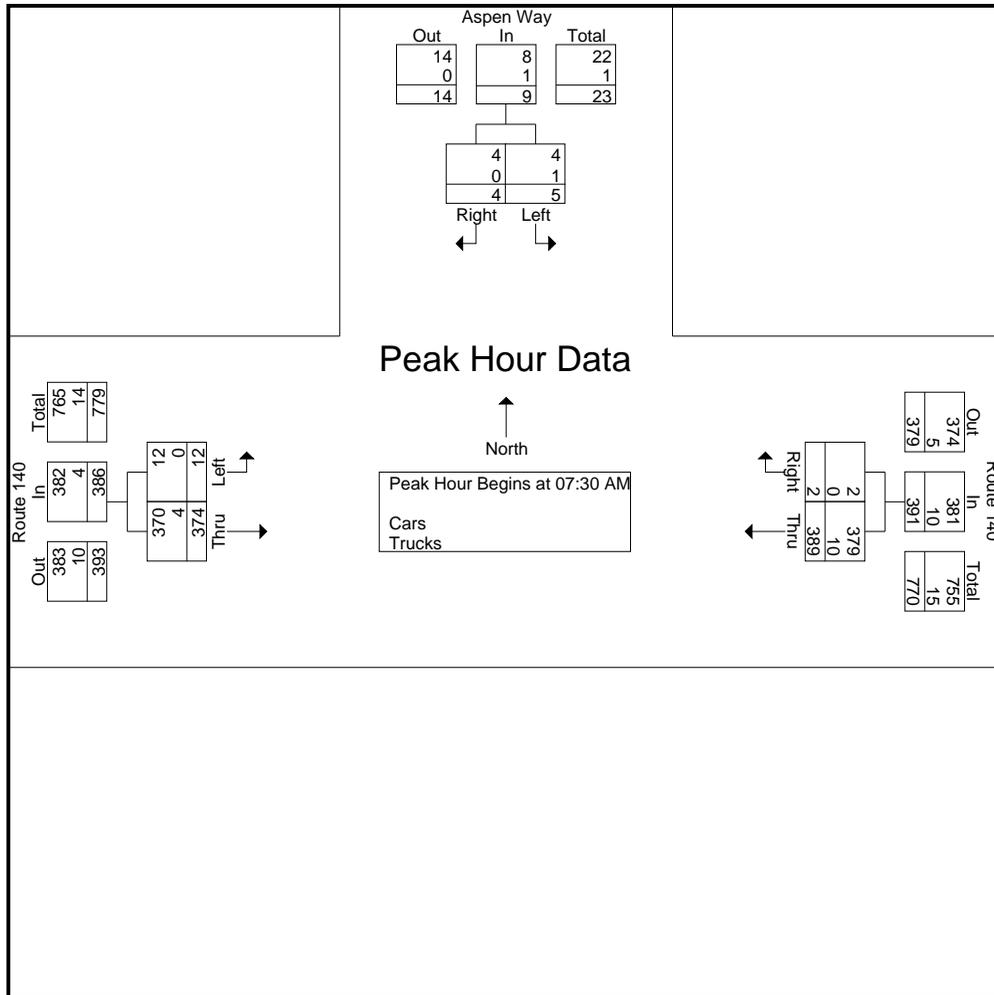
Start Time	Aspen Way From North			Route 140 From East			Route 140 From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	2	1	3	88	0	88	6	97	103	194
07:45 AM	1	1	2	104	2	106	2	87	89	197
08:00 AM	2	1	3	78	0	78	1	102	103	184
08:15 AM	0	1	1	119	0	119	3	88	91	211
Total Volume	5	4	9	389	2	391	12	374	386	786
% App. Total	55.6	44.4		99.5	0.5		3.1	96.9		
PHF	.625	1.00	.750	.817	.250	.821	.500	.917	.937	.931
Cars	4	4	8	379	2	381	12	370	382	771
% Cars	80.0	100	88.9	97.4	100	97.4	100	98.9	99.0	98.1
Trucks	1	0	1	10	0	10	0	4	4	15
% Trucks	20.0	0	11.1	2.6	0	2.6	0	1.1	1.0	1.9

Accurate Counts

978-664-2565

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830005
 Site Code : 98830005
 Start Date : 12/5/2024
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15 AM			07:45 AM			08:00 AM		
+0 mins.	2	2	4	104	2	106	1	102	103
+15 mins.	2	1	3	78	0	78	3	88	91
+30 mins.	1	1	2	119	0	119	3	89	92
+45 mins.	2	1	3	93	1	94	2	101	103
Total Volume	7	5	12	394	3	397	9	380	389
% App. Total	58.3	41.7		99.2	0.8		2.3	97.7	
PHF	.875	.625	.750	.828	.375	.834	.750	.931	.944
Cars	6	5	11	386	3	389	9	377	386
% Cars	85.7	100	91.7	98	100	98	100	99.2	99.2
Trucks	1	0	1	8	0	8	0	3	3
% Trucks	14.3	0	8.3	2	0	2	0	0.8	0.8

Accurate Counts

978-664-2565

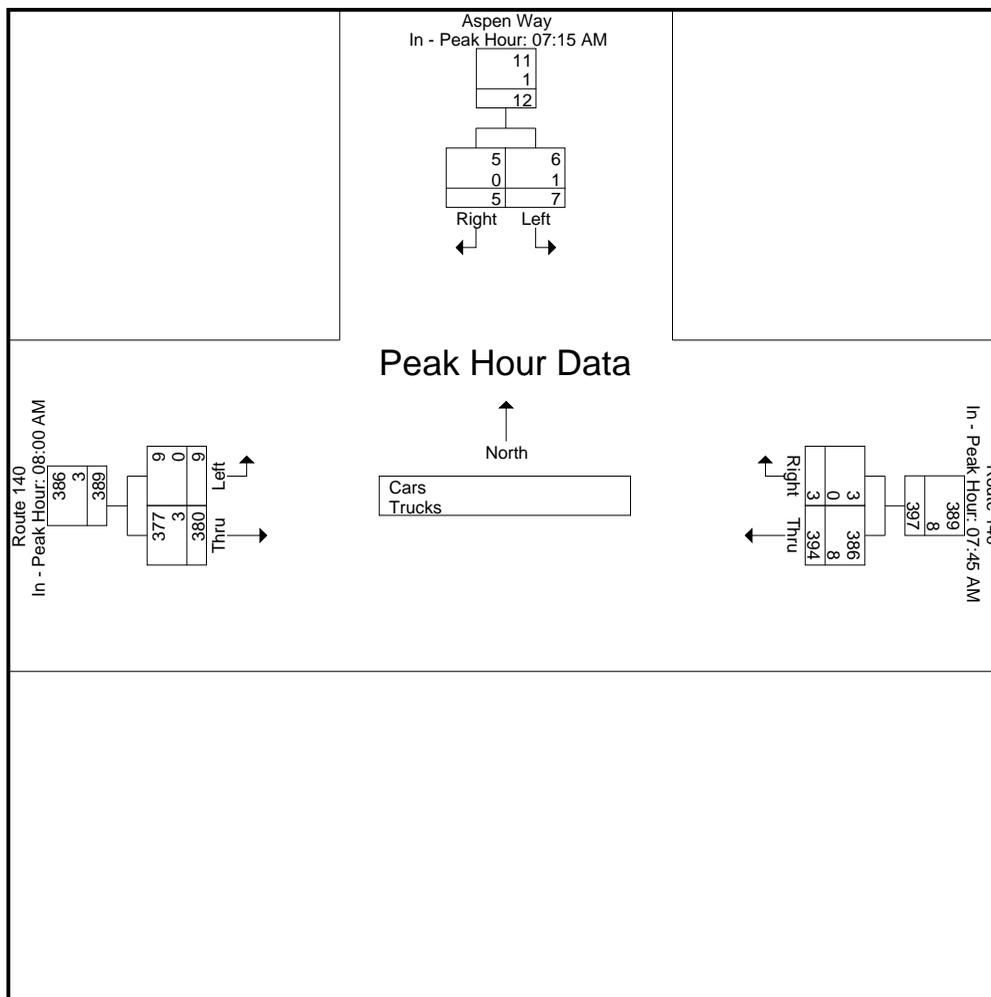
File Name : 98830005

Site Code : 98830005

Start Date : 12/5/2024

Page No : 3

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830005
 Site Code : 98830005
 Start Date : 12/5/2024
 Page No : 4

Groups Printed- Cars

Start Time	Aspen Way From North		Route 140 From East		Route 140 From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
07:00 AM	2	0	68	0	0	73	143
07:15 AM	2	2	90	0	4	85	183
07:30 AM	2	1	84	0	6	95	188
07:45 AM	0	1	103	2	2	86	194
Total	6	4	345	2	12	339	708
08:00 AM	2	1	76	0	1	101	181
08:15 AM	0	1	116	0	3	88	208
08:30 AM	0	1	91	1	3	88	184
08:45 AM	3	1	66	1	2	100	173
Total	5	4	349	2	9	377	746
Grand Total	11	8	694	4	21	716	1454
Apprch %	57.9	42.1	99.4	0.6	2.8	97.2	
Total %	0.8	0.6	47.7	0.3	1.4	49.2	

Start Time	Aspen Way From North			Route 140 From East			Route 140 From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	2	1	3	84	0	84	6	95	101	188
07:45 AM	0	1	1	103	2	105	2	86	88	194
08:00 AM	2	1	3	76	0	76	1	101	102	181
08:15 AM	0	1	1	116	0	116	3	88	91	208
Total Volume	4	4	8	379	2	381	12	370	382	771
% App. Total	50	50		99.5	0.5		3.1	96.9		
PHF	.500	1.00	.667	.817	.250	.821	.500	.916	.936	.927

Accurate Counts

978-664-2565

File Name : 98830005

Site Code : 98830005

Start Date : 12/5/2024

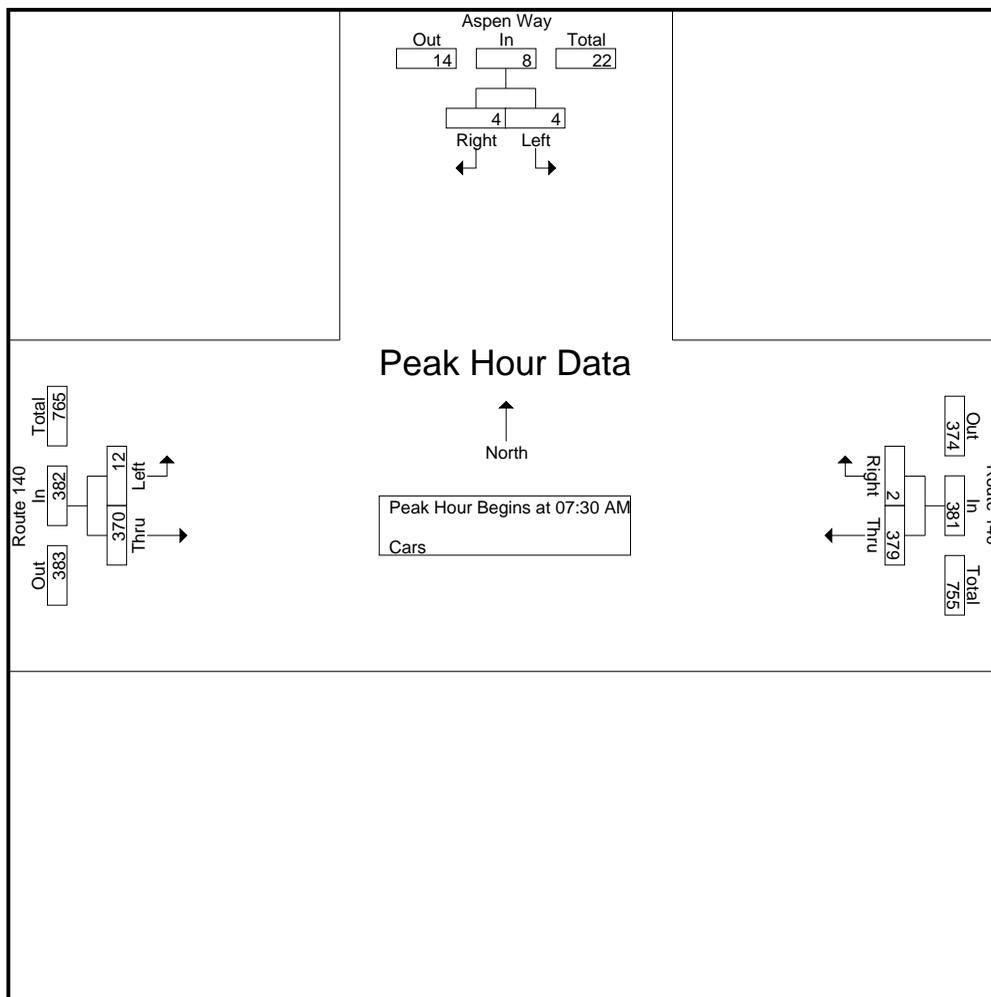
Page No : 5

N/S Street : Aspen Way

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:15 AM			07:45 AM			08:00 AM		
+0 mins.	2	2	4	103	2	105	1	101	102
+15 mins.	2	1	3	76	0	76	3	88	91
+30 mins.	0	1	1	116	0	116	3	88	91
+45 mins.	2	1	3	91	1	92	2	100	102
Total Volume	6	5	11	386	3	389	9	377	386
% App. Total	54.5	45.5		99.2	0.8		2.3	97.7	
PHF	.750	.625	.688	.832	.375	.838	.750	.933	.946

Accurate Counts

978-664-2565

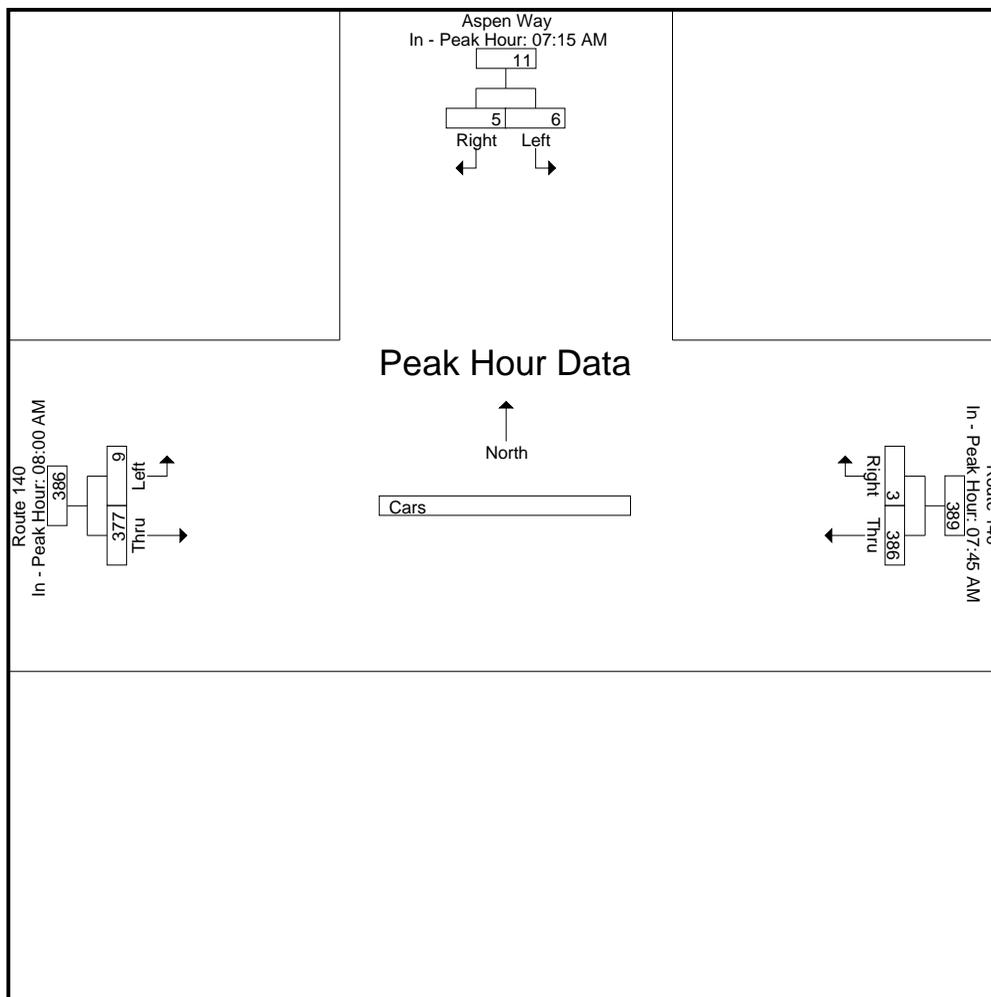
File Name : 98830005

Site Code : 98830005

Start Date : 12/5/2024

Page No : 6

N/S Street : Aspen Way
E/W Street : Route 140
City/State : Franklin, MA
Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830005
 Site Code : 98830005
 Start Date : 12/5/2024
 Page No : 7

Groups Printed- Trucks

Start Time	Aspen Way From North		Route 140 From East		Route 140 From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
07:00 AM	0	0	2	0	0	2	4
07:15 AM	0	0	0	0	0	2	2
07:30 AM	0	0	4	0	0	2	6
07:45 AM	1	0	1	0	0	1	3
Total	1	0	7	0	0	7	15
08:00 AM	0	0	2	0	0	1	3
08:15 AM	0	0	3	0	0	0	3
08:30 AM	0	0	2	0	0	1	3
08:45 AM	0	0	1	0	0	1	2
Total	0	0	8	0	0	3	11
Grand Total	1	0	15	0	0	10	26
Apprch %	100	0	100	0	0	100	
Total %	3.8	0	57.7	0	0	38.5	

Start Time	Aspen Way From North			Route 140 From East			Route 140 From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	2	0	2	0	2	2	4
07:15 AM	0	0	0	0	0	0	0	2	2	2
07:30 AM	0	0	0	4	0	4	0	2	2	6
07:45 AM	1	0	1	1	0	1	0	1	1	3
Total Volume	1	0	1	7	0	7	0	7	7	15
% App. Total	100	0		100	0		0	100		
PHF	.250	.000	.250	.438	.000	.438	.000	.875	.875	.625

Accurate Counts

978-664-2565

File Name : 98830005

Site Code : 98830005

Start Date : 12/5/2024

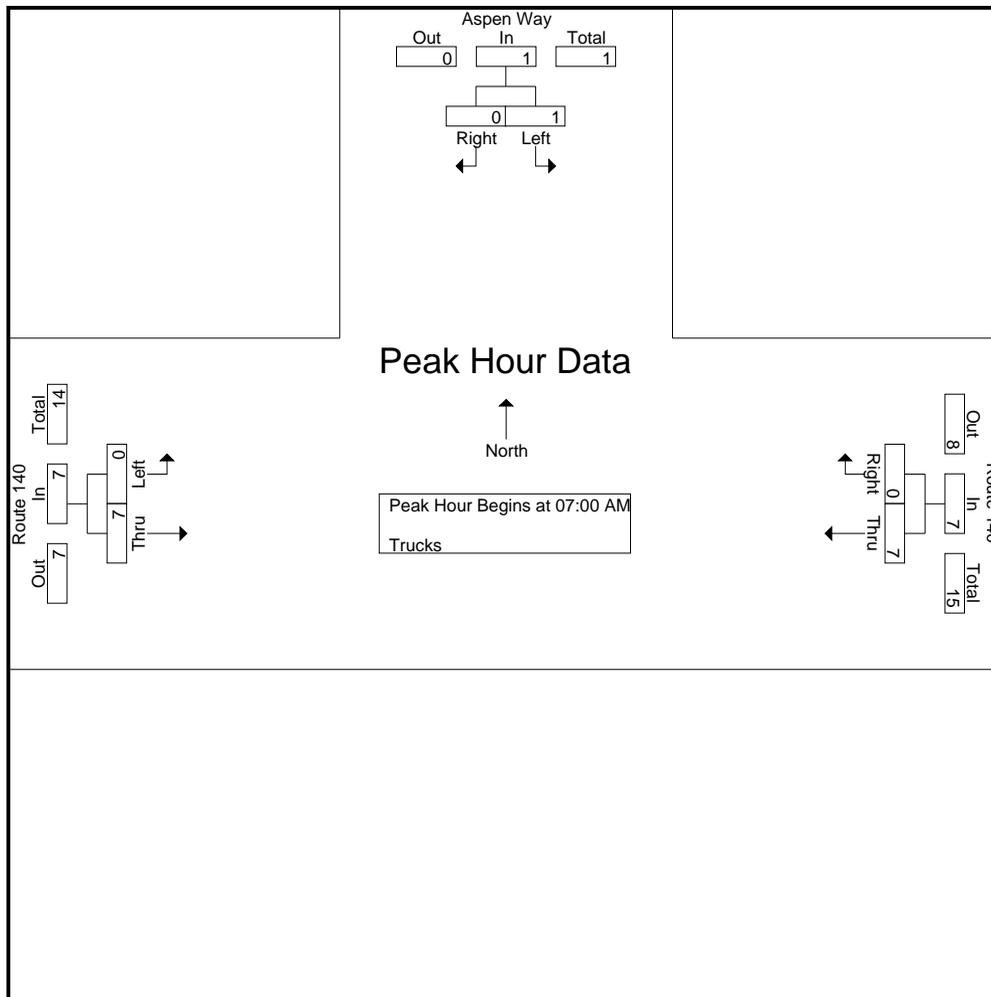
Page No : 8

N/S Street : Aspen Way

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:30 AM			07:00 AM		
+0 mins.	0	0	0	4	0	4	0	2	2
+15 mins.	0	0	0	1	0	1	0	2	2
+30 mins.	0	0	0	2	0	2	0	2	2
+45 mins.	1	0	1	3	0	3	0	1	1
Total Volume	1	0	1	10	0	10	0	7	7
% App. Total	100	0		100	0		0	100	
PHF	.250	.000	.250	.625	.000	.625	.000	.875	.875

Accurate Counts

978-664-2565

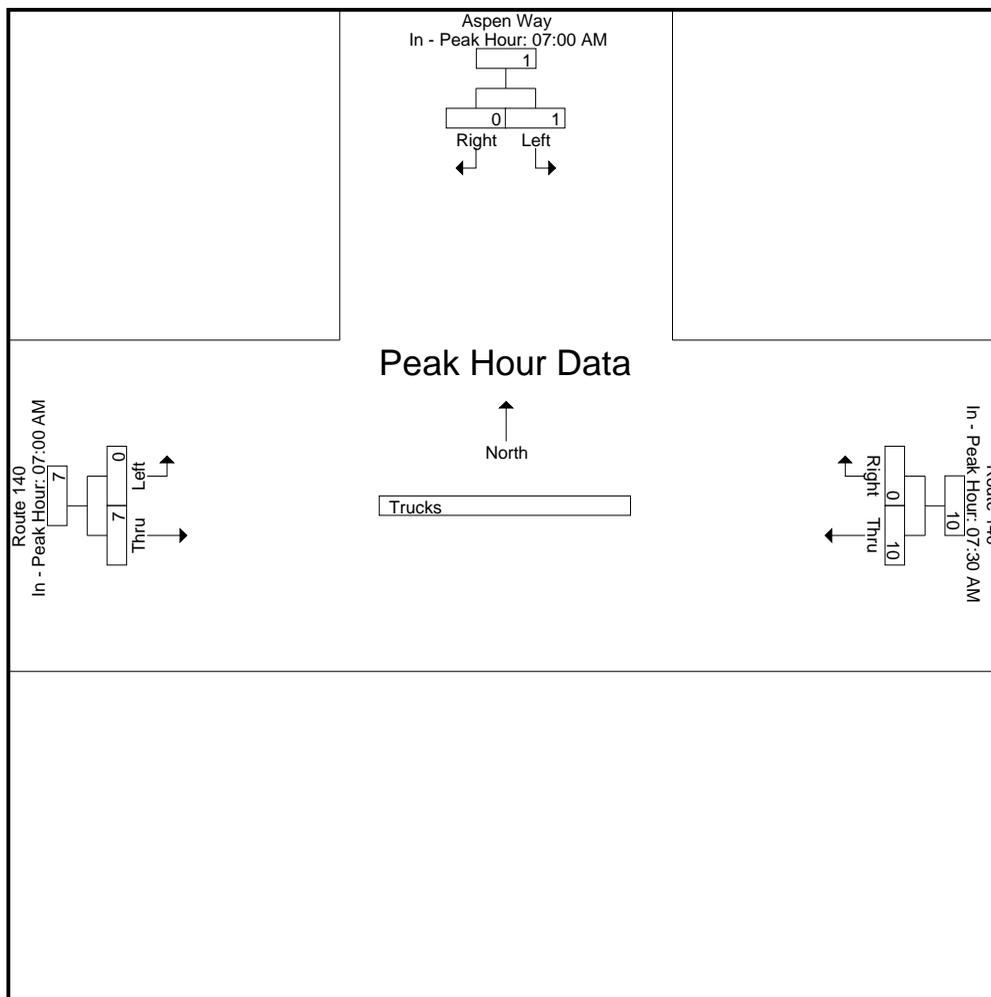
File Name : 98830005

Site Code : 98830005

Start Date : 12/5/2024

Page No : 9

N/S Street : Aspen Way
E/W Street : Route 140
City/State : Franklin, MA
Weather : Snow/Cloudy



Accurate Counts

978-664-2565

File Name : 98830005

Site Code : 98830005

Start Date : 12/5/2024

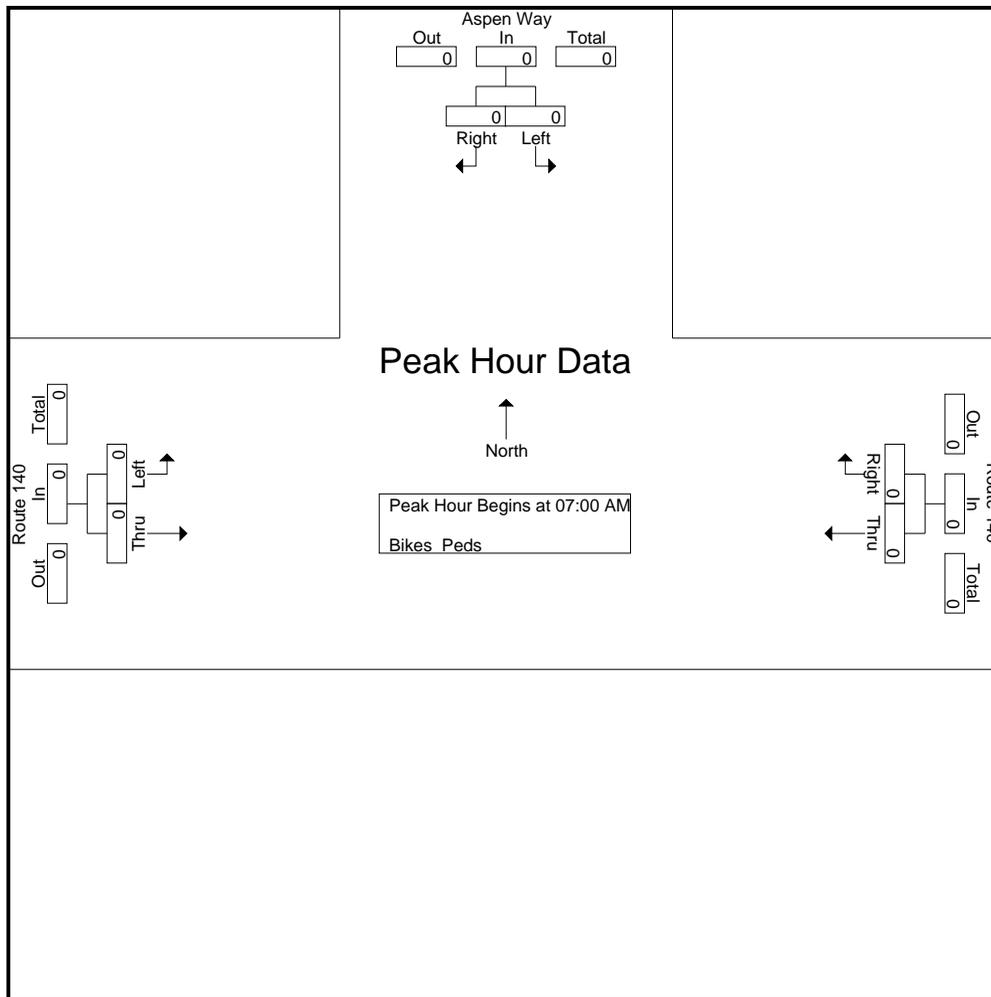
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N/S Street : Aspen Way

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

Accurate Counts

978-664-2565

File Name : 98830005

Site Code : 98830005

Start Date : 12/5/2024

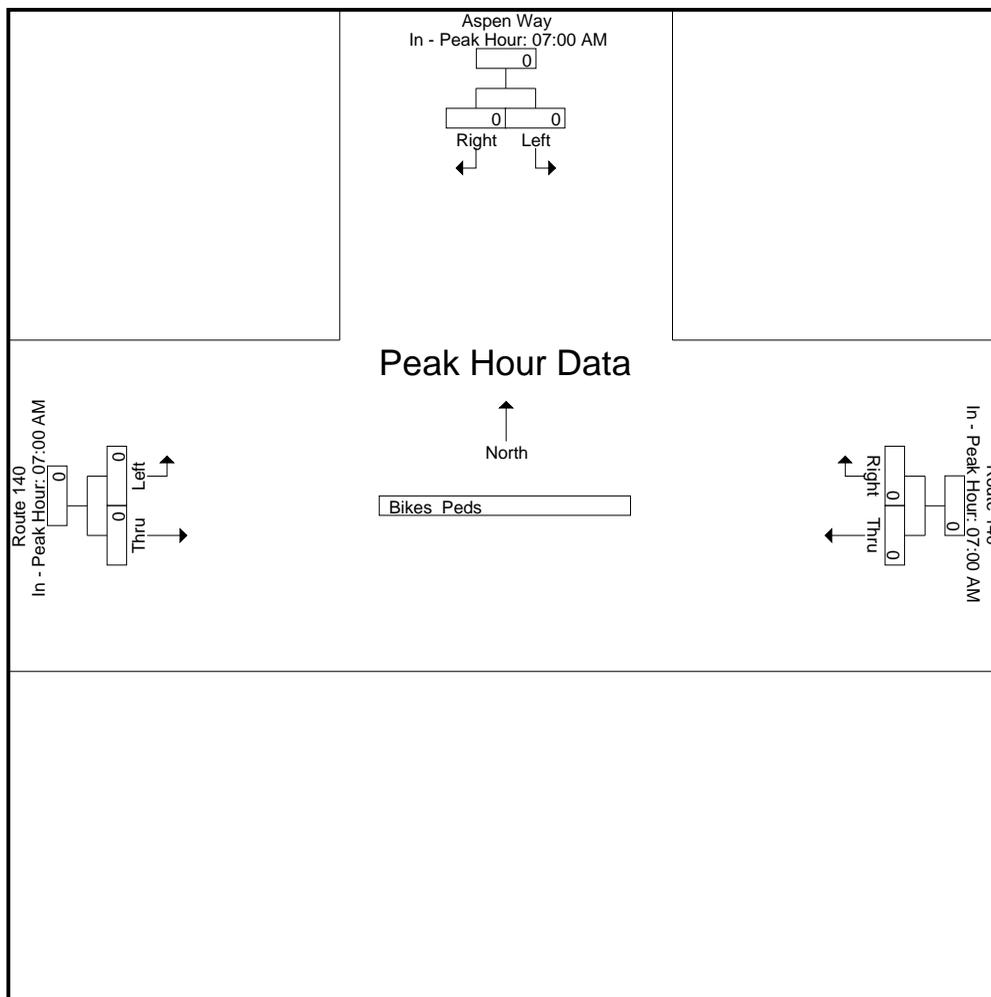
Page No : 12

N/S Street : Aspen Way

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830005
 Site Code : 98830005
 Start Date : 12/5/2024
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Aspen Way From North		Route 140 From East		Route 140 From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
04:00 PM	2	3	128	3	2	105	243
04:15 PM	1	4	103	1	4	122	235
04:30 PM	0	5	118	2	2	114	241
04:45 PM	3	1	114	1	3	119	241
Total	6	13	463	7	11	460	960
05:00 PM	2	5	108	1	6	127	249
05:15 PM	1	3	147	1	3	114	269
05:30 PM	0	3	96	1	2	111	213
05:45 PM	2	6	83	2	2	114	209
Total	5	17	434	5	13	466	940
Grand Total	11	30	897	12	24	926	1900
Apprch %	26.8	73.2	98.7	1.3	2.5	97.5	
Total %	0.6	1.6	47.2	0.6	1.3	48.7	
Cars	11	30	891	12	24	915	1883
% Cars	100	100	99.3	100	100	98.8	99.1
Trucks	0	0	6	0	0	11	17
% Trucks	0	0	0.7	0	0	1.2	0.9

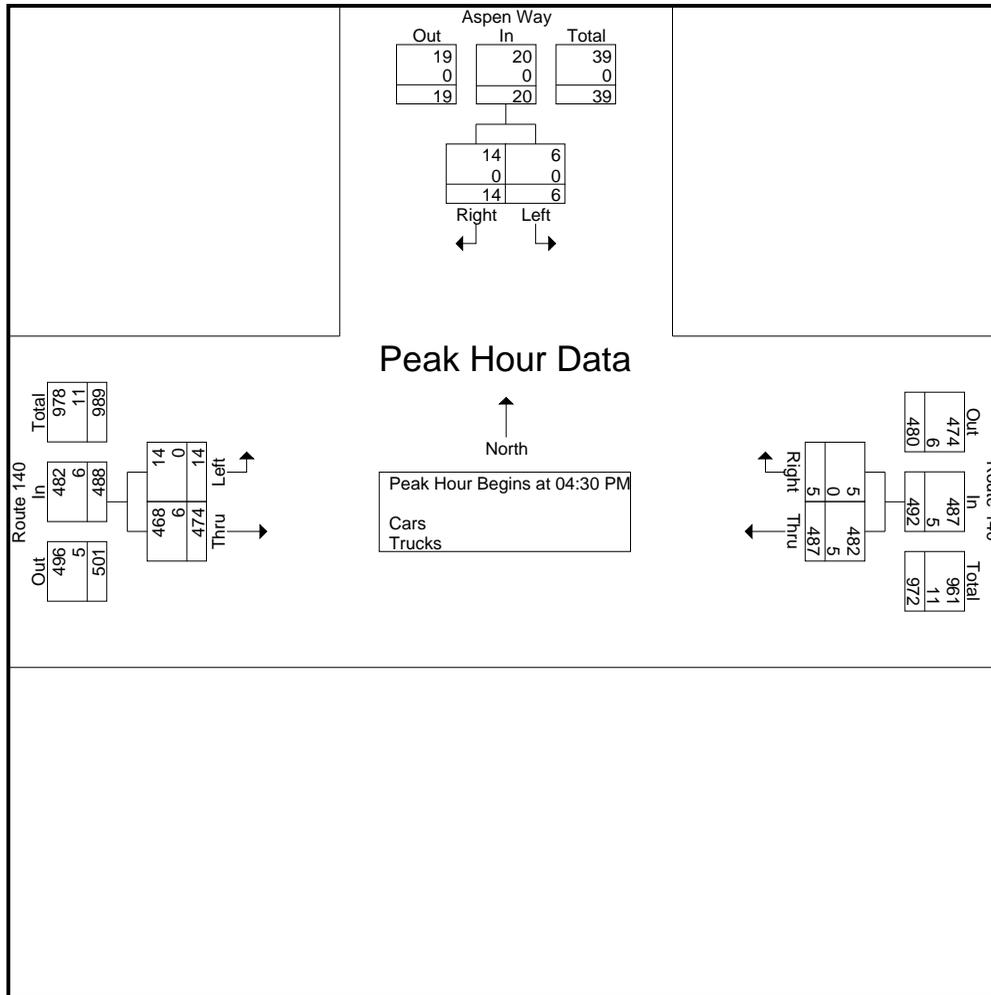
Start Time	Aspen Way From North			Route 140 From East			Route 140 From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	5	5	118	2	120	2	114	116	241
04:45 PM	3	1	4	114	1	115	3	119	122	241
05:00 PM	2	5	7	108	1	109	6	127	133	249
05:15 PM	1	3	4	147	1	148	3	114	117	269
Total Volume	6	14	20	487	5	492	14	474	488	1000
% App. Total	30	70		99	1		2.9	97.1		
PHF	.500	.700	.714	.828	.625	.831	.583	.933	.917	.929
Cars	6	14	20	482	5	487	14	468	482	989
% Cars	100	100	100	99.0	100	99.0	100	98.7	98.8	98.9
Trucks	0	0	0	5	0	5	0	6	6	11
% Trucks	0	0	0	1.0	0	1.0	0	1.3	1.2	1.1

Accurate Counts

978-664-2565

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830005
 Site Code : 98830005
 Start Date : 12/5/2024
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	05:00 PM			04:30 PM			04:15 PM		
+0 mins.	2	5	7	118	2	120	4	122	126
+15 mins.	1	3	4	114	1	115	2	114	116
+30 mins.	0	3	3	108	1	109	3	119	122
+45 mins.	2	6	8	147	1	148	6	127	133
Total Volume	5	17	22	487	5	492	15	482	497
% App. Total	22.7	77.3		99	1		3	97	
PHF	.625	.708	.688	.828	.625	.831	.625	.949	.934
Cars	5	17	22	482	5	487	15	478	493
% Cars	100	100	100	99	100	99	100	99.2	99.2
Trucks	0	0	0	5	0	5	0	4	4
% Trucks	0	0	0	1	0	1	0	0.8	0.8

Accurate Counts

978-664-2565

File Name : 98830005

Site Code : 98830005

Start Date : 12/5/2024

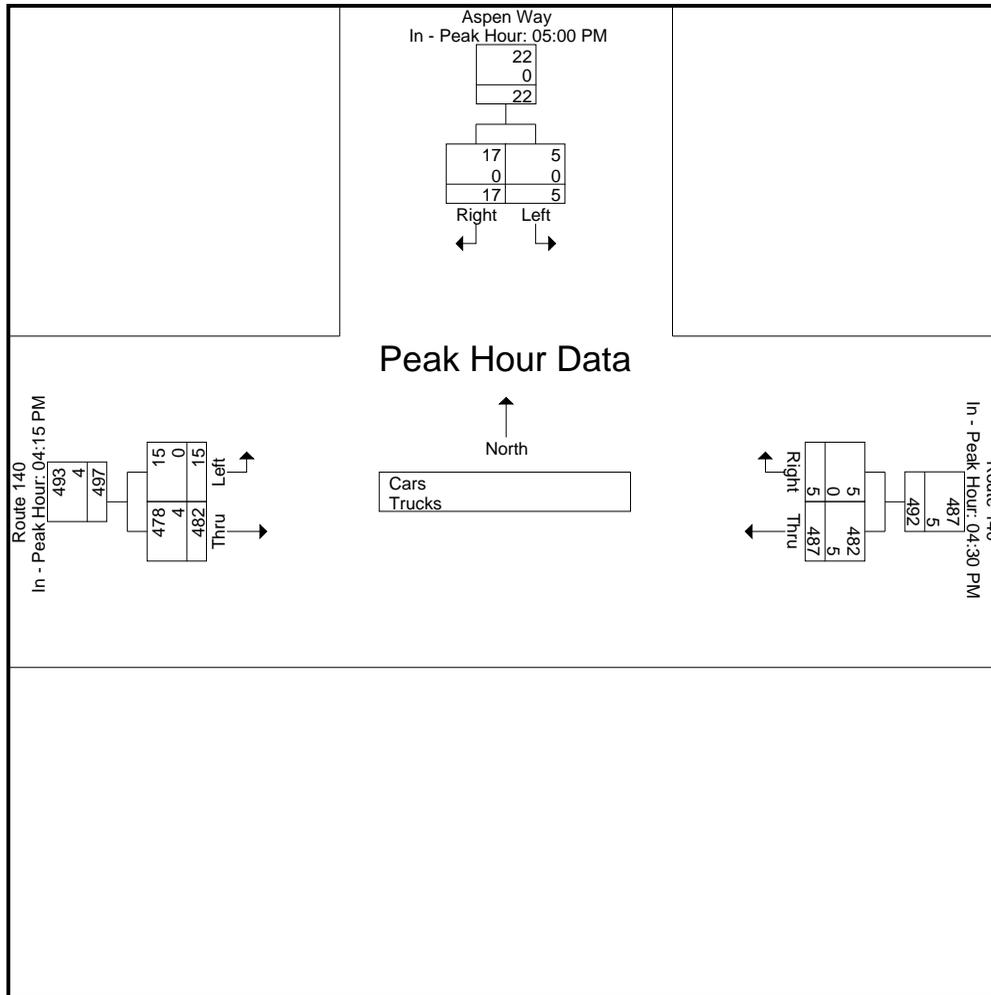
Page No : 3

N/S Street : Aspen Way

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830005
 Site Code : 98830005
 Start Date : 12/5/2024
 Page No : 4

Groups Printed- Cars

Start Time	Aspen Way From North		Route 140 From East		Route 140 From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
04:00 PM	2	3	128	3	2	103	241
04:15 PM	1	4	103	1	4	122	235
04:30 PM	0	5	116	2	2	112	237
04:45 PM	3	1	113	1	3	118	239
Total	6	13	460	7	11	455	952
05:00 PM	2	5	107	1	6	126	247
05:15 PM	1	3	146	1	3	112	266
05:30 PM	0	3	95	1	2	109	210
05:45 PM	2	6	83	2	2	113	208
Total	5	17	431	5	13	460	931
Grand Total	11	30	891	12	24	915	1883
Apprch %	26.8	73.2	98.7	1.3	2.6	97.4	
Total %	0.6	1.6	47.3	0.6	1.3	48.6	

Start Time	Aspen Way From North			Route 140 From East			Route 140 From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	5	5	116	2	118	2	112	114	237
04:45 PM	3	1	4	113	1	114	3	118	121	239
05:00 PM	2	5	7	107	1	108	6	126	132	247
05:15 PM	1	3	4	146	1	147	3	112	115	266
Total Volume	6	14	20	482	5	487	14	468	482	989
% App. Total	30	70		99	1		2.9	97.1		
PHF	.500	.700	.714	.825	.625	.828	.583	.929	.913	.930

Accurate Counts

978-664-2565

File Name : 98830005

Site Code : 98830005

Start Date : 12/5/2024

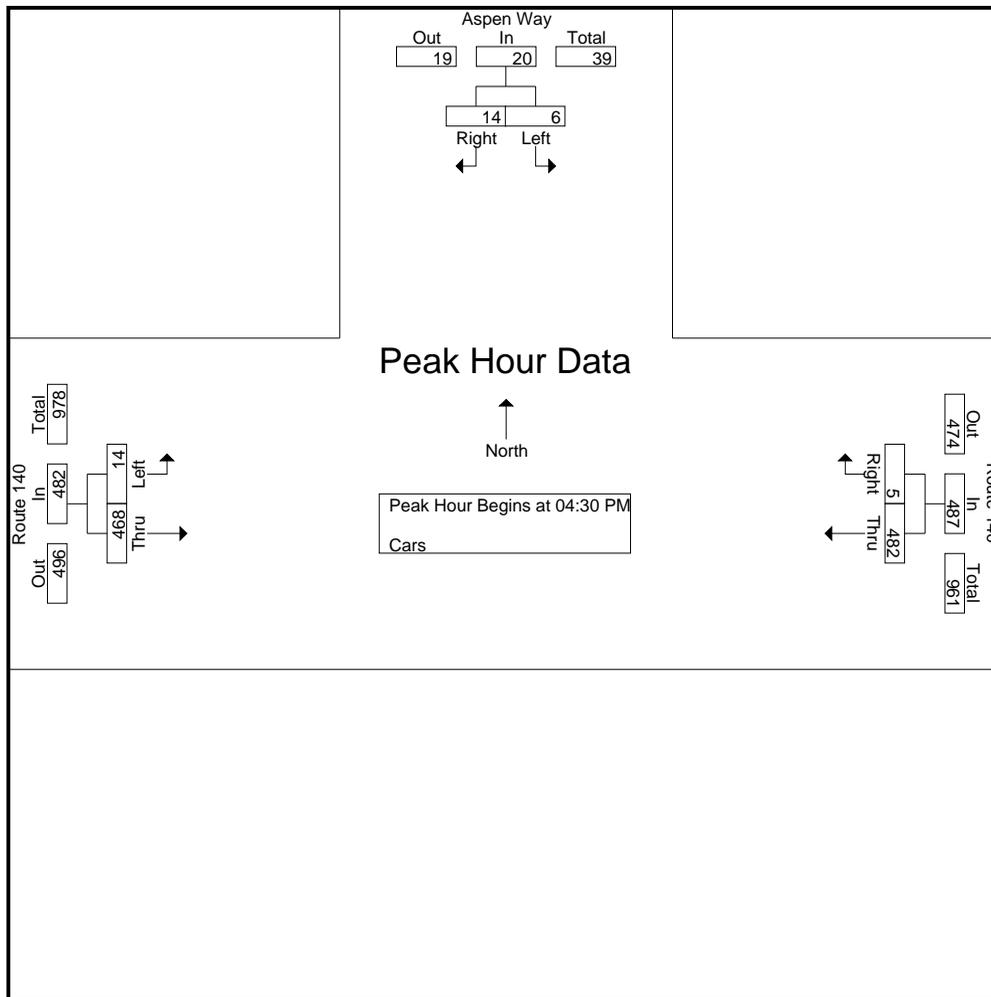
Page No : 5

N/S Street : Aspen Way

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	05:00 PM			04:30 PM			04:15 PM		
+0 mins.	2	5	7	116	2	118	4	122	126
+15 mins.	1	3	4	113	1	114	2	112	114
+30 mins.	0	3	3	107	1	108	3	118	121
+45 mins.	2	6	8	146	1	147	6	126	132
Total Volume	5	17	22	482	5	487	15	478	493
% App. Total	22.7	77.3		99	1		3	97	
PHF	.625	.708	.688	.825	.625	.828	.625	.948	.934

Accurate Counts

978-664-2565

File Name : 98830005

Site Code : 98830005

Start Date : 12/5/2024

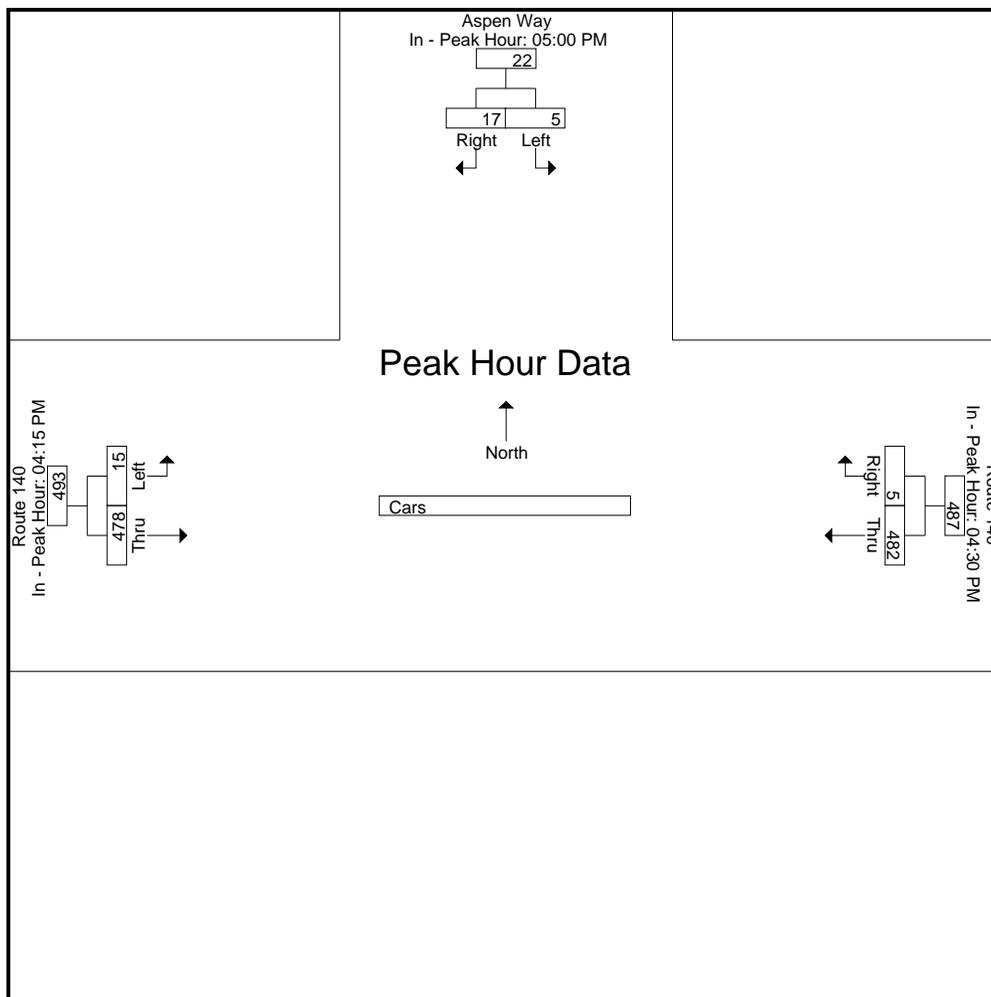
Page No : 6

N/S Street : Aspen Way

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830005
 Site Code : 98830005
 Start Date : 12/5/2024
 Page No : 7

Groups Printed- Trucks

Start Time	Aspen Way From North		Route 140 From East		Route 140 From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
04:00 PM	0	0	0	0	0	2	2
04:15 PM	0	0	0	0	0	0	0
04:30 PM	0	0	2	0	0	2	4
04:45 PM	0	0	1	0	0	1	2
Total	0	0	3	0	0	5	8
05:00 PM	0	0	1	0	0	1	2
05:15 PM	0	0	1	0	0	2	3
05:30 PM	0	0	1	0	0	2	3
05:45 PM	0	0	0	0	0	1	1
Total	0	0	3	0	0	6	9
Grand Total	0	0	6	0	0	11	17
Apprch %	0	0	100	0	0	100	
Total %	0	0	35.3	0	0	64.7	

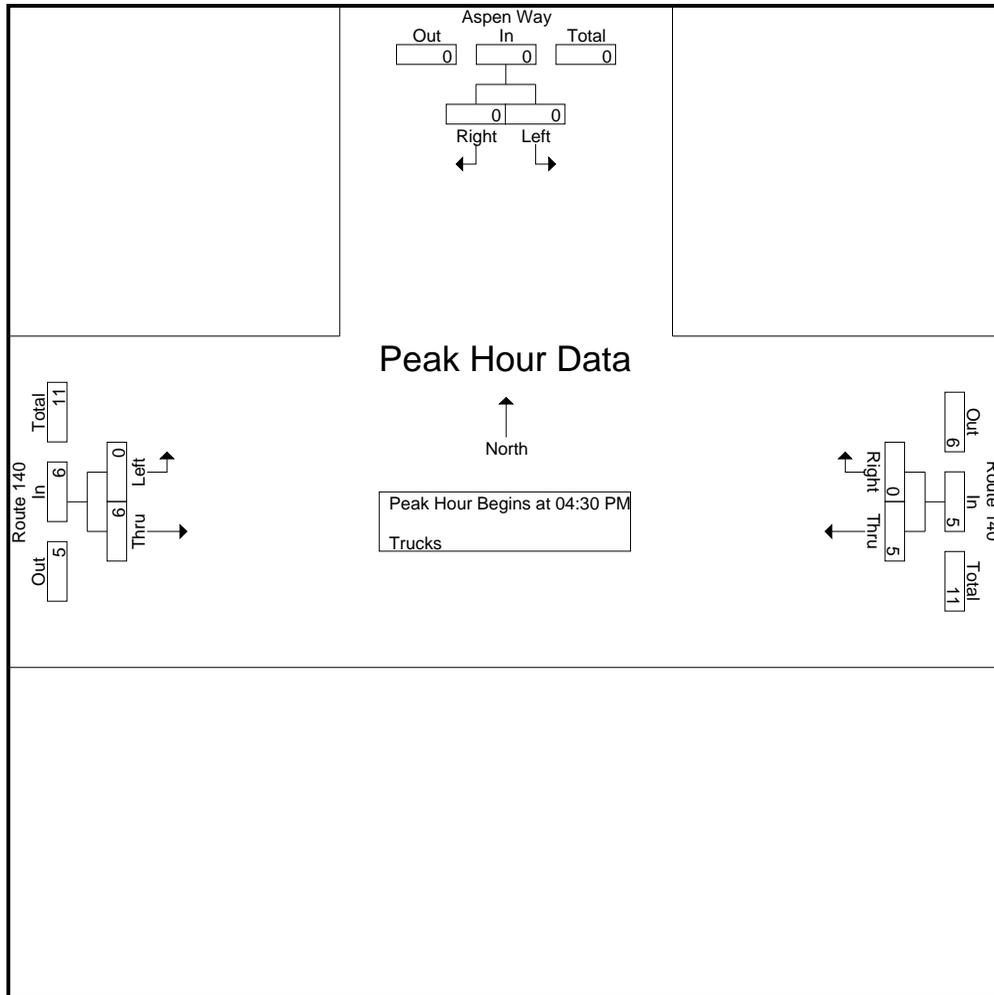
Start Time	Aspen Way From North			Route 140 From East			Route 140 From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	0	0	2	0	2	0	2	2	4
04:45 PM	0	0	0	1	0	1	0	1	1	2
05:00 PM	0	0	0	1	0	1	0	1	1	2
05:15 PM	0	0	0	1	0	1	0	2	2	3
Total Volume	0	0	0	5	0	5	0	6	6	11
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.625	.000	.625	.000	.750	.750	.688

Accurate Counts

978-664-2565

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830005
 Site Code : 98830005
 Start Date : 12/5/2024
 Page No : 8



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM			04:30 PM			04:30 PM		
+0 mins.	0	0	0	2	0	2	0	2	2
+15 mins.	0	0	0	1	0	1	0	1	1
+30 mins.	0	0	0	1	0	1	0	1	1
+45 mins.	0	0	0	1	0	1	0	2	2
Total Volume	0	0	0	5	0	5	0	6	6
% App. Total	0	0	0	100	0	100	0	100	100
PHF	.000	.000	.000	.625	.000	.625	.000	.750	.750

Accurate Counts

978-664-2565

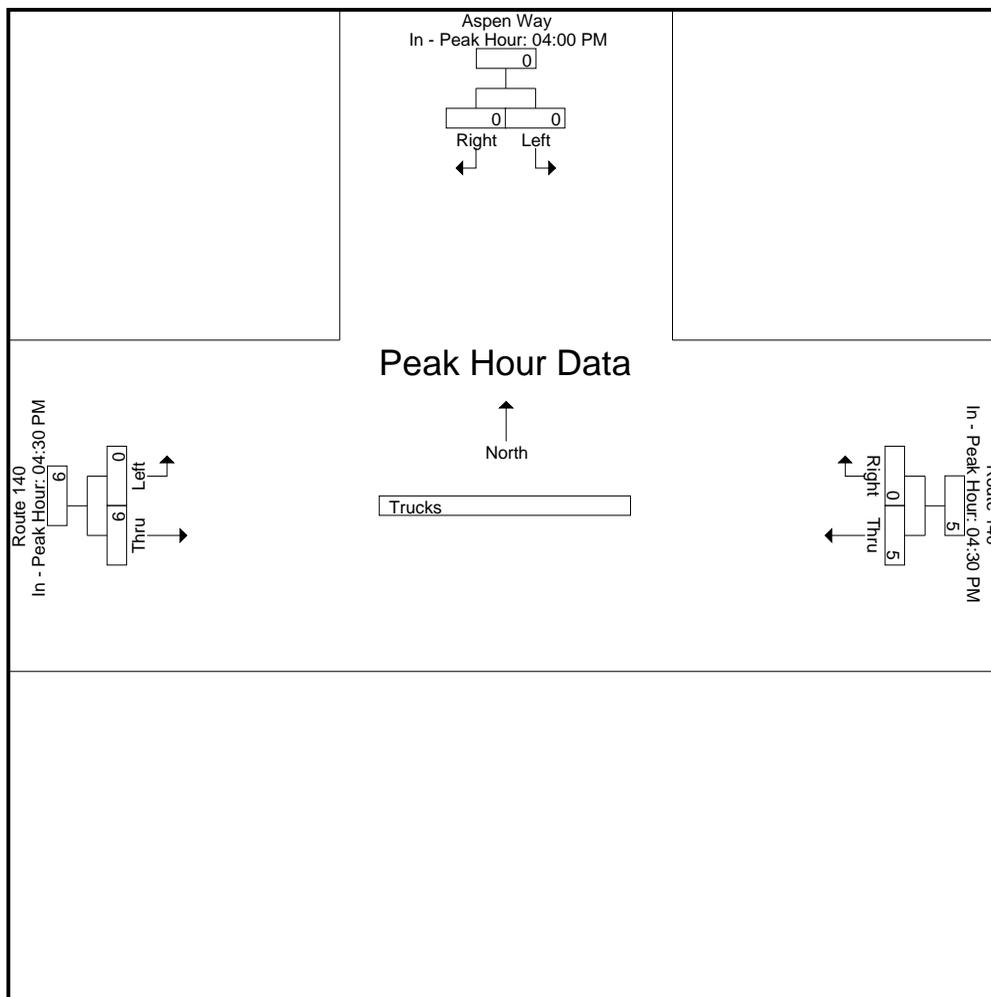
File Name : 98830005

Site Code : 98830005

Start Date : 12/5/2024

Page No : 9

N/S Street : Aspen Way
E/W Street : Route 140
City/State : Franklin, MA
Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Snow/Cloudy

File Name : 98830005
 Site Code : 98830005
 Start Date : 12/5/2024
 Page No : 10

Groups Printed- Bikes Peds

Start Time	Aspen Way From North			Route 140 From East			Route 140 From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
04:00 PM	0	0	1	1	0	0	0	0	0	1	1	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	1	0	0	0	0	0	1	1	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	1	1	0	0	0	0	0	1	1	2
Apprch %	0	0		100	0		0	0				
Total %	0	0		100	0		0	0		50	50	

Start Time	Aspen Way From North			Route 140 From East			Route 140 From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	1	0	1	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	1	0	1	0	0	0	1
% App. Total	0	0		100	0		0	0		
PHF	.000	.000	.000	.250	.000	.250	.000	.000	.000	.250

Accurate Counts

978-664-2565

File Name : 98830005

Site Code : 98830005

Start Date : 12/5/2024

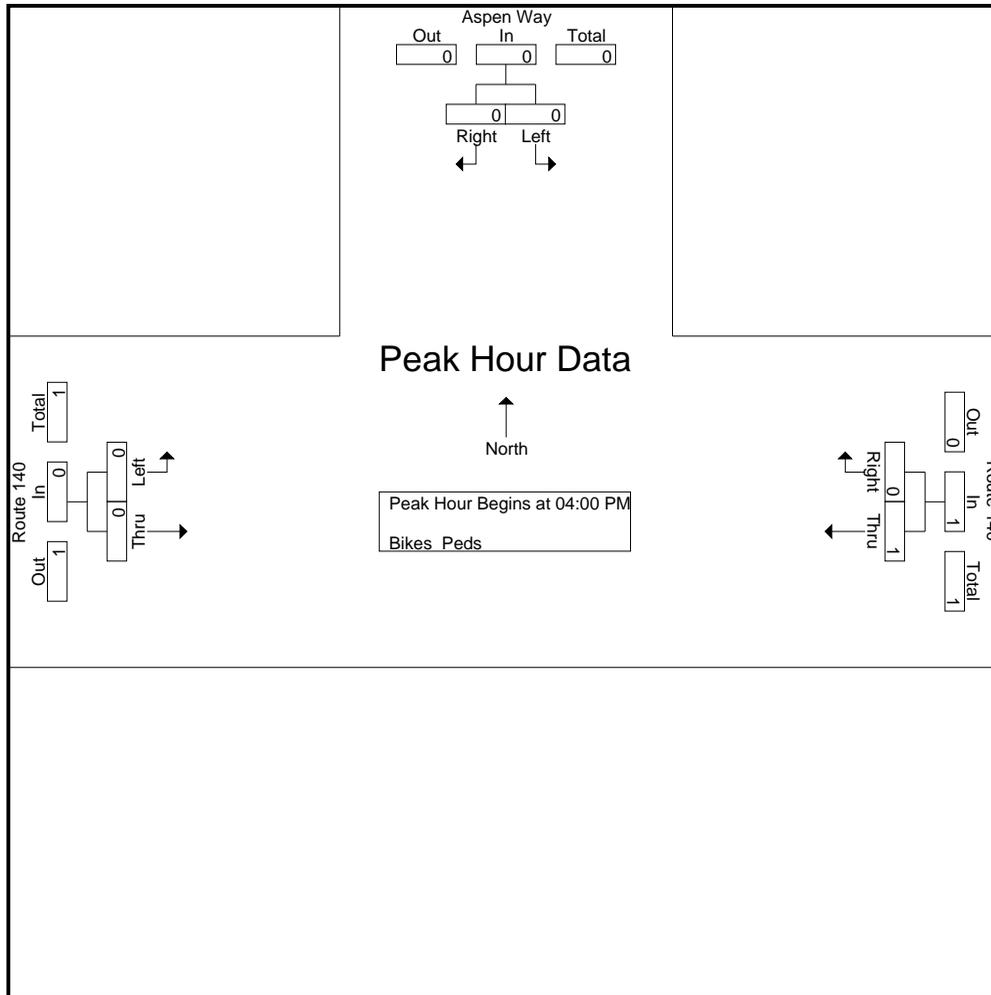
Page No : 11

N/S Street : Aspen Way

E/W Street : Route 140

City/State : Franklin, MA

Weather : Snow/Cloudy



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	1	0	1	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	1	0	1	0	0	0
% App. Total	0	0	0	100	0	100	0	0	0
PHF	.000	.000	.000	.250	.000	.250	.000	.000	.000

Accurate Counts

978-664-2565

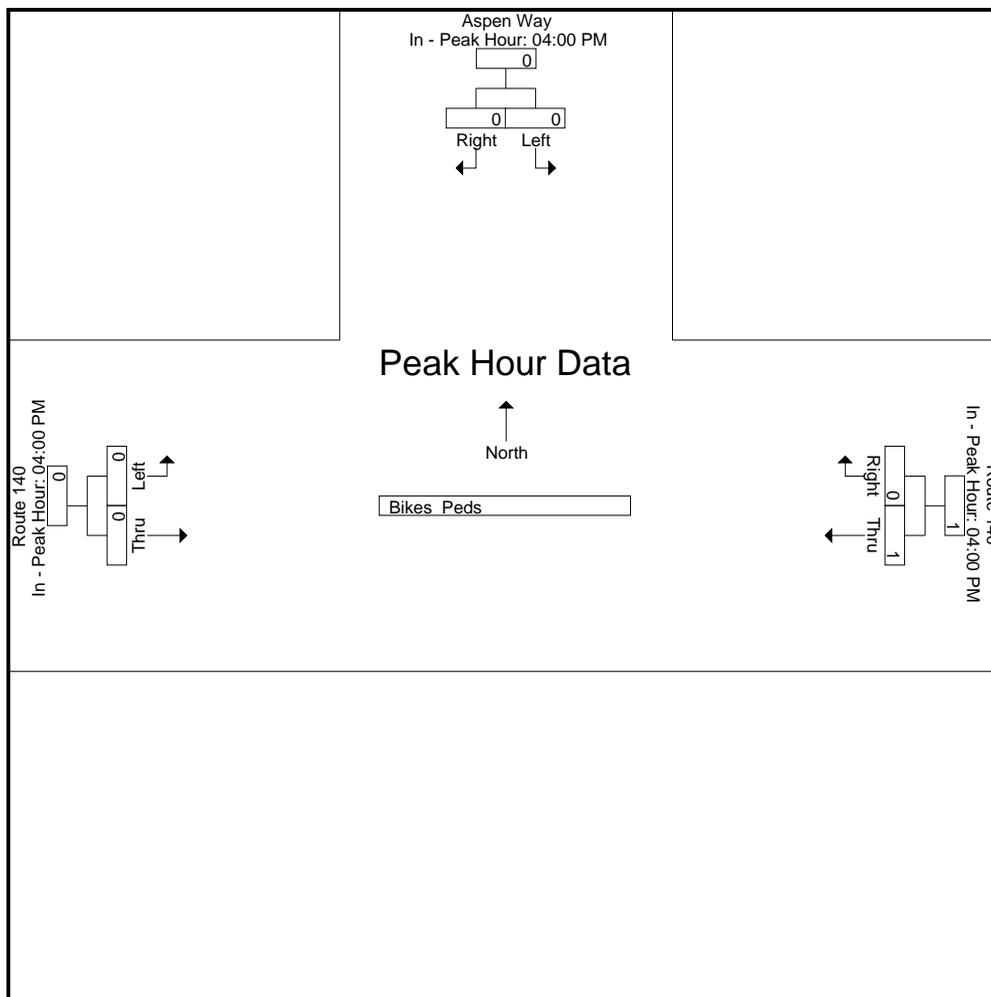
File Name : 98830005

Site Code : 98830005

Start Date : 12/5/2024

Page No : 12

N/S Street : Aspen Way
E/W Street : Route 140
City/State : Franklin, MA
Weather : Snow/Cloudy



Accurate Counts

978-664-2565

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear

File Name : 988300S5
 Site Code : 98830005
 Start Date : 12/7/2024
 Page No : 1

Groups Printed- Cars - Trucks

Start Time	Aspen Way From North		Route 140 From East		Route 140 From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
11:00 AM	1	7	146	2	7	97	260
11:15 AM	3	4	141	3	8	128	287
11:30 AM	0	3	148	1	1	128	281
11:45 AM	2	7	121	0	3	119	252
Total	6	21	556	6	19	472	1080
12:00 PM	1	3	126	3	2	149	284
12:15 PM	1	5	120	3	6	134	269
12:30 PM	3	1	118	2	2	116	242
12:45 PM	4	3	121	5	0	114	247
Total	9	12	485	13	10	513	1042
01:00 PM	0	5	128	2	2	103	240
01:15 PM	0	4	111	1	2	111	229
01:30 PM	3	3	116	1	3	108	234
01:45 PM	4	4	105	1	7	102	223
Total	7	16	460	5	14	424	926
Grand Total	22	49	1501	24	43	1409	3048
Apprch %	31	69	98.4	1.6	3	97	
Total %	0.7	1.6	49.2	0.8	1.4	46.2	
Cars	22	49	1495	24	43	1405	3038
% Cars	100	100	99.6	100	100	99.7	99.7
Trucks	0	0	6	0	0	4	10
% Trucks	0	0	0.4	0	0	0.3	0.3

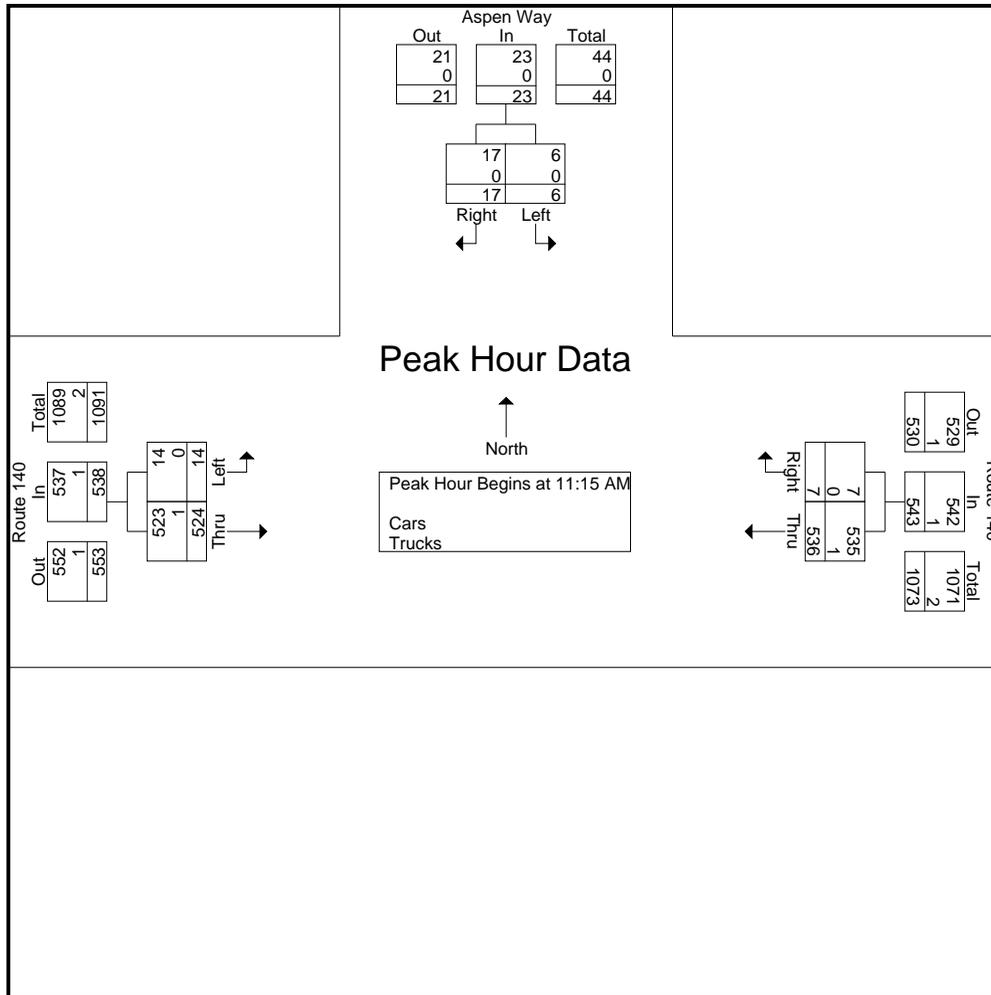
Start Time	Aspen Way From North			Route 140 From East			Route 140 From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 11:15 AM										
11:15 AM	3	4	7	141	3	144	8	128	136	287
11:30 AM	0	3	3	148	1	149	1	128	129	281
11:45 AM	2	7	9	121	0	121	3	119	122	252
12:00 PM	1	3	4	126	3	129	2	149	151	284
Total Volume	6	17	23	536	7	543	14	524	538	1104
% App. Total	26.1	73.9		98.7	1.3		2.6	97.4		
PHF	.500	.607	.639	.905	.583	.911	.438	.879	.891	.962
Cars	6	17	23	535	7	542	14	523	537	1102
% Cars	100	100	100	99.8	100	99.8	100	99.8	99.8	99.8
Trucks	0	0	0	1	0	1	0	1	1	2
% Trucks	0	0	0	0.2	0	0.2	0	0.2	0.2	0.2

Accurate Counts

978-664-2565

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear

File Name : 988300S5
 Site Code : 98830005
 Start Date : 12/7/2024
 Page No : 2



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:00 AM			11:00 AM			11:30 AM		
+0 mins.	1	7	8	146	2	148	1	128	129
+15 mins.	3	4	7	141	3	144	3	119	122
+30 mins.	0	3	3	148	1	149	2	149	151
+45 mins.	2	7	9	121	0	121	6	134	140
Total Volume	6	21	27	556	6	562	12	530	542
% App. Total	22.2	77.8		98.9	1.1		2.2	97.8	
PHF	.500	.750	.750	.939	.500	.943	.500	.889	.897
Cars	6	21	27	553	6	559	12	528	540
% Cars	100	100	100	99.5	100	99.5	100	99.6	99.6
Trucks	0	0	0	3	0	3	0	2	2
% Trucks	0	0	0	0.5	0	0.5	0	0.4	0.4

Accurate Counts

978-664-2565

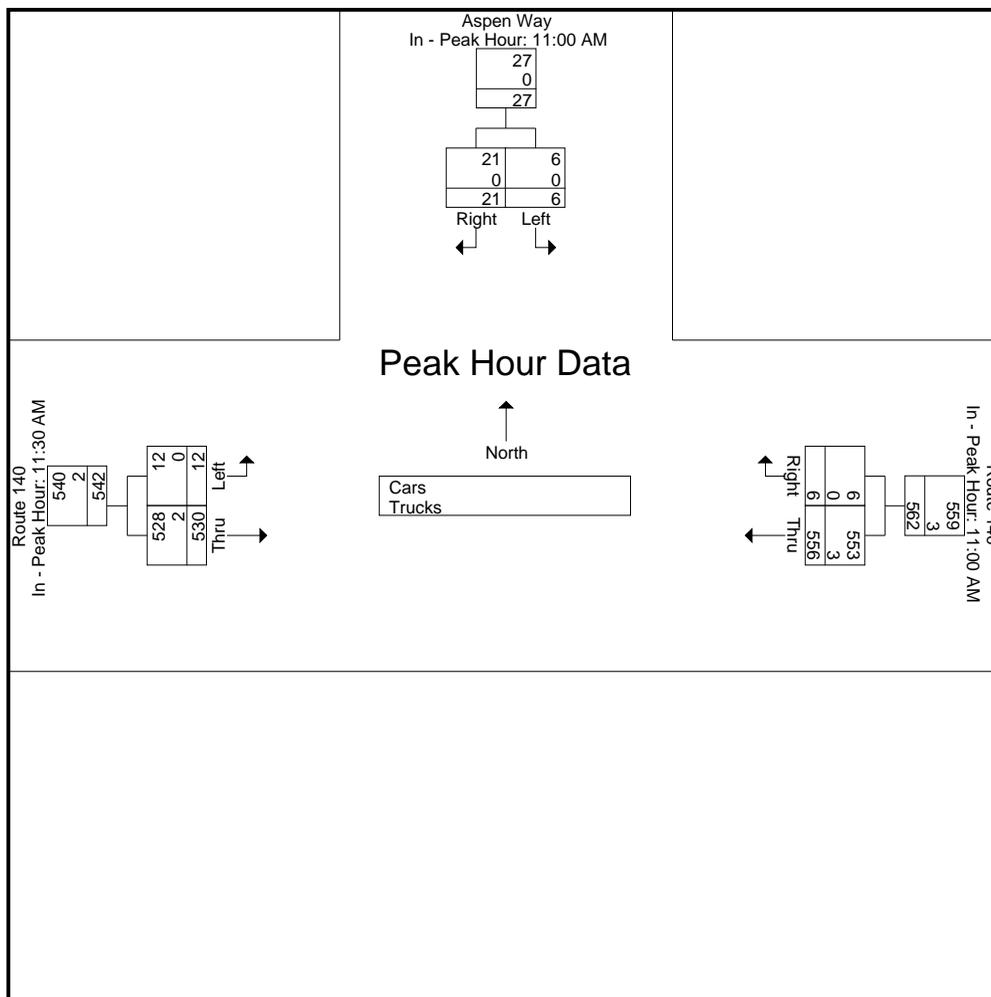
File Name : 988300S5

Site Code : 98830005

Start Date : 12/7/2024

Page No : 3

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear

File Name : 988300S5
 Site Code : 98830005
 Start Date : 12/7/2024
 Page No : 4

Groups Printed- Cars

Start Time	Aspen Way From North		Route 140 From East		Route 140 From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
11:00 AM	1	7	144	2	7	97	258
11:15 AM	3	4	141	3	8	128	287
11:30 AM	0	3	148	1	1	128	281
11:45 AM	2	7	120	0	3	118	250
Total	6	21	553	6	19	471	1076
12:00 PM	1	3	126	3	2	149	284
12:15 PM	1	5	120	3	6	133	268
12:30 PM	3	1	118	2	2	115	241
12:45 PM	4	3	119	5	0	114	245
Total	9	12	483	13	10	511	1038
01:00 PM	0	5	127	2	2	103	239
01:15 PM	0	4	111	1	2	111	229
01:30 PM	3	3	116	1	3	107	233
01:45 PM	4	4	105	1	7	102	223
Total	7	16	459	5	14	423	924
Grand Total	22	49	1495	24	43	1405	3038
Apprch %	31	69	98.4	1.6	3	97	
Total %	0.7	1.6	49.2	0.8	1.4	46.2	

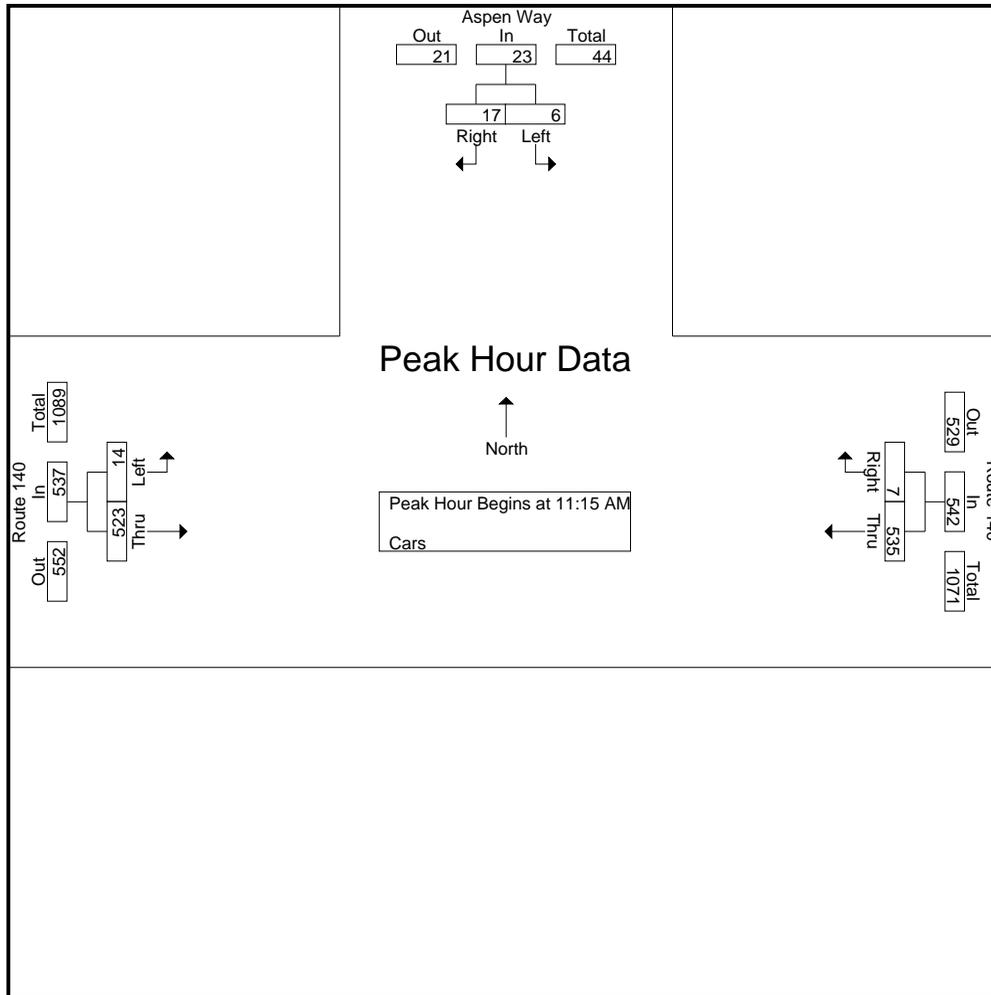
Start Time	Aspen Way From North			Route 140 From East			Route 140 From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 11:15 AM										
11:15 AM	3	4	7	141	3	144	8	128	136	287
11:30 AM	0	3	3	148	1	149	1	128	129	281
11:45 AM	2	7	9	120	0	120	3	118	121	250
12:00 PM	1	3	4	126	3	129	2	149	151	284
Total Volume	6	17	23	535	7	542	14	523	537	1102
% App. Total	26.1	73.9		98.7	1.3		2.6	97.4		
PHF	.500	.607	.639	.904	.583	.909	.438	.878	.889	.960

Accurate Counts

978-664-2565

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear

File Name : 988300S5
 Site Code : 98830005
 Start Date : 12/7/2024
 Page No : 5



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:00 AM			11:00 AM			11:30 AM		
+0 mins.	1	7	8	144	2	146	1	128	129
+15 mins.	3	4	7	141	3	144	3	118	121
+30 mins.	0	3	3	148	1	149	2	149	151
+45 mins.	2	7	9	120	0	120	6	133	139
Total Volume	6	21	27	553	6	559	12	528	540
% App. Total	22.2	77.8		98.9	1.1		2.2	97.8	
PHF	.500	.750	.750	.934	.500	.938	.500	.886	.894

Accurate Counts

978-664-2565

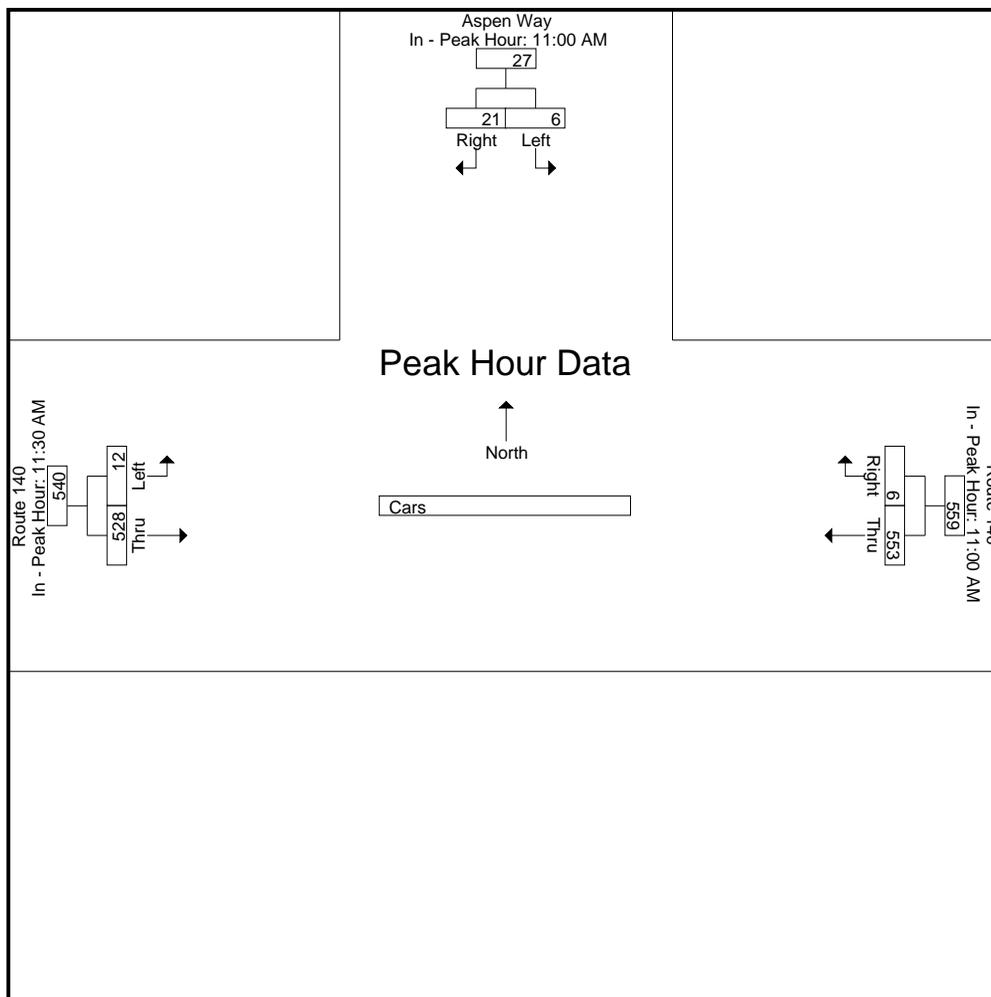
File Name : 988300S5

Site Code : 98830005

Start Date : 12/7/2024

Page No : 6

N/S Street : Aspen Way
E/W Street : Route 140
City/State : Franklin, MA
Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear

File Name : 988300S5
 Site Code : 98830005
 Start Date : 12/7/2024
 Page No : 7

Groups Printed- Trucks

Start Time	Aspen Way From North		Route 140 From East		Route 140 From West		Int. Total
	Left	Right	Thru	Right	Left	Thru	
11:00 AM	0	0	2	0	0	0	2
11:15 AM	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0
11:45 AM	0	0	1	0	0	1	2
Total	0	0	3	0	0	1	4
12:00 PM	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	1	1
12:30 PM	0	0	0	0	0	1	1
12:45 PM	0	0	2	0	0	0	2
Total	0	0	2	0	0	2	4
01:00 PM	0	0	1	0	0	0	1
01:15 PM	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	1	1
01:45 PM	0	0	0	0	0	0	0
Total	0	0	1	0	0	1	2
Grand Total	0	0	6	0	0	4	10
Apprch %	0	0	100	0	0	100	
Total %	0	0	60	0	0	40	

Start Time	Aspen Way From North			Route 140 From East			Route 140 From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 12:15 PM										
12:15 PM	0	0	0	0	0	0	0	1	1	1
12:30 PM	0	0	0	0	0	0	0	1	1	1
12:45 PM	0	0	0	2	0	2	0	0	0	2
01:00 PM	0	0	0	1	0	1	0	0	0	1
Total Volume	0	0	0	3	0	3	0	2	2	5
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.375	.000	.375	.000	.500	.500	.625

Accurate Counts

978-664-2565

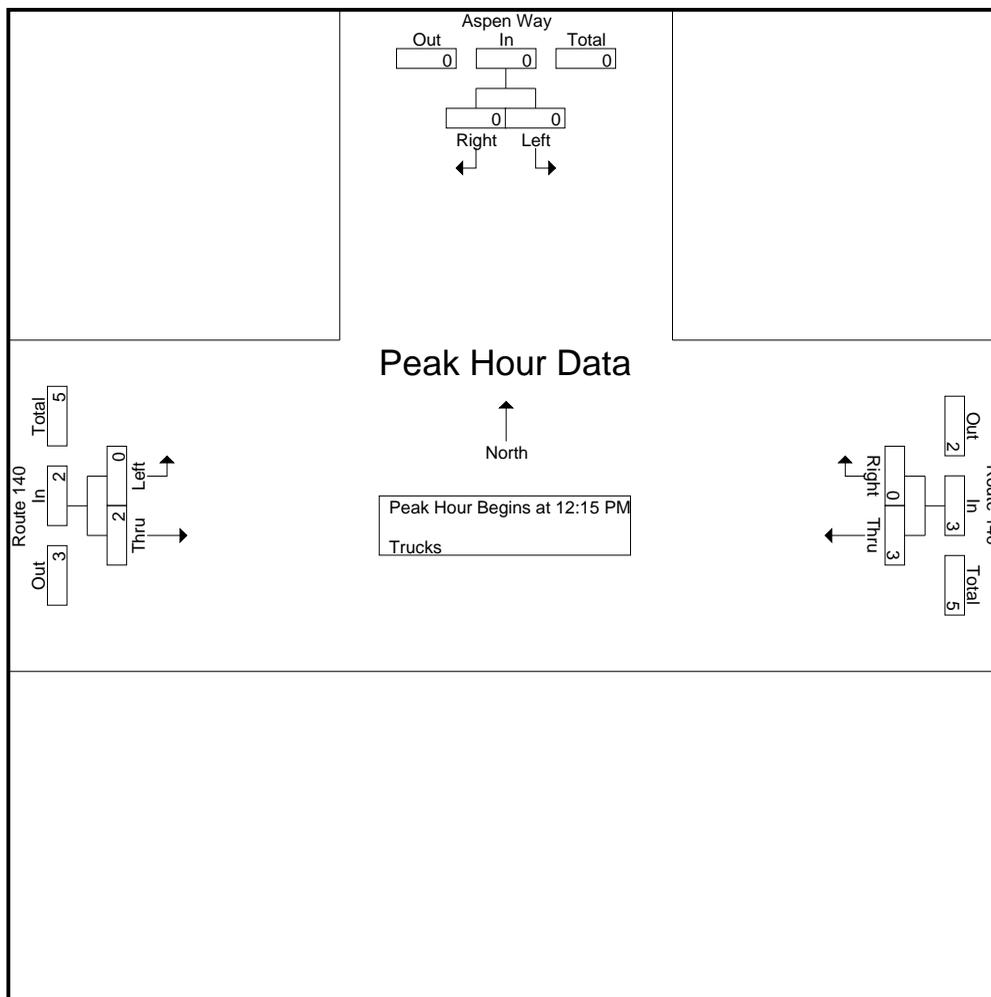
File Name : 988300S5

Site Code : 98830005

Start Date : 12/7/2024

Page No : 8

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:00 AM			11:00 AM			11:45 AM		
+0 mins.	0	0	0	2	0	2	0	1	1
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	1	1
+45 mins.	0	0	0	1	0	1	0	1	1
Total Volume	0	0	0	3	0	3	0	3	3
% App. Total	0	0	0	100	0	100	0	100	100
PHF	.000	.000	.000	.375	.000	.375	.000	.750	.750

Accurate Counts

978-664-2565

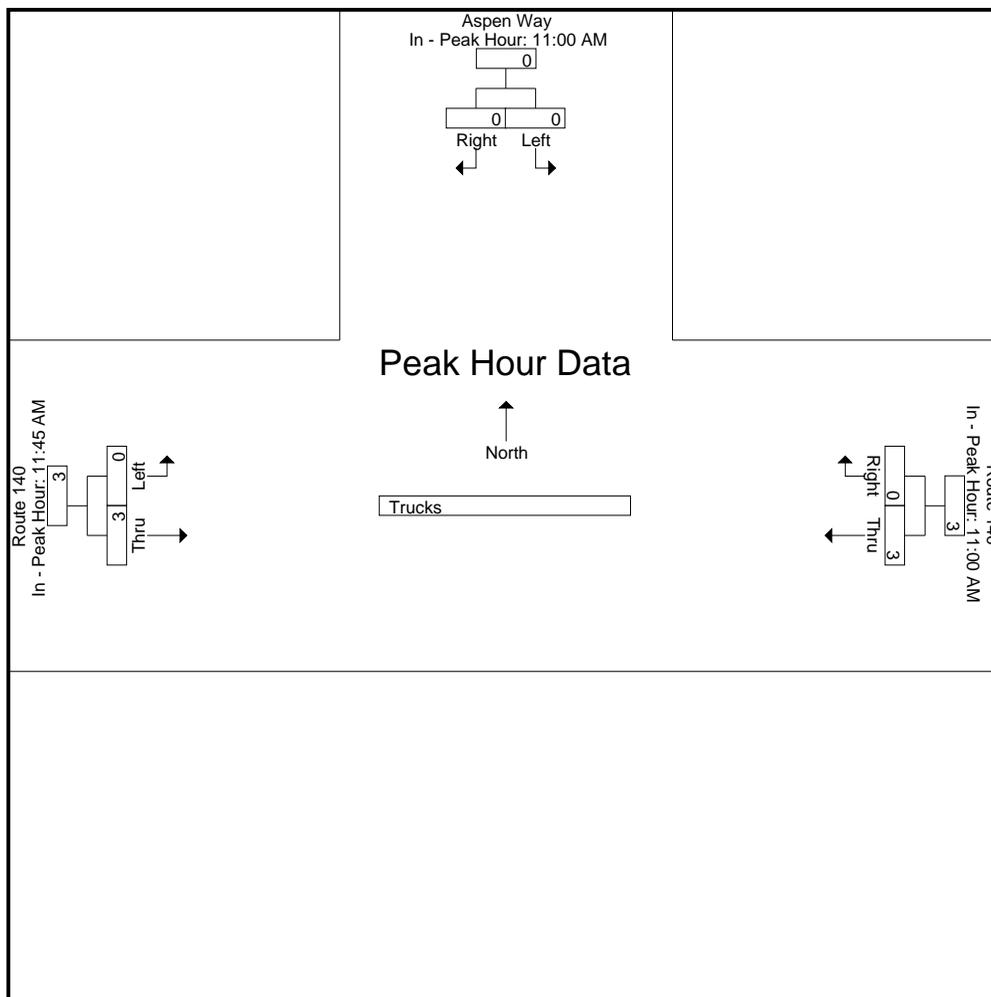
File Name : 988300S5

Site Code : 98830005

Start Date : 12/7/2024

Page No : 9

N/S Street : Aspen Way
E/W Street : Route 140
City/State : Franklin, MA
Weather : Clear



Accurate Counts

978-664-2565

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear

File Name : 988300S5
 Site Code : 98830005
 Start Date : 12/7/2024
 Page No : 10

Groups Printed- Bikes Peds

Start Time	Aspen Way From North			Route 140 From East			Route 140 From West			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	Peds	Thru	Right	Peds	Left	Thru	Peds			
11:00 AM	0	0	1	0	0	0	0	0	0	1	0	1
11:15 AM	0	0	2	0	0	0	0	0	0	2	0	2
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	1	0	0	0	0	0	0	1	0	1
Total	0	0	4	0	0	0	0	0	0	4	0	4
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	1	0	0	0	0	0	0	1	0	1
12:30 PM	0	0	1	0	0	0	0	0	0	1	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	2	0	0	0	0	0	0	2	0	2
01:00 PM	0	0	1	0	0	0	0	0	0	1	0	1
01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	1	0	0	0	0	1	0	1	1	2
01:45 PM	0	0	2	0	0	0	0	0	0	2	0	2
Total	0	0	4	0	0	0	0	1	0	4	1	5
Grand Total	0	0	10	0	0	0	0	1	0	10	1	11
Apprch %	0	0		0	0		0	100				
Total %	0	0		0	0		0	100		90.9	9.1	

Start Time	Aspen Way From North			Route 140 From East			Route 140 From West			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 12:45 PM										
12:45 PM	0	0	0	0	0	0	0	0	0	0
01:00 PM	0	0	0	0	0	0	0	0	0	0
01:15 PM	0	0	0	0	0	0	0	0	0	0
01:30 PM	0	0	0	0	0	0	0	1	1	1
Total Volume	0	0	0	0	0	0	0	1	1	1
% App. Total	0	0		0	0		0	100		
PHF	.000	.000	.000	.000	.000	.000	.000	.250	.250	.250

Accurate Counts

978-664-2565

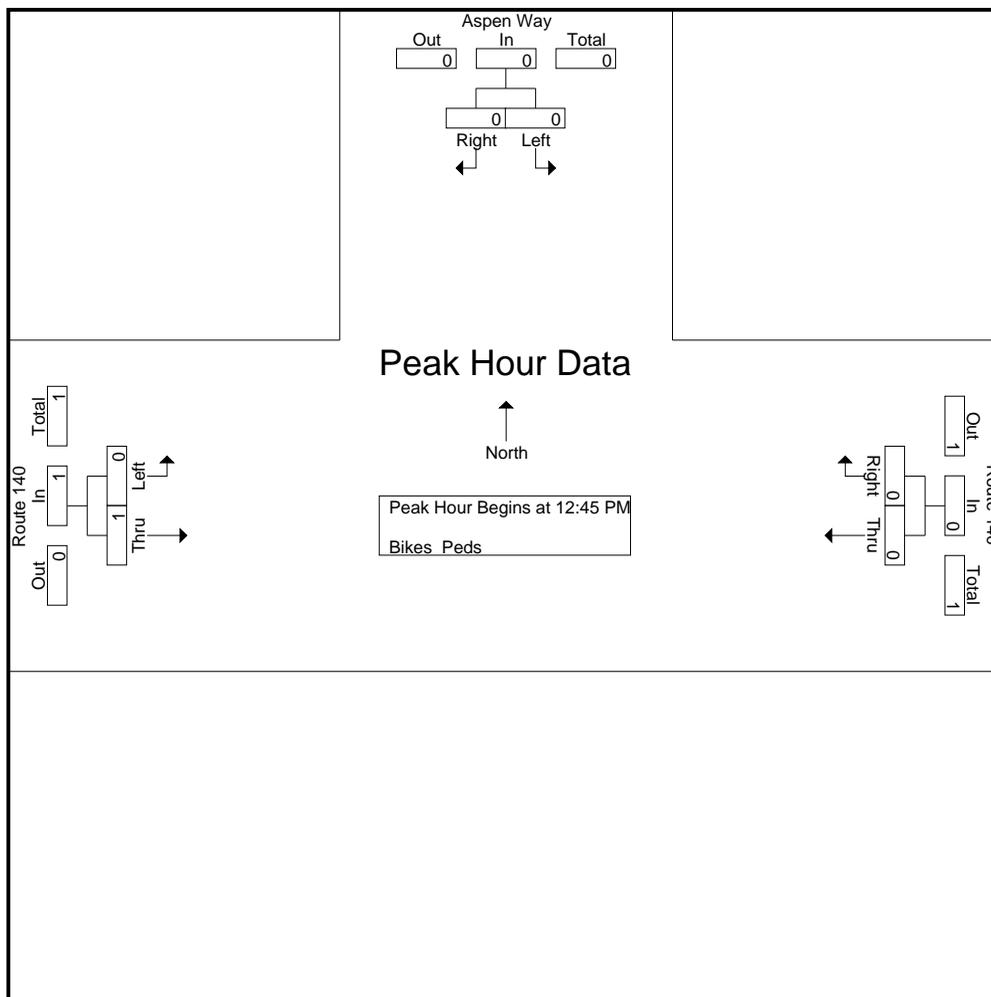
File Name : 988300S5

Site Code : 98830005

Start Date : 12/7/2024

Page No : 11

N/S Street : Aspen Way
 E/W Street : Route 140
 City/State : Franklin, MA
 Weather : Clear



Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	11:00 AM			11:00 AM			12:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	1	1
Total Volume	0	0	0	0	0	0	0	1	1
% App. Total	0	0	0	0	0	0	0	100	100
PHF	.000	.000	.000	.000	.000	.000	.000	.250	.250

Accurate Counts

978-664-2565

File Name : 988300S5

Site Code : 98830005

Start Date : 12/7/2024

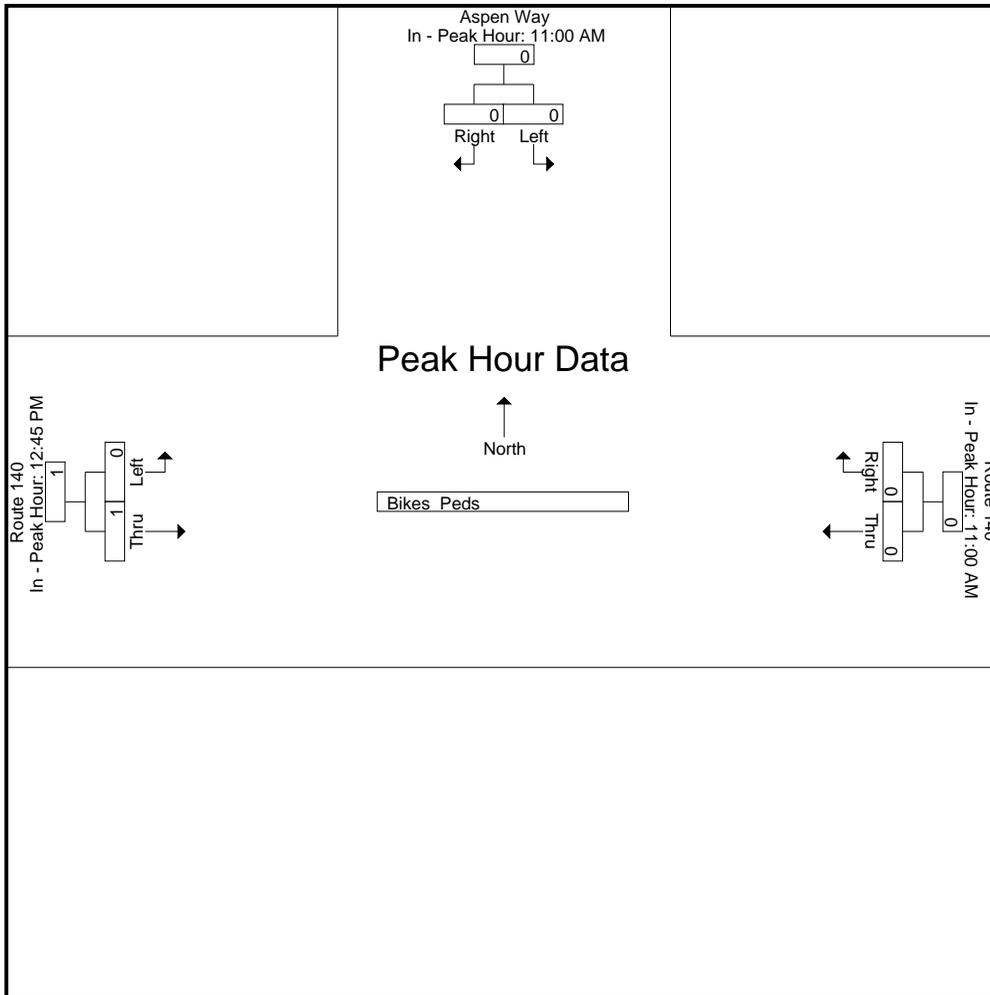
Page No : 12

N/S Street : Aspen Way

E/W Street : Route 140

City/State : Franklin, MA

Weather : Clear



SEASONAL ADJUSTMENT DATA

Massachusetts Highway Department
Statewide Traffic Data Collection
2023 Weekday Seasonal Factors

Factor Group	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Axle Factor
R1	1.23	1.14	1.11	1.06	1.01	0.96	0.93	0.91	1.00	0.97	1.04	1.08	0.77
R3	1.11	1.07	1.02	0.95	0.90	0.89	0.87	0.87	0.92	0.89	0.95	0.99	0.98
R4-R7	1.19	1.16	1.10	1.00	0.92	0.91	0.87	0.88	0.93	0.93	1.01	1.06	0.98
U1-Boston	1.07	1.05	1.00	0.95	0.93	0.92	0.92	0.92	0.94	0.93	0.96	0.99	0.94
U1-Essex	1.14	1.11	1.06	1.00	0.95	0.91	0.87	0.87	0.94	0.95	1.00	1.03	0.96
U1-Southeast	1.12	1.09	1.04	0.96	0.91	0.87	0.84	0.86	0.92	0.94	0.98	1.03	0.96
U1-West	1.05	1.02	0.98	0.96	0.94	0.93	0.94	0.94	0.95	0.92	0.96	0.98	0.81
U1-Worcester	1.06	1.04	0.97	0.93	0.92	0.90	0.92	0.92	0.93	0.92	0.94	0.97	0.88
U3	1.05	1.02	0.96	0.92	0.89	0.89	0.91	0.92	0.91	0.90	0.94	0.96	0.98
U4-U7	1.02	1.00	0.94	0.89	0.86	0.88	0.91	0.92	0.89	0.88	0.91	0.91	0.99
UR2	1.05	1.01	0.97	0.92	0.90	0.90	0.91	0.91	0.91	0.90	0.94	0.97	0.98
Rec - East	1.17	1.16	1.09	1.04	0.92	0.84	0.76	0.80	0.93	1.00	1.03	1.06	0.98
Rec - West	1.46	1.38	1.32	1.06	0.94	0.79	0.59	0.69	0.97	0.99	1.18	1.28	0.98

Round off:

0-999 = 10

>1000 = 100

U = Urban

R = Rural

1 - Interstate

2 - Freeway and Expressway

3 - Other Principal Arterial

4 - Minor Arterial

5 - Major Collector

6 - Minor Collector

7 - Local Road and Street

UR2 Group - Combination of Urban Freeways and Expressways and Rural Freeways and Expressways.

Recreational - East Group - Cape Cod (all towns) including the town of Plymouth south of Route 3A (stations 7014,7079,7080,7090,7091,7092,7093,7094,7095,7096,7097,7108 and 7178), Martha's Vineyard and Nantucket.

Recreational - West Group - Continuous Stations 2 and 189 including stations

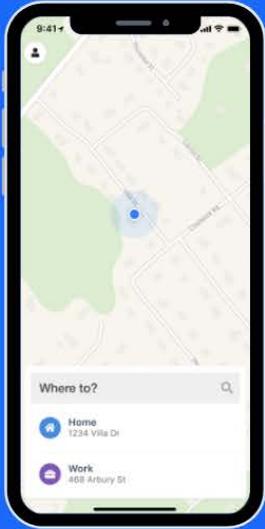
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PUBLIC TRANSPORTATION SCHEDULES



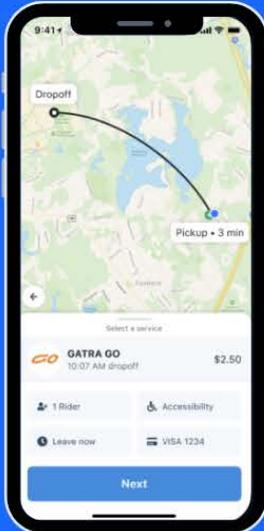
UNITED

GATRA GO United is an on-demand, same day, affordable, and accessible public transit service serving the towns of Foxborough, Franklin, Mansfield, Norfolk, Norton, Wrentham

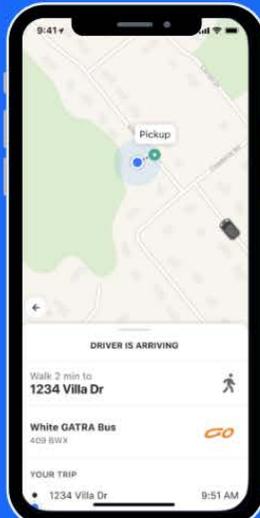


Download the app on iOS or Android

Search for GATRA GO



Schedule a ride with the tap of a button



Get picked up where you want



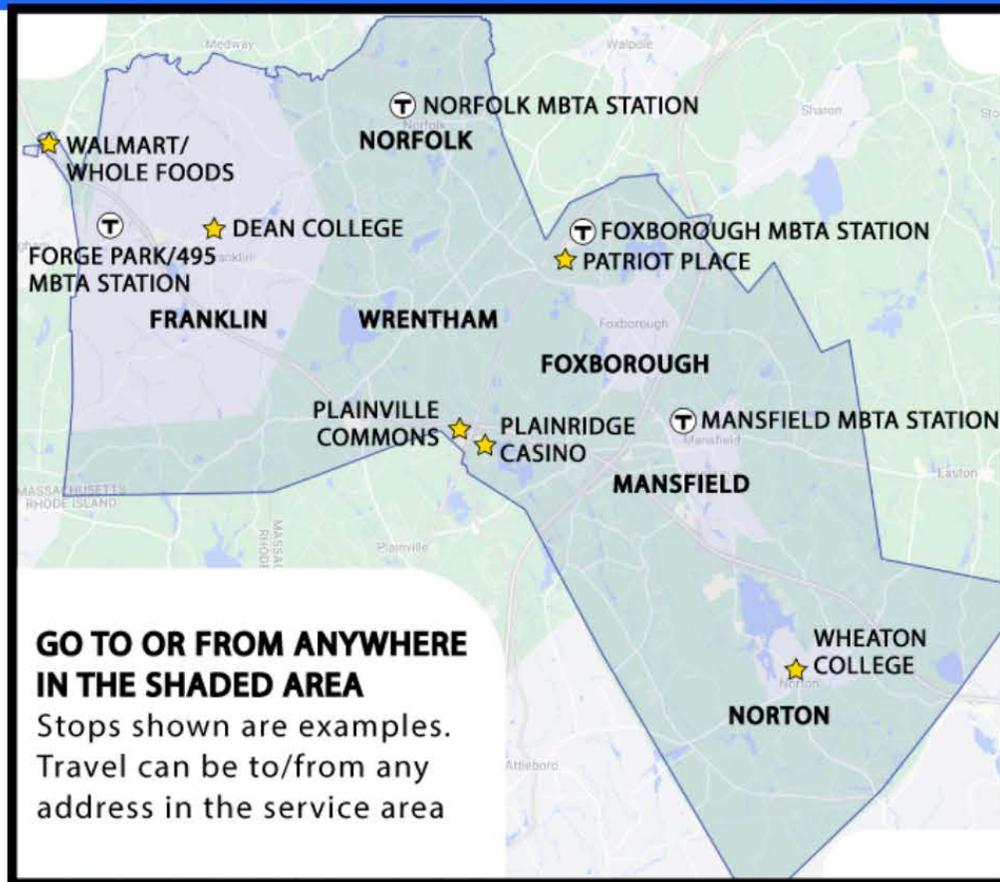
**BOOK USING THE APP OR CALL
800-698-7676**

HOURS

Monday-Friday 6:30AM-8:00PM
Saturday 9:00AM-8:00PM
Sunday 9:00AM-6:00PM

FARES

\$2.00 a ride
Children under 6 free



GO TO OR FROM ANYWHERE IN THE SHADED AREA

Stops shown are examples. Travel can be to/from any address in the service area



**800-483-2500
www.GATRA.org**

FRANKLIN/FOXBORO LINE

FALL/WINTER SCHEDULE

Effective November 18, 2024

Monday to Friday

Inbound to Boston

AM												PM															
ZONE STATION	TRAIN #	700	740	702	704	742	706	708	744	710	746	714	748	718	750	722	752	726	754	756	728	730	758	732	760	734	
	Bikes Allowed	🚲								🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	
6	Forge Park/495	4:59	-	5:59	6:33	-	7:23	8:10	-	9:20	-	11:15	-	1:13	-	3:25	-	4:51	-	-	-	8:00	-	9:28	-	11:28	
6	Franklin/Dean Coll.	5:06	-	6:06	6:40	-	7:30	8:17	-	9:27	-	11:22	-	1:20	-	3:32	-	4:58	-	-	7:04	8:07	-	9:35	-	11:35	
5	Norfolk	5:13	-	6:13	6:47	-	7:37	8:24	-	9:34	-	11:29	-	1:27	-	3:39	-	5:05	-	-	7:11	8:14	-	9:42	-	11:42	
4	Foxboro	-	5:57	-	-	7:15	-	-	8:45	-	10:36	-	12:31	-	2:09	-	4:06	-	5:50	6:48	-	-	8:59	-	10:49	-	
4	Walpole	5:20	-	6:20	6:54	-	7:45	8:31	-	9:41	-	11:36	-	1:34	-	3:46	-	5:21	-	-	7:27	8:21	-	9:49	-	11:49	
4	Windsor Gardens	5:24	6:10	6:24	6:58	7:28	7:49	8:35	8:58	f 9:44	f 10:49	f 11:39	f 12:44	f 1:37	f 2:22	f 3:49	f 4:19	f 5:24	-	f 7:01	f 7:30	f 8:24	f 9:12	f 9:52	f 11:02	f 11:52	
3	Norwood Central	5:28	6:14	6:28	7:02	7:32	7:53	8:39	9:02	9:48	10:53	11:43	12:48	1:41	2:26	3:53	4:23	5:28	6:05	7:05	7:34	8:28	9:15	9:55	11:05	11:55	
3	Norwood Depot	5:30	6:16	6:30	7:05	7:35	7:56	8:41	9:04	9:50	10:55	11:45	12:50	1:43	2:28	3:55	4:25	5:30	6:07	7:07	7:36	8:30	9:17	9:57	11:07	11:57	
3	Islington	5:33	6:19	6:33	7:08	7:38	7:59	8:44	9:07	9:53	10:58	11:48	12:53	1:46	2:31	3:58	4:28	5:34	6:11	7:11	7:40	8:33	9:20	10:00	11:10	12:00	
2	Dedham Corp. Ctr.	5:36	6:22	6:36	7:11	7:41	8:02	8:47	9:10	9:56	11:01	11:51	12:56	1:49	2:34	4:01	4:31	5:36	6:13	7:13	7:42	8:36	9:23	10:03	11:13	12:03	
2	Endicott	5:39	6:25	6:39	7:14	7:44	8:05	8:50	9:13	9:59	11:04	11:54	12:59	1:52	2:37	4:04	4:34	5:39	6:16	7:16	7:45	8:39	9:26	10:06	11:16	12:06	
2	Readville	5:43	VIA	6:43	7:19	7:48	8:10	8:54	9:17	10:03	11:08	11:58	1:03	1:56	2:41	4:08	VIA	5:43	6:20	7:20	VIA	8:43	VIA	VIA	VIA	12:12	
1	Hyde Park	🚲	FAIR-	-	-	-	-	-	-	-	-	-	-	-	-	-	FAIR-	-	-	-	FAIR-	-	FAIR-	FAIR-	FAIR-	-	
1A	Forest Hills	🚲	L 5:53	MOUNT	L 6:53	-	L 7:58	-	L 9:05	-	L 10:12	-	-	-	-	-	FAIR-	-	-	-	MOUNT	-	FAIR-	FAIR-	FAIR-	-	
1A	Ruggles	🚲	L 5:58	LINE	L 6:58	L 7:33	L 8:03	L 8:24	L 9:10	L 9:29	L 10:17	L 11:19	L 12:09	L 1:14	L 2:07	L 2:54	L 4:19	LINE	L 5:56	L 6:31	L 7:31	LINE	L 8:54	LINE	LINE	LINE	
1A	Back Bay	🚲	L 6:02	-	L 7:02	L 7:37	L 8:07	L 8:30	L 9:14	L 9:33	L 10:21	L 11:23	L 12:13	L 1:18	L 2:11	L 2:58	L 4:23	-	L 6:00	L 6:35	L 7:35	-	L 8:58	-	-	-	
1A	South Station	🚲	6:10	7:02	7:10	7:45	8:15	8:36	9:22	9:41	10:29	11:31	12:21	1:26	2:19	3:06	4:31	5:09	6:08	6:43	7:43	8:27	9:06	10:02	10:42	11:52	-

Monday to Friday

Outbound from Boston

AM												PM												
ZONE STATION	TRAIN #	741	743	705	745	709	747	713	749	717	751	721	753	723	725	755	727	729	757	731	759	733	735	
	Bikes Allowed	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲
1A	South Station	5:47	7:20	7:40	8:43	9:35	10:35	11:25	12:28	1:28	2:28	3:20	4:05	4:27	5:05	5:32	5:48	6:35	7:17	8:10	9:32	10:10	11:55	
1A	Back Bay	🚲	VIA	7:25	7:45	8:48	9:40	10:40	11:30	12:33	1:33	2:33	3:25	4:10	4:32	5:10	5:37	5:53	6:40	VIA	8:15	VIA	10:15	VIA
1A	Ruggles	🚲	FAIR-	7:28	7:48	8:51	9:43	10:43	11:33	12:36	1:36	2:37	3:28	4:14	4:36	5:14	5:41	5:57	6:43	FAIR-	8:18	FAIR-	10:18	FAIR-
1A	Forest Hills	🚲	MOUNT	-	-	-	-	-	-	-	-	2:42	3:33	-	4:41	-	5:46	-	6:48	MOUNT	-	MOUNT	-	MOUNT
1	Hyde Park	🚲	-	-	-	-	10:51	-	-	-	2:47	3:38	4:22	4:46	5:22	5:51	6:05	6:53	-	-	-	-	-	
2	Readville	🚲	-	7:37	7:58	9:01	9:52	10:55	11:45	12:45	1:45	2:51	3:42	4:26	4:50	5:26	5:55	6:09	6:57	-	8:27	-	10:27	-
2	Endicott	6:21	7:41	8:02	9:06	9:56	10:59	11:49	12:49	1:49	2:55	3:46	4:30	4:54	5:30	5:59	6:13	7:01	7:49	8:31	10:04	10:31	12:29	
2	Dedham Corp. Ctr.	6:23	7:43	8:05	9:09	9:58	11:01	11:51	12:51	1:51	2:57	3:48	4:33	4:57	5:33	6:02	6:16	7:03	7:51	8:33	10:06	10:33	12:31	
3	Islington	6:26	7:46	8:08	9:12	10:01	11:04	11:54	12:54	1:54	3:00	3:51	4:36	5:00	5:36	6:05	6:19	7:06	7:54	8:36	10:09	10:36	12:34	
3	Norwood Depot	6:29	7:49	8:11	9:15	10:04	11:07	11:57	12:57	1:57	3:03	3:55	4:39	5:03	5:39	6:08	6:22	7:09	7:57	8:39	10:12	10:39	12:37	
3	Norwood Central	6:31	7:53	8:13	9:17	10:06	11:09	11:59	12:59	1:59	3:05	3:58	4:43	5:07	5:43	6:12	6:26	7:13	8:00	8:41	10:14	10:41	12:39	
4	Windsor Gardens	f 6:33	f 7:58	f 8:16	f 9:20	f 10:09	f 11:12	f 12:02	f 1:02	f 2:02	f 3:08	f 4:02	4:47	5:11	5:47	6:16	6:30	7:17	f 8:03	f 8:44	f 10:17	f 10:44	f 12:42	
4	Walpole	-	-	8:22	-	10:14	-	12:07	-	2:07	-	4:06	-	5:15	5:51	-	6:34	7:21	-	8:49	-	10:49	12:47	
4	Foxboro	🚲	6:52	8:17	-	9:39	-	11:31	-	1:21	-	3:30	-	5:06	-	6:35	-	-	8:24	-	10:36	-	-	
5	Norfolk	🚲	-	-	8:37	-	10:21	-	12:14	-	2:14	-	4:13	-	5:22	5:58	-	6:41	7:28	-	8:56	-	10:56	12:54
6	Franklin/Dean Coll.	-	-	8:44	-	10:28	-	12:21	-	2:21	-	4:20	-	5:29	6:05	-	6:48	7:35	-	9:03	-	11:03	1:01	
6	Forge Park/495	🚲	-	-	8:58	-	10:40	-	12:33	-	2:33	-	4:32	-	5:41	6:17	-	7:00	7:47	-	9:15	-	11:15	1:13

VIA FAIRMOUNT LINE:
Operates via the Fairmount Line between Readville and South Station. Please board trains on the Fairmount Line platform (Track 4). See the Fairmount Line schedule for all stops.

Weekend

Inbound to Boston

AM												PM											
ZONE STATION	SATURDAY TRAIN #	1700	1800	1702	1802	1704	1804	1706	1806	1708	1808	1710	1810	1712	1812	1714	1814	1716	1816	1718	1818		
ZONE STATION	SUNDAY TRAIN #	2700	2800	2702	2802	2704	2804	2706	2806	2708	2808	2710	2810	2712	2812	2714	2814	2716	2816	2718	2818		
	Bikes Allowed	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲	🚲		
6	Forge Park/495	5:17	-	8:17	-	9:47	-	11:47	-	1:47	-	3:47	-	5:57	-	7:57	-	9:27	-	11:27	-		
6	Franklin/Dean Coll.	5:24	-	8:24	-	9:54	-	11:54	-	1:54	-	3:54	-	6:04	-	8:04	-	9:34	-	11:34	-		
5	Norfolk	5:31	-	8:31	-	10:01	-	12:01	-	2:01	-	4:01	-	6:11	-	8:11	-	9:41	-	11:41	-		
4	Walpole	5:38	-	8:38	-	10:08	-	12:08	-	2:08	-	4:08	-	6:18	-	8:18	-	9:48	-	11:48	-		
4	Windsor Gardens	f 5:41	-	f 8:41	-	f 10:11	-	f 12:11	-	f 2:11	-	f 4:11	-	f 6:21	-	f 8:21	-	f 9:51	-	f 11:51	-		
3	Norwood Central	5:45	-	8:45	-	10:15	-	12:15	-	2:15	-	4:15	-	6:25	-	8:25	-	9:55	-	11:55	-		
3	Norwood Depot	5:47	-	8:47	-	10:17	-	12:17	-	2:17	-	4:17	-	6:27	-	8:27	-	9:57	-	11:57	-		
3	Islington	5:50	-	8:50	-	10:20	-	12:20	-	2:20	-	4:20	-	6:30	-	8:30	-	10:00	-	12:00	-		
2	Dedham Corp. Ctr.	5:52	-	8:52	-	10:22	-	12:															

VEHICLE TRAVEL SPEED DATA

Accurate Counts
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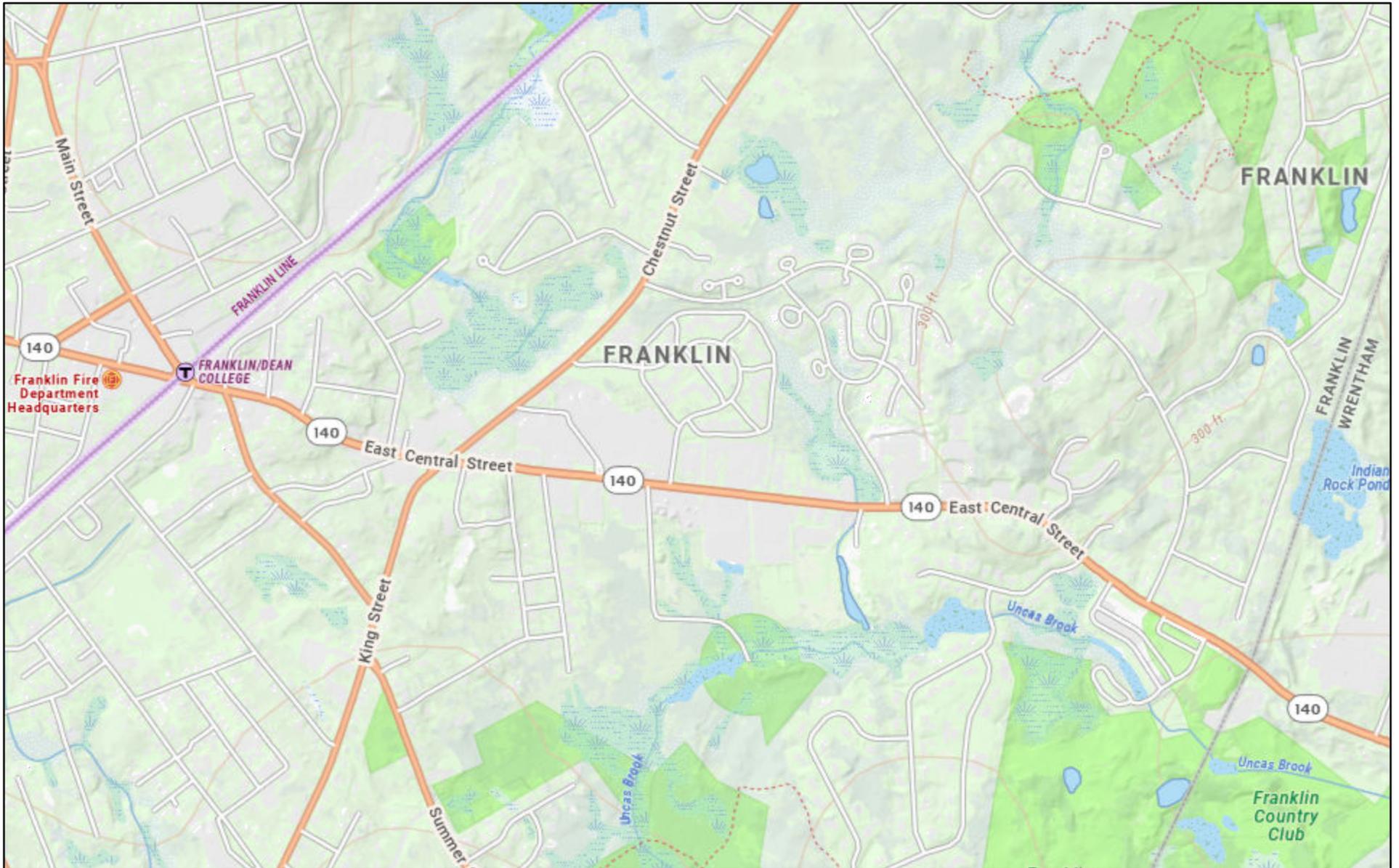
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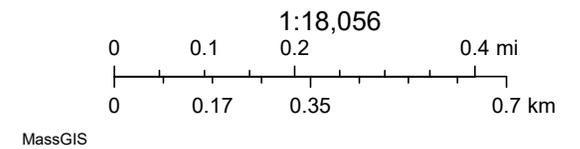
MASSDOT CRASH DATA

MASSDOT CRASH RATE WORKSHEETS AND HIGH CRASH LOCATION MAP

MassDOT Top Crash Locations



11/29/2023, 10:23:36 AM

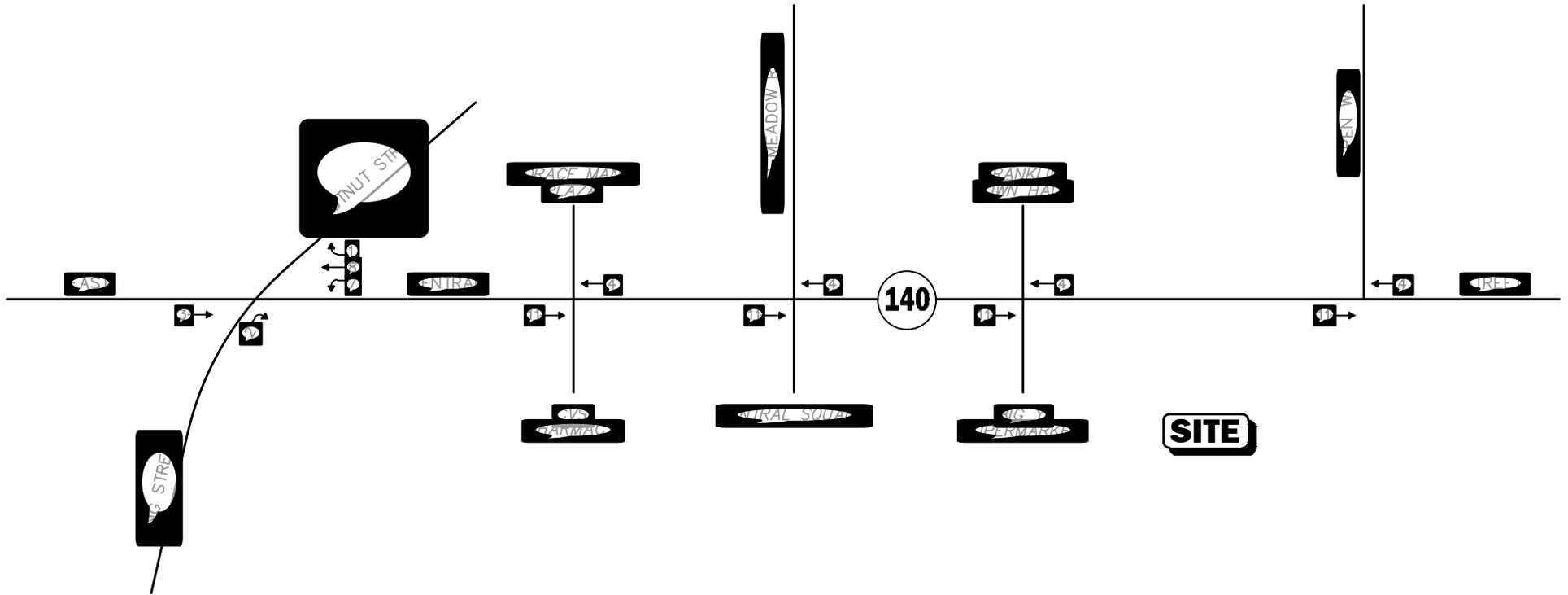


GENERAL BACKGROUND TRAFFIC GROWTH

General Background Traffic Growth - Daily Traffic Volumes

CITY/TOWN	ROUTE/STREET	LOCATION	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Annual Growth
Franklin	I-495	South of Ramp I495 NB to Rte 140	72,318	72,712		80,371	77,245	83,722	88,584	87,263	87,001	83,551	89,222	1.48%
Franklin	Pleasant Street	At Norfolk Town Line	11,900	11,828	11,816	10,232	10,302	10,621	9,519	10,109	10,281	11,724	11,677	0.08%
Franklin	West Central Street	West of Beaver Street	20,620	20,846	20,217	20,697	20,719	20,109	20,330		21,200	21,264		-0.14%
Franklin	Union Street	Between Hutchinson Street and Arlington Stre	11,900	11,942	8,301	8,468	8,507	7,867	8,048	8,547	8,395	8,420	8,386	-2.86%
Franklin	Ramp-King Street to I 495 NB	King Street on Rampd					4,837	4,716	5,004			5,334	5,094	-0.30%
Franklin	Ramp- I 495 NB to Rte 140	Exit 17 Route 140 Franklin Bellingham					7,515	7,327	7,774			8,286	8,920	3.75%
Franklin	Ramp- Rte 140 to I 495 NB	Rte 140 On-Ramp					9,513	9,275	9,841			10,489	9,160	-3.02%
Franklin	Ramp- Rte 140 to I 495 SB	Rte 140 On-Ramp					7,279	7,097	7,530			8,026	7,314	-1.76%
Franklin	Ramp- I 495 SB to King Street	Wexit 16 King Street Franhlin Woonsocket RI					4,990	4,865	5,162			5,502	5,942	3.87%
Franklin	Ramp- I 495 SB to Rte 140	Exit 17 Route 140 Franklin Bellingham					9,445	9,209	9,771			10,415	11,108	3.42%
														0.45%

BACKGROUND DEVELOPMENT TRAFFIC-VOLUME NETWORKS

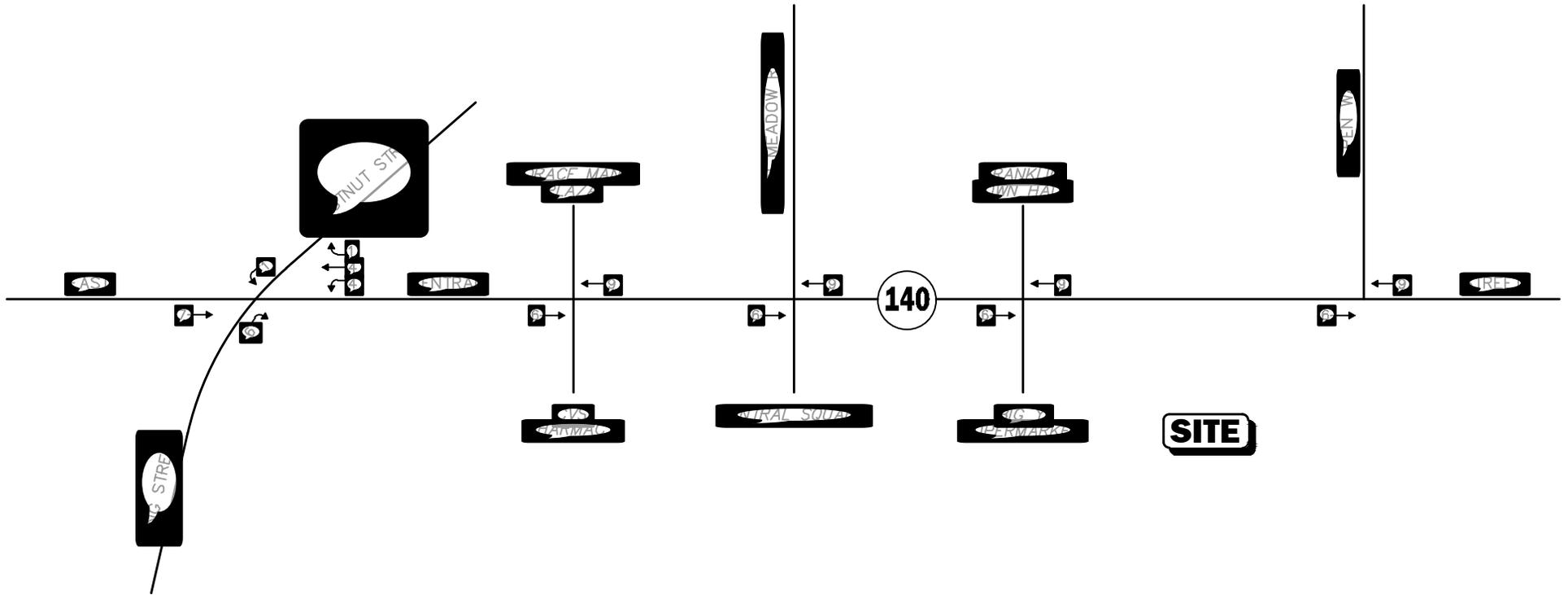


Not To Scale



Figure A-1

Taj Estates of Franklin II
230 East Central Street
Mixed-Use Development
Weekday Morning
Peak-Hour Traffic Volumes



Not To Scale



Figure A-3
Taj Estates of Franklin II
230 East Central Street
Mixed-Use Development
Saturday Midday
Peak-Hour Traffic Volumes

TRIP DISTRIBUTION

Proposed Multifamily Residential Development
Franklin, MA

Residence	Workplace	Number	Chestnut Street (North)		King Street (South)		Route 140 (East)		Route 140 (West)	
Franklin Town city	Franklin Town city	4085		0	40%	1634		0	60%	2451
Franklin Town city	Boston city	1832		0		0	50%	916	50%	916
Franklin Town city	Framingham town	804	50%	402		0		0	50%	402
Franklin Town city	Milford town	495		0		0		0	100%	495
Franklin Town city	Norwood town	433		0		0	100%	433		0
Franklin Town city	Wellesley town	406	30%	122		0	70%	284		0
Franklin Town city	Natick town	376	100%	376		0		0		0
Franklin Town city	Wrentham town	348		0		0	100%	348		0
Franklin Town city	Cambridge city	275		0		0	60%	165	40%	110
Franklin Town city	Providence city	270		0	100%	270		0		0
Franklin Town city	Mansfield town	254		0		0	100%	254		0
Franklin Town city	Bellingham town	248		0		0		0	100%	248
Franklin Town city	Hopkinton town	246		0		0		0	100%	246
Franklin Town city	Norfolk town	243	100%	243		0		0		0
Franklin Town city	Foxborough town	242		0		0	100%	242		0
Franklin Town city	Needham town	238	70%	167		0	30%	71		0
Franklin Town city	Walpole town	235		0		0	100%	235		0
Franklin Town city	Medway town	234		0		0		0	100%	234
Franklin Town city	Braintree Town city	219		0		0	100%	219		0
Franklin Town city	Marlborough city	214		0		0		0	100%	214
Franklin Town city	Quincy city	211		0		0	100%	211		0
Franklin Town city	Worcester city	205		0		0		0	100%	205
Franklin Town city	Canton town	194		0		0	100%	194		0
Franklin Town city	Waltham city	190		0		0	70%	133	30%	57
Franklin Town city	Westborough town	183		0		0		0	100%	183
Franklin Town city	Woonsocket city	176		0	100%	176		0		0
Franklin Town city	Smithfield town	172		0	100%	172		0		0
Franklin Town city	Newton city	151		0		0	70%	106	30%	45
Franklin Town city	Westwood town	150		0		0	100%	150		0
Franklin Town city	Dedham town	144		0		0	100%	144		0
Franklin Town city	Burlington town	121		0		0	100%	121		0
Franklin Town city	Weymouth Town city	121		0		0	100%	121		0
Franklin Town city	Holliston town	105		0		0		0	100%	105
Franklin Town city	Brockton city	101		0		0	100%	101		0
Franklin Town city	Watertown Town city	100		0		0	40%	40	60%	60
Franklin Town city	Medfield town	100	100%	100		0		0		0
Franklin Town city	Brookline town	98		0		0	100%	98		0
Franklin Town city	Bridgewater town	93		0	40%	37	60%	56		0
Franklin Town city	Taunton city	86		0	40%	34	60%	52		0
		14,398		1,409		2,324		4,694		5,971
				9.8%		16.1%		32.6%		41.5%
		<u>SAY</u>		10%		15%		35%		40%

TRIP-GENERATION CALCULATIONS

Graph Look Up



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Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

221

LAND USE GROUP:

(200-299) Residential

LAND USE :

221 - Multifamily Housing (Mid-Rise)

LAND USE SUBCATEGORY:

Not Close to Rail Transit

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday

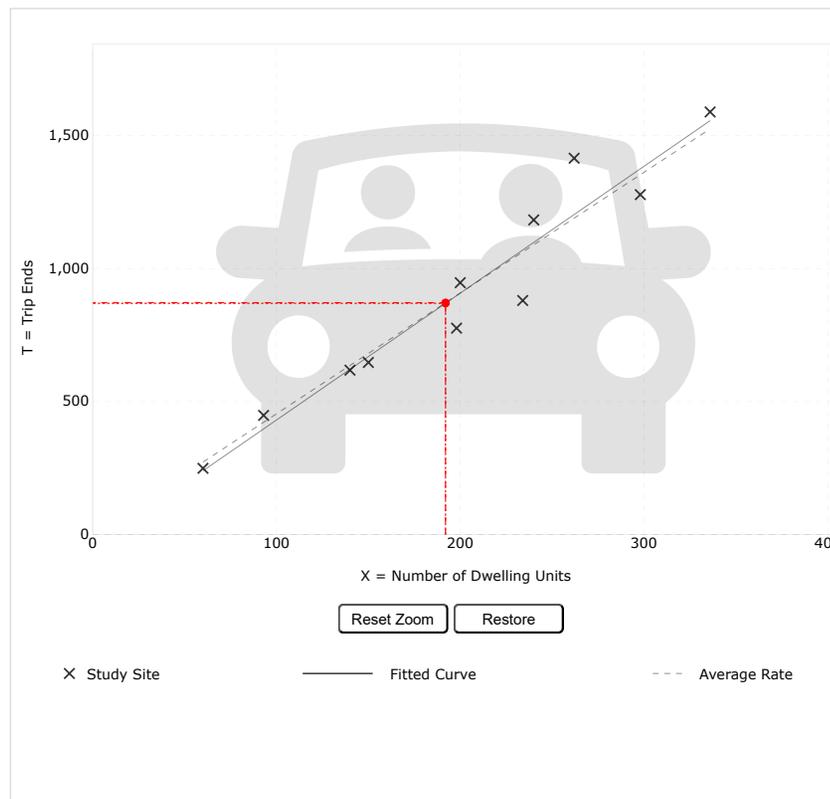
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

192 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Multifamily Housing (Mid-Rise) - Not Close to Rail Transit (221) [Click for Description and Data Plots](#)

Independent Variable:
Dwelling Units

Time Period:
Weekday

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
11

Avg. Num. of Dwelling Units:
201

Average Rate:
4.54

Range of Rates:
3.76 - 5.40

Standard Deviation:
0.51

Fitted Curve Equation:
 $T = 4.77(X) - 46.46$

R²:
0.93

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 872 (Total), 436 (Entry), 436 (Exit)
Fitted Curve: 869 (Total), 435 (Entry), 434 (Exit)

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221

LAND USE GROUP:

(200-299) Residential

LAND USE :

221 - Multifamily Housing (Mid-Rise)

LAND USE SUBCATEGORY:

Not Close to Rail Transit

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE:

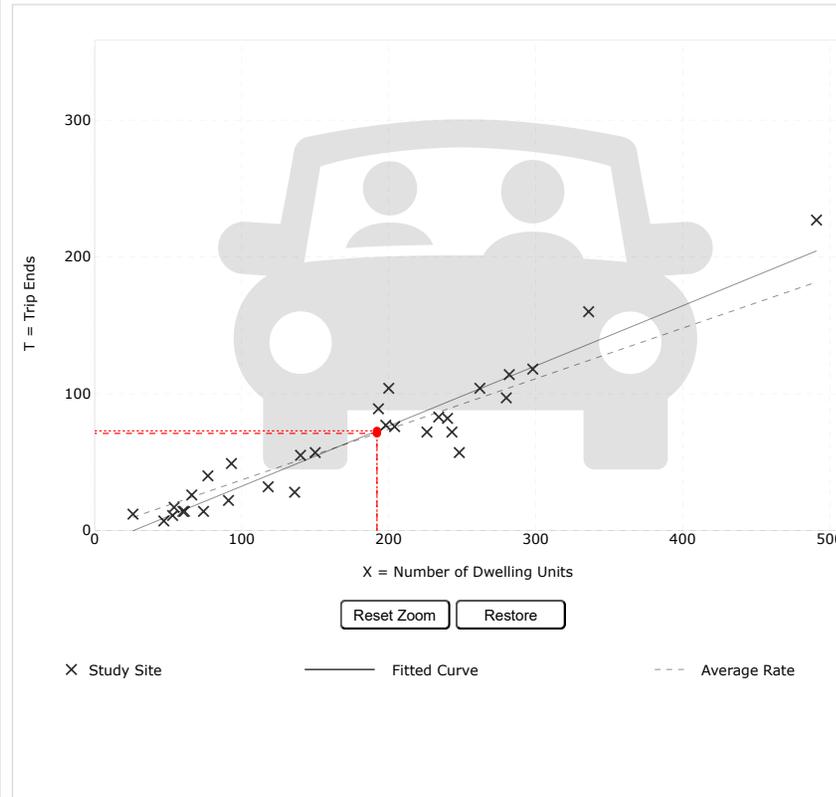
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

192 Calculate

Vehicle

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In. Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Multifamily Housing (Mid-Rise) - Not Close to Rail Transit (221) [Click for Description and Data Plots](#)

Independent Variable:
Dwelling Units

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

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
30

Avg. Num. of Dwelling Units:
173

Average Rate:
0.37

Range of Rates:
0.15 - 0.53

Standard Deviation:
0.09

Fitted Curve Equation:
 $T = 0.44(X) - 11.61$

R²:
0.91

Directional Distribution:
23% entering, 77% exiting

Calculated Trip Ends:
Average Rate: 71 (Total), 16 (Entry), 55 (Exit)
Fitted Curve: 73 (Total), 17 (Entry), 56 (Exit)

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DATA SOURCE:

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SEARCH BY LAND USE CODE:

221

LAND USE GROUP:

(200-299) Residential

LAND USE :

221 - Multifamily Housing (Mid-Rise)

LAND USE SUBCATEGORY:

Not Close to Rail Transit

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

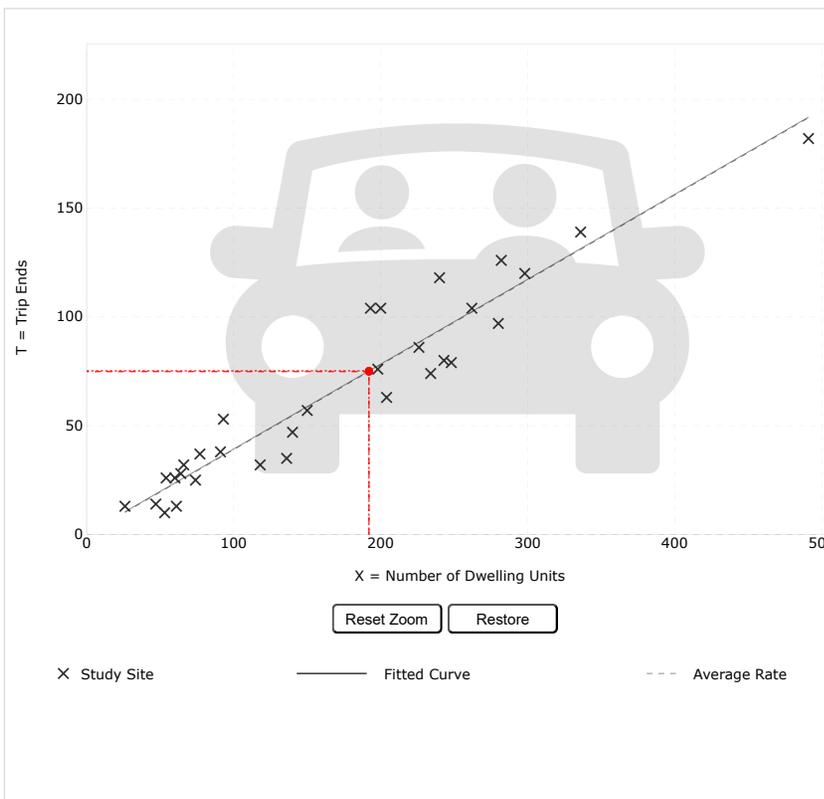
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

192 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In. Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Multifamily Housing (Mid-Rise) - Not Close to Rail Transit (221) [Click for Description and Data Plots](#)

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
31

Avg. Num. of Dwelling Units:
169

Average Rate:
0.39

Range of Rates:
0.19 - 0.57

Standard Deviation:
0.08

Fitted Curve Equation:
 $T = 0.39(X) + 0.34$

R²:
0.91

Directional Distribution:
61% entering, 39% exiting

Calculated Trip Ends:
Average Rate: 75 (Total), 46 (Entry), 29 (Exit)
Fitted Curve: 75 (Total), 46 (Entry), 29 (Exit)

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DATA SOURCE:

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SEARCH BY LAND USE CODE:

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LAND USE GROUP:

(200-299) Residential

LAND USE :

221 - Multifamily Housing (Mid-Rise)

LAND USE SUBCATEGORY:

Not Close to Rail Transit

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Saturday

TRIP TYPE:

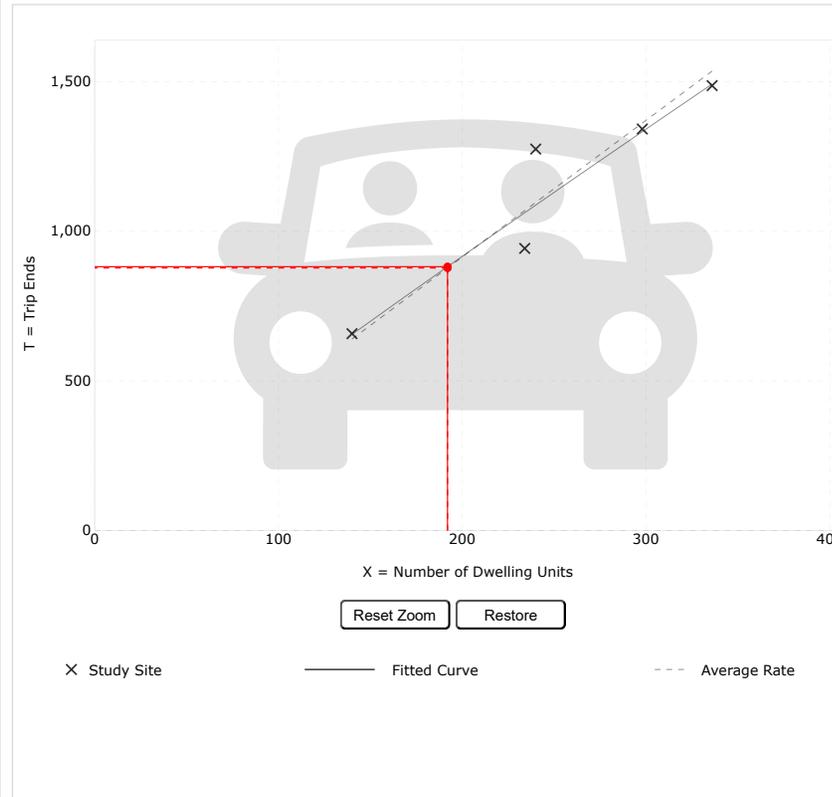
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

192 Calculate

Data Plot and Equation

Caution – Small Sample Size



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Multifamily Housing (Mid-Rise) - Not Close to Rail Transit (221) [Click for Description and Data Plots](#)

Independent Variable:
Dwelling Units

Time Period:
Saturday

Setting/Location:
General Urban/Suburban

TriP Type:
Vehicle

Number of Studies:
5

Avg. Num. of Dwelling Units:
250

Average Rate:
4.57

Range of Rates:
4.03 - 5.31

Standard Deviation:
0.46

Fitted Curve Equation:
 $\ln(T) = 0.94 \ln(X) + 1.84$

R²:
0.91

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 877 (Total), 439 (Entry), 438 (Exit)
Fitted Curve: 882 (Total), 441 (Entry), 441 (Exit)

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DATA SOURCE:

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SEARCH BY LAND USE CODE:

221

LAND USE GROUP:

(200-299) Residential

LAND USE :

221 - Multifamily Housing (Mid-Rise)

LAND USE SUBCATEGORY:

Not Close to Rail Transit

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Saturday, Peak Hour of Generator

TRIP TYPE:

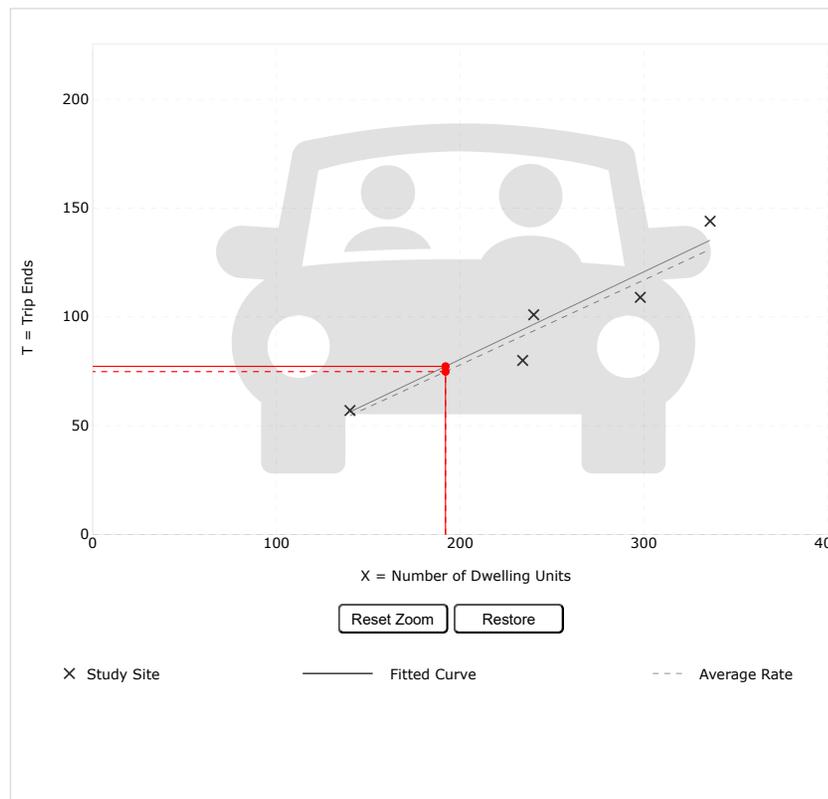
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

192 Calculate

Data Plot and Equation

Caution – Small Sample Size



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
 Multifamily Housing (Mid-Rise) - Not Close to Rail Transit (221) [Click for Description and Data Plots](#)

Independent Variable:
 Dwelling Units

Time Period:
 Saturday
 Peak Hour of Generator

Setting/Location:
 General Urban/Suburban

Trip Type:
 Vehicle

Number of Studies:
 5

Avg. Num. of Dwelling Units:
 250

Average Rate:
 0.39

Range of Rates:
 0.34 - 0.43

Standard Deviation:
 0.04

Fitted Curve Equation:
 $\ln(T) = 1.00 \ln(X) - 0.91$

R²:
 0.92

Directional Distribution:
 51% entering, 49% exiting

Calculated Trip Ends:
 Average Rate: 75 (Total), 38 (Entry), 37 (Exit)
 Fitted Curve: 77 (Total), 39 (Entry), 38 (Exit)

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DATA SOURCE:

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SEARCH BY LAND USE CODE:

220

LAND USE GROUP:

(200-299) Residential

LAND USE :

220 - Multifamily Housing (Low-Rise)

LAND USE SUBCATEGORY:

Not Close to Rail Transit

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday

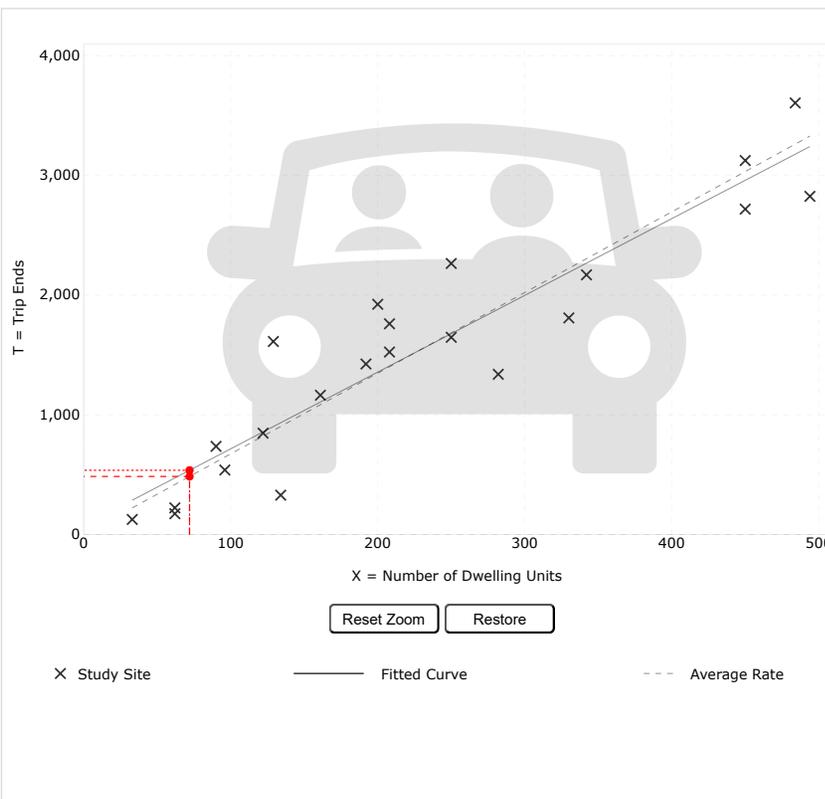
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

72 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In. Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Multifamily Housing (Low-Rise) - Not Close to Rail Transit (220) [Click for Description and Data Plots](#)

Independent Variable:
Dwelling Units

Time Period:
Weekday

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
22

Avg. Num. of Dwelling Units:
229

Average Rate:
6.74

Range of Rates:
2.46 - 12.50

Standard Deviation:
1.79

Fitted Curve Equation:
 $T = 6.41(X) + 75.31$

R²:
0.86

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 485 (Total), 243 (Entry), 242 (Exit)
Fitted Curve: 537 (Total), 268 (Entry), 269 (Exit)

Add-ons to do more

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DATA SOURCE:

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SEARCH BY LAND USE CODE:

220

LAND USE GROUP:

(200-299) Residential

LAND USE :

220 - Multifamily Housing (Low-Rise)

LAND USE SUBCATEGORY:

Not Close to Rail Transit

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

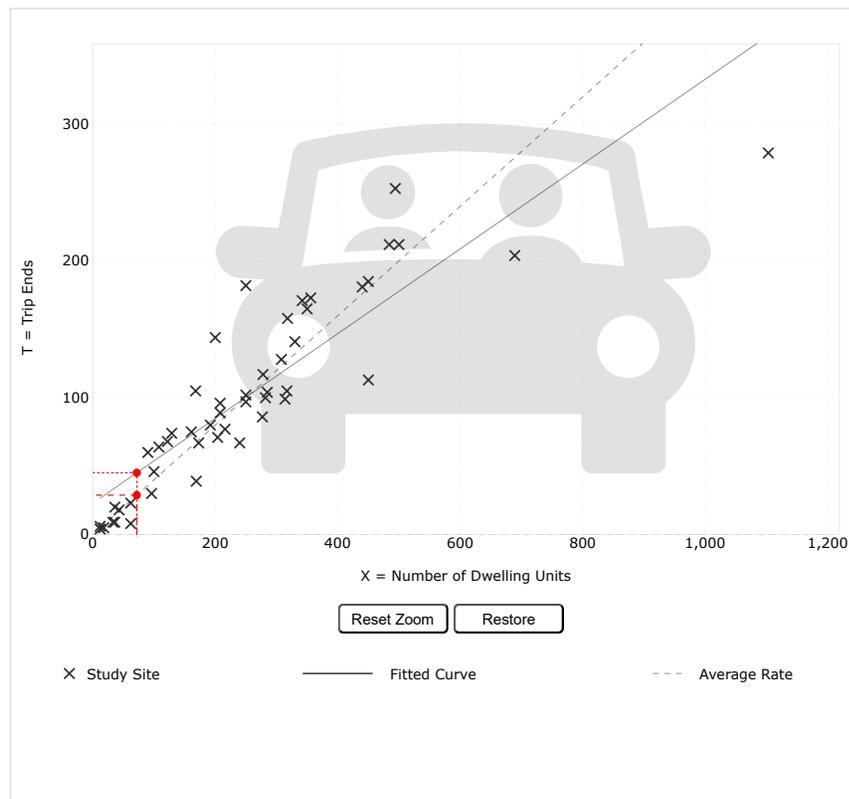
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

72 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In. Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Multifamily Housing (Low-Rise) - Not Close to Rail Transit (220) [Click for Description and Data Plots](#)

Independent Variable:
Dwelling Units

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

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
49

Avg. Num. of Dwelling Units:
249

Average Rate:
0.40

Range of Rates:
0.13 - 0.73

Standard Deviation:
0.12

Fitted Curve Equation:
 $T = 0.31(X) + 22.85$

R²:
0.79

Directional Distribution:
24% entering, 76% exiting

Calculated Trip Ends:
Average Rate: 29 (Total), 7 (Entry), 22 (Exit)
Fitted Curve: 45 (Total), 11 (Entry), 34 (Exit)

Add-ons to do more

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DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

220

LAND USE GROUP:

(200-299) Residential

LAND USE :

220 - Multifamily Housing (Low-Rise)

LAND USE SUBCATEGORY:

Not Close to Rail Transit

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

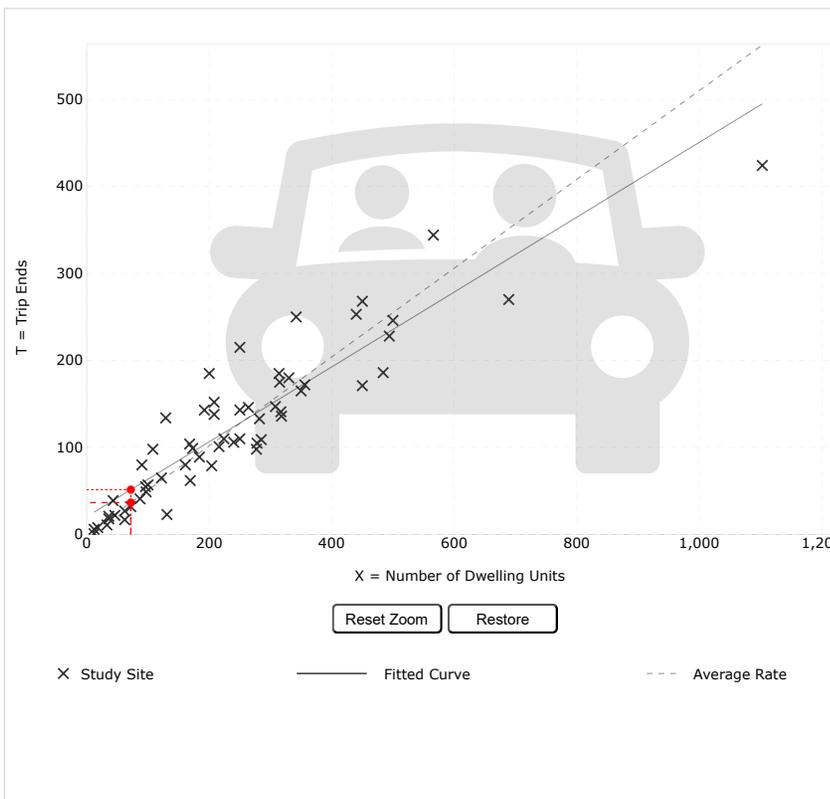
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

72 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In. Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Multifamily Housing (Low-Rise) - Not Close to Rail Transit (220) [Click for Description and Data Plots](#)

Independent Variable:
Dwelling Units

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
59

Avg. Num. of Dwelling Units:
241

Average Rate:
0.51

Range of Rates:
0.08 - 1.04

Standard Deviation:
0.15

Fitted Curve Equation:
 $T = 0.43(X) + 20.55$

R²:
0.84

Directional Distribution:
63% entering, 37% exiting

Calculated Trip Ends:
Average Rate: 37 (Total), 23 (Entry), 14 (Exit)
Fitted Curve: 52 (Total), 32 (Entry), 20 (Exit)

Add-ons to do more

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Comments

Query Filter

DATA SOURCE:

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SEARCH BY LAND USE CODE:

220

LAND USE GROUP:

(200-299) Residential

LAND USE :

220 - Multifamily Housing (Low-Rise)

LAND USE SUBCATEGORY:

Not Close to Rail Transit

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Saturday

TRIP TYPE:

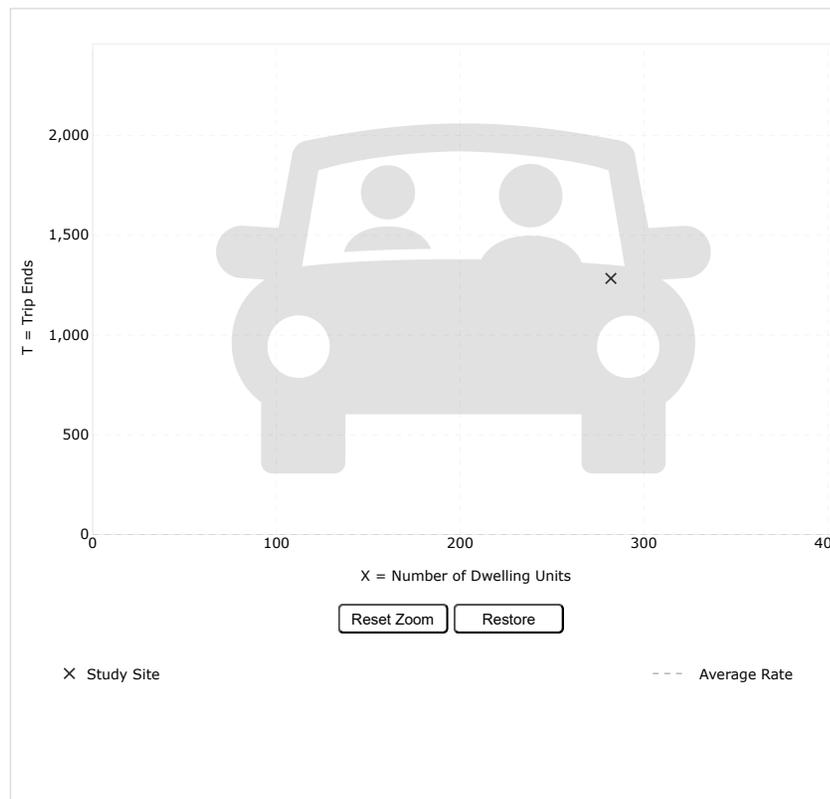
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

72 Calculate

Data Plot and Equation

Caution – Small Sample Size



Use the mouse wheel to Zoom Out or Zoom In. Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Multifamily Housing (Low-Rise) - Not Close to Rail Transit (220) [Click for Description and Data Plots](#)

Independent Variable:
Dwelling Units

Time Period:
Saturday

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
1

Avg. Num. of Dwelling Units:
282

Average Rate:
4.55

Range of Rates:
4.55 - 4.55

Standard Deviation:

Fitted Curve Equation:
Not Given

R²:

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 328 (Total), 164 (Entry), 164 (Exit)

Add-ons to do more

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Comments

Query Filter

DATA SOURCE:

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SEARCH BY LAND USE CODE:

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LAND USE GROUP:

(200-299) Residential

LAND USE :

220 - Multifamily Housing (Low-Rise)

LAND USE SUBCATEGORY:

Not Close to Rail Transit

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Saturday, Peak Hour of Generator

TRIP TYPE:

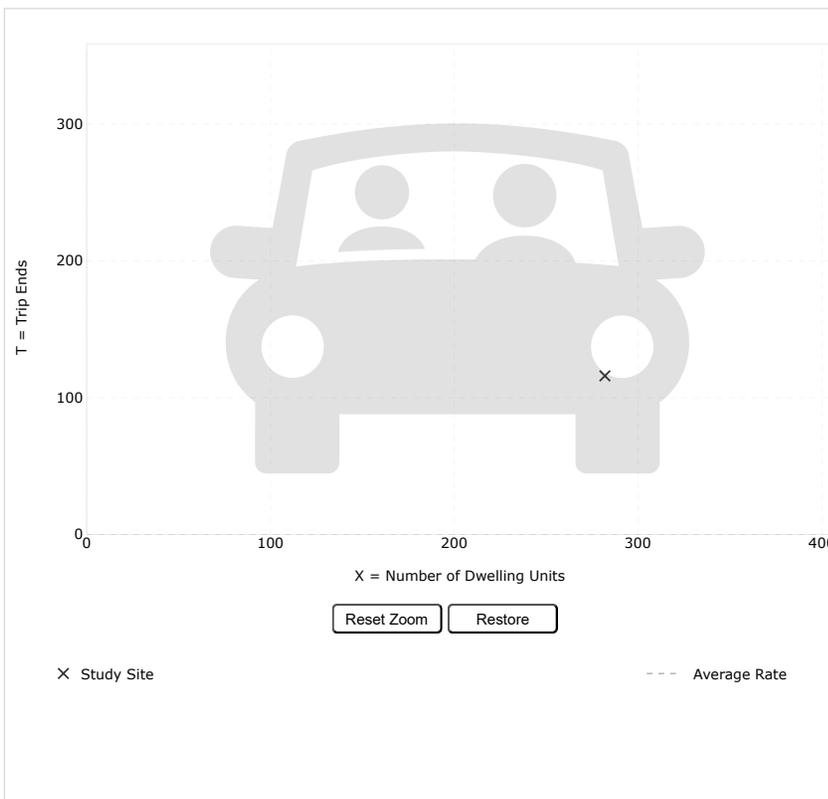
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

72 Calculate

Data Plot and Equation

Caution – Small Sample Size



Use the mouse wheel to Zoom Out or Zoom In. Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Multifamily Housing (Low-Rise) - Not Close to Rail Transit (220) [Click for Description and Data Plots](#)

Independent Variable:
Dwelling Units

Time Period:
Saturday
Peak Hour of Generator

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
1

Avg. Num. of Dwelling Units:
282

Average Rate:
0.41

Range of Rates:
0.41 - 0.41

Standard Deviation:

Fitted Curve Equation:
Not Given

R²:

Directional Distribution:
Not available

Calculated Trip Ends:
Average Rate: 30 (Total)

Add-ons to do more

Try OTISS Pro

CAPACITY ANALYSIS WORKSHEETS

2024 Existing

2032 No-Build

2032 Build

2032 Build (Mitigated)

2024 Existing

2024 Existing Weekday Morning
1: Route 140 & Aspen Way

01/21/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (vph)	12	374	389	2	5	4
Future Volume (vph)	12	374	389	2	5	4
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.944	
Flt Protected		0.998			0.972	
Satd. Flow (prot)	0	1878	1843	0	1665	0
Flt Permitted		0.998			0.972	
Satd. Flow (perm)	0	1878	1843	0	1665	0
Adj. Flow (vph)	13	398	474	2	7	5
Lane Group Flow (vph)	0	411	476	0	12	0
Sign Control		Free	Free		Stop	

Intersection Summary

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	12	374	389	2	5	4
Future Vol, veh/h	12	374	389	2	5	4
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	94	94	82	82	75	75
Heavy Vehicles, %	0	1	3	0	20	0
Mvmt Flow	13	398	474	2	7	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	477	0	-	0	899 476
Stage 1	-	-	-	-	476 -
Stage 2	-	-	-	-	423 -
Critical Hdwy	4.1	-	-	-	6.6 6.2
Critical Hdwy Stg 1	-	-	-	-	5.6 -
Critical Hdwy Stg 2	-	-	-	-	5.6 -
Follow-up Hdwy	2.2	-	-	-	3.68 3.3
Pot Cap-1 Maneuver	1096	-	-	-	288 593
Stage 1	-	-	-	-	589 -
Stage 2	-	-	-	-	624 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1096	-	-	-	283 593
Mov Cap-2 Maneuver	-	-	-	-	283 -
Stage 1	-	-	-	-	581 -
Stage 2	-	-	-	-	624 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.26	0	15.08
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	56	-	-	-	369
HCM Lane V/C Ratio	0.012	-	-	-	0.033
HCM Ctrl Dly (s/v)	8.3	0	-	-	15.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

2024 Existing Weekday Morning

3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	379	1	25	362	12	35	2	21	1	0	4
Future Volume (vph)	29	379	1	25	362	12	35	2	21	1	0	4
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.995				0.850		0.899	
Flt Protected	0.950			0.950				0.955			0.988	
Satd. Flow (prot)	1805	1881	0	1745	1916	0	0	1660	1561	0	1856	0
Flt Permitted	0.462			0.433				0.734			0.899	
Satd. Flow (perm)	878	1881	0	795	1916	0	0	1276	1561	0	1689	0
Satd. Flow (RTOR)					2				103		165	
Adj. Flow (vph)	33	436	1	30	436	14	46	3	28	2	0	6
Lane Group Flow (vph)	33	437	0	30	450	0	0	49	28	0	8	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pt+ov	Perm	NA	
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		4	4	4 1	8	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	12.0	30.0		12.0	30.0		11.5	11.5		21.0	21.0	
Total Split (s)	20.0	35.0		20.0	35.0		25.0	25.0		25.0	25.0	
Total Split (%)	18.9%	33.0%		18.9%	33.0%		23.6%	23.6%		23.6%	23.6%	
Maximum Green (s)	14.0	28.0		14.0	28.0		19.5	19.5		19.5	19.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	3.0		2.0	3.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	-2.0	-3.0		-2.0	-3.0			-1.5			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		7.0			7.0							
Flash Don't Walk (s)		16.0			16.0							
Pedestrian Calls (#/hr)		2			0							
v/c Ratio	0.04	0.35		0.04	0.33			0.19	0.05		0.02	
Control Delay (s/veh)	3.3	9.8		3.4	8.2			21.2	0.1		0.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay (s/veh)	3.3	9.8		3.4	8.2			21.2	0.1		0.0	
Queue Length 50th (ft)	3	92		2	45			12	0		0	
Queue Length 95th (ft)	9	163		8	157			34	0		0	
Internal Link Dist (ft)		527			1062			182			152	
Turn Bay Length (ft)	155			150					80			
Base Capacity (vph)	1003	1349		949	1384			620	958		906	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.03	0.32		0.03	0.33			0.08	0.03		0.01	

Intersection Summary

Cycle Length: 106

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	13.0
Minimum Split (s)	26.0
Total Split (s)	26.0
Total Split (%)	25%
Maximum Green (s)	20.0
Yellow Time (s)	3.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Don't Walk (s)	10.0
Pedestrian Calls (#/hr)	0
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 46.2

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140

 Ø1 20 s	 Ø2 35 s	 Ø4 25 s	 Ø9 26 s
 Ø5 20 s	 Ø6 35 s	 Ø8 25 s	

2024 Existing Weekday Morning

3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140

01/21/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	379	1	25	362	12	35	2	21	1	0	4
Future Volume (vph)	29	379	1	25	362	12	35	2	21	1	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	11	13	12	12	11	11	12	15	12
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.90	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.99	
Satd. Flow (prot)	1805	1881		1745	1917			1661	1561		1855	
Flt Permitted	0.46	1.00		0.43	1.00			0.73	1.00		0.90	
Satd. Flow (perm)	877	1881		796	1917			1275	1561		1689	
Peak-hour factor, PHF	0.87	0.87	0.87	0.83	0.83	0.83	0.76	0.76	0.76	0.63	0.63	0.63
Adj. Flow (vph)	33	436	1	30	436	14	46	3	28	2	0	6
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	20	0	7	0
Lane Group Flow (vph)	33	437	0	30	449	0	0	49	8	0	1	0
Heavy Vehicles (%)	0%	1%	0%	0%	2%	0%	6%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pt+ov	Perm	NA	
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	28.6	26.5		30.6	27.5			4.4	13.0		4.4	
Effective Green, g (s)	32.6	29.5		34.6	30.5			5.9	14.5		5.9	
Actuated g/C Ratio	0.62	0.56		0.66	0.58			0.11	0.28		0.11	
Clearance Time (s)	6.0	7.0		6.0	7.0			5.5			5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	617	1056		616	1113			143	431		189	
v/s Ratio Prot	0.00	0.23		c0.00	c0.23				0.00			
v/s Ratio Perm	0.03			0.03				c0.04			0.00	
v/c Ratio	0.05	0.41		0.05	0.40			0.34	0.02		0.00	
Uniform Delay, d1	3.9	6.6		3.3	6.0			21.5	13.8		20.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.3		0.0	0.2			1.4	0.0		0.0	
Delay (s)	3.9	6.8		3.3	6.3			22.9	13.8		20.7	
Level of Service	A	A		A	A			C	B		C	
Approach Delay (s/veh)		6.6			6.1			19.6			20.7	
Approach LOS		A			A			B			C	

Intersection Summary

HCM 2000 Control Delay (s/veh)	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	52.5	Sum of lost time (s)	18.5
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

2024 Existing Weekday Morning
 4: Starbucks Dwy./Glen Meadow Rd. & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	468	73	11	351	1	74	0	21	11	1	22
Future Volume (vph)	8	468	73	11	351	1	74	0	21	11	1	22
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980							0.850		0.911	
Flt Protected	0.950			0.950				0.950			0.984	
Satd. Flow (prot)	1348	1769	0	1745	1783	0	0	1787	1615	0	1869	0
Flt Permitted	0.950			0.950				0.950			0.984	
Satd. Flow (perm)	1348	1769	0	1745	1783	0	0	1787	1615	0	1869	0
Adj. Flow (vph)	8	482	75	12	394	1	84	0	24	14	1	29
Lane Group Flow (vph)	8	557	0	12	395	0	0	84	24	0	44	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary
 Control Type: Unsignalized

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↶	↷		↷	
Traffic Vol, veh/h	8	468	73	11	351	1	74	0	21	11	1	22
Future Vol, veh/h	8	468	73	11	351	1	74	0	21	11	1	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	210	-	-	50	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	89	89	89	88	88	88	77	77	77
Heavy Vehicles, %	25	2	0	0	3	0	1	0	0	0	0	5
Mvmt Flow	8	482	75	12	394	1	84	0	24	14	1	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	396	0	0	558	0	0	956	957	520	919	994	395
Stage 1	-	-	-	-	-	-	537	537	-	420	420	-
Stage 2	-	-	-	-	-	-	420	420	-	499	574	-
Critical Hdwy	4.35	-	-	4.1	-	-	7.11	6.5	6.2	7.1	6.5	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.425	-	-	2.2	-	-	3.509	4	3.3	3.5	4	3.345
Pot Cap-1 Maneuver	1049	-	-	1023	-	-	239	260	560	254	247	648
Stage 1	-	-	-	-	-	-	530	526	-	615	593	-
Stage 2	-	-	-	-	-	-	613	593	-	557	506	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1049	-	-	1023	-	-	222	255	560	238	242	648
Mov Cap-2 Maneuver	-	-	-	-	-	-	222	255	-	238	242	-
Stage 1	-	-	-	-	-	-	526	522	-	608	586	-
Stage 2	-	-	-	-	-	-	578	586	-	529	502	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.12			0.26			26.51			15.01		
HCM LOS							D			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	222	560	1049	-	-	1023	-	-	404
HCM Lane V/C Ratio	0.378	0.043	0.008	-	-	0.012	-	-	0.109
HCM Ctrl Dly (s/v)	30.7	11.7	8.5	-	-	8.6	-	-	15
HCM Lane LOS	D	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.7	0.1	0	-	-	0	-	-	0.4

2024 Existing Weekday Morning

5: CVS Pharmacy Dwy/Horace Mann Plaza Dwy & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↖	↗	↖		↖	↖		↖	↖
Traffic Volume (vph)	37	505	9	4	407	40	4	4	5	47	3	38
Future Volume (vph)	37	505	9	4	407	40	4	4	5	47	3	38
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950				0.976			0.955	
Satd. Flow (prot)	1685	1801	1561	1745	1722	1487	0	1793	1561	0	1774	1669
Flt Permitted	0.342			0.414				0.805			0.778	
Satd. Flow (perm)	606	1801	1561	760	1722	1487	0	1479	1561	0	1446	1669
Satd. Flow (RTOR)			133			133			143			82
Adj. Flow (vph)	39	526	9	4	447	44	7	7	9	68	4	55
Lane Group Flow (vph)	39	526	9	4	447	44	0	14	9	0	72	55
Turn Type	pm+pt	NA	custom	pm+pt	NA	custom	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	2	1	6	6		8			4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	5
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	16.0	16.0	11.0	15.0	15.0	10.0	10.0	10.0	10.0	10.0	11.0
Total Split (s)	15.0	50.0	50.0	15.0	50.0	50.0	19.0	19.0	19.0	19.0	19.0	15.0
Total Split (%)	14.0%	46.7%	46.7%	14.0%	46.7%	46.7%	17.8%	17.8%	17.8%	17.8%	17.8%	14.0%
Maximum Green (s)	9.0	44.0	44.0	9.0	45.0	45.0	14.0	14.0	14.0	14.0	14.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		0.0	0.0		0.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	4.0	4.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.07	0.40	0.01	0.01	0.47	0.05		0.06	0.03		0.32	0.11
Control Delay (s/veh)	7.9	11.7	0.0	8.5	16.6	0.1		30.6	0.2		32.4	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay (s/veh)	7.9	11.7	0.0	8.5	16.6	0.1		30.6	0.2		32.4	3.6
Queue Length 50th (ft)	3	59	0	0	91	0		3	0		17	0
Queue Length 95th (ft)	26	377	0	6	317	0		16	0		65	3
Internal Link Dist (ft)		1140			528			240			247	
Turn Bay Length (ft)	160		50	100		150			26			
Base Capacity (vph)	646	1484	1309	713	1428	1256		450	574		440	643
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.06	0.35	0.01	0.01	0.31	0.04		0.03	0.02		0.16	0.09

Intersection Summary

Cycle Length: 107

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	21.0
Total Split (s)	23.0
Total Split (%)	21%
Maximum Green (s)	18.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	11.0
Pedestrian Calls (#/hr)	1
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 55.4

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Splits and Phases: 5: CVS Pharmacy Dwy/Horace Mann Plaza Dwy & Route 140

 Ø1 15 s	 Ø2 50 s	 Ø9 23 s	 Ø4 19 s
 Ø5 15 s	 Ø6 50 s		 Ø8 19 s



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	505	9	4	407	40	4	4	5	47	3	38
Future Volume (vph)	37	505	9	4	407	40	4	4	5	47	3	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	11	11	10	11	11	11	11	13	13	13
Total Lost time (s)	5.0	5.0	5.0	5.0	4.0	4.0		5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.98	1.00		0.95	1.00
Satd. Flow (prot)	1685	1801	1561	1745	1722	1487		1792	1561		1774	1669
Flt Permitted	0.34	1.00	1.00	0.41	1.00	1.00		0.80	1.00		0.78	1.00
Satd. Flow (perm)	607	1801	1561	761	1722	1487		1478	1561		1445	1669
Peak-hour factor, PHF	0.96	0.96	0.96	0.91	0.91	0.91	0.54	0.54	0.54	0.69	0.69	0.69
Adj. Flow (vph)	39	526	9	4	447	44	7	7	9	68	4	55
RTOR Reduction (vph)	0	0	4	0	0	23	0	0	8	0	0	45
Lane Group Flow (vph)	39	526	5	4	447	21	0	14	1	0	72	10
Heavy Vehicles (%)	0%	2%	0%	0%	3%	5%	0%	0%	0%	6%	0%	0%
Turn Type	pm+pt	NA	custom	pm+pt	NA	custom	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	2	1	6	6		8			4	5
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	40.2	35.4	35.4	32.8	32.2	32.2		5.0	5.0		5.0	9.8
Effective Green, g (s)	42.2	36.4	36.4	34.8	33.2	33.2		5.0	5.0		5.0	11.8
Actuated g/C Ratio	0.62	0.54	0.54	0.51	0.49	0.49		0.07	0.07		0.07	0.17
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	5.0		5.0	5.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	468	964	835	412	840	726		108	114		106	289
v/s Ratio Prot	c0.01	c0.29	0.00	0.00	0.26	0.01						0.00
v/s Ratio Perm	0.04			0.00				0.01	0.00		c0.05	0.00
v/c Ratio	0.08	0.55	0.01	0.01	0.53	0.03		0.13	0.01		0.68	0.03
Uniform Delay, d1	6.1	10.4	7.4	8.2	12.0	9.0		29.5	29.2		30.7	23.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.3	0.0	0.0	0.3	0.0		0.2	0.0		12.8	0.0
Delay (s)	6.1	10.7	7.4	8.2	12.4	9.0		29.7	29.2		43.5	23.4
Level of Service	A	B	A	A	B	A		C	C		D	C
Approach Delay (s/veh)		10.3			12.0			29.5			34.8	
Approach LOS		B			B			C			C	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	13.9	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.49	B
Actuated Cycle Length (s)	68.0	Sum of lost time (s)
Intersection Capacity Utilization	48.5%	20.0
Analysis Period (min)	15	ICU Level of Service
		A

c Critical Lane Group

2024 Existing Weekday Morning
6: King St/Chestnut St & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗		↖	↗		↕	
Traffic Volume (vph)	82	279	27	162	272	34	15	312	215	19	178	64
Future Volume (vph)	82	279	27	162	272	34	15	312	215	19	178	64
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.967	
Flt Protected	0.950			0.950				0.998			0.996	
Satd. Flow (prot)	1770	1881	1615	1736	1863	1524	0	1861	1599	0	2025	0
Flt Permitted	0.508			0.311				0.979			0.953	
Satd. Flow (perm)	946	1881	1615	568	1863	1524	0	1825	1599	0	1938	0
Satd. Flow (RTOR)			96			96			158		14	
Adj. Flow (vph)	96	328	32	184	309	39	16	339	234	21	193	70
Lane Group Flow (vph)	96	328	32	184	309	39	0	355	234	0	284	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Detector Phase	5	2	2	1	6	6	8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	21.0	21.0	11.0	21.0	21.0	21.0	21.0	11.0	21.0	21.0	21.0
Total Split (s)	20.0	40.0	40.0	20.0	40.0	40.0	35.0	35.0	20.0	35.0	35.0	35.0
Total Split (%)	17.5%	35.1%	35.1%	17.5%	35.1%	35.1%	30.7%	30.7%	17.5%	30.7%	30.7%	30.7%
Maximum Green (s)	17.0	35.0	35.0	17.0	35.0	35.0	30.0	30.0	17.0	30.0	30.0	30.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	1.0	-1.0	-1.0	1.0	-1.0	-1.0		-1.0	1.0		-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag			Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.19	0.57	0.06	0.43	0.45	0.06		0.62	0.26		0.46	
Control Delay (s/veh)	11.8	25.8	0.2	14.0	21.6	0.2		27.7	5.4		22.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay (s/veh)	11.8	25.8	0.2	14.0	21.6	0.2		27.7	5.4		22.9	
Queue Length 50th (ft)	14	89	0	29	81	0		96	11		69	
Queue Length 95th (ft)	64	271	0	118	247	0		334	79		249	
Internal Link Dist (ft)		491			1140			259			552	
Turn Bay Length (ft)	100		50	165		50			80			
Base Capacity (vph)	710	1186	1054	619	1184	1004		991	1112		1059	
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	
Reduced v/c Ratio	0.14	0.28	0.03	0.30	0.26	0.04		0.36	0.21		0.27	

Intersection Summary

Cycle Length: 114

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	17%
Maximum Green (s)	14.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	9.0
Pedestrian Calls (#/hr)	3
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 64.2

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Splits and Phases: 6: King St/Chestnut St & Route 140

 Ø4  35 s	 Ø1  20 s	 Ø2  40 s	 Ø9  19 s
 Ø8  35 s	 Ø5  20 s	 Ø6  40 s	

2024 Existing Weekday Morning
6: King St/Chestnut St & Route 140

01/21/2025



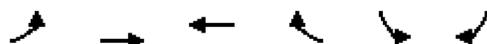
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	279	27	162	272	34	15	312	215	19	178	64
Future Volume (vph)	82	279	27	162	272	34	15	312	215	19	178	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	16	16	16
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00		1.00	
Satd. Flow (prot)	1770	1881	1615	1736	1863	1524		1860	1599		2025	
Flt Permitted	0.51	1.00	1.00	0.31	1.00	1.00		0.98	1.00		0.95	
Satd. Flow (perm)	946	1881	1615	568	1863	1524		1825	1599		1938	
Peak-hour factor, PHF	0.85	0.85	0.85	0.88	0.88	0.88	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	96	328	32	184	309	39	16	339	234	21	193	70
RTOR Reduction (vph)	0	0	22	0	0	25	0	0	96	0	10	0
Lane Group Flow (vph)	96	328	10	184	309	14	0	355	138	0	274	0
Heavy Vehicles (%)	2%	1%	0%	4%	2%	6%	0%	2%	1%	5%	3%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	26.3	19.5	19.5	32.4	22.6	22.6		18.9	28.8		18.9	
Effective Green, g (s)	24.3	20.5	20.5	30.5	23.6	23.6		19.9	26.8		19.9	
Actuated g/C Ratio	0.36	0.30	0.30	0.45	0.35	0.35		0.29	0.39		0.29	
Clearance Time (s)	3.0	5.0	5.0	3.0	5.0	5.0		5.0	3.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	408	567	487	408	647	529		534	631		567	
v/s Ratio Prot	0.02	c0.17		c0.06	0.17				0.03			
v/s Ratio Perm	0.06		0.01	0.14		0.01		c0.19	0.06		0.14	
v/c Ratio	0.24	0.58	0.02	0.45	0.48	0.03		0.66	0.22		0.48	
Uniform Delay, d1	14.8	20.0	16.6	12.4	17.3	14.6		21.1	13.6		19.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.3	1.4	0.0	0.8	0.6	0.0		3.1	0.2		0.7	
Delay (s)	15.1	21.5	16.7	13.2	17.9	14.6		24.2	13.8		20.4	
Level of Service	B	C	B	B	B	B		C	B		C	
Approach Delay (s/veh)		19.8			16.0			20.1			20.4	
Approach LOS		B			B			C			C	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	18.9	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.57	B
Actuated Cycle Length (s)	67.9	Sum of lost time (s)
Intersection Capacity Utilization	63.2%	17.0
Analysis Period (min)	15	ICU Level of Service
		B

c Critical Lane Group

2024 Existing Weekday Evening
 1: Route 140 & Aspen Way

01/21/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	14	474	487	5	6	14
Future Volume (vph)	14	474	487	5	6	14
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.904	
Flt Protected		0.999			0.986	
Satd. Flow (prot)	0	1880	1879	0	1806	0
Flt Permitted		0.999			0.986	
Satd. Flow (perm)	0	1880	1879	0	1806	0
Adj. Flow (vph)	15	515	587	6	8	20
Lane Group Flow (vph)	0	530	593	0	28	0
Sign Control		Free	Free		Stop	

Intersection Summary

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	14	474	487	5	6	14
Future Vol, veh/h	14	474	487	5	6	14
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	83	83	71	71
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	15	515	587	6	8	20

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	593	0	-	0	1135 590
Stage 1	-	-	-	-	590 -
Stage 2	-	-	-	-	546 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	993	-	-	-	226 511
Stage 1	-	-	-	-	558 -
Stage 2	-	-	-	-	585 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	993	-	-	-	221 511
Mov Cap-2 Maneuver	-	-	-	-	221 -
Stage 1	-	-	-	-	546 -
Stage 2	-	-	-	-	585 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.25	0	15.63
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	52	-	-	-	367
HCM Lane V/C Ratio	0.015	-	-	-	0.077
HCM Ctrl Dly (s/v)	8.7	0	-	-	15.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

2024 Existing Weekday Evening

3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	440	5	43	489	6	95	0	66	3	0	25
Future Volume (vph)	13	440	5	43	489	6	95	0	66	3	0	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.998				0.850		0.878	
Flt Protected	0.950			0.950				0.950			0.995	
Satd. Flow (prot)	1805	1878	0	1711	1940	0	0	1745	1561	0	1826	0
Flt Permitted	0.424			0.382				0.731			0.964	
Satd. Flow (perm)	806	1878	0	688	1940	0	0	1343	1561	0	1769	0
Satd. Flow (RTOR)		1			1				103		144	
Adj. Flow (vph)	14	463	5	48	549	7	103	0	72	4	0	36
Lane Group Flow (vph)	14	468	0	48	556	0	0	103	72	0	40	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pt+ov	Perm	NA	
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		4	4	4 1	8	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	12.0	30.0		12.0	30.0		11.5	11.5		21.0	21.0	
Total Split (s)	20.0	35.0		20.0	35.0		25.0	25.0		25.0	25.0	
Total Split (%)	18.9%	33.0%		18.9%	33.0%		23.6%	23.6%		23.6%	23.6%	
Maximum Green (s)	16.0	28.0		16.0	28.0		19.5	19.5		19.5	19.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	3.0		0.0	3.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	-2.0	-3.0		-2.0	-3.0			-1.5			-1.5	
Total Lost Time (s)	2.0	4.0		2.0	4.0			4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		7.0			7.0							
Flash Don't Walk (s)		16.0			16.0							
Pedestrian Calls (#/hr)		0			4							
v/c Ratio	0.02	0.44		0.07	0.42			0.37	0.11		0.08	
Control Delay (s/veh)	3.2	12.1		3.4	8.0			23.7	2.2		0.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay (s/veh)	3.2	12.1		3.4	8.0			23.7	2.2		0.4	
Queue Length 50th (ft)	1	99		4	70			27	0		0	
Queue Length 95th (ft)	6	196		13	228			74	13		0	
Internal Link Dist (ft)		527			1062			182			152	
Turn Bay Length (ft)	155			150					80			
Base Capacity (vph)	939	1228		861	1331			548	927		808	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.01	0.38		0.06	0.42			0.19	0.08		0.05	

Intersection Summary

Cycle Length: 106

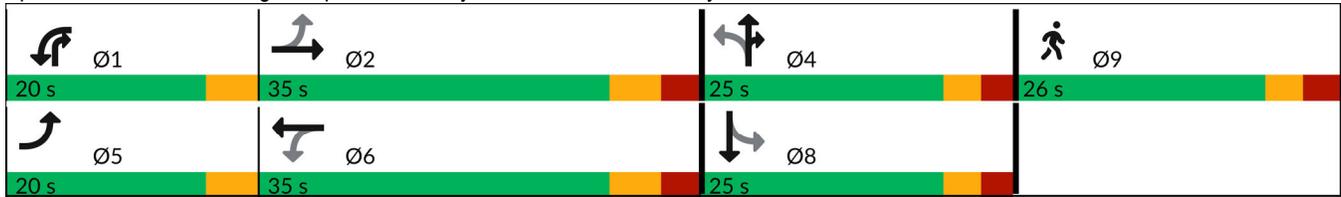
Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	13.0
Minimum Split (s)	26.0
Total Split (s)	26.0
Total Split (%)	25%
Maximum Green (s)	20.0
Yellow Time (s)	3.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Don't Walk (s)	10.0
Pedestrian Calls (#/hr)	0
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 52.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140



2024 Existing Weekday Evening

3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140

01/21/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↕	
Traffic Volume (vph)	13	440	5	43	489	6	95	0	66	3	0	25
Future Volume (vph)	13	440	5	43	489	6	95	0	66	3	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	11	13	12	12	11	11	12	15	12
Total Lost time (s)	2.0	4.0		2.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Fr _t	1.00	1.00		1.00	1.00			1.00	0.85		0.88	
Fl _t Protected	0.95	1.00		0.95	1.00			0.95	1.00		1.00	
Satd. Flow (prot)	1805	1878		1711	1940			1745	1561		1827	
Fl _t Permitted	0.42	1.00		0.38	1.00			0.73	1.00		0.96	
Satd. Flow (perm)	805	1878		688	1940			1343	1561		1771	
Peak-hour factor, PHF	0.95	0.95	0.95	0.89	0.89	0.89	0.92	0.92	0.92	0.70	0.70	0.70
Adj. Flow (vph)	14	463	5	48	549	7	103	0	72	4	0	36
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	47	0	33	0
Lane Group Flow (vph)	14	468	0	48	556	0	0	103	25	0	7	0
Heavy Vehicles (%)	0%	1%	0%	2%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pt+ov	Perm	NA	
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	28.8	27.8		36.6	31.7			7.9	18.3		7.9	
Effective Green, g (s)	32.8	30.8		38.7	34.7			9.4	19.8		9.4	
Actuated g/C Ratio	0.57	0.54		0.68	0.61			0.16	0.35		0.16	
Clearance Time (s)	4.0	7.0		4.0	7.0			5.5			5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	514	1013		589	1178			221	541		291	
v/s Ratio Prot	0.00	0.25		0.01	c0.29				c0.02			
v/s Ratio Perm	0.01			0.05				c0.08			0.00	
v/c Ratio	0.03	0.46		0.08	0.47			0.47	0.05		0.02	
Uniform Delay, d ₁	5.3	8.1		3.5	6.2			21.6	12.4		20.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d ₂	0.0	0.3		0.1	0.3			1.6	0.0		0.0	
Delay (s)	5.3	8.4		3.6	6.5			23.1	12.4		20.0	
Level of Service	A	A		A	A			C	B		C	
Approach Delay (s/veh)		8.3			6.2			18.7			20.0	
Approach LOS		A			A			B			C	

Intersection Summary

HCM 2000 Control Delay (s/veh)	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	57.1	Sum of lost time (s)	16.5
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

2024 Existing Weekday Evening
 4: Starbucks Dwy./Glen Meadow Rd. & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	548	47	7	624	15	31	2	8	4	1	22
Future Volume (vph)	22	548	47	7	624	15	31	2	8	4	1	22
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.997				0.850		0.889	
Flt Protected	0.950			0.950				0.955			0.992	
Satd. Flow (prot)	1685	1798	0	1745	1813	0	0	1814	1615	0	1899	0
Flt Permitted	0.950			0.950				0.955			0.992	
Satd. Flow (perm)	1685	1798	0	1745	1813	0	0	1814	1615	0	1899	0
Adj. Flow (vph)	24	589	51	8	671	16	42	3	11	6	1	32
Lane Group Flow (vph)	24	640	0	8	687	0	0	45	11	0	39	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary
 Control Type: Unsignalized

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↔	
Traffic Vol, veh/h	22	548	47	7	624	15	31	2	8	4	1	22
Future Vol, veh/h	22	548	47	7	624	15	31	2	8	4	1	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	210	-	-	50	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	73	73	73	68	68	68
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	24	589	51	8	671	16	42	3	11	6	1	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	687	0	0	640	0	0	1349	1364	615	1332	1381	679
Stage 1	-	-	-	-	-	-	662	662	-	694	694	-
Stage 2	-	-	-	-	-	-	687	702	-	638	687	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	916	-	-	954	-	-	129	149	495	133	145	455
Stage 1	-	-	-	-	-	-	454	462	-	436	447	-
Stage 2	-	-	-	-	-	-	440	443	-	468	450	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	916	-	-	954	-	-	115	144	495	123	141	455
Mov Cap-2 Maneuver	-	-	-	-	-	-	115	144	-	123	141	-
Stage 1	-	-	-	-	-	-	443	451	-	433	444	-
Stage 2	-	-	-	-	-	-	404	440	-	443	439	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.32			0.1			46.25			18.46		
HCM LOS							E			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	116	495	916	-	-	954	-	-	307
HCM Lane V/C Ratio	0.389	0.022	0.026	-	-	0.008	-	-	0.129
HCM Ctrl Dly (s/v)	54.5	12.4	9	-	-	8.8	-	-	18.5
HCM Lane LOS	F	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.6	0.1	0.1	-	-	0	-	-	0.4

2024 Existing Weekday Evening

5: CVS Pharmacy Dwy/Horace Mann Plaza Dwy & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↖	↗	↖		↖	↖		↖	↖
Traffic Volume (vph)	141	514	46	16	539	134	33	22	23	97	19	179
Future Volume (vph)	141	514	46	16	539	134	33	22	23	97	19	179
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr't			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950				0.971			0.960	
Satd. Flow (prot)	1685	1818	1561	1745	1756	1561	0	1783	1561	0	1869	1669
Flt Permitted	0.162			0.346				0.708			0.717	
Satd. Flow (perm)	287	1818	1561	635	1756	1561	0	1300	1561	0	1396	1669
Satd. Flow (RTOR)			133			133			143			192
Adj. Flow (vph)	155	565	51	17	586	146	37	25	26	104	20	192
Lane Group Flow (vph)	155	565	51	17	586	146	0	62	26	0	124	192
Turn Type	pm+pt	NA	custom	pm+pt	NA	custom	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	2	1	6	6		8			4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	5
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	16.0	16.0	11.0	15.0	15.0	10.0	10.0	10.0	10.0	10.0	11.0
Total Split (s)	15.0	50.0	50.0	15.0	50.0	50.0	19.0	19.0	19.0	19.0	19.0	15.0
Total Split (%)	14.0%	46.7%	46.7%	14.0%	46.7%	46.7%	17.8%	17.8%	17.8%	17.8%	17.8%	14.0%
Maximum Green (s)	9.0	44.0	44.0	9.0	45.0	45.0	14.0	14.0	14.0	14.0	14.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		0.0	0.0		0.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	4.0	4.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.46	0.58	0.06	0.04	0.83	0.21		0.34	0.08		0.62	0.28
Control Delay (s/veh)	13.9	18.9	0.1	9.6	33.6	4.9		42.7	0.4		53.4	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay (s/veh)	13.9	18.9	0.1	9.6	33.6	4.9		42.7	0.4		53.4	5.7
Queue Length 50th (ft)	36	173	0	4	271	4		30	0		63	0
Queue Length 95th (ft)	79	415	0	14	468	41		80	0		#161	52
Internal Link Dist (ft)		1140			528			240			247	
Turn Bay Length (ft)	160		50	100		150			26			
Base Capacity (vph)	357	1134	1023	487	1083	1013		249	415		268	706
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.43	0.50	0.05	0.03	0.54	0.14		0.25	0.06		0.46	0.27

Intersection Summary

Cycle Length: 107

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	21.0
Total Split (s)	23.0
Total Split (%)	21%
Maximum Green (s)	18.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	11.0
Pedestrian Calls (#/hr)	5
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

2024 Existing Weekday Evening

5: CVS Pharmacy Dwy/Horace Mann Plaza Dwy & Route 140

01/21/2025

Actuated Cycle Length: 80.5

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: CVS Pharmacy Dwy/Horace Mann Plaza Dwy & Route 140

 Ø1 15 s	 Ø2 50 s	 Ø9 23 s	 Ø4 19 s
 Ø5 15 s	 Ø6 50 s		 Ø8 19 s



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	514	46	16	539	134	33	22	23	97	19	179
Future Volume (vph)	141	514	46	16	539	134	33	22	23	97	19	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	11	11	10	11	11	11	11	13	13	13
Total Lost time (s)	5.0	5.0	5.0	5.0	4.0	4.0		5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.97	1.00		0.96	1.00
Satd. Flow (prot)	1685	1818	1561	1745	1756	1561		1783	1561		1869	1669
Flt Permitted	0.16	1.00	1.00	0.35	1.00	1.00		0.71	1.00		0.72	1.00
Satd. Flow (perm)	287	1818	1561	635	1756	1561		1301	1561		1397	1669
Peak-hour factor, PHF	0.91	0.91	0.91	0.92	0.92	0.92	0.89	0.89	0.89	0.93	0.93	0.93
Adj. Flow (vph)	155	565	51	17	586	146	37	25	26	104	20	192
RTOR Reduction (vph)	0	0	26	0	0	78	0	0	23	0	0	144
Lane Group Flow (vph)	155	565	25	17	586	68	0	62	3	0	124	48
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA	custom	pm+pt	NA	custom	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	2	1	6	6		8			4	5
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	49.9	42.2	42.2	37.7	36.0	36.0		11.5	11.5		11.5	20.4
Effective Green, g (s)	50.9	43.2	43.2	39.7	37.0	37.0		11.5	11.5		11.5	22.4
Actuated g/C Ratio	0.57	0.49	0.49	0.45	0.42	0.42		0.13	0.13		0.13	0.25
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	5.0		5.0	5.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	320	883	758	317	730	649		168	201		180	420
v/s Ratio Prot	c0.05	c0.31	0.02	0.00	c0.33	0.04						0.01
v/s Ratio Perm	0.22			0.02				0.05	0.00		c0.09	0.02
v/c Ratio	0.48	0.64	0.03	0.05	0.80	0.11		0.37	0.02		0.69	0.12
Uniform Delay, d1	13.7	17.0	11.9	14.2	22.8	15.8		35.4	33.8		37.0	25.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	1.1	0.0	0.0	6.0	0.0		0.5	0.0		8.4	0.0
Delay (s)	14.1	18.2	11.9	14.2	28.8	15.9		35.9	33.8		45.4	25.7
Level of Service	B	B	B	B	C	B		D	C		D	C
Approach Delay (s/veh)		16.9			25.9			35.3			33.4	
Approach LOS		B			C			D			C	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	24.0	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.63	
Actuated Cycle Length (s)	88.9	Sum of lost time (s) 20.0
Intersection Capacity Utilization	60.9%	ICU Level of Service B
Analysis Period (min)	15	

c Critical Lane Group

2024 Existing Weekday Evening
6: King St/Chestnut St & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	389	38	311	412	29	35	225	280	21	277	89
Future Volume (vph)	115	389	38	311	412	29	35	225	280	21	277	89
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.969	
Flt Protected	0.950			0.950				0.993			0.997	
Satd. Flow (prot)	1805	1845	1615	1787	1881	1615	0	1870	1599	0	2080	0
Flt Permitted	0.360			0.192				0.850			0.972	
Satd. Flow (perm)	684	1845	1615	361	1881	1615	0	1601	1599	0	2028	0
Satd. Flow (RTOR)			96			96			259		13	
Adj. Flow (vph)	124	418	41	321	425	30	39	253	315	23	301	97
Lane Group Flow (vph)	124	418	41	321	425	30	0	292	315	0	421	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Detector Phase	5	2	2	1	6	6	8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	21.0	21.0	11.0	21.0	21.0	21.0	21.0	11.0	21.0	21.0	21.0
Total Split (s)	20.0	40.0	40.0	20.0	40.0	40.0	35.0	35.0	20.0	35.0	35.0	35.0
Total Split (%)	17.5%	35.1%	35.1%	17.5%	35.1%	35.1%	30.7%	30.7%	17.5%	30.7%	30.7%	30.7%
Maximum Green (s)	17.0	35.0	35.0	17.0	35.0	35.0	30.0	30.0	17.0	30.0	30.0	30.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	1.0	-1.0	-1.0	1.0	-1.0	-1.0		-1.0	1.0		-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag			Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.30	0.71	0.07	0.73	0.59	0.04		0.59	0.32		0.67	
Control Delay (s/veh)	13.5	32.8	0.2	24.4	25.0	0.1		31.6	4.3		31.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay (s/veh)	13.5	32.8	0.2	24.4	25.0	0.1		31.6	4.3		31.2	
Queue Length 50th (ft)	24	160	0	70	143	0		108	11		155	
Queue Length 95th (ft)	83	388	0	#282	370	0		286	76		393	
Internal Link Dist (ft)		491			1140			259			552	
Turn Bay Length (ft)	100		50	165		50			80			
Base Capacity (vph)	612	930	862	517	965	875		695	1046		888	
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	
Reduced v/c Ratio	0.20	0.45	0.05	0.62	0.44	0.03		0.42	0.30		0.47	

Intersection Summary

Cycle Length: 114

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	17%
Maximum Green (s)	14.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	9.0
Pedestrian Calls (#/hr)	6
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 77.3

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: King St/Chestnut St & Route 140



2024 Existing Weekday Evening
6: King St/Chestnut St & Route 140

01/21/2025



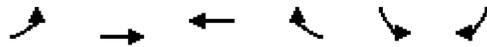
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	389	38	311	412	29	35	225	280	21	277	89
Future Volume (vph)	115	389	38	311	412	29	35	225	280	21	277	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	16	16	16
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		1.00	
Satd. Flow (prot)	1805	1845	1615	1787	1881	1615		1871	1599		2081	
Flt Permitted	0.36	1.00	1.00	0.19	1.00	1.00		0.85	1.00		0.97	
Satd. Flow (perm)	685	1845	1615	361	1881	1615		1601	1599		2027	
Peak-hour factor, PHF	0.93	0.93	0.93	0.97	0.97	0.97	0.89	0.89	0.89	0.92	0.92	0.92
Adj. Flow (vph)	124	418	41	321	425	30	39	253	315	23	301	97
RTOR Reduction (vph)	0	0	28	0	0	19	0	0	147	0	9	0
Lane Group Flow (vph)	124	418	13	321	425	11	0	292	168	0	412	0
Heavy Vehicles (%)	0%	3%	0%	1%	1%	0%	0%	1%	1%	0%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	33.1	23.8	23.8	41.0	28.7	28.7		22.7	36.9		22.7	
Effective Green, g (s)	31.1	24.8	24.8	40.0	29.7	29.7		23.7	34.9		23.7	
Actuated g/C Ratio	0.39	0.31	0.31	0.50	0.37	0.37		0.29	0.43		0.29	
Clearance Time (s)	3.0	5.0	5.0	3.0	5.0	5.0		5.0	3.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	379	567	496	412	693	595		470	692		596	
v/s Ratio Prot	0.03	0.23		c0.13	0.23				0.04			
v/s Ratio Perm	0.09		0.01	c0.26		0.01		0.18	0.07		c0.20	
v/c Ratio	0.33	0.74	0.03	0.78	0.61	0.02		0.62	0.24		0.69	
Uniform Delay, d1	16.7	25.0	19.5	15.1	20.8	16.2		24.6	14.5		25.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.5	5.0	0.0	9.0	1.6	0.0		2.6	0.2		3.5	
Delay (s)	17.2	30.0	19.5	24.1	22.4	16.2		27.1	14.7		28.7	
Level of Service	B	C	B	C	C	B		C	B		C	
Approach Delay (s/veh)		26.5			22.9			20.7			28.7	
Approach LOS		C			C			C			C	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	24.2	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.73	C
Actuated Cycle Length (s)	80.6	Sum of lost time (s)
Intersection Capacity Utilization	85.4%	17.0
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group

2024 Existing Saturday Midday
 1: Route 140 & Aspen Way

01/21/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (vph)	14	524	536	7	6	17
Future Volume (vph)	14	524	536	7	6	17
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.998		0.899	
Flt Protected		0.999			0.988	
Satd. Flow (prot)	0	1898	1896	0	1800	0
Flt Permitted		0.999			0.988	
Satd. Flow (perm)	0	1898	1896	0	1800	0
Adj. Flow (vph)	16	589	589	8	9	27
Lane Group Flow (vph)	0	605	597	0	36	0
Sign Control		Free	Free		Stop	

Intersection Summary

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	14	524	536	7	6	17
Future Vol, veh/h	14	524	536	7	6	17
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	89	89	91	91	64	64
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	16	589	589	8	9	27

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	597	0	-	0	1213 593
Stage 1	-	-	-	-	593 -
Stage 2	-	-	-	-	620 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	990	-	-	-	203 509
Stage 1	-	-	-	-	556 -
Stage 2	-	-	-	-	540 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	990	-	-	-	198 509
Mov Cap-2 Maneuver	-	-	-	-	198 -
Stage 1	-	-	-	-	543 -
Stage 2	-	-	-	-	540 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.23	0	16.07
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	47	-	-	-	361
HCM Lane V/C Ratio	0.016	-	-	-	0.1
HCM Ctrl Dly (s/v)	8.7	0	-	-	16.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

2024 Existing Saturday MIDDAY

3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↕	
Traffic Volume (vph)	9	452	7	64	504	5	135	3	84	3	0	21
Future Volume (vph)	9	452	7	64	504	5	135	3	84	3	0	21
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.999				0.850		0.882	
Flt Protected	0.950			0.950				0.953			0.994	
Satd. Flow (prot)	1805	1896	0	1745	1961	0	0	1750	1561	0	1832	0
Flt Permitted	0.374			0.278				0.707			0.963	
Satd. Flow (perm)	711	1896	0	511	1961	0	0	1299	1561	0	1775	0
Satd. Flow (RTOR)		1							103		144	
Adj. Flow (vph)	10	514	8	67	531	5	144	3	89	4	0	28
Lane Group Flow (vph)	10	522	0	67	536	0	0	147	89	0	32	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pt+ov	Perm	NA	
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		4	4	4 1	8	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	12.0	30.0		12.0	30.0		11.5	11.5		21.0	21.0	
Total Split (s)	20.0	35.0		20.0	35.0		25.0	25.0		25.0	25.0	
Total Split (%)	18.9%	33.0%		18.9%	33.0%		23.6%	23.6%		23.6%	23.6%	
Maximum Green (s)	16.0	28.0		16.0	28.0		19.5	19.5		19.5	19.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	3.0		0.0	3.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	-2.0	-3.0		-2.0	-3.0			-1.5			-1.5	
Total Lost Time (s)	2.0	4.0		2.0	4.0			4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		7.0			7.0							
Flash Don't Walk (s)		16.0			16.0							
Pedestrian Calls (#/hr)		1			0							
v/c Ratio	0.02	0.58		0.13	0.47			0.52	0.14		0.06	
Control Delay (s/veh)	8.8	20.4		8.3	14.0			33.1	2.8		0.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay (s/veh)	8.8	20.4		8.3	14.0			33.1	2.8		0.3	
Queue Length 50th (ft)	1	131		7	82			49	0		0	
Queue Length 95th (ft)	12	#459		44	#420			143	15		0	
Internal Link Dist (ft)		527			1062			182			152	
Turn Bay Length (ft)	155			150					80			
Base Capacity (vph)	767	944		679	1150			432	869		687	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.01	0.55		0.10	0.47			0.34	0.10		0.05	

Intersection Summary

Cycle Length: 106

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	13.0
Minimum Split (s)	26.0
Total Split (s)	26.0
Total Split (%)	25%
Maximum Green (s)	20.0
Yellow Time (s)	3.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Don't Walk (s)	10.0
Pedestrian Calls (#/hr)	4
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

2024 Existing Saturday Midday

3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140

01/21/2025

Actuated Cycle Length: 66.3

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140

 Ø1 20 s	 Ø2 35 s	 Ø4 25 s	 Ø9 26 s
 Ø5 20 s	 Ø6 35 s	 Ø8 25 s	

2024 Existing Saturday MIDDAY

3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140

01/21/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↕	
Traffic Volume (vph)	9	452	7	64	504	5	135	3	84	3	0	21
Future Volume (vph)	9	452	7	64	504	5	135	3	84	3	0	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	11	13	12	12	11	11	12	15	12
Total Lost time (s)	2.0	4.0		2.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.88	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.99	
Satd. Flow (prot)	1805	1896		1745	1961			1751	1561		1832	
Flt Permitted	0.37	1.00		0.28	1.00			0.71	1.00		0.96	
Satd. Flow (perm)	710	1896		510	1961			1298	1561		1774	
Peak-hour factor, PHF	0.88	0.88	0.88	0.95	0.95	0.95	0.94	0.94	0.94	0.75	0.75	0.75
Adj. Flow (vph)	10	514	8	67	531	5	144	3	89	4	0	28
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	63	0	26	0
Lane Group Flow (vph)	10	521	0	67	536	0	0	147	26	0	6	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pt+ov	Perm	NA	
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	32.0	31.1		40.6	35.7			12.8	18.3		12.8	
Effective Green, g (s)	36.0	34.1		42.6	38.7			14.3	21.3		14.3	
Actuated g/C Ratio	0.49	0.46		0.57	0.52			0.19	0.29		0.19	
Clearance Time (s)	4.0	7.0		4.0	7.0			5.5			5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	387	871		417	1022			250	448		341	
v/s Ratio Prot	0.00	c0.28		c0.02	c0.27				0.02			
v/s Ratio Perm	0.01			0.08				c0.11			0.00	
v/c Ratio	0.03	0.60		0.16	0.52			0.59	0.06		0.02	
Uniform Delay, d1	10.2	14.9		8.5	11.7			27.3	19.2		24.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	1.1		0.2	0.5			3.5	0.1		0.0	
Delay (s)	10.2	16.1		8.7	12.2			30.8	19.2		24.3	
Level of Service	B	B		A	B			C	B		C	
Approach Delay (s/veh)		16.0			11.8			26.4			24.3	
Approach LOS		B			B			C			C	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	16.1	HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio	0.53	
Actuated Cycle Length (s)	74.2	Sum of lost time (s) 16.5
Intersection Capacity Utilization	56.1%	ICU Level of Service B
Analysis Period (min)	15	

c Critical Lane Group

2024 Existing Saturday Midday
 4: Starbucks Dwy./Glen Meadow Rd. & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	653	82	10	700	14	50	0	28	7	0	21
Future Volume (vph)	10	653	82	10	700	14	50	0	28	7	0	21
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.997				0.850		0.899	
Flt Protected	0.950			0.950				0.950			0.988	
Satd. Flow (prot)	1685	1805	0	1745	1831	0	0	1805	1615	0	1913	0
Flt Permitted	0.950			0.950				0.950			0.988	
Satd. Flow (perm)	1685	1805	0	1745	1831	0	0	1805	1615	0	1913	0
Adj. Flow (vph)	11	726	91	10	729	15	71	0	40	9	0	27
Lane Group Flow (vph)	11	817	0	10	744	0	0	71	40	0	36	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

2024 Existing Saturday Midday
 4: Starbucks Dwy./Glen Meadow Rd. & Route 140

01/21/2025

Intersection												
Int Delay, s/veh	6.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↶	↷		↷	
Traffic Vol, veh/h	10	653	82	10	700	14	50	0	28	7	0	21
Future Vol, veh/h	10	653	82	10	700	14	50	0	28	7	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	210	-	-	50	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	96	96	96	70	70	70	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	726	91	10	729	15	71	0	40	9	0	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	744	0	0	817	0	0	1543	1558	771	1505	1596	736
Stage 1	-	-	-	-	-	-	793	793	-	757	757	-
Stage 2	-	-	-	-	-	-	750	765	-	748	839	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	873	-	-	820	-	-	95	114	403	101	108	422
Stage 1	-	-	-	-	-	-	385	403	-	403	419	-
Stage 2	-	-	-	-	-	-	407	415	-	408	384	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	873	-	-	820	-	-	86	111	403	88	105	422
Mov Cap-2 Maneuver	-	-	-	-	-	-	86	111	-	88	105	-
Stage 1	-	-	-	-	-	-	380	398	-	398	413	-
Stage 2	-	-	-	-	-	-	376	410	-	363	379	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.12			0.13			93.95			24.84		
HCM LOS							F			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	86	403	873	-	-	820	-	-	217
HCM Lane V/C Ratio	0.827	0.099	0.013	-	-	0.013	-	-	0.165
HCM Ctrl Dly (s/v)	138.2	14.9	9.2	-	-	9.4	-	-	24.8
HCM Lane LOS	F	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	4.3	0.3	0	-	-	0	-	-	0.6

2024 Existing Saturday Midday

5: CVS Pharmacy Dwy/Horace Mann Plaza Dwy & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	564	41	26	551	192	31	24	36	157	26	248
Future Volume (vph)	221	564	41	26	551	192	31	24	36	157	26	248
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr't			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950				0.972			0.959	
Satd. Flow (prot)	1685	1818	1561	1745	1773	1561	0	1785	1561	0	1883	1652
Flt Permitted	0.137			0.270				0.560			0.715	
Satd. Flow (perm)	243	1818	1561	496	1773	1561	0	1029	1561	0	1404	1652
Satd. Flow (RTOR)			133			144			143			279
Adj. Flow (vph)	238	606	44	27	574	200	33	25	38	176	29	279
Lane Group Flow (vph)	238	606	44	27	574	200	0	58	38	0	205	279
Turn Type	pm+pt	NA	custom	pm+pt	NA	custom	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	2	1	6	6		8			4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	5
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	16.0	16.0	11.0	15.0	15.0	10.0	10.0	10.0	10.0	10.0	11.0
Total Split (s)	15.0	50.0	50.0	15.0	50.0	50.0	19.0	19.0	19.0	19.0	19.0	15.0
Total Split (%)	14.0%	46.7%	46.7%	14.0%	46.7%	46.7%	17.8%	17.8%	17.8%	17.8%	17.8%	14.0%
Maximum Green (s)	9.0	44.0	44.0	9.0	45.0	45.0	14.0	14.0	14.0	14.0	14.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		0.0	0.0		0.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	4.0	4.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.77	0.65	0.05	0.08	0.84	0.29		0.33	0.10		0.85	0.36
Control Delay (s/veh)	33.7	22.2	0.1	10.5	36.7	7.2		43.9	0.5		71.2	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay (s/veh)	33.7	22.2	0.1	10.5	36.7	7.2		43.9	0.5		71.2	5.2
Queue Length 50th (ft)	66	217	0	7	285	20		29	0		115	0
Queue Length 95th (ft)	#220	463	0	20	452	65		79	0		#297	59
Internal Link Dist (ft)		1140			528			240			247	
Turn Bay Length (ft)	160		50	100		150			26			
Base Capacity (vph)	310	1029	942	398	1002	944		177	387		241	768
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.77	0.59	0.05	0.07	0.57	0.21		0.33	0.10		0.85	0.36

Intersection Summary

Cycle Length: 107

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	21.0
Total Split (s)	23.0
Total Split (%)	21%
Maximum Green (s)	18.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	11.0
Pedestrian Calls (#/hr)	6
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

2024 Existing Saturday Midday

5: CVS Pharmacy Dwy/Horace Mann Plaza Dwy & Route 140

01/21/2025

Actuated Cycle Length: 85.7

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: CVS Pharmacy Dwy/Horace Mann Plaza Dwy & Route 140

 Ø1  15 s	 Ø2  50 s	 Ø9  23 s	 Ø4  19 s
 Ø5  15 s	 Ø6  50 s		 Ø8  19 s



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	564	41	26	551	192	31	24	36	157	26	248
Future Volume (vph)	221	564	41	26	551	192	31	24	36	157	26	248
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	11	11	10	11	11	11	11	13	13	13
Total Lost time (s)	5.0	5.0	5.0	5.0	4.0	4.0		5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.97	1.00		0.96	1.00
Satd. Flow (prot)	1685	1818	1561	1745	1773	1561		1786	1561		1883	1652
Flt Permitted	0.14	1.00	1.00	0.27	1.00	1.00		0.56	1.00		0.72	1.00
Satd. Flow (perm)	244	1818	1561	497	1773	1561		1029	1561		1405	1652
Peak-hour factor, PHF	0.93	0.93	0.93	0.96	0.96	0.96	0.95	0.95	0.95	0.89	0.89	0.89
Adj. Flow (vph)	238	606	44	27	574	200	33	25	38	176	29	279
RTOR Reduction (vph)	0	0	24	0	0	88	0	0	32	0	0	203
Lane Group Flow (vph)	238	606	20	27	574	112	0	58	6	0	205	76
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	NA	custom	pm+pt	NA	custom	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	2	1	6	6		8			4	5
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	50.7	42.7	42.7	38.2	36.2	36.2		14.7	14.7		14.7	24.2
Effective Green, g (s)	51.7	43.7	43.7	40.2	37.2	37.2		14.7	14.7		14.7	26.2
Actuated g/C Ratio	0.54	0.45	0.45	0.42	0.39	0.39		0.15	0.15		0.15	0.27
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	5.0		5.0	5.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	288	826	709	246	686	604		157	238		214	450
v/s Ratio Prot	c0.09	0.33	0.01	0.00	0.32	0.07						0.02
v/s Ratio Perm	c0.35			0.04				0.06	0.00		c0.15	0.03
v/c Ratio	0.83	0.73	0.03	0.11	0.84	0.19		0.37	0.02		0.96	0.17
Uniform Delay, d1	18.0	21.4	14.5	17.6	26.7	19.4		36.5	34.6		40.4	26.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	16.6	2.9	0.0	0.1	8.4	0.1		0.5	0.0		48.8	0.1
Delay (s)	34.6	24.4	14.5	17.7	35.1	19.5		37.1	34.6		89.1	26.7
Level of Service	C	C	B	B	D	B		D	C		F	C
Approach Delay (s/veh)		26.6			30.6			36.1			53.2	
Approach LOS		C			C			D			D	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	34.1	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.72	
Actuated Cycle Length (s)	96.1	Sum of lost time (s) 20.0
Intersection Capacity Utilization	69.6%	ICU Level of Service C
Analysis Period (min)	15	

c Critical Lane Group

2024 Existing Saturday MIDDAY
6: King St/Chestnut St & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	470	50	305	470	56	45	172	305	40	191	106
Future Volume (vph)	121	470	50	305	470	56	45	172	305	40	191	106
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.957	
Flt Protected	0.950			0.950				0.990			0.994	
Satd. Flow (prot)	1805	1900	1615	1787	1881	1615	0	1852	1599	0	2037	0
Flt Permitted	0.322			0.127				0.748			0.903	
Satd. Flow (perm)	612	1900	1615	239	1881	1615	0	1399	1599	0	1850	0
Satd. Flow (RTOR)			96			96			338		20	
Adj. Flow (vph)	127	495	53	314	485	58	50	191	339	50	239	133
Lane Group Flow (vph)	127	495	53	314	485	58	0	241	339	0	422	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Detector Phase	5	2	2	1	6	6	8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	21.0	21.0	11.0	21.0	21.0	21.0	21.0	11.0	21.0	21.0	21.0
Total Split (s)	20.0	40.0	40.0	20.0	40.0	40.0	35.0	35.0	20.0	35.0	35.0	35.0
Total Split (%)	17.5%	35.1%	35.1%	17.5%	35.1%	35.1%	30.7%	30.7%	17.5%	30.7%	30.7%	30.7%
Maximum Green (s)	17.0	35.0	35.0	17.0	35.0	35.0	30.0	30.0	17.0	30.0	30.0	30.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	1.0	-1.0	-1.0	1.0	-1.0	-1.0		-1.0	1.0		-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag			Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.35	0.81	0.09	0.78	0.63	0.08		0.58	0.34		0.74	
Control Delay (s/veh)	16.6	42.8	1.2	36.6	29.5	1.7		37.0	3.1		39.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay (s/veh)	16.6	42.8	1.2	36.6	29.5	1.7		37.0	3.1		39.6	
Queue Length 50th (ft)	31	244	0	108	201	0		106	0		189	
Queue Length 95th (ft)	85	#506	6	#339	439	9		247	51		341	
Internal Link Dist (ft)		491			1140			259			552	
Turn Bay Length (ft)	100		50	165		50			80			
Base Capacity (vph)	524	777	717	411	813	752		493	1002		664	
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	
Reduced v/c Ratio	0.24	0.64	0.07	0.76	0.60	0.08		0.49	0.34		0.64	

Intersection Summary

Cycle Length: 114

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	17%
Maximum Green (s)	14.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	9.0
Pedestrian Calls (#/hr)	20
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

2024 Existing Saturday Midday
 6: King St/Chestnut St & Route 140

01/21/2025

Actuated Cycle Length: 92.2

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: King St/Chestnut St & Route 140



2024 Existing Saturday Midday
6: King St/Chestnut St & Route 140

01/21/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	470	50	305	470	56	45	172	305	40	191	106
Future Volume (vph)	121	470	50	305	470	56	45	172	305	40	191	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	16	16	16
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.99	
Satd. Flow (prot)	1805	1900	1615	1787	1881	1615		1851	1599		2038	
Flt Permitted	0.32	1.00	1.00	0.13	1.00	1.00		0.75	1.00		0.90	
Satd. Flow (perm)	612	1900	1615	239	1881	1615		1399	1599		1852	
Peak-hour factor, PHF	0.95	0.95	0.95	0.97	0.97	0.97	0.90	0.90	0.90	0.80	0.80	0.80
Adj. Flow (vph)	127	495	53	314	485	58	50	191	339	50	239	132
RTOR Reduction (vph)	0	0	37	0	0	35	0	0	189	0	14	0
Lane Group Flow (vph)	127	495	16	314	485	23	0	241	150	0	408	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	0%	0%	2%	1%	0%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	38.0	28.5	28.5	48.9	36.4	36.4		26.5	43.9		26.5	
Effective Green, g (s)	36.0	29.5	29.5	47.9	37.4	37.4		27.5	41.9		27.5	
Actuated g/C Ratio	0.38	0.31	0.31	0.50	0.39	0.39		0.29	0.44		0.29	
Clearance Time (s)	3.0	5.0	5.0	3.0	5.0	5.0		5.0	3.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	339	590	502	388	741	636		405	705		536	
v/s Ratio Prot	0.03	c0.26		c0.14	0.26				0.04			
v/s Ratio Perm	0.11		0.01	0.27		0.01		0.17	0.06		c0.22	
v/c Ratio	0.37	0.84	0.03	0.81	0.65	0.04		0.60	0.21		0.76	
Uniform Delay, d1	20.2	30.5	22.8	23.1	23.5	17.7		28.9	16.3		30.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.7	10.2	0.0	11.8	2.1	0.0		2.3	0.2		6.3	
Delay (s)	20.9	40.6	22.8	34.9	25.6	17.7		31.3	16.5		37.0	
Level of Service	C	D	C	C	C	B		C	B		D	
Approach Delay (s/veh)		35.5			28.4			22.6			37.0	
Approach LOS		D			C			C			D	

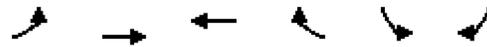
Intersection Summary		
HCM 2000 Control Delay (s/veh)	30.4	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.76	
Actuated Cycle Length (s)	94.9	Sum of lost time (s) 17.0
Intersection Capacity Utilization	85.2%	ICU Level of Service E
Analysis Period (min)	15	

c Critical Lane Group

2032 No-Build

2032 No-Build Weekday Morning
 1: Route 140 & Aspen Way

01/21/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (vph)	12	416	425	2	5	4
Future Volume (vph)	12	416	425	2	5	4
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.944	
Flt Protected		0.999			0.972	
Satd. Flow (prot)	0	1880	1843	0	1665	0
Flt Permitted		0.999			0.972	
Satd. Flow (perm)	0	1880	1843	0	1665	0
Adj. Flow (vph)	13	443	518	2	7	5
Lane Group Flow (vph)	0	456	520	0	12	0
Sign Control		Free	Free		Stop	

Intersection Summary

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	12	416	425	2	5	4
Future Vol, veh/h	12	416	425	2	5	4
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	94	94	82	82	75	75
Heavy Vehicles, %	0	1	3	0	20	0
Mvmt Flow	13	443	518	2	7	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	521	0	-	0	988
Stage 1	-	-	-	-	520
Stage 2	-	-	-	-	468
Critical Hdwy	4.1	-	-	-	6.6
Critical Hdwy Stg 1	-	-	-	-	5.6
Critical Hdwy Stg 2	-	-	-	-	5.6
Follow-up Hdwy	2.2	-	-	-	3.68
Pot Cap-1 Maneuver	1056	-	-	-	254
Stage 1	-	-	-	-	562
Stage 2	-	-	-	-	594
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1056	-	-	-	250
Mov Cap-2 Maneuver	-	-	-	-	250
Stage 1	-	-	-	-	553
Stage 2	-	-	-	-	594

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.24	0	16.26
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	50	-	-	-	332
HCM Lane V/C Ratio	0.012	-	-	-	0.036
HCM Ctrl Dly (s/v)	8.5	0	-	-	16.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↕	
Traffic Volume (vph)	29	421	1	25	396	12	35	2	21	1	0	4
Future Volume (vph)	29	421	1	25	396	12	35	2	21	1	0	4
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.996				0.850		0.899	
Flt Protected	0.950			0.950				0.955			0.988	
Satd. Flow (prot)	1805	1881	0	1745	1918	0	0	1660	1561	0	1856	0
Flt Permitted	0.435			0.402				0.734			0.899	
Satd. Flow (perm)	826	1881	0	738	1918	0	0	1276	1561	0	1689	0
Satd. Flow (RTOR)					1				103		165	
Adj. Flow (vph)	33	484	1	30	477	14	46	3	28	2	0	6
Lane Group Flow (vph)	33	485	0	30	491	0	0	49	28	0	8	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pt+ov	Perm	NA	
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		4	4	4 1	8	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	12.0	30.0		12.0	30.0		11.5	11.5		21.0	21.0	
Total Split (s)	20.0	35.0		20.0	35.0		25.0	25.0		25.0	25.0	
Total Split (%)	18.9%	33.0%		18.9%	33.0%		23.6%	23.6%		23.6%	23.6%	
Maximum Green (s)	14.0	28.0		14.0	28.0		19.5	19.5		19.5	19.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	3.0		2.0	3.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	-2.0	-3.0		-2.0	-3.0			-1.5			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		7.0			7.0							
Flash Don't Walk (s)		16.0			16.0							
Pedestrian Calls (#/hr)		2			0							
v/c Ratio	0.04	0.38		0.04	0.35			0.19	0.05		0.02	
Control Delay (s/veh)	3.2	9.6		3.2	8.0			22.7	0.1		0.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay (s/veh)	3.2	9.6		3.2	8.0			22.7	0.1		0.0	
Queue Length 50th (ft)	3	105		2	51			14	0		0	
Queue Length 95th (ft)	9	184		8	172			35	0		0	
Internal Link Dist (ft)		527			1062			182			152	
Turn Bay Length (ft)	155			150					80			
Base Capacity (vph)	978	1346		921	1412			593	919		873	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.03	0.36		0.03	0.35			0.08	0.03		0.01	

Intersection Summary

Cycle Length: 106

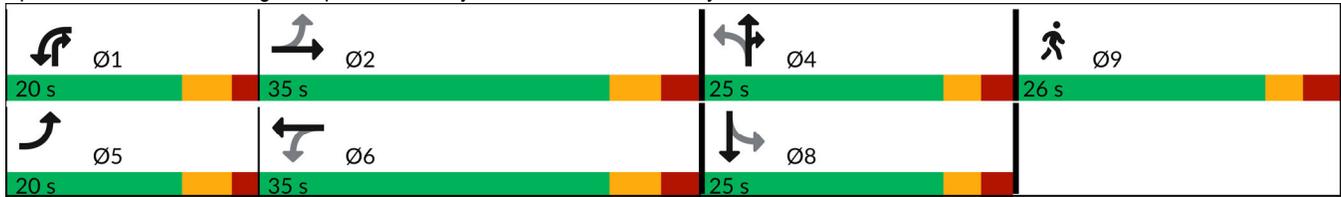
Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	13.0
Minimum Split (s)	26.0
Total Split (s)	26.0
Total Split (%)	25%
Maximum Green (s)	20.0
Yellow Time (s)	3.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Don't Walk (s)	10.0
Pedestrian Calls (#/hr)	0
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 48.5

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	421	1	25	396	12	35	2	21	1	0	4
Future Volume (vph)	29	421	1	25	396	12	35	2	21	1	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	11	13	12	12	11	11	12	15	12
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Fr _t	1.00	1.00		1.00	1.00			1.00	0.85		0.90	
Fl _t Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.99	
Satd. Flow (prot)	1805	1881		1745	1918			1661	1561		1855	
Fl _t Permitted	0.44	1.00		0.40	1.00			0.73	1.00		0.90	
Satd. Flow (perm)	827	1881		738	1918			1275	1561		1689	
Peak-hour factor, PHF	0.87	0.87	0.87	0.83	0.83	0.83	0.76	0.76	0.76	0.63	0.63	0.63
Adj. Flow (vph)	33	484	1	30	477	14	46	3	28	2	0	6
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	21	0	7	0
Lane Group Flow (vph)	33	485	0	30	491	0	0	49	7	0	1	0
Heavy Vehicles (%)	0%	1%	0%	0%	2%	0%	6%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pt+ov	Perm	NA	
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	30.8	28.8		33.0	29.9			4.4	13.0		4.4	
Effective Green, g (s)	34.8	31.8		37.0	32.9			5.9	14.5		5.9	
Actuated g/C Ratio	0.64	0.58		0.68	0.60			0.11	0.26		0.11	
Clearance Time (s)	6.0	7.0		6.0	7.0			5.5			5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	596	1091		592	1151			137	413		181	
v/s Ratio Prot	0.00	c0.26		c0.00	0.26				0.00			
v/s Ratio Perm	0.03			0.03				c0.04			0.00	
v/c Ratio	0.06	0.44		0.05	0.43			0.36	0.02		0.00	
Uniform Delay, d ₁	3.8	6.5		3.2	5.9			22.7	14.9		21.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d ₂	0.0	0.3		0.0	0.3			1.6	0.0		0.0	
Delay (s)	3.8	6.8		3.3	6.1			24.3	14.9		21.8	
Level of Service	A	A		A	A			C	B		C	
Approach Delay (s/veh)		6.6			6.0			20.9			21.8	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay (s/veh)	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	54.8	Sum of lost time (s)	18.5
Intersection Capacity Utilization	42.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

2032 No-Build Weekday Morning
 4: Starbucks Dwy./Glen Meadow Rd. & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	518	73	11	384	1	74	0	21	11	1	22
Future Volume (vph)	8	518	73	11	384	1	74	0	21	11	1	22
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982							0.850		0.911	
Flt Protected	0.950			0.950				0.950			0.984	
Satd. Flow (prot)	1348	1773	0	1745	1783	0	0	1787	1615	0	1869	0
Flt Permitted	0.950			0.950				0.950			0.984	
Satd. Flow (perm)	1348	1773	0	1745	1783	0	0	1787	1615	0	1869	0
Adj. Flow (vph)	8	534	75	12	431	1	84	0	24	14	1	29
Lane Group Flow (vph)	8	609	0	12	432	0	0	84	24	0	44	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary
 Control Type: Unsignalized

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↕	
Traffic Vol, veh/h	8	518	73	11	384	1	74	0	21	11	1	22
Future Vol, veh/h	8	518	73	11	384	1	74	0	21	11	1	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	210	-	-	50	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	89	89	89	88	88	88	77	77	77
Heavy Vehicles, %	25	2	0	0	3	0	1	0	0	0	0	5
Mvmt Flow	8	534	75	12	431	1	84	0	24	14	1	29

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	433	0	0	609	0	0	1045	1045	572	1007	1083	432
Stage 1	-	-	-	-	-	-	588	588	-	457	457	-
Stage 2	-	-	-	-	-	-	457	457	-	551	626	-
Critical Hdwy	4.35	-	-	4.1	-	-	7.11	6.5	6.2	7.1	6.5	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.425	-	-	2.2	-	-	3.509	4	3.3	3.5	4	3.345
Pot Cap-1 Maneuver	1015	-	-	979	-	-	208	230	524	221	219	617
Stage 1	-	-	-	-	-	-	497	499	-	587	571	-
Stage 2	-	-	-	-	-	-	585	571	-	523	480	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1015	-	-	979	-	-	193	226	524	207	215	617
Mov Cap-2 Maneuver	-	-	-	-	-	-	193	226	-	207	215	-
Stage 1	-	-	-	-	-	-	493	495	-	580	564	-
Stage 2	-	-	-	-	-	-	550	564	-	495	476	-

Approach	EB		WB		NB		SB	
HCM Ctrl Dly, s/v	0.11		0.24		31.81		16.26	
HCM LOS					D		C	

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	193	524	1015	-	-	979	-	-	364
HCM Lane V/C Ratio	0.436	0.046	0.008	-	-	0.013	-	-	0.121
HCM Ctrl Dly (s/v)	37.4	12.2	8.6	-	-	8.7	-	-	16.3
HCM Lane LOS	E	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	2	0.1	0	-	-	0	-	-	0.4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	557	9	4	445	40	4	4	5	47	3	38
Future Volume (vph)	37	557	9	4	445	40	4	4	5	47	3	38
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950				0.976			0.955	
Satd. Flow (prot)	1685	1801	1561	1745	1722	1487	0	1793	1561	0	1774	1669
Flt Permitted	0.316			0.371				0.805			0.778	
Satd. Flow (perm)	560	1801	1561	681	1722	1487	0	1479	1561	0	1446	1669
Satd. Flow (RTOR)			133			133			143			82
Adj. Flow (vph)	39	580	9	4	489	44	7	7	9	68	4	55
Lane Group Flow (vph)	39	580	9	4	489	44	0	14	9	0	72	55
Turn Type	pm+pt	NA	custom	pm+pt	NA	custom	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	2	1	6	6		8			4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	5
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	16.0	16.0	11.0	15.0	15.0	10.0	10.0	10.0	10.0	10.0	11.0
Total Split (s)	15.0	50.0	50.0	15.0	50.0	50.0	19.0	19.0	19.0	19.0	19.0	15.0
Total Split (%)	14.0%	46.7%	46.7%	14.0%	46.7%	46.7%	17.8%	17.8%	17.8%	17.8%	17.8%	14.0%
Maximum Green (s)	9.0	44.0	44.0	9.0	45.0	45.0	14.0	14.0	14.0	14.0	14.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		0.0	0.0		0.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	4.0	4.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.07	0.44	0.01	0.01	0.50	0.05		0.06	0.03		0.32	0.11
Control Delay (s/veh)	7.8	12.1	0.0	8.5	16.9	0.1		31.6	0.2		33.5	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay (s/veh)	7.8	12.1	0.0	8.5	16.9	0.1		31.6	0.2		33.5	3.6
Queue Length 50th (ft)	3	69	0	0	104	0		3	0		18	0
Queue Length 95th (ft)	26	432	0	6	356	0		16	0		65	3
Internal Link Dist (ft)		1140			528			240			247	
Turn Bay Length (ft)	160		50	100		150			26			
Base Capacity (vph)	623	1454	1286	677	1406	1238		438	563		428	629
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.06	0.40	0.01	0.01	0.35	0.04		0.03	0.02		0.17	0.09

Intersection Summary

Cycle Length: 107

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	21.0
Total Split (s)	23.0
Total Split (%)	21%
Maximum Green (s)	18.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	11.0
Pedestrian Calls (#/hr)	1
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 57.1

Natural Cycle: 70

Control Type: Actuated-Uncoordinated

Splits and Phases: 5: CVS Pharmacy Dwy/Horace Mann Plaza Dwy & Route 140

 Ø1 15 s	 Ø2 50 s	 Ø9 23 s	 Ø4 19 s
 Ø5 15 s	 Ø6 50 s		 Ø8 19 s



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	557	9	4	445	40	4	4	5	47	3	38
Future Volume (vph)	37	557	9	4	445	40	4	4	5	47	3	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	11	11	10	11	11	11	11	13	13	13
Total Lost time (s)	5.0	5.0	5.0	5.0	4.0	4.0		5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.98	1.00		0.95	1.00
Satd. Flow (prot)	1685	1801	1561	1745	1722	1487		1792	1561		1774	1669
Flt Permitted	0.32	1.00	1.00	0.37	1.00	1.00		0.80	1.00		0.78	1.00
Satd. Flow (perm)	561	1801	1561	682	1722	1487		1478	1561		1445	1669
Peak-hour factor, PHF	0.96	0.96	0.96	0.91	0.91	0.91	0.54	0.54	0.54	0.69	0.69	0.69
Adj. Flow (vph)	39	580	9	4	489	44	7	7	9	68	4	55
RTOR Reduction (vph)	0	0	4	0	0	22	0	0	8	0	0	46
Lane Group Flow (vph)	39	580	5	4	489	22	0	14	1	0	72	9
Heavy Vehicles (%)	0%	2%	0%	0%	3%	5%	0%	0%	0%	6%	0%	0%
Turn Type	pm+pt	NA	custom	pm+pt	NA	custom	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	2	1	6	6		8			4	5
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	41.7	36.9	36.9	34.3	33.7	33.7		5.0	5.0		5.0	9.8
Effective Green, g (s)	43.7	37.9	37.9	36.3	34.7	34.7		5.0	5.0		5.0	11.8
Actuated g/C Ratio	0.63	0.55	0.55	0.52	0.50	0.50		0.07	0.07		0.07	0.17
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	5.0		5.0	5.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	446	982	851	380	859	742		106	112		103	283
v/s Ratio Prot	c0.01	c0.32	0.00	0.00	0.28	0.01						0.00
v/s Ratio Perm	0.05			0.01				0.01	0.00		c0.05	0.00
v/c Ratio	0.09	0.59	0.01	0.01	0.57	0.03		0.13	0.01		0.70	0.03
Uniform Delay, d1	6.2	10.6	7.2	8.2	12.2	8.8		30.2	29.9		31.5	24.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.6	0.0	0.0	0.5	0.0		0.2	0.0		15.4	0.0
Delay (s)	6.2	11.2	7.2	8.2	12.7	8.8		30.4	29.9		46.9	24.1
Level of Service	A	B	A	A	B	A		C	C		D	C
Approach Delay (s/veh)		10.9			12.3			30.2			37.0	
Approach LOS		B			B			C			D	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	14.3	HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio	0.53	
Actuated Cycle Length (s)	69.5	Sum of lost time (s) 20.0
Intersection Capacity Utilization	50.1%	ICU Level of Service A
Analysis Period (min)	15	

c Critical Lane Group

2032 No-Build Weekday Morning
6: King St/Chestnut St & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	305	29	182	303	38	16	338	235	21	193	69
Future Volume (vph)	89	305	29	182	303	38	16	338	235	21	193	69
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.967	
Flt Protected	0.950			0.950				0.998			0.996	
Satd. Flow (prot)	1770	1881	1615	1736	1863	1524	0	1861	1599	0	2025	0
Flt Permitted	0.457			0.270				0.978			0.901	
Satd. Flow (perm)	851	1881	1615	493	1863	1524	0	1823	1599	0	1832	0
Satd. Flow (RTOR)			96			96			159		14	
Adj. Flow (vph)	105	359	34	207	344	43	17	367	255	23	210	75
Lane Group Flow (vph)	105	359	34	207	344	43	0	384	255	0	308	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Detector Phase	5	2	2	1	6	6	8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	21.0	21.0	11.0	21.0	21.0	21.0	21.0	11.0	21.0	21.0	21.0
Total Split (s)	20.0	40.0	40.0	20.0	40.0	40.0	35.0	35.0	20.0	35.0	35.0	35.0
Total Split (%)	17.5%	35.1%	35.1%	17.5%	35.1%	35.1%	30.7%	30.7%	17.5%	30.7%	30.7%	30.7%
Maximum Green (s)	17.0	35.0	35.0	17.0	35.0	35.0	30.0	30.0	17.0	30.0	30.0	30.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	1.0	-1.0	-1.0	1.0	-1.0	-1.0		-1.0	1.0		-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag			Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.22	0.61	0.06	0.51	0.49	0.07		0.65	0.28		0.51	
Control Delay (s/veh)	12.4	27.6	0.2	15.8	22.8	0.2		29.5	6.1		24.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay (s/veh)	12.4	27.6	0.2	15.8	22.8	0.2		29.5	6.1		24.9	
Queue Length 50th (ft)	18	110	0	38	102	0		117	16		84	
Queue Length 95th (ft)	68	299	0	131	279	0		#399	96		284	
Internal Link Dist (ft)		491			1140			259			552	
Turn Bay Length (ft)	100		50	165		50			80			
Base Capacity (vph)	669	1096	981	575	1102	941		915	1090		926	
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	
Reduced v/c Ratio	0.16	0.33	0.03	0.36	0.31	0.05		0.42	0.23		0.33	

Intersection Summary

Cycle Length: 114

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	17%
Maximum Green (s)	14.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	9.0
Pedestrian Calls (#/hr)	3
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 68.7

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: King St/Chestnut St & Route 140

 Ø4 35 s	 Ø1 20 s	 Ø2 40 s	 Ø9 19 s
 Ø8 35 s	 Ø5 20 s	 Ø6 40 s	

2032 No-Build Weekday Morning
6: King St/Chestnut St & Route 140

01/21/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	305	29	182	303	38	16	338	235	21	193	69
Future Volume (vph)	89	305	29	182	303	38	16	338	235	21	193	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	16	16	16
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00		1.00	
Satd. Flow (prot)	1770	1881	1615	1736	1863	1524		1860	1599		2026	
Flt Permitted	0.46	1.00	1.00	0.27	1.00	1.00		0.98	1.00		0.90	
Satd. Flow (perm)	852	1881	1615	494	1863	1524		1824	1599		1833	
Peak-hour factor, PHF	0.85	0.85	0.85	0.88	0.88	0.88	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	105	359	34	207	344	43	17	367	255	23	210	75
RTOR Reduction (vph)	0	0	24	0	0	28	0	0	94	0	10	0
Lane Group Flow (vph)	105	359	10	207	344	15	0	384	161	0	298	0
Heavy Vehicles (%)	2%	1%	0%	4%	2%	6%	0%	2%	1%	5%	3%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	28.3	21.3	21.3	34.8	24.8	24.8		21.1	31.6		21.1	
Effective Green, g (s)	26.3	22.3	22.3	33.3	25.8	25.8		22.1	29.6		22.1	
Actuated g/C Ratio	0.36	0.31	0.31	0.46	0.36	0.36		0.30	0.41		0.30	
Clearance Time (s)	3.0	5.0	5.0	3.0	5.0	5.0		5.0	3.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	384	577	496	389	662	541		555	651		557	
v/s Ratio Prot	0.02	c0.19		c0.07	0.18				0.03			
v/s Ratio Perm	0.08		0.01	0.17		0.01		c0.21	0.07		0.16	
v/c Ratio	0.27	0.62	0.02	0.53	0.52	0.03		0.69	0.25		0.54	
Uniform Delay, d1	15.8	21.5	17.5	13.3	18.5	15.2		22.2	14.2		21.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.4	2.1	0.0	1.4	0.7	0.0		3.7	0.2		1.0	
Delay (s)	16.2	23.6	17.6	14.7	19.2	15.3		26.0	14.4		22.0	
Level of Service	B	C	B	B	B	B		C	B		C	
Approach Delay (s/veh)		21.6			17.4			21.3			22.0	
Approach LOS		C			B			C			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			20.3				HCM 2000 Level of Service		C			
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			72.6				Sum of lost time (s)		17.0			
Intersection Capacity Utilization			68.4%				ICU Level of Service		C			
Analysis Period (min)			15									

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (vph)	14	519	536	5	6	14
Future Volume (vph)	14	519	536	5	6	14
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.904	
Flt Protected		0.999			0.986	
Satd. Flow (prot)	0	1880	1879	0	1806	0
Flt Permitted		0.999			0.986	
Satd. Flow (perm)	0	1880	1879	0	1806	0
Adj. Flow (vph)	15	564	646	6	8	20
Lane Group Flow (vph)	0	579	652	0	28	0
Sign Control		Free	Free		Stop	

Intersection Summary

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	14	519	536	5	6	14
Future Vol, veh/h	14	519	536	5	6	14
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	83	83	71	71
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	15	564	646	6	8	20

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	652	0	-	0	1243 649
Stage 1	-	-	-	-	649 -
Stage 2	-	-	-	-	595 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	944	-	-	-	194 473
Stage 1	-	-	-	-	524 -
Stage 2	-	-	-	-	555 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	944	-	-	-	190 473
Mov Cap-2 Maneuver	-	-	-	-	190 -
Stage 1	-	-	-	-	512 -
Stage 2	-	-	-	-	555 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.23	0	17.05
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	47	-	-	-	327
HCM Lane V/C Ratio	0.016	-	-	-	0.086
HCM Ctrl Dly (s/v)	8.9	0	-	-	17
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

2032 No-Build Weekday Evening

3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	482	5	43	539	6	95	0	66	3	0	25
Future Volume (vph)	13	482	5	43	539	6	95	0	66	3	0	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.998				0.850		0.878	
Flt Protected	0.950			0.950				0.950			0.995	
Satd. Flow (prot)	1805	1879	0	1711	1940	0	0	1745	1561	0	1826	0
Flt Permitted	0.383			0.363				0.731			0.964	
Satd. Flow (perm)	728	1879	0	654	1940	0	0	1343	1561	0	1769	0
Satd. Flow (RTOR)					1				103		144	
Adj. Flow (vph)	14	507	5	48	606	7	103	0	72	4	0	36
Lane Group Flow (vph)	14	512	0	48	613	0	0	103	72	0	40	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pt+ov	Perm	NA	
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		4	4	4 1	8	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	12.0	30.0		12.0	30.0		11.5	11.5		21.0	21.0	
Total Split (s)	20.0	35.0		20.0	35.0		25.0	25.0		25.0	25.0	
Total Split (%)	18.9%	33.0%		18.9%	33.0%		23.6%	23.6%		23.6%	23.6%	
Maximum Green (s)	16.0	28.0		16.0	28.0		19.5	19.5		19.5	19.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	3.0		0.0	3.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	-2.0	-3.0		-2.0	-3.0			-1.5			-1.5	
Total Lost Time (s)	2.0	4.0		2.0	4.0			4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		7.0			7.0							
Flash Don't Walk (s)		16.0			16.0							
Pedestrian Calls (#/hr)		0			4							
v/c Ratio	0.02	0.46		0.07	0.45			0.40	0.12		0.09	
Control Delay (s/veh)	3.2	11.9		3.3	8.1			25.8	2.2		0.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay (s/veh)	3.2	11.9		3.3	8.1			25.8	2.2		0.4	
Queue Length 50th (ft)	1	113		4	81			31	0		0	
Queue Length 95th (ft)	6	220		13	261			74	13		0	
Internal Link Dist (ft)		527			1062			182			152	
Turn Bay Length (ft)	155			150					80			
Base Capacity (vph)	887	1175		826	1352			500	861		749	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.02	0.44		0.06	0.45			0.21	0.08		0.05	

Intersection Summary

Cycle Length: 106

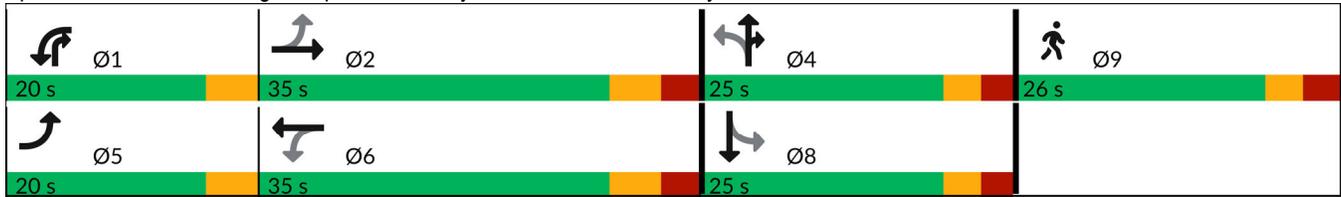
Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	13.0
Minimum Split (s)	26.0
Total Split (s)	26.0
Total Split (%)	25%
Maximum Green (s)	20.0
Yellow Time (s)	3.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Don't Walk (s)	10.0
Pedestrian Calls (#/hr)	0
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 56.9

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	482	5	43	539	6	95	0	66	3	0	25
Future Volume (vph)	13	482	5	43	539	6	95	0	66	3	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	11	13	12	12	11	11	12	15	12
Total Lost time (s)	2.0	4.0		2.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Fr _t	1.00	1.00		1.00	1.00			1.00	0.85		0.88	
Fl _t Protected	0.95	1.00		0.95	1.00			0.95	1.00		1.00	
Satd. Flow (prot)	1805	1879		1711	1941			1745	1561		1827	
Fl _t Permitted	0.38	1.00		0.36	1.00			0.73	1.00		0.96	
Satd. Flow (perm)	728	1879		653	1941			1343	1561		1771	
Peak-hour factor, PHF	0.95	0.95	0.95	0.89	0.89	0.89	0.92	0.92	0.92	0.70	0.70	0.70
Adj. Flow (vph)	14	507	5	48	606	7	103	0	72	4	0	36
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	49	0	34	0
Lane Group Flow (vph)	14	512	0	48	613	0	0	103	23	0	6	0
Heavy Vehicles (%)	0%	1%	0%	2%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pt+ov	Perm	NA	
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	33.0	31.9		40.6	35.7			8.0	18.4		8.0	
Effective Green, g (s)	37.0	34.9		42.8	38.7			9.5	19.9		9.5	
Actuated g/C Ratio	0.60	0.57		0.70	0.63			0.15	0.32		0.15	
Clearance Time (s)	4.0	7.0		4.0	7.0			5.5			5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	493	1069		575	1225			208	506		274	
v/s Ratio Prot	0.00	0.27		0.01	c0.32				c0.01			
v/s Ratio Perm	0.02			0.05				c0.08			0.00	
v/c Ratio	0.03	0.48		0.08	0.50			0.50	0.05		0.02	
Uniform Delay, d ₁	5.0	7.8		3.5	6.1			23.7	14.2		22.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d ₂	0.0	0.3		0.1	0.3			1.9	0.0		0.0	
Delay (s)	5.0	8.2		3.6	6.4			25.6	14.2		22.0	
Level of Service	A	A		A	A			C	B		C	
Approach Delay (s/veh)		8.1			6.2			20.9			22.0	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay (s/veh)	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	61.3	Sum of lost time (s)	16.5
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

2032 No-Build Weekday Evening
 4: Starbucks Dwy./Glen Meadow Rd. & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	599	47	7	685	15	31	2	8	4	1	22
Future Volume (vph)	22	599	47	7	685	15	31	2	8	4	1	22
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.997				0.850		0.889	
Flt Protected	0.950			0.950				0.955			0.992	
Satd. Flow (prot)	1685	1800	0	1745	1813	0	0	1814	1615	0	1899	0
Flt Permitted	0.950			0.950				0.955			0.992	
Satd. Flow (perm)	1685	1800	0	1745	1813	0	0	1814	1615	0	1899	0
Adj. Flow (vph)	24	644	51	8	737	16	42	3	11	6	1	32
Lane Group Flow (vph)	24	695	0	8	753	0	0	45	11	0	39	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↔	
Traffic Vol, veh/h	22	599	47	7	685	15	31	2	8	4	1	22
Future Vol, veh/h	22	599	47	7	685	15	31	2	8	4	1	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	210	-	-	50	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	73	73	73	68	68	68
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	24	644	51	8	737	16	42	3	11	6	1	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	753	0	0	695	0	0	1469	1484	669	1452	1502	745
Stage 1	-	-	-	-	-	-	717	717	-	760	760	-
Stage 2	-	-	-	-	-	-	752	768	-	693	742	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	866	-	-	910	-	-	107	126	461	109	123	418
Stage 1	-	-	-	-	-	-	424	437	-	402	418	-
Stage 2	-	-	-	-	-	-	405	414	-	437	425	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	866	-	-	910	-	-	94	122	461	101	119	418
Mov Cap-2 Maneuver	-	-	-	-	-	-	94	122	-	101	119	-
Stage 1	-	-	-	-	-	-	412	425	-	398	414	-
Stage 2	-	-	-	-	-	-	369	411	-	412	414	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.31			0.09			61.53			20.76		
HCM LOS							F			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	95	461	866	-	-	910	-	-	268
HCM Lane V/C Ratio	0.476	0.024	0.027	-	-	0.008	-	-	0.148
HCM Ctrl Dly (s/v)	73.3	13	9.3	-	-	9	-	-	20.8
HCM Lane LOS	F	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	2	0.1	0.1	-	-	0	-	-	0.5



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	562	46	16	593	134	33	22	23	97	19	179
Future Volume (vph)	141	562	46	16	593	134	33	22	23	97	19	179
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950				0.971			0.960	
Satd. Flow (prot)	1685	1818	1561	1745	1756	1561	0	1783	1561	0	1869	1669
Flt Permitted	0.138			0.303				0.687			0.717	
Satd. Flow (perm)	245	1818	1561	557	1756	1561	0	1262	1561	0	1396	1669
Satd. Flow (RTOR)			133			133			143			192
Adj. Flow (vph)	155	618	51	17	645	146	37	25	26	104	20	192
Lane Group Flow (vph)	155	618	51	17	645	146	0	62	26	0	124	192
Turn Type	pm+pt	NA	custom	pm+pt	NA	custom	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	2	1	6	6		8			4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	5
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	16.0	16.0	11.0	15.0	15.0	10.0	10.0	10.0	10.0	10.0	11.0
Total Split (s)	15.0	50.0	50.0	15.0	50.0	50.0	19.0	19.0	19.0	19.0	19.0	15.0
Total Split (%)	14.0%	46.7%	46.7%	14.0%	46.7%	46.7%	17.8%	17.8%	17.8%	17.8%	17.8%	14.0%
Maximum Green (s)	9.0	44.0	44.0	9.0	45.0	45.0	14.0	14.0	14.0	14.0	14.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		0.0	0.0		0.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	4.0	4.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.49	0.61	0.06	0.05	0.85	0.19		0.36	0.08		0.65	0.29
Control Delay (s/veh)	15.4	19.5	0.1	9.5	35.2	4.7		45.0	0.4		56.6	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay (s/veh)	15.4	19.5	0.1	9.5	35.2	4.7		45.0	0.4		56.6	5.8
Queue Length 50th (ft)	37	204	0	4	321	4		33	0		70	0
Queue Length 95th (ft)	83	471	0	14	#584	41		81	0		#161	52
Internal Link Dist (ft)		1140			528			240			247	
Turn Bay Length (ft)	160		50	100		150			26			
Base Capacity (vph)	332	1130	1021	458	1044	981		228	399		252	682
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.47	0.55	0.05	0.04	0.62	0.15		0.27	0.07		0.49	0.28

Intersection Summary

Cycle Length: 107

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	21.0
Total Split (s)	23.0
Total Split (%)	21%
Maximum Green (s)	18.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	11.0
Pedestrian Calls (#/hr)	5
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 84.5

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: CVS Pharmacy Dwy/Horace Mann Plaza Dwy & Route 140

 Ø1 15 s	 Ø2 50 s	 Ø9 23 s	 Ø4 19 s
 Ø5 15 s	 Ø6 50 s		 Ø8 19 s



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	562	46	16	593	134	33	22	23	97	19	179
Future Volume (vph)	141	562	46	16	593	134	33	22	23	97	19	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	11	11	10	11	11	11	11	13	13	13
Total Lost time (s)	5.0	5.0	5.0	5.0	4.0	4.0		5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.97	1.00		0.96	1.00
Satd. Flow (prot)	1685	1818	1561	1745	1756	1561		1783	1561		1869	1669
Flt Permitted	0.14	1.00	1.00	0.30	1.00	1.00		0.69	1.00		0.72	1.00
Satd. Flow (perm)	245	1818	1561	556	1756	1561		1262	1561		1397	1669
Peak-hour factor, PHF	0.91	0.91	0.91	0.92	0.92	0.92	0.89	0.89	0.89	0.93	0.93	0.93
Adj. Flow (vph)	155	618	51	17	645	146	37	25	26	104	20	192
RTOR Reduction (vph)	0	0	25	0	0	75	0	0	23	0	0	146
Lane Group Flow (vph)	155	618	26	17	645	71	0	62	3	0	124	46
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA	custom	pm+pt	NA	custom	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	2	1	6	6		8			4	5
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	53.7	45.9	45.9	41.7	39.9	39.9		11.7	11.7		11.7	20.5
Effective Green, g (s)	54.7	46.9	46.9	43.7	40.9	40.9		11.7	11.7		11.7	22.5
Actuated g/C Ratio	0.59	0.50	0.50	0.47	0.44	0.44		0.13	0.13		0.13	0.24
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	5.0		5.0	5.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	295	915	786	296	771	685		158	196		175	403
v/s Ratio Prot	c0.06	c0.34	0.02	0.00	c0.37	0.05						0.01
v/s Ratio Perm	0.25			0.03				0.05	0.00		c0.09	0.02
v/c Ratio	0.53	0.68	0.03	0.06	0.84	0.10		0.39	0.02		0.71	0.12
Uniform Delay, d1	14.9	17.4	11.7	14.0	23.1	15.3		37.4	35.7		39.1	27.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.8	1.6	0.0	0.0	7.5	0.0		0.6	0.0		10.2	0.0
Delay (s)	15.7	18.9	11.7	14.1	30.7	15.4		38.0	35.7		49.3	27.6
Level of Service	B	B	B	B	C	B		D	D		D	C
Approach Delay (s/veh)		17.9			27.5			37.3			36.1	
Approach LOS		B			C			D			D	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	25.4	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.66	
Actuated Cycle Length (s)	93.1	Sum of lost time (s) 20.0
Intersection Capacity Utilization	63.7%	ICU Level of Service B
Analysis Period (min)	15	

c Critical Lane Group

2032 No-Build Weekday Evening
6: King St/Chestnut St & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	428	41	341	450	32	38	244	309	24	300	96
Future Volume (vph)	125	428	41	341	450	32	38	244	309	24	300	96
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.969	
Flt Protected	0.950			0.950				0.993			0.997	
Satd. Flow (prot)	1805	1845	1615	1787	1881	1615	0	1871	1599	0	2080	0
Flt Permitted	0.357			0.134				0.822			0.968	
Satd. Flow (perm)	678	1845	1615	252	1881	1615	0	1548	1599	0	2020	0
Satd. Flow (RTOR)			96			96			263		13	
Adj. Flow (vph)	134	460	44	352	464	33	43	274	347	26	326	104
Lane Group Flow (vph)	134	460	44	352	464	33	0	317	347	0	456	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Detector Phase	5	2	2	1	6	6	8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	21.0	21.0	11.0	21.0	21.0	21.0	21.0	11.0	21.0	21.0	21.0
Total Split (s)	20.0	40.0	40.0	20.0	40.0	40.0	35.0	35.0	20.0	35.0	35.0	35.0
Total Split (%)	17.5%	35.1%	35.1%	17.5%	35.1%	35.1%	30.7%	30.7%	17.5%	30.7%	30.7%	30.7%
Maximum Green (s)	17.0	35.0	35.0	17.0	35.0	35.0	30.0	30.0	17.0	30.0	30.0	30.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	1.0	-1.0	-1.0	1.0	-1.0	-1.0		-1.0	1.0		-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag			Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.35	0.79	0.08	0.83	0.60	0.05		0.63	0.34		0.69	
Control Delay (s/veh)	14.9	39.6	0.3	39.2	26.6	0.1		34.6	5.0		33.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay (s/veh)	14.9	39.6	0.3	39.2	26.6	0.1		34.6	5.0		33.6	
Queue Length 50th (ft)	33	225	0	129	193	0		141	19		202	
Queue Length 95th (ft)	89	#447	0	#399	415	0		#334	96		#465	
Internal Link Dist (ft)		491			1140			259			552	
Turn Bay Length (ft)	100		50	165		50			80			
Base Capacity (vph)	550	773	732	424	820	758		558	1007		737	
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	
Reduced v/c Ratio	0.24	0.60	0.06	0.83	0.57	0.04		0.57	0.34		0.62	

Intersection Summary

Cycle Length: 114

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	17%
Maximum Green (s)	14.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	9.0
Pedestrian Calls (#/hr)	6
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 88.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: King St/Chestnut St & Route 140

 Ø4 35 s	 Ø1 20 s	 Ø2 40 s	 Ø9 19 s
 Ø8 35 s	 Ø5 20 s	 Ø6 40 s	

2032 No-Build Weekday Evening
6: King St/Chestnut St & Route 140

01/21/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	428	41	341	450	32	38	244	309	24	300	96
Future Volume (vph)	125	428	41	341	450	32	38	244	309	24	300	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	16	16	16
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		1.00	
Satd. Flow (prot)	1805	1845	1615	1787	1881	1615		1871	1599		2081	
Flt Permitted	0.36	1.00	1.00	0.13	1.00	1.00		0.82	1.00		0.97	
Satd. Flow (perm)	678	1845	1615	252	1881	1615		1549	1599		2020	
Peak-hour factor, PHF	0.93	0.93	0.93	0.97	0.97	0.97	0.89	0.89	0.89	0.92	0.92	0.92
Adj. Flow (vph)	134	460	44	352	464	33	43	274	347	26	326	104
RTOR Reduction (vph)	0	0	31	0	0	20	0	0	140	0	9	0
Lane Group Flow (vph)	134	460	13	352	464	13	0	317	207	0	447	0
Heavy Vehicles (%)	0%	3%	0%	1%	1%	0%	0%	1%	1%	0%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	36.2	26.9	26.9	47.4	35.1	35.1		27.6	45.1		27.6	
Effective Green, g (s)	34.2	27.9	27.9	46.4	36.1	36.1		28.6	43.1		28.6	
Actuated g/C Ratio	0.37	0.30	0.30	0.50	0.39	0.39		0.31	0.47		0.31	
Clearance Time (s)	3.0	5.0	5.0	3.0	5.0	5.0		5.0	3.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	352	558	488	401	736	632		480	747		626	
v/s Ratio Prot	0.03	0.25		c0.16	0.25				0.05			
v/s Ratio Perm	0.11		0.01	c0.28		0.01		0.20	0.08		c0.22	
v/c Ratio	0.38	0.82	0.03	0.88	0.63	0.02		0.66	0.28		0.71	
Uniform Delay, d1	20.0	29.9	22.6	23.5	22.7	17.2		27.6	15.0		28.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.7	9.6	0.0	19.0	1.8	0.0		3.4	0.2		3.9	
Delay (s)	20.7	39.5	22.6	42.5	24.4	17.2		31.0	15.2		32.0	
Level of Service	C	D	C	D	C	B		C	B		C	
Approach Delay (s/veh)		34.4			31.6			22.7			32.0	
Approach LOS		C			C			C			C	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	30.1	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.80	
Actuated Cycle Length (s)	92.2	Sum of lost time (s) 17.0
Intersection Capacity Utilization	92.7%	ICU Level of Service F
Analysis Period (min)	15	

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (vph)	14	573	589	7	6	17
Future Volume (vph)	14	573	589	7	6	17
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.998		0.899	
Flt Protected		0.999			0.988	
Satd. Flow (prot)	0	1898	1896	0	1800	0
Flt Permitted		0.999			0.988	
Satd. Flow (perm)	0	1898	1896	0	1800	0
Adj. Flow (vph)	16	644	647	8	9	27
Lane Group Flow (vph)	0	660	655	0	36	0
Sign Control		Free	Free		Stop	

Intersection Summary
 Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	14	573	589	7	6	17
Future Vol, veh/h	14	573	589	7	6	17
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	89	89	91	91	64	64
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	16	644	647	8	9	27

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	655	0	-	0	1326 651
Stage 1	-	-	-	-	651 -
Stage 2	-	-	-	-	675 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	942	-	-	-	173 472
Stage 1	-	-	-	-	523 -
Stage 2	-	-	-	-	509 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	942	-	-	-	169 472
Mov Cap-2 Maneuver	-	-	-	-	169 -
Stage 1	-	-	-	-	509 -
Stage 2	-	-	-	-	509 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.21	0	17.61
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	43	-	-	-	321
HCM Lane V/C Ratio	0.017	-	-	-	0.112
HCM Ctrl Dly (s/v)	8.9	0	-	-	17.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

2032 No-Build Saturday MIDDAY

3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	495	7	64	555	5	135	3	84	3	0	21
Future Volume (vph)	9	495	7	64	555	5	135	3	84	3	0	21
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.999				0.850		0.882	
Flt Protected	0.950			0.950				0.953			0.994	
Satd. Flow (prot)	1805	1896	0	1745	1961	0	0	1750	1561	0	1832	0
Flt Permitted	0.338			0.254				0.707			0.962	
Satd. Flow (perm)	642	1896	0	467	1961	0	0	1299	1561	0	1773	0
Satd. Flow (RTOR)		1							103		144	
Adj. Flow (vph)	10	563	8	67	584	5	144	3	89	4	0	28
Lane Group Flow (vph)	10	571	0	67	589	0	0	147	89	0	32	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pt+ov	Perm	NA	
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		4	4	4 1	8	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	12.0	30.0		12.0	30.0		11.5	11.5		21.0	21.0	
Total Split (s)	20.0	35.0		20.0	35.0		25.0	25.0		25.0	25.0	
Total Split (%)	18.9%	33.0%		18.9%	33.0%		23.6%	23.6%		23.6%	23.6%	
Maximum Green (s)	16.0	28.0		16.0	28.0		19.5	19.5		19.5	19.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	3.0		0.0	3.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	-2.0	-3.0		-2.0	-3.0			-1.5			-1.5	
Total Lost Time (s)	2.0	4.0		2.0	4.0			4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		7.0			7.0							
Flash Don't Walk (s)		16.0			16.0							
Pedestrian Calls (#/hr)		1			0							
v/c Ratio	0.02	0.60		0.14	0.49			0.55	0.14		0.07	
Control Delay (s/veh)	8.8	20.8		8.3	14.5			34.7	2.8		0.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay (s/veh)	8.8	20.8		8.3	14.5			34.7	2.8		0.3	
Queue Length 50th (ft)	1	149		7	94			50	0		0	
Queue Length 95th (ft)	12	#527		44	#519			143	15		0	
Internal Link Dist (ft)		527			1062			182			152	
Turn Bay Length (ft)	155			150					80			
Base Capacity (vph)	731	951		646	1190			402	821		648	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.01	0.60		0.10	0.49			0.37	0.11		0.05	

Intersection Summary

Cycle Length: 106

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	13.0
Minimum Split (s)	26.0
Total Split (s)	26.0
Total Split (%)	25%
Maximum Green (s)	20.0
Yellow Time (s)	3.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Don't Walk (s)	10.0
Pedestrian Calls (#/hr)	4
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 69.8

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140

 Ø1 20 s	 Ø2 35 s	 Ø4 25 s	 Ø9 26 s
 Ø5 20 s	 Ø6 35 s	 Ø8 25 s	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	495	7	64	555	5	135	3	84	3	0	21
Future Volume (vph)	9	495	7	64	555	5	135	3	84	3	0	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	11	13	12	12	11	11	12	15	12
Total Lost time (s)	2.0	4.0		2.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.88	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.99	
Satd. Flow (prot)	1805	1896		1745	1961			1751	1561		1832	
Flt Permitted	0.34	1.00		0.25	1.00			0.71	1.00		0.96	
Satd. Flow (perm)	641	1896		467	1961			1298	1561		1773	
Peak-hour factor, PHF	0.88	0.88	0.88	0.95	0.95	0.95	0.94	0.94	0.94	0.75	0.75	0.75
Adj. Flow (vph)	10	562	8	67	584	5	144	3	89	4	0	28
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	65	0	26	0
Lane Group Flow (vph)	10	570	0	67	589	0	0	147	24	0	6	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pt+ov	Perm	NA	
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	35.5	34.6		44.2	39.3			12.8	18.4		12.8	
Effective Green, g (s)	39.5	37.6		46.2	42.3			14.3	21.4		14.3	
Actuated g/C Ratio	0.51	0.48		0.59	0.54			0.18	0.27		0.18	
Clearance Time (s)	4.0	7.0		4.0	7.0			5.5			5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	367	913		401	1063			237	428		325	
v/s Ratio Prot	0.00	c0.30		c0.02	c0.30				0.02			
v/s Ratio Perm	0.01			0.08				c0.11			0.00	
v/c Ratio	0.03	0.62		0.17	0.55			0.62	0.06		0.02	
Uniform Delay, d1	10.0	15.0		8.7	11.7			29.3	20.9		26.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	1.3		0.2	0.6			5.0	0.1		0.0	
Delay (s)	10.1	16.3		8.9	12.3			34.3	20.9		26.1	
Level of Service	B	B		A	B			C	C		C	
Approach Delay (s/veh)		16.2			12.0			29.3			26.1	
Approach LOS		B			B			C			C	

Intersection Summary

HCM 2000 Control Delay (s/veh)	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	78.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

2032 No-Build Saturday MIDDAY
 4: Starbucks Dwy./Glen Meadow Rd. & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	713	82	10	767	14	50	0	28	7	0	21
Future Volume (vph)	10	713	82	10	767	14	50	0	28	7	0	21
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.997				0.850		0.899	
Flt Protected	0.950			0.950				0.950			0.988	
Satd. Flow (prot)	1685	1809	0	1745	1831	0	0	1805	1615	0	1913	0
Flt Permitted	0.950			0.950				0.950			0.988	
Satd. Flow (perm)	1685	1809	0	1745	1831	0	0	1805	1615	0	1913	0
Adj. Flow (vph)	11	792	91	10	799	15	71	0	40	9	0	27
Lane Group Flow (vph)	11	883	0	10	814	0	0	71	40	0	36	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary
 Control Type: Unsignalized

Intersection												
Int Delay, s/veh	9.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↔	
Traffic Vol, veh/h	10	713	82	10	767	14	50	0	28	7	0	21
Future Vol, veh/h	10	713	82	10	767	14	50	0	28	7	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	210	-	-	50	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	96	96	96	70	70	70	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	792	91	10	799	15	71	0	40	9	0	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	814	0	0	883	0	0	1680	1694	838	1642	1733	806
Stage 1	-	-	-	-	-	-	860	860	-	827	827	-
Stage 2	-	-	-	-	-	-	820	834	-	814	906	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	822	-	-	774	-	-	76	94	369	81	89	385
Stage 1	-	-	-	-	-	-	353	376	-	369	389	-
Stage 2	-	-	-	-	-	-	372	386	-	375	358	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	822	-	-	774	-	-	~ 69	91	369	70	86	385
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 69	91	-	70	86	-
Stage 1	-	-	-	-	-	-	349	371	-	364	384	-
Stage 2	-	-	-	-	-	-	341	381	-	329	353	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.12			0.12			148.37			29.67		
HCM LOS							F			D		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	69	369	822	-	-	774	-	-	181
HCM Lane V/C Ratio	1.038	0.108	0.014	-	-	0.013	-	-	0.198
HCM Ctrl Dly (s/v)	222.5	15.9	9.4	-	-	9.7	-	-	29.7
HCM Lane LOS	F	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	5.3	0.4	0	-	-	0	-	-	0.7

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s
 +: Computation Not Defined *: All major volume in platoon

2032 No-Build Saturday Midday

5: CVS Pharmacy Dwy/Horace Mann Plaza Dwy & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘		↖	↗		↖	↗
Traffic Volume (vph)	221	617	41	26	606	192	31	24	36	157	26	248
Future Volume (vph)	221	617	41	26	606	192	31	24	36	157	26	248
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950				0.972			0.959	
Satd. Flow (prot)	1685	1818	1561	1745	1773	1561	0	1785	1561	0	1883	1652
Flt Permitted	0.108			0.209				0.538			0.715	
Satd. Flow (perm)	192	1818	1561	384	1773	1561	0	988	1561	0	1404	1652
Satd. Flow (RTOR)			133			133			143			279
Adj. Flow (vph)	238	663	44	27	631	200	33	25	38	176	29	279
Lane Group Flow (vph)	238	663	44	27	631	200	0	58	38	0	205	279
Turn Type	pm+pt	NA	custom	pm+pt	NA	custom	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	2	1	6	6		8			4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	5
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	16.0	16.0	11.0	15.0	15.0	10.0	10.0	10.0	10.0	10.0	11.0
Total Split (s)	15.0	50.0	50.0	15.0	50.0	50.0	19.0	19.0	19.0	19.0	19.0	15.0
Total Split (%)	14.0%	46.7%	46.7%	14.0%	46.7%	46.7%	17.8%	17.8%	17.8%	17.8%	17.8%	14.0%
Maximum Green (s)	9.0	44.0	44.0	9.0	45.0	45.0	14.0	14.0	14.0	14.0	14.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		0.0	0.0		0.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	4.0	4.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.84	0.72	0.05	0.10	0.87	0.28		0.36	0.10		0.89	0.37
Control Delay (s/veh)	46.9	25.7	0.1	10.5	38.4	7.8		46.9	0.5		80.2	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay (s/veh)	46.9	25.7	0.1	10.5	38.4	7.8		46.9	0.5		80.2	5.3
Queue Length 50th (ft)	86	334	0	7	333	24		33	0		~128	0
Queue Length 95th (ft)	#254	531	0	20	#531	70		79	0		#297	59
Internal Link Dist (ft)		1140			528			240			247	
Turn Bay Length (ft)	160		50	100		150			26			
Base Capacity (vph)	283	989	910	357	955	902		161	375		230	745
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.84	0.67	0.05	0.08	0.66	0.22		0.36	0.10		0.89	0.37

Intersection Summary

Cycle Length: 107

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	21.0
Total Split (s)	23.0
Total Split (%)	21%
Maximum Green (s)	18.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	11.0
Pedestrian Calls (#/hr)	6
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 89.5

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

~ 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.

Splits and Phases: 5: CVS Pharmacy Dwy/Horace Mann Plaza Dwy & Route 140

 Ø1 15 s	 Ø2 50 s	 Ø9 23 s	 Ø4 19 s
 Ø5 15 s	 Ø6 50 s		 Ø8 19 s



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	617	41	26	606	192	31	24	36	157	26	248
Future Volume (vph)	221	617	41	26	606	192	31	24	36	157	26	248
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	11	11	10	11	11	11	11	13	13	13
Total Lost time (s)	5.0	5.0	5.0	5.0	4.0	4.0		5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.97	1.00		0.96	1.00
Satd. Flow (prot)	1685	1818	1561	1745	1773	1561		1786	1561		1883	1652
Flt Permitted	0.11	1.00	1.00	0.21	1.00	1.00		0.54	1.00		0.72	1.00
Satd. Flow (perm)	192	1818	1561	383	1773	1561		988	1561		1405	1652
Peak-hour factor, PHF	0.93	0.93	0.93	0.96	0.96	0.96	0.95	0.95	0.95	0.89	0.89	0.89
Adj. Flow (vph)	238	663	44	27	631	200	33	25	38	176	29	279
RTOR Reduction (vph)	0	0	24	0	0	79	0	0	32	0	0	205
Lane Group Flow (vph)	238	663	20	27	631	121	0	58	6	0	205	74
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	NA	custom	pm+pt	NA	custom	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	2	1	6	6		8			4	5
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	53.3	44.3	44.3	41.9	38.9	38.9		14.7	14.7		14.7	24.1
Effective Green, g (s)	54.3	45.3	45.3	43.9	39.9	39.9		14.7	14.7		14.7	26.1
Actuated g/C Ratio	0.55	0.46	0.46	0.44	0.40	0.40		0.15	0.15		0.15	0.26
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	5.0		5.0	5.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	262	834	716	225	716	631		147	232		209	436
v/s Ratio Prot	c0.10	0.36	0.01	0.00	0.36	0.08						0.02
v/s Ratio Perm	c0.40			0.05				0.06	0.00		c0.15	0.03
v/c Ratio	0.91	0.79	0.03	0.12	0.88	0.19		0.39	0.02		0.98	0.17
Uniform Delay, d1	23.9	22.7	14.6	17.5	27.2	19.0		38.0	35.9		41.9	28.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	31.6	4.9	0.0	0.1	12.0	0.1		0.6	0.0		56.4	0.1
Delay (s)	55.5	27.7	14.6	17.6	39.2	19.0		38.6	35.9		98.2	28.0
Level of Service	E	C	B	B	D	B		D	D		F	C
Approach Delay (s/veh)		34.1			33.8			37.5			57.8	
Approach LOS		C			C			D			E	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	38.9	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.78	D
Actuated Cycle Length (s)	98.7	Sum of lost time (s)
Intersection Capacity Utilization	72.5%	20.0
Analysis Period (min)	15	ICU Level of Service
		C

c Critical Lane Group

2032 No-Build Saturday MIDDAY
6: King St/Chestnut St & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	516	54	334	513	62	49	186	336	44	207	115
Future Volume (vph)	131	516	54	334	513	62	49	186	336	44	207	115
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.958	
Flt Protected	0.950			0.950				0.990			0.994	
Satd. Flow (prot)	1805	1900	1615	1787	1881	1615	0	1852	1599	0	2039	0
Flt Permitted	0.250			0.115				0.729			0.861	
Satd. Flow (perm)	475	1900	1615	216	1881	1615	0	1363	1599	0	1766	0
Satd. Flow (RTOR)			96			96			343		20	
Adj. Flow (vph)	138	543	57	344	529	64	54	207	373	55	259	144
Lane Group Flow (vph)	138	543	57	344	529	64	0	261	373	0	458	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Detector Phase	5	2	2	1	6	6	8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	21.0	21.0	11.0	21.0	21.0	21.0	21.0	11.0	21.0	21.0	21.0
Total Split (s)	20.0	40.0	40.0	20.0	40.0	40.0	35.0	35.0	20.0	35.0	35.0	35.0
Total Split (%)	17.5%	35.1%	35.1%	17.5%	35.1%	35.1%	30.7%	30.7%	17.5%	30.7%	30.7%	30.7%
Maximum Green (s)	17.0	35.0	35.0	17.0	35.0	35.0	30.0	30.0	17.0	30.0	30.0	30.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	1.0	-1.0	-1.0	1.0	-1.0	-1.0		-1.0	1.0		-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag			Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.44	0.86	0.10	0.93	0.69	0.09		0.61	0.37		0.80	
Control Delay (s/veh)	18.5	47.8	1.8	58.8	32.7	2.4		38.9	4.0		44.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay (s/veh)	18.5	47.8	1.8	58.8	32.7	2.4		38.9	4.0		44.3	
Queue Length 50th (ft)	34	280	0	142	229	0		130	8		237	
Queue Length 95th (ft)	92	#584	9	#408	#538	14		271	68		#414	
Internal Link Dist (ft)		491			1140			259			552	
Turn Bay Length (ft)	100		50	165		50			80			
Base Capacity (vph)	452	698	654	371	767	715		431	996		572	
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	
Reduced v/c Ratio	0.31	0.78	0.09	0.93	0.69	0.09		0.61	0.37		0.80	

Intersection Summary

Cycle Length: 114

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	17%
Maximum Green (s)	14.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	9.0
Pedestrian Calls (#/hr)	20
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 99.5

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: King St/Chestnut St & Route 140



2032 No-Build Saturday Midday
6: King St/Chestnut St & Route 140

01/21/2025

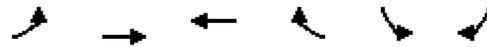


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	516	54	334	513	62	49	186	336	44	207	115
Future Volume (vph)	131	516	54	334	513	62	49	186	336	44	207	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	16	16	16
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.99	
Satd. Flow (prot)	1805	1900	1615	1787	1881	1615		1851	1599		2038	
Flt Permitted	0.25	1.00	1.00	0.11	1.00	1.00		0.73	1.00		0.86	
Satd. Flow (perm)	475	1900	1615	216	1881	1615		1364	1599		1765	
Peak-hour factor, PHF	0.95	0.95	0.95	0.97	0.97	0.97	0.90	0.90	0.90	0.80	0.80	0.80
Adj. Flow (vph)	138	543	57	344	529	64	54	207	373	55	259	144
RTOR Reduction (vph)	0	0	39	0	0	39	0	0	190	0	14	0
Lane Group Flow (vph)	138	543	18	344	529	25	0	261	183	0	444	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	0%	0%	2%	1%	0%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	41.7	31.9	31.9	52.2	39.4	39.4		30.5	47.8		30.5	
Effective Green, g (s)	39.7	32.9	32.9	51.2	40.4	40.4		31.5	45.8		31.5	
Actuated g/C Ratio	0.39	0.32	0.32	0.50	0.39	0.39		0.31	0.45		0.31	
Clearance Time (s)	3.0	5.0	5.0	3.0	5.0	5.0		5.0	3.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	297	609	517	357	740	635		418	713		541	
v/s Ratio Prot	0.04	0.29		c0.15	0.28				0.04			
v/s Ratio Perm	0.14		0.01	c0.33		0.02		0.19	0.07		c0.25	
v/c Ratio	0.46	0.89	0.04	0.96	0.71	0.04		0.62	0.26		0.82	
Uniform Delay, d1	22.1	33.2	23.9	29.6	26.2	19.2		30.5	17.8		32.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	1.2	15.3	0.0	37.8	3.3	0.0		2.9	0.2		9.7	
Delay (s)	23.2	48.4	24.0	67.4	29.5	19.2		33.4	18.0		42.6	
Level of Service	C	D	C	E	C	B		C	B		D	
Approach Delay (s/veh)		41.8			42.7			24.3			42.6	
Approach LOS		D			D			C			D	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	38.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.86	D
Actuated Cycle Length (s)	102.6	Sum of lost time (s)
Intersection Capacity Utilization	91.8%	17.0
Analysis Period (min)	15	ICU Level of Service
		F

c Critical Lane Group

2032 Build



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (vph)	12	448	435	2	5	4
Future Volume (vph)	12	448	435	2	5	4
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.944	
Flt Protected		0.999			0.972	
Satd. Flow (prot)	0	1880	1843	0	1665	0
Flt Permitted		0.999			0.972	
Satd. Flow (perm)	0	1880	1843	0	1665	0
Adj. Flow (vph)	13	477	530	2	7	5
Lane Group Flow (vph)	0	490	532	0	12	0
Sign Control		Free	Free		Stop	

Intersection Summary

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	12	448	435	2	5	4
Future Vol, veh/h	12	448	435	2	5	4
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	94	94	82	82	75	75
Heavy Vehicles, %	0	1	3	0	20	0
Mvmt Flow	13	477	530	2	7	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	533	0	-	0	1034 532
Stage 1	-	-	-	-	532 -
Stage 2	-	-	-	-	502 -
Critical Hdwy	4.1	-	-	-	6.6 6.2
Critical Hdwy Stg 1	-	-	-	-	5.6 -
Critical Hdwy Stg 2	-	-	-	-	5.6 -
Follow-up Hdwy	2.2	-	-	-	3.68 3.3
Pot Cap-1 Maneuver	1045	-	-	-	238 552
Stage 1	-	-	-	-	555 -
Stage 2	-	-	-	-	573 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1045	-	-	-	234 552
Mov Cap-2 Maneuver	-	-	-	-	234 -
Stage 1	-	-	-	-	545 -
Stage 2	-	-	-	-	573 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.22	0	16.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	47	-	-	-	315
HCM Lane V/C Ratio	0.012	-	-	-	0.038
HCM Ctrl Dly (s/v)	8.5	0	-	-	16.9
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	428	18	10	429	58	32
Future Volume (vph)	428	18	10	429	58	32
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994				0.952	
Flt Protected				0.999	0.969	
Satd. Flow (prot)	1852	0	0	1861	1718	0
Flt Permitted				0.999	0.969	
Satd. Flow (perm)	1852	0	0	1861	1718	0
Adj. Flow (vph)	465	20	11	466	63	35
Lane Group Flow (vph)	485	0	0	477	98	0
Sign Control	Free			Free	Stop	

Intersection Summary

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	1.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	428	18	10	429	58	32
Future Vol, veh/h	428	18	10	429	58	32
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	465	20	11	466	63	35

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	485	0	963 475
Stage 1	-	-	-	-	475 -
Stage 2	-	-	-	-	488 -
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	-	-	1078	-	284 590
Stage 1	-	-	-	-	626 -
Stage 2	-	-	-	-	617 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1078	-	280 590
Mov Cap-2 Maneuver	-	-	-	-	280 -
Stage 1	-	-	-	-	626 -
Stage 2	-	-	-	-	609 -

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.19	19.57
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	344	-	-	41	-
HCM Lane V/C Ratio	0.284	-	-	0.01	-
HCM Ctrl Dly (s/v)	19.6	-	-	8.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0	-

2032 Build Weekday Morning

3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	439	1	25	454	12	35	2	21	1	0	4
Future Volume (vph)	29	439	1	25	454	12	35	2	21	1	0	4
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.996				0.850		0.899	
Flt Protected	0.950			0.950				0.955			0.988	
Satd. Flow (prot)	1805	1881	0	1745	1918	0	0	1660	1561	0	1856	0
Flt Permitted	0.389			0.395				0.734			0.903	
Satd. Flow (perm)	739	1881	0	725	1918	0	0	1276	1561	0	1697	0
Satd. Flow (RTOR)					1				103		165	
Adj. Flow (vph)	33	505	1	30	547	14	46	3	28	2	0	6
Lane Group Flow (vph)	33	506	0	30	561	0	0	49	28	0	8	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pt+ov	Perm	NA	
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		4	4	4 1	8	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	12.0	30.0		12.0	30.0		11.5	11.5		21.0	21.0	
Total Split (s)	20.0	35.0		20.0	35.0		25.0	25.0		25.0	25.0	
Total Split (%)	18.9%	33.0%		18.9%	33.0%		23.6%	23.6%		23.6%	23.6%	
Maximum Green (s)	14.0	28.0		14.0	28.0		19.5	19.5		19.5	19.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	3.0		2.0	3.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	-2.0	-3.0		-2.0	-3.0			-1.5			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		7.0			7.0							
Flash Don't Walk (s)		16.0			16.0							
Pedestrian Calls (#/hr)		2			0							
v/c Ratio	0.05	0.39		0.04	0.40			0.22	0.05		0.02	
Control Delay (s/veh)	3.1	9.5		3.1	8.3			24.3	0.2		0.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay (s/veh)	3.1	9.5		3.1	8.3			24.3	0.2		0.0	
Queue Length 50th (ft)	3	111		2	61			14	0		0	
Queue Length 95th (ft)	9	194		8	204			35	0		0	
Internal Link Dist (ft)		527			741			182			152	
Turn Bay Length (ft)	155			150					80			
Base Capacity (vph)	904	1338		879	1416			513	824		781	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.04	0.38		0.03	0.40			0.10	0.03		0.01	

Intersection Summary

Cycle Length: 106

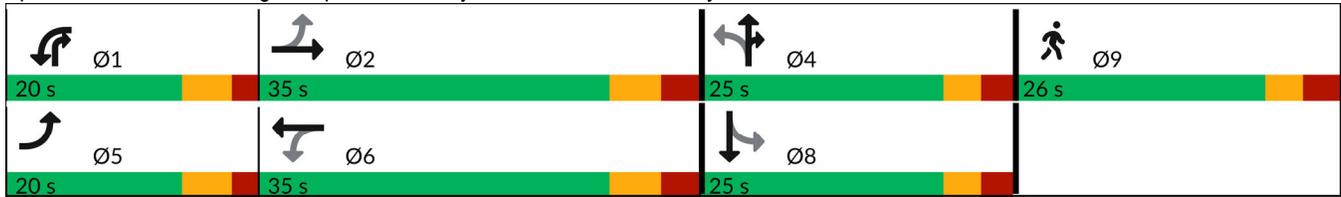
Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	13.0
Minimum Split (s)	26.0
Total Split (s)	26.0
Total Split (%)	25%
Maximum Green (s)	20.0
Yellow Time (s)	3.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Don't Walk (s)	10.0
Pedestrian Calls (#/hr)	0
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 53.5

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	439	1	25	454	12	35	2	21	1	0	4
Future Volume (vph)	29	439	1	25	454	12	35	2	21	1	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	11	13	12	12	11	11	12	15	12
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.90	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.99	
Satd. Flow (prot)	1805	1881		1745	1919			1661	1561		1855	
Flt Permitted	0.39	1.00		0.40	1.00			0.73	1.00		0.90	
Satd. Flow (perm)	739	1881		726	1919			1275	1561		1696	
Peak-hour factor, PHF	0.87	0.87	0.87	0.83	0.83	0.83	0.76	0.76	0.76	0.63	0.63	0.63
Adj. Flow (vph)	33	505	1	30	547	14	46	3	28	2	0	6
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	21	0	7	0
Lane Group Flow (vph)	33	506	0	30	561	0	0	49	7	0	1	0
Heavy Vehicles (%)	0%	1%	0%	0%	2%	0%	6%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pt+ov	Perm	NA	
Protected Phases	5	2		1	6			4	4 1			8
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	35.6	33.4		37.8	34.5			4.7	13.5		4.7	
Effective Green, g (s)	39.6	36.4		41.8	37.5			6.2	15.0		6.2	
Actuated g/C Ratio	0.66	0.61		0.70	0.63			0.10	0.25		0.10	
Clearance Time (s)	6.0	7.0		6.0	7.0			5.5			5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	563	1143		596	1201			131	390		175	
v/s Ratio Prot	0.00	0.27		c0.00	c0.29				0.00			
v/s Ratio Perm	0.03			0.03				c0.04			0.00	
v/c Ratio	0.06	0.44		0.05	0.47			0.37	0.02		0.00	
Uniform Delay, d1	3.7	6.3		3.1	5.9			25.0	16.9		24.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.3		0.0	0.3			1.8	0.0		0.0	
Delay (s)	3.8	6.6		3.2	6.2			26.8	16.9		24.1	
Level of Service	A	A		A	A			C	B		C	
Approach Delay (s/veh)		6.4			6.1			23.2			24.1	
Approach LOS		A			A			C			C	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	7.4	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.48	A
Actuated Cycle Length (s)	59.9	Sum of lost time (s)
Intersection Capacity Utilization	43.2%	18.5
Analysis Period (min)	15	ICU Level of Service
		A

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	536	73	11	442	1	74	0	21	11	1	22
Future Volume (vph)	8	536	73	11	442	1	74	0	21	11	1	22
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982							0.850		0.911	
Flt Protected	0.950			0.950				0.950			0.984	
Satd. Flow (prot)	1348	1772	0	1745	1783	0	0	1787	1615	0	1869	0
Flt Permitted	0.950			0.950				0.950			0.984	
Satd. Flow (perm)	1348	1772	0	1745	1783	0	0	1787	1615	0	1869	0
Adj. Flow (vph)	8	553	75	12	497	1	84	0	24	14	1	29
Lane Group Flow (vph)	8	628	0	12	498	0	0	84	24	0	44	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↶	↷		↷	
Traffic Vol, veh/h	8	536	73	11	442	1	74	0	21	11	1	22
Future Vol, veh/h	8	536	73	11	442	1	74	0	21	11	1	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	210	-	-	50	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	89	89	89	88	88	88	77	77	77
Heavy Vehicles, %	25	2	0	0	3	0	1	0	0	0	0	5
Mvmt Flow	8	553	75	12	497	1	84	0	24	14	1	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	498	0	0	628	0	0	1129	1129	590	1091	1166	497
Stage 1	-	-	-	-	-	-	607	607	-	522	522	-
Stage 2	-	-	-	-	-	-	522	522	-	569	644	-
Critical Hdwy	4.35	-	-	4.1	-	-	7.11	6.5	6.2	7.1	6.5	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.425	-	-	2.2	-	-	3.509	4	3.3	3.5	4	3.345
Pot Cap-1 Maneuver	958	-	-	964	-	-	182	206	511	194	196	567
Stage 1	-	-	-	-	-	-	485	490	-	542	534	-
Stage 2	-	-	-	-	-	-	540	534	-	511	471	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	958	-	-	964	-	-	168	201	511	181	191	567
Mov Cap-2 Maneuver	-	-	-	-	-	-	168	201	-	181	191	-
Stage 1	-	-	-	-	-	-	481	485	-	535	527	-
Stage 2	-	-	-	-	-	-	505	527	-	483	467	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.11			0.21			38.68			17.84		
HCM LOS							E			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	168	511	958	-	-	964	-	-	324
HCM Lane V/C Ratio	0.5	0.047	0.009	-	-	0.013	-	-	0.136
HCM Ctrl Dly (s/v)	46.1	12.4	8.8	-	-	8.8	-	-	17.8
HCM Lane LOS	E	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	2.4	0.1	0	-	-	0	-	-	0.5



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗	↙	↑	↗		↖	↗		↖	↗
Traffic Volume (vph)	37	575	9	4	503	40	4	4	5	47	3	38
Future Volume (vph)	37	575	9	4	503	40	4	4	5	47	3	38
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950				0.976			0.955	
Satd. Flow (prot)	1685	1801	1561	1745	1722	1487	0	1793	1561	0	1774	1669
Flt Permitted	0.257			0.333				0.815			0.728	
Satd. Flow (perm)	456	1801	1561	612	1722	1487	0	1497	1561	0	1353	1669
Satd. Flow (RTOR)			133			133			143			82
Adj. Flow (vph)	39	599	9	4	553	44	7	7	9	68	4	55
Lane Group Flow (vph)	39	599	9	4	553	44	0	14	9	0	72	55
Turn Type	pm+pt	NA	custom	pm+pt	NA	custom	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	2	1	6	6		8			4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	5
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	16.0	16.0	11.0	15.0	15.0	10.0	10.0	10.0	10.0	10.0	11.0
Total Split (s)	15.0	50.0	50.0	15.0	50.0	50.0	19.0	19.0	19.0	19.0	19.0	15.0
Total Split (%)	14.0%	46.7%	46.7%	14.0%	46.7%	46.7%	17.8%	17.8%	17.8%	17.8%	17.8%	14.0%
Maximum Green (s)	9.0	44.0	44.0	9.0	45.0	45.0	14.0	14.0	14.0	14.0	14.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		0.0	0.0		0.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	4.0	4.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.09	0.50	0.01	0.01	0.58	0.05		0.06	0.03		0.37	0.10
Control Delay (s/veh)	7.8	13.0	0.0	8.3	18.9	0.1		33.0	0.2		37.0	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay (s/veh)	7.8	13.0	0.0	8.3	18.9	0.1		33.0	0.2		37.0	3.4
Queue Length 50th (ft)	3	73	0	0	127	0		4	0		20	0
Queue Length 95th (ft)	26	450	0	6	421	0		16	0		67	3
Internal Link Dist (ft)		1140			528			240			247	
Turn Bay Length (ft)	160		50	100		150			26			
Base Capacity (vph)	535	1405	1247	606	1359	1202		403	525		365	668
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.07	0.43	0.01	0.01	0.41	0.04		0.03	0.02		0.20	0.08

Intersection Summary

Cycle Length: 107

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	21.0
Total Split (s)	23.0
Total Split (%)	21%
Maximum Green (s)	18.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	11.0
Pedestrian Calls (#/hr)	1
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 61.5

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Splits and Phases: 5: CVS Pharmacy Dwy/Horace Mann Plaza Dwy & Route 140

 Ø1 15 s	 Ø2 50 s	 Ø9 23 s	 Ø4 19 s
 Ø5 15 s	 Ø6 50 s		 Ø8 19 s



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	575	9	4	503	40	4	4	5	47	3	38
Future Volume (vph)	37	575	9	4	503	40	4	4	5	47	3	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	11	11	10	11	11	11	11	13	13	13
Total Lost time (s)	5.0	5.0	5.0	5.0	4.0	4.0		5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.98	1.00		0.95	1.00
Satd. Flow (prot)	1685	1801	1561	1745	1722	1487		1792	1561		1774	1669
Flt Permitted	0.26	1.00	1.00	0.33	1.00	1.00		0.81	1.00		0.73	1.00
Satd. Flow (perm)	456	1801	1561	611	1722	1487		1496	1561		1352	1669
Peak-hour factor, PHF	0.96	0.96	0.96	0.91	0.91	0.91	0.54	0.54	0.54	0.69	0.69	0.69
Adj. Flow (vph)	39	599	9	4	553	44	7	7	9	68	4	55
RTOR Reduction (vph)	0	0	4	0	0	23	0	0	8	0	0	45
Lane Group Flow (vph)	39	599	5	4	553	21	0	14	1	0	72	10
Heavy Vehicles (%)	0%	2%	0%	0%	3%	5%	0%	0%	0%	6%	0%	0%
Turn Type	pm+pt	NA	custom	pm+pt	NA	custom	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	2	1	6	6		8			4	5
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	42.5	37.9	37.9	35.5	34.9	34.9		6.9	6.9		6.9	11.5
Effective Green, g (s)	44.5	38.9	38.9	37.5	35.9	35.9		6.9	6.9		6.9	13.5
Actuated g/C Ratio	0.60	0.52	0.52	0.50	0.48	0.48		0.09	0.09		0.09	0.18
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	5.0		5.0	5.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	365	942	817	332	832	718		138	144		125	303
v/s Ratio Prot	c0.01	c0.33	0.00	0.00	c0.32	0.01						0.00
v/s Ratio Perm	0.06			0.01				0.01	0.00		c0.05	0.00
v/c Ratio	0.11	0.64	0.01	0.01	0.66	0.03		0.10	0.01		0.58	0.03
Uniform Delay, d1	8.2	12.6	8.5	9.6	14.6	10.1		30.9	30.6		32.3	25.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.0	1.0	0.0	0.0	1.6	0.0		0.1	0.0		3.9	0.0
Delay (s)	8.2	13.7	8.5	9.6	16.2	10.1		31.0	30.6		36.2	25.0
Level of Service	A	B	A	A	B	B		C	C		D	C
Approach Delay (s/veh)		13.3			15.7			30.8			31.4	
Approach LOS		B			B			C			C	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	16.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.54	B
Actuated Cycle Length (s)	74.3	Sum of lost time (s)
Intersection Capacity Utilization	51.1%	20.0
Analysis Period (min)	15	ICU Level of Service
		A

c Critical Lane Group

2032 Build Weekday Morning
6: King St/Chestnut St & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗	↙	↑	↗		↙	↗		↕	
Traffic Volume (vph)	89	316	29	195	339	47	16	338	239	24	193	69
Future Volume (vph)	89	316	29	195	339	47	16	338	239	24	193	69
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.967	
Flt Protected	0.950			0.950				0.998			0.996	
Satd. Flow (prot)	1770	1881	1615	1736	1863	1524	0	1861	1599	0	2024	0
Flt Permitted	0.407			0.253				0.978			0.874	
Satd. Flow (perm)	758	1881	1615	462	1863	1524	0	1823	1599	0	1776	0
Satd. Flow (RTOR)			96			96			163		14	
Adj. Flow (vph)	105	372	34	222	385	53	17	367	260	26	210	75
Lane Group Flow (vph)	105	372	34	222	385	53	0	384	260	0	311	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Detector Phase	5	2	2	1	6	6	8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	21.0	21.0	11.0	21.0	21.0	21.0	21.0	11.0	21.0	21.0	21.0
Total Split (s)	20.0	40.0	40.0	20.0	40.0	40.0	35.0	35.0	20.0	35.0	35.0	35.0
Total Split (%)	17.5%	35.1%	35.1%	17.5%	35.1%	35.1%	30.7%	30.7%	17.5%	30.7%	30.7%	30.7%
Maximum Green (s)	17.0	35.0	35.0	17.0	35.0	35.0	30.0	30.0	17.0	30.0	30.0	30.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	1.0	-1.0	-1.0	1.0	-1.0	-1.0		-1.0	1.0		-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag			Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.24	0.63	0.06	0.55	0.54	0.08		0.65	0.28		0.53	
Control Delay (s/veh)	12.9	28.5	0.2	16.9	23.9	1.1		29.9	6.1		25.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay (s/veh)	12.9	28.5	0.2	16.9	23.9	1.1		29.9	6.1		25.8	
Queue Length 50th (ft)	19	120	0	43	121	0		122	17		89	
Queue Length 95th (ft)	68	312	0	140	316	5		#399	96		290	
Internal Link Dist (ft)		491			1140			259			552	
Turn Bay Length (ft)	100		50	165		50			80			
Base Capacity (vph)	640	1063	954	558	1069	915		887	1079		871	
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	
Reduced v/c Ratio	0.16	0.35	0.04	0.40	0.36	0.06		0.43	0.24		0.36	

Intersection Summary

Cycle Length: 114

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	17%
Maximum Green (s)	14.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	9.0
Pedestrian Calls (#/hr)	3
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 70.7

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: King St/Chestnut St & Route 140

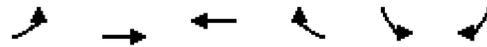


2032 Build Weekday Morning
6: King St/Chestnut St & Route 140

01/21/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	316	29	195	339	47	16	338	239	24	193	69
Future Volume (vph)	89	316	29	195	339	47	16	338	239	24	193	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	16	16	16
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00		1.00	
Satd. Flow (prot)	1770	1881	1615	1736	1863	1524		1860	1599		2025	
Flt Permitted	0.41	1.00	1.00	0.25	1.00	1.00		0.98	1.00		0.87	
Satd. Flow (perm)	758	1881	1615	462	1863	1524		1824	1599		1777	
Peak-hour factor, PHF	0.85	0.85	0.85	0.88	0.88	0.88	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	105	372	34	222	385	53	17	367	260	26	210	75
RTOR Reduction (vph)	0	0	23	0	0	34	0	0	96	0	10	0
Lane Group Flow (vph)	105	372	11	222	385	19	0	384	164	0	301	0
Heavy Vehicles (%)	2%	1%	0%	4%	2%	6%	0%	2%	1%	5%	3%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	29.1	22.1	22.1	36.0	26.0	26.0		21.8	32.7		21.8	
Effective Green, g (s)	27.1	23.1	23.1	34.9	27.0	27.0		22.8	30.7		22.8	
Actuated g/C Ratio	0.36	0.31	0.31	0.47	0.36	0.36		0.31	0.41		0.31	
Clearance Time (s)	3.0	5.0	5.0	3.0	5.0	5.0		5.0	3.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	357	583	500	385	675	552		558	658		543	
v/s Ratio Prot	0.02	c0.20		c0.08	0.21				0.03			
v/s Ratio Perm	0.08		0.01	0.19		0.01		c0.21	0.07		0.17	
v/c Ratio	0.29	0.64	0.02	0.58	0.57	0.03		0.69	0.25		0.55	
Uniform Delay, d1	16.2	22.1	17.8	13.6	19.1	15.3		22.7	14.4		21.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.5	2.3	0.0	2.1	1.2	0.0		3.5	0.2		1.2	
Delay (s)	16.7	24.4	17.9	15.7	20.3	15.4		26.3	14.6		22.8	
Level of Service	B	C	B	B	C	B		C	B		C	
Approach Delay (s/veh)		22.4			18.3			21.5			22.8	
Approach LOS		C			B			C			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			20.9				HCM 2000 Level of Service		C			
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			74.5				Sum of lost time (s)		17.0			
Intersection Capacity Utilization			72.4%				ICU Level of Service		C			
Analysis Period (min)			15									

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (vph)	14	536	563	5	6	14
Future Volume (vph)	14	536	563	5	6	14
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999		0.904	
Flt Protected		0.999			0.986	
Satd. Flow (prot)	0	1880	1879	0	1806	0
Flt Permitted		0.999			0.986	
Satd. Flow (perm)	0	1880	1879	0	1806	0
Adj. Flow (vph)	15	583	678	6	8	20
Lane Group Flow (vph)	0	598	684	0	28	0
Sign Control		Free	Free		Stop	

Intersection Summary

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	14	536	563	5	6	14
Future Vol, veh/h	14	536	563	5	6	14
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	83	83	71	71
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	15	583	678	6	8	20

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	684	0	-	0	1294 681
Stage 1	-	-	-	-	681 -
Stage 2	-	-	-	-	613 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	918	-	-	-	181 454
Stage 1	-	-	-	-	506 -
Stage 2	-	-	-	-	544 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	918	-	-	-	177 454
Mov Cap-2 Maneuver	-	-	-	-	177 -
Stage 1	-	-	-	-	494 -
Stage 2	-	-	-	-	544 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.23	0	17.84
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	46	-	-	-	309
HCM Lane V/C Ratio	0.017	-	-	-	0.091
HCM Ctrl Dly (s/v)	9	0	-	-	17.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	533	51	27	550	32	17
Future Volume (vph)	533	51	27	550	32	17
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.988			0.954		
Flt Protected				0.998	0.968	
Satd. Flow (prot)	1840	0	0	1859	1720	0
Flt Permitted				0.998	0.968	
Satd. Flow (perm)	1840	0	0	1859	1720	0
Adj. Flow (vph)	579	55	29	598	35	18
Lane Group Flow (vph)	634	0	0	627	53	0
Sign Control	Free			Free	Stop	

Intersection Summary

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	533	51	27	550	32	17
Future Vol, veh/h	533	51	27	550	32	17
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	579	55	29	598	35	18

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	635	0	1264 607
Stage 1	-	-	-	-	607 -
Stage 2	-	-	-	-	657 -
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	-	-	948	-	187 496
Stage 1	-	-	-	-	544 -
Stage 2	-	-	-	-	516 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	948	-	179 496
Mov Cap-2 Maneuver	-	-	-	-	179 -
Stage 1	-	-	-	-	544 -
Stage 2	-	-	-	-	492 -

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.42	25.36
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	229	-	-	84	-
HCM Lane V/C Ratio	0.232	-	-	0.031	-
HCM Ctrl Dly (s/v)	25.4	-	-	8.9	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

2032 Build Weekday Evening

3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	533	5	43	571	6	95	0	66	3	0	25
Future Volume (vph)	13	533	5	43	571	6	95	0	66	3	0	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.998				0.850		0.878	
Flt Protected	0.950			0.950				0.950			0.995	
Satd. Flow (prot)	1805	1879	0	1711	1940	0	0	1745	1561	0	1826	0
Flt Permitted	0.361			0.332				0.731			0.964	
Satd. Flow (perm)	686	1879	0	598	1940	0	0	1343	1561	0	1769	0
Satd. Flow (RTOR)					1				103		144	
Adj. Flow (vph)	14	561	5	48	642	7	103	0	72	4	0	36
Lane Group Flow (vph)	14	566	0	48	649	0	0	103	72	0	40	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pt+ov	Perm	NA	
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		4	4	4 1	8	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	12.0	30.0		12.0	30.0		11.5	11.5		21.0	21.0	
Total Split (s)	20.0	35.0		20.0	35.0		25.0	25.0		25.0	25.0	
Total Split (%)	18.9%	33.0%		18.9%	33.0%		23.6%	23.6%		23.6%	23.6%	
Maximum Green (s)	16.0	28.0		16.0	28.0		19.5	19.5		19.5	19.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	3.0		0.0	3.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	-2.0	-3.0		-2.0	-3.0			-1.5			-1.5	
Total Lost Time (s)	2.0	4.0		2.0	4.0			4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		7.0			7.0							
Flash Don't Walk (s)		16.0			16.0							
Pedestrian Calls (#/hr)		0			4							
v/c Ratio	0.02	0.50		0.08	0.47			0.41	0.13		0.09	
Control Delay (s/veh)	3.2	12.1		3.3	8.2			27.1	2.2		0.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay (s/veh)	3.2	12.1		3.3	8.2			27.1	2.2		0.4	
Queue Length 50th (ft)	1	130		4	88			33	0		0	
Queue Length 95th (ft)	6	252		13	284			74	13		0	
Internal Link Dist (ft)		527			691			182			152	
Turn Bay Length (ft)	155			150					80			
Base Capacity (vph)	864	1137		795	1375			481	832		726	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.02	0.50		0.06	0.47			0.21	0.09		0.06	

Intersection Summary

Cycle Length: 106

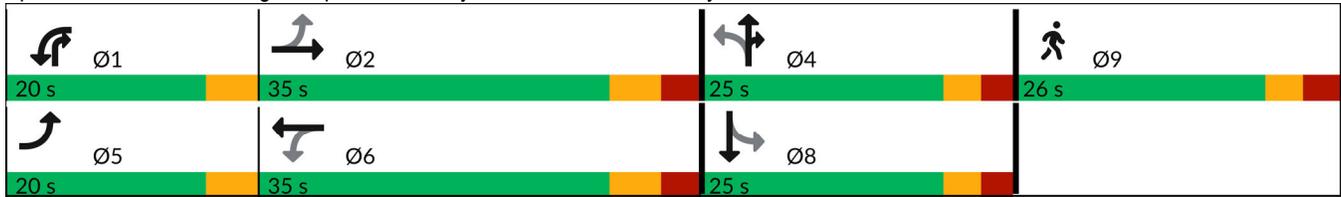
Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	13.0
Minimum Split (s)	26.0
Total Split (s)	26.0
Total Split (%)	25%
Maximum Green (s)	20.0
Yellow Time (s)	3.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Don't Walk (s)	10.0
Pedestrian Calls (#/hr)	0
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 59

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	533	5	43	571	6	95	0	66	3	0	25
Future Volume (vph)	13	533	5	43	571	6	95	0	66	3	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	11	13	12	12	11	11	12	15	12
Total Lost time (s)	2.0	4.0		2.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Fr _t	1.00	1.00		1.00	1.00			1.00	0.85		0.88	
Fl _t Protected	0.95	1.00		0.95	1.00			0.95	1.00		1.00	
Satd. Flow (prot)	1805	1879		1711	1941			1745	1561		1827	
Fl _t Permitted	0.36	1.00		0.33	1.00			0.73	1.00		0.96	
Satd. Flow (perm)	686	1879		598	1941			1343	1561		1770	
Peak-hour factor, PHF	0.95	0.95	0.95	0.89	0.89	0.89	0.92	0.92	0.92	0.70	0.70	0.70
Adj. Flow (vph)	14	561	5	48	642	7	103	0	72	4	0	36
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	49	0	34	0
Lane Group Flow (vph)	14	566	0	48	649	0	0	103	23	0	6	0
Heavy Vehicles (%)	0%	1%	0%	2%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pt+ov	Perm	NA	
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	35.2	34.1		42.8	37.9			8.0	18.4		8.0	
Effective Green, g (s)	39.2	37.1		45.0	40.9			9.5	19.9		9.5	
Actuated g/C Ratio	0.62	0.58		0.71	0.64			0.15	0.31		0.15	
Clearance Time (s)	4.0	7.0		4.0	7.0			5.5			5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	478	1097		544	1250			200	489		264	
v/s Ratio Prot	0.00	0.30		0.01	c0.33				c0.01			
v/s Ratio Perm	0.02			0.05				c0.08			0.00	
v/c Ratio	0.03	0.52		0.09	0.52			0.52	0.05		0.02	
Uniform Delay, d ₁	4.9	7.9		3.6	6.0			24.9	15.2		23.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d ₂	0.0	0.4		0.1	0.4			2.2	0.0		0.0	
Delay (s)	4.9	8.3		3.7	6.4			27.1	15.2		23.1	
Level of Service	A	A		A	A			C	B		C	
Approach Delay (s/veh)		8.2			6.2			22.2			23.1	
Approach LOS		A			A			C			C	

Intersection Summary

HCM 2000 Control Delay (s/veh)	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	63.5	Sum of lost time (s)	16.5
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	650	47	7	717	15	31	2	8	4	1	22
Future Volume (vph)	22	650	47	7	717	15	31	2	8	4	1	22
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.997				0.850		0.889	
Flt Protected	0.950			0.950				0.955			0.992	
Satd. Flow (prot)	1685	1802	0	1745	1813	0	0	1814	1615	0	1899	0
Flt Permitted	0.950			0.950				0.955			0.992	
Satd. Flow (perm)	1685	1802	0	1745	1813	0	0	1814	1615	0	1899	0
Adj. Flow (vph)	24	699	51	8	771	16	42	3	11	6	1	32
Lane Group Flow (vph)	24	750	0	8	787	0	0	45	11	0	39	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	650	47	7	717	15	31	2	8	4	1	22
Future Vol, veh/h	22	650	47	7	717	15	31	2	8	4	1	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	210	-	-	50	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	73	73	73	68	68	68
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	24	699	51	8	771	16	42	3	11	6	1	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	787	0	0	749	0	0	1558	1574	724	1542	1591	779
Stage 1	-	-	-	-	-	-	772	772	-	794	794	-
Stage 2	-	-	-	-	-	-	787	802	-	748	797	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	841	-	-	869	-	-	92	111	429	95	109	399
Stage 1	-	-	-	-	-	-	396	412	-	384	403	-
Stage 2	-	-	-	-	-	-	388	399	-	408	402	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	841	-	-	869	-	-	81	107	429	87	105	399
Mov Cap-2 Maneuver	-	-	-	-	-	-	81	107	-	87	105	-
Stage 1	-	-	-	-	-	-	384	401	-	381	399	-
Stage 2	-	-	-	-	-	-	352	396	-	384	390	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.29			0.09			77.73			22.61		
HCM LOS							F			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	82	429	841	-	-	869	-	-	244
HCM Lane V/C Ratio	0.552	0.026	0.028	-	-	0.009	-	-	0.163
HCM Ctrl Dly (s/v)	93.3	13.6	9.4	-	-	9.2	-	-	22.6
HCM Lane LOS	F	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	2.4	0.1	0.1	-	-	0	-	-	0.6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗		↘	↗		↘	↗
Traffic Volume (vph)	141	613	46	16	625	134	33	22	23	97	19	179
Future Volume (vph)	141	613	46	16	625	134	33	22	23	97	19	179
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950				0.971			0.960	
Satd. Flow (prot)	1685	1818	1561	1745	1756	1561	0	1783	1561	0	1869	1669
Flt Permitted	0.126			0.261				0.671			0.717	
Satd. Flow (perm)	223	1818	1561	479	1756	1561	0	1232	1561	0	1396	1669
Satd. Flow (RTOR)			133			133			143			192
Adj. Flow (vph)	155	674	51	17	679	146	37	25	26	104	20	192
Lane Group Flow (vph)	155	674	51	17	679	146	0	62	26	0	124	192
Turn Type	pm+pt	NA	custom	pm+pt	NA	custom	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	2	1	6	6		8			4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	5
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	16.0	16.0	11.0	15.0	15.0	10.0	10.0	10.0	10.0	10.0	11.0
Total Split (s)	15.0	50.0	50.0	15.0	50.0	50.0	19.0	19.0	19.0	19.0	19.0	15.0
Total Split (%)	14.0%	46.7%	46.7%	14.0%	46.7%	46.7%	17.8%	17.8%	17.8%	17.8%	17.8%	14.0%
Maximum Green (s)	9.0	44.0	44.0	9.0	45.0	45.0	14.0	14.0	14.0	14.0	14.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		0.0	0.0		0.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	4.0	4.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.51	0.65	0.05	0.05	0.86	0.19		0.37	0.08		0.66	0.30
Control Delay (s/veh)	17.0	20.7	0.1	9.4	36.0	4.6		46.5	0.4		58.7	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay (s/veh)	17.0	20.7	0.1	9.4	36.0	4.6		46.5	0.4		58.7	5.8
Queue Length 50th (ft)	37	233	0	4	348	4		35	0		74	0
Queue Length 95th (ft)	92	541	0	14	#635	41		81	0		#161	52
Internal Link Dist (ft)		1140			528			240			247	
Turn Bay Length (ft)	160		50	100		150			26			
Base Capacity (vph)	316	1120	1013	425	1002	948		214	389		242	666
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.49	0.60	0.05	0.04	0.68	0.15		0.29	0.07		0.51	0.29

Intersection Summary

Cycle Length: 107

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	21.0
Total Split (s)	23.0
Total Split (%)	21%
Maximum Green (s)	18.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	11.0
Pedestrian Calls (#/hr)	5
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 87

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: CVS Pharmacy Dwy/Horace Mann Plaza Dwy & Route 140

 Ø1 15 s	 Ø2 50 s	 Ø9 23 s	 Ø4 19 s
 Ø5 15 s	 Ø6 50 s		 Ø8 19 s



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	613	46	16	625	134	33	22	23	97	19	179
Future Volume (vph)	141	613	46	16	625	134	33	22	23	97	19	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	11	11	10	11	11	11	11	13	13	13
Total Lost time (s)	5.0	5.0	5.0	5.0	4.0	4.0		5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.97	1.00		0.96	1.00
Satd. Flow (prot)	1685	1818	1561	1745	1756	1561		1783	1561		1869	1669
Flt Permitted	0.13	1.00	1.00	0.26	1.00	1.00		0.67	1.00		0.72	1.00
Satd. Flow (perm)	223	1818	1561	479	1756	1561		1232	1561		1397	1669
Peak-hour factor, PHF	0.91	0.91	0.91	0.92	0.92	0.92	0.89	0.89	0.89	0.93	0.93	0.93
Adj. Flow (vph)	155	674	51	17	679	146	37	25	26	104	20	192
RTOR Reduction (vph)	0	0	25	0	0	73	0	0	23	0	0	147
Lane Group Flow (vph)	155	674	26	17	679	73	0	62	3	0	124	45
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA	custom	pm+pt	NA	custom	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	2	1	6	6		8			4	5
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	56.0	48.2	48.2	44.0	42.2	42.2		11.7	11.7		11.7	20.5
Effective Green, g (s)	57.0	49.2	49.2	46.0	43.2	43.2		11.7	11.7		11.7	22.5
Actuated g/C Ratio	0.60	0.52	0.52	0.48	0.45	0.45		0.12	0.12		0.12	0.24
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	5.0		5.0	5.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	283	937	805	268	795	706		151	191		171	393
v/s Ratio Prot	c0.06	c0.37	0.02	0.00	c0.39	0.05						0.01
v/s Ratio Perm	0.27			0.03				0.05	0.00		c0.09	0.02
v/c Ratio	0.55	0.72	0.03	0.06	0.85	0.10		0.41	0.02		0.73	0.12
Uniform Delay, d1	15.6	17.8	11.4	14.2	23.3	15.0		38.7	36.8		40.3	28.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	1.2	2.2	0.0	0.0	8.6	0.0		0.7	0.0		12.1	0.0
Delay (s)	16.8	20.0	11.4	14.3	31.8	15.0		39.3	36.8		52.4	28.7
Level of Service	B	C	B	B	C	B		D	D		D	C
Approach Delay (s/veh)		18.9			28.6			38.6			38.0	
Approach LOS		B			C			D			D	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	26.4	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.68	
Actuated Cycle Length (s)	95.4	Sum of lost time (s) 20.0
Intersection Capacity Utilization	65.4%	ICU Level of Service C
Analysis Period (min)	15	

c Critical Lane Group

2032 Build Weekday Evening
6: King St/Chestnut St & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	459	41	348	470	37	38	244	321	32	300	96
Future Volume (vph)	125	459	41	348	470	37	38	244	321	32	300	96
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.970	
Flt Protected	0.950			0.950				0.993			0.996	
Satd. Flow (prot)	1805	1845	1615	1787	1881	1615	0	1871	1599	0	2080	0
Flt Permitted	0.318			0.123				0.831			0.930	
Satd. Flow (perm)	604	1845	1615	231	1881	1615	0	1565	1599	0	1943	0
Satd. Flow (RTOR)			96			96			273		12	
Adj. Flow (vph)	134	494	44	359	485	38	43	274	361	35	326	104
Lane Group Flow (vph)	134	494	44	359	485	38	0	317	361	0	465	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Detector Phase	5	2	2	1	6	6	8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	21.0	21.0	11.0	21.0	21.0	21.0	21.0	11.0	21.0	21.0	21.0
Total Split (s)	20.0	40.0	40.0	20.0	40.0	40.0	35.0	35.0	20.0	35.0	35.0	35.0
Total Split (%)	17.5%	35.1%	35.1%	17.5%	35.1%	35.1%	30.7%	30.7%	17.5%	30.7%	30.7%	30.7%
Maximum Green (s)	17.0	35.0	35.0	17.0	35.0	35.0	30.0	30.0	17.0	30.0	30.0	30.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	1.0	-1.0	-1.0	1.0	-1.0	-1.0		-1.0	1.0		-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag			Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.38	0.82	0.07	0.91	0.63	0.05		0.60	0.36		0.70	
Control Delay (s/veh)	15.5	42.4	0.2	51.9	27.8	0.1		34.2	5.2		35.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay (s/veh)	15.5	42.4	0.2	51.9	27.8	0.1		34.2	5.2		35.3	
Queue Length 50th (ft)	33	248	0	143	204	0		148	22		222	
Queue Length 95th (ft)	89	#516	0	#424	442	0		#320	100		#498	
Internal Link Dist (ft)		491			1140			259			552	
Turn Bay Length (ft)	100		50	165		50			80			
Base Capacity (vph)	510	722	690	395	792	736		527	1008		663	
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	
Reduced v/c Ratio	0.26	0.68	0.06	0.91	0.61	0.05		0.60	0.36		0.70	

Intersection Summary
Cycle Length: 114

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	17%
Maximum Green (s)	14.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	9.0
Pedestrian Calls (#/hr)	6
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 93.2

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: King St/Chestnut St & Route 140

 Ø4 35 s	 Ø1 20 s	 Ø2 40 s	 Ø9 19 s
 Ø8 35 s	 Ø5 20 s	 Ø6 40 s	

2032 Build Weekday Evening
6: King St/Chestnut St & Route 140

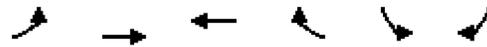
01/21/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	459	41	348	470	37	38	244	321	32	300	96
Future Volume (vph)	125	459	41	348	470	37	38	244	321	32	300	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	16	16	16
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		1.00	
Satd. Flow (prot)	1805	1845	1615	1787	1881	1615		1871	1599		2080	
Flt Permitted	0.32	1.00	1.00	0.12	1.00	1.00		0.83	1.00		0.93	
Satd. Flow (perm)	604	1845	1615	232	1881	1615		1566	1599		1941	
Peak-hour factor, PHF	0.93	0.93	0.93	0.97	0.97	0.97	0.89	0.89	0.89	0.92	0.92	0.92
Adj. Flow (vph)	134	494	44	359	485	38	43	274	361	35	326	104
RTOR Reduction (vph)	0	0	30	0	0	23	0	0	145	0	8	0
Lane Group Flow (vph)	134	494	14	359	485	15	0	317	216	0	457	0
Heavy Vehicles (%)	0%	3%	0%	1%	1%	0%	0%	1%	1%	0%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	38.7	29.4	29.4	49.6	37.3	37.3		30.4	47.6		30.4	
Effective Green, g (s)	36.7	30.4	30.4	48.6	38.3	38.3		31.4	45.6		31.4	
Actuated g/C Ratio	0.38	0.31	0.31	0.50	0.39	0.39		0.32	0.47		0.32	
Clearance Time (s)	3.0	5.0	5.0	3.0	5.0	5.0		5.0	3.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	330	576	504	374	740	635		505	749		626	
v/s Ratio Prot	0.03	0.27		c0.16	0.26				0.05			
v/s Ratio Perm	0.12		0.01	c0.32		0.01		0.20	0.09		c0.24	
v/c Ratio	0.41	0.86	0.03	0.96	0.66	0.02		0.63	0.29		0.73	
Uniform Delay, d1	21.0	31.4	23.2	27.2	24.1	18.1		28.0	15.9		29.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.8	12.0	0.0	35.6	2.1	0.0		2.4	0.2		4.3	
Delay (s)	21.8	43.5	23.2	62.8	26.2	18.1		30.4	16.1		33.5	
Level of Service	C	D	C	E	C	B		C	B		C	
Approach Delay (s/veh)		37.8			40.8			22.8			33.5	
Approach LOS		D			D			C			C	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	34.3	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.85	
Actuated Cycle Length (s)	97.3	Sum of lost time (s) 17.0
Intersection Capacity Utilization	95.1%	ICU Level of Service F
Analysis Period (min)	15	

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (vph)	14	591	608	7	6	17
Future Volume (vph)	14	591	608	7	6	17
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.998		0.899	
Flt Protected		0.999			0.988	
Satd. Flow (prot)	0	1898	1896	0	1800	0
Flt Permitted		0.999			0.988	
Satd. Flow (perm)	0	1898	1896	0	1800	0
Adj. Flow (vph)	16	664	668	8	9	27
Lane Group Flow (vph)	0	680	676	0	36	0
Sign Control		Free	Free		Stop	

Intersection Summary
 Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	14	591	608	7	6	17
Future Vol, veh/h	14	591	608	7	6	17
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	89	89	91	91	64	64
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	16	664	668	8	9	27

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	676	0	-	0	1367 672
Stage 1	-	-	-	-	672 -
Stage 2	-	-	-	-	696 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	925	-	-	-	164 459
Stage 1	-	-	-	-	511 -
Stage 2	-	-	-	-	499 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	925	-	-	-	159 459
Mov Cap-2 Maneuver	-	-	-	-	159 -
Stage 1	-	-	-	-	497 -
Stage 2	-	-	-	-	499 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.21	0	18.24
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	42	-	-	-	308
HCM Lane V/C Ratio	0.017	-	-	-	0.117
HCM Ctrl Dly (s/v)	9	0	-	-	18.2
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	587	34	19	606	34	18
Future Volume (vph)	587	34	19	606	34	18
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.993				0.953	
Flt Protected			0.998		0.969	
Satd. Flow (prot)	1850	0	0	1859	1720	0
Flt Permitted			0.998		0.969	
Satd. Flow (perm)	1850	0	0	1859	1720	0
Adj. Flow (vph)	638	37	21	659	37	20
Lane Group Flow (vph)	675	0	0	680	57	0
Sign Control	Free		Free		Stop	

Intersection Summary

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	587	34	19	606	34	18
Future Vol, veh/h	587	34	19	606	34	18
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	638	37	21	659	37	20

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	675	0	1357 657
Stage 1	-	-	-	-	657 -
Stage 2	-	-	-	-	700 -
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	-	-	916	-	164 465
Stage 1	-	-	-	-	516 -
Stage 2	-	-	-	-	493 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	916	-	159 465
Mov Cap-2 Maneuver	-	-	-	-	159 -
Stage 1	-	-	-	-	516 -
Stage 2	-	-	-	-	475 -

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.27	29.05
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	205	-	-	55	-
HCM Lane V/C Ratio	0.275	-	-	0.023	-
HCM Ctrl Dly (s/v)	29	-	-	9	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	1.1	-	-	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↕	
Traffic Volume (vph)	9	529	7	64	589	5	135	3	84	3	0	21
Future Volume (vph)	9	529	7	64	589	5	135	3	84	3	0	21
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.999				0.850		0.882	
Flt Protected	0.950			0.950				0.953			0.994	
Satd. Flow (prot)	1805	1896	0	1745	1961	0	0	1750	1561	0	1832	0
Flt Permitted	0.307			0.224				0.707			0.962	
Satd. Flow (perm)	583	1896	0	411	1961	0	0	1299	1561	0	1773	0
Satd. Flow (RTOR)		1							103		144	
Adj. Flow (vph)	10	601	8	67	620	5	144	3	89	4	0	28
Lane Group Flow (vph)	10	609	0	67	625	0	0	147	89	0	32	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pt+ov	Perm	NA	
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Detector Phase	5	2		1	6		4	4	4 1	8	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0		6.0	10.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	12.0	30.0		12.0	30.0		11.5	11.5		21.0	21.0	
Total Split (s)	20.0	35.0		20.0	35.0		25.0	25.0		25.0	25.0	
Total Split (%)	18.9%	33.0%		18.9%	33.0%		23.6%	23.6%		23.6%	23.6%	
Maximum Green (s)	16.0	28.0		16.0	28.0		19.5	19.5		19.5	19.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	0.0	3.0		0.0	3.0		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	-2.0	-3.0		-2.0	-3.0			-1.5			-1.5	
Total Lost Time (s)	2.0	4.0		2.0	4.0			4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		7.0			7.0							
Flash Don't Walk (s)		16.0			16.0							
Pedestrian Calls (#/hr)		1			0							
v/c Ratio	0.02	0.64		0.15	0.53			0.55	0.14		0.07	
Control Delay (s/veh)	8.8	21.8		8.4	15.1			34.7	2.8		0.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay (s/veh)	8.8	21.8		8.4	15.1			34.7	2.8		0.3	
Queue Length 50th (ft)	1	164		7	101			50	0		0	
Queue Length 95th (ft)	12	#580		44	#568			143	15		0	
Internal Link Dist (ft)		527			701			182			152	
Turn Bay Length (ft)	155			150					80			
Base Capacity (vph)	708	951		624	1190			402	821		648	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.01	0.64		0.11	0.53			0.37	0.11		0.05	

Intersection Summary

Cycle Length: 106

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	13.0
Minimum Split (s)	26.0
Total Split (s)	26.0
Total Split (%)	25%
Maximum Green (s)	20.0
Yellow Time (s)	3.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Don't Walk (s)	10.0
Pedestrian Calls (#/hr)	4
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 69.8

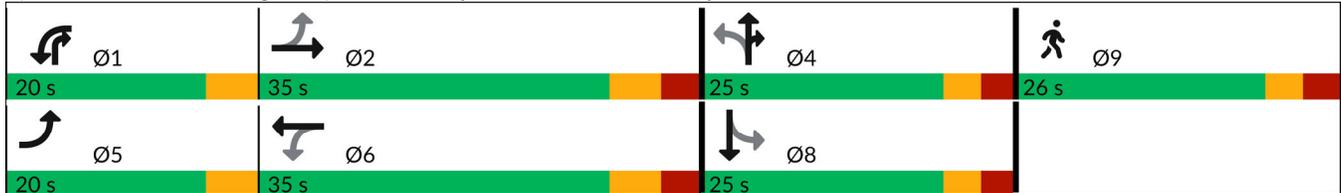
Natural Cycle: 90

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Big Y Supermarket Dwy./Franklin Towm Hall Dwy. & Route 140





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	529	7	64	589	5	135	3	84	3	0	21
Future Volume (vph)	9	529	7	64	589	5	135	3	84	3	0	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	11	13	12	12	11	11	12	15	12
Total Lost time (s)	2.0	4.0		2.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.88	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.99	
Satd. Flow (prot)	1805	1896		1745	1961			1751	1561		1832	
Flt Permitted	0.31	1.00		0.22	1.00			0.71	1.00		0.96	
Satd. Flow (perm)	584	1896		412	1961			1298	1561		1773	
Peak-hour factor, PHF	0.88	0.88	0.88	0.95	0.95	0.95	0.94	0.94	0.94	0.75	0.75	0.75
Adj. Flow (vph)	10	601	8	67	620	5	144	3	89	4	0	28
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	65	0	26	0
Lane Group Flow (vph)	10	608	0	67	625	0	0	147	24	0	6	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pt+ov	Perm	NA	
Protected Phases	5	2		1	6			4	4 1		8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	35.5	34.6		44.2	39.3			12.8	18.4		12.8	
Effective Green, g (s)	39.5	37.6		46.2	42.3			14.3	21.4		14.3	
Actuated g/C Ratio	0.51	0.48		0.59	0.54			0.18	0.27		0.18	
Clearance Time (s)	4.0	7.0		4.0	7.0			5.5			5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	341	913		373	1063			237	428		325	
v/s Ratio Prot	0.00	c0.32		c0.02	c0.32				0.02			
v/s Ratio Perm	0.01			0.09				c0.11			0.00	
v/c Ratio	0.03	0.67		0.18	0.59			0.62	0.06		0.02	
Uniform Delay, d1	10.2	15.4		9.2	12.0			29.3	20.9		26.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	1.9		0.2	0.8			5.0	0.1		0.0	
Delay (s)	10.3	17.3		9.4	12.8			34.3	20.9		26.1	
Level of Service	B	B		A	B			C	C		C	
Approach Delay (s/veh)		17.2			12.5			29.3			26.1	
Approach LOS		B			B			C			C	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	17.1	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.58	B
Actuated Cycle Length (s)	78.0	Sum of lost time (s)
Intersection Capacity Utilization	60.6%	16.5
Analysis Period (min)	15	ICU Level of Service
		B

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	747	82	10	801	14	50	0	28	7	0	21
Future Volume (vph)	10	747	82	10	801	14	50	0	28	7	0	21
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.997				0.850		0.899	
Flt Protected	0.950			0.950				0.950			0.988	
Satd. Flow (prot)	1685	1809	0	1745	1831	0	0	1805	1615	0	1913	0
Flt Permitted	0.950			0.950				0.950			0.988	
Satd. Flow (perm)	1685	1809	0	1745	1831	0	0	1805	1615	0	1913	0
Adj. Flow (vph)	11	830	91	10	834	15	71	0	40	9	0	27
Lane Group Flow (vph)	11	921	0	10	849	0	0	71	40	0	36	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	11.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↔	
Traffic Vol, veh/h	10	747	82	10	801	14	50	0	28	7	0	21
Future Vol, veh/h	10	747	82	10	801	14	50	0	28	7	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	Stop	-	-	None
Storage Length	210	-	-	50	-	-	-	-	100	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	96	96	96	70	70	70	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	830	91	10	834	15	71	0	40	9	0	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	849	0	0	921	0	0	1753	1768	876	1715	1806	842
Stage 1	-	-	-	-	-	-	898	898	-	863	863	-
Stage 2	-	-	-	-	-	-	855	870	-	852	943	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	798	-	-	750	-	-	~68	85	351	72	80	367
Stage 1	-	-	-	-	-	-	337	361	-	352	375	-
Stage 2	-	-	-	-	-	-	356	372	-	357	344	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	798	-	-	750	-	-	~61	82	351	62	78	367
Mov Cap-2 Maneuver	-	-	-	-	-	-	~61	82	-	62	78	-
Stage 1	-	-	-	-	-	-	332	356	-	347	369	-
Stage 2	-	-	-	-	-	-	325	367	-	312	339	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.11			0.12			188.2			32.9		
HCM LOS							F			D		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	61	351	798	-	-	750	-	-	164
HCM Lane V/C Ratio	1.174	0.114	0.014	-	-	0.014	-	-	0.218
HCM Ctrl Dly (s/v)	284.3	16.6	9.6	-	-	9.9	-	-	32.9
HCM Lane LOS	F	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	5.9	0.4	0	-	-	0	-	-	0.8

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s
 +: Computation Not Defined *: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘		↖	↗		↖	↗
Traffic Volume (vph)	221	651	41	26	640	192	31	24	36	157	26	248
Future Volume (vph)	221	651	41	26	640	192	31	24	36	157	26	248
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr't			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950				0.972			0.959	
Satd. Flow (prot)	1685	1818	1561	1745	1773	1561	0	1785	1561	0	1883	1652
Flt Permitted	0.093			0.185				0.517			0.715	
Satd. Flow (perm)	165	1818	1561	340	1773	1561	0	950	1561	0	1404	1652
Satd. Flow (RTOR)			133			133			143			279
Adj. Flow (vph)	238	700	44	27	667	200	33	25	38	176	29	279
Lane Group Flow (vph)	238	700	44	27	667	200	0	58	38	0	205	279
Turn Type	pm+pt	NA	custom	pm+pt	NA	custom	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	2	1	6	6		8			4	5
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	5
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	16.0	16.0	11.0	15.0	15.0	10.0	10.0	10.0	10.0	10.0	11.0
Total Split (s)	15.0	50.0	50.0	15.0	50.0	50.0	19.0	19.0	19.0	19.0	19.0	15.0
Total Split (%)	14.0%	46.7%	46.7%	14.0%	46.7%	46.7%	17.8%	17.8%	17.8%	17.8%	17.8%	14.0%
Maximum Green (s)	9.0	44.0	44.0	9.0	45.0	45.0	14.0	14.0	14.0	14.0	14.0	9.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		0.0	0.0		0.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	4.0	4.0		5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.89	0.74	0.05	0.10	0.88	0.27		0.38	0.10		0.92	0.38
Control Delay (s/veh)	57.8	26.7	0.1	10.5	40.0	7.7		48.9	0.6		86.6	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay (s/veh)	57.8	26.7	0.1	10.5	40.0	7.7		48.9	0.6		86.6	5.4
Queue Length 50th (ft)	98	365	0	7	364	24		35	0		~144	0
Queue Length 95th (ft)	#271	#626	0	20	#611	70		80	0		#297	59
Internal Link Dist (ft)		1140			528			240			247	
Turn Bay Length (ft)	160		50	100		150			26			
Base Capacity (vph)	268	989	910	339	928	880		151	368		223	732
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	0
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	0
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	0
Reduced v/c Ratio	0.89	0.71	0.05	0.08	0.72	0.23		0.38	0.10		0.92	0.38

Intersection Summary

Cycle Length: 107

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	21.0
Total Split (s)	23.0
Total Split (%)	21%
Maximum Green (s)	18.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	11.0
Pedestrian Calls (#/hr)	6
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 91.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

~ 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.

Splits and Phases: 5: CVS Pharmacy Dwy/Horace Mann Plaza Dwy & Route 140

 Ø1 15 s	 Ø2 50 s	 Ø9 23 s	 Ø4 19 s
 Ø5 15 s	 Ø6 50 s		 Ø8 19 s



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	651	41	26	640	192	31	24	36	157	26	248
Future Volume (vph)	221	651	41	26	640	192	31	24	36	157	26	248
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	11	11	10	11	11	11	11	13	13	13
Total Lost time (s)	5.0	5.0	5.0	5.0	4.0	4.0		5.0	5.0		5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.97	1.00		0.96	1.00
Satd. Flow (prot)	1685	1818	1561	1745	1773	1561		1786	1561		1883	1652
Flt Permitted	0.09	1.00	1.00	0.19	1.00	1.00		0.52	1.00		0.72	1.00
Satd. Flow (perm)	165	1818	1561	340	1773	1561		950	1561		1405	1652
Peak-hour factor, PHF	0.93	0.93	0.93	0.96	0.96	0.96	0.95	0.95	0.95	0.89	0.89	0.89
Adj. Flow (vph)	238	700	44	27	667	200	33	25	38	176	29	279
RTOR Reduction (vph)	0	0	23	0	0	78	0	0	32	0	0	207
Lane Group Flow (vph)	238	700	21	27	667	122	0	58	6	0	205	72
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	NA	custom	pm+pt	NA	custom	Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	5	2	2	1	6	6		8			4	5
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	55.3	46.3	46.3	43.9	40.9	40.9		14.6	14.6		14.6	24.0
Effective Green, g (s)	56.3	47.3	47.3	45.9	41.9	41.9		14.6	14.6		14.6	26.0
Actuated g/C Ratio	0.56	0.47	0.47	0.46	0.42	0.42		0.15	0.15		0.15	0.26
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	5.0		5.0	5.0		5.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	249	855	734	211	739	650		138	226		204	427
v/s Ratio Prot	c0.10	0.38	0.01	0.01	0.38	0.08						0.02
v/s Ratio Perm	c0.43			0.05				0.06	0.00		c0.15	0.03
v/c Ratio	0.96	0.82	0.03	0.13	0.90	0.19		0.42	0.02		1.00	0.17
Uniform Delay, d1	27.5	22.9	14.3	17.7	27.4	18.5		39.1	36.8		43.0	28.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	44.2	5.8	0.0	0.1	14.0	0.1		0.8	0.0		64.3	0.1
Delay (s)	71.7	28.7	14.3	17.8	41.4	18.6		39.9	36.9		107.2	28.9
Level of Service	E	C	B	B	D	B		D	D		F	C
Approach Delay (s/veh)		38.5			35.6			38.7			62.1	
Approach LOS		D			D			D			E	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	42.1	HCM 2000 Level of Service D
HCM 2000 Volume to Capacity ratio	0.82	
Actuated Cycle Length (s)	100.5	Sum of lost time (s) 20.0
Intersection Capacity Utilization	74.3%	ICU Level of Service D
Analysis Period (min)	15	

c Critical Lane Group

2032 Build Saturday Midday
6: King St/Chestnut St & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↖	↗	↖		↖	↖		↕	
Traffic Volume (vph)	131	537	54	342	534	67	49	186	344	49	207	115
Future Volume (vph)	131	537	54	342	534	67	49	186	344	49	207	115
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.958	
Flt Protected	0.950			0.950				0.990			0.993	
Satd. Flow (prot)	1805	1900	1615	1787	1881	1615	0	1852	1599	0	2037	0
Flt Permitted	0.231			0.110				0.721			0.821	
Satd. Flow (perm)	439	1900	1615	207	1881	1615	0	1349	1599	0	1684	0
Satd. Flow (RTOR)			96			96			351		20	
Adj. Flow (vph)	138	565	57	353	551	69	54	207	382	61	259	144
Lane Group Flow (vph)	138	565	57	353	551	69	0	261	382	0	464	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Detector Phase	5	2	2	1	6	6	8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	11.0	21.0	21.0	11.0	21.0	21.0	21.0	21.0	11.0	21.0	21.0	21.0
Total Split (s)	20.0	40.0	40.0	20.0	40.0	40.0	35.0	35.0	20.0	35.0	35.0	35.0
Total Split (%)	17.5%	35.1%	35.1%	17.5%	35.1%	35.1%	30.7%	30.7%	17.5%	30.7%	30.7%	30.7%
Maximum Green (s)	17.0	35.0	35.0	17.0	35.0	35.0	30.0	30.0	17.0	30.0	30.0	30.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	1.0	-1.0	-1.0	1.0	-1.0	-1.0		-1.0	1.0		-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag			Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.45	0.87	0.09	0.97	0.71	0.10		0.62	0.39		0.86	
Control Delay (s/veh)	18.8	48.4	1.7	67.9	33.1	2.8		40.0	4.0		51.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay (s/veh)	18.8	48.4	1.7	67.9	33.1	2.8		40.0	4.0		51.0	
Queue Length 50th (ft)	34	296	0	152	242	0		130	8		246	
Queue Length 95th (ft)	92	#622	9	#429	#573	17		#274	69		#439	
Internal Link Dist (ft)		491			1140			259			552	
Turn Bay Length (ft)	100		50	165		50			80			
Base Capacity (vph)	439	687	645	365	779	725		419	990		537	
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	
Reduced v/c Ratio	0.31	0.82	0.09	0.97	0.71	0.10		0.62	0.39		0.86	

Intersection Summary

Cycle Length: 114

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	17%
Maximum Green (s)	14.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	9.0
Pedestrian Calls (#/hr)	20
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

Actuated Cycle Length: 100.8

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: King St/Chestnut St & Route 140

 Ø4 35 s	 Ø1 20 s	 Ø2 40 s	 Ø9 19 s
 Ø8 35 s	 Ø5 20 s	 Ø6 40 s	

2032 Build Saturday Midday
6: King St/Chestnut St & Route 140

01/21/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	537	54	342	534	67	49	186	344	49	207	115
Future Volume (vph)	131	537	54	342	534	67	49	186	344	49	207	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	16	16	16
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.99	
Satd. Flow (prot)	1805	1900	1615	1787	1881	1615		1851	1599		2038	
Flt Permitted	0.23	1.00	1.00	0.11	1.00	1.00		0.72	1.00		0.82	
Satd. Flow (perm)	439	1900	1615	207	1881	1615		1349	1599		1684	
Peak-hour factor, PHF	0.95	0.95	0.95	0.97	0.97	0.97	0.90	0.90	0.90	0.80	0.80	0.80
Adj. Flow (vph)	138	565	57	353	551	69	54	207	382	61	259	144
RTOR Reduction (vph)	0	0	38	0	0	41	0	0	197	0	14	0
Lane Group Flow (vph)	138	565	19	353	551	28	0	261	185	0	450	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	0%	0%	2%	1%	0%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	43.2	33.4	33.4	53.6	40.8	40.8		30.4	47.6		30.4	
Effective Green, g (s)	41.2	34.4	34.4	52.6	41.8	41.8		31.4	45.6		31.4	
Actuated g/C Ratio	0.40	0.33	0.33	0.51	0.40	0.40		0.30	0.44		0.30	
Clearance Time (s)	3.0	5.0	5.0	3.0	5.0	5.0		5.0	3.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	289	628	534	350	756	649		407	701		508	
v/s Ratio Prot	0.04	0.30		c0.16	0.29				0.04			
v/s Ratio Perm	0.15		0.01	c0.35		0.02		0.19	0.07		c0.27	
v/c Ratio	0.48	0.90	0.04	1.01	0.73	0.04		0.64	0.26		0.89	
Uniform Delay, d1	22.0	33.2	23.6	31.1	26.3	18.9		31.4	18.5		34.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	1.2	15.7	0.0	50.3	3.5	0.0		3.4	0.2		16.8	
Delay (s)	23.2	48.9	23.6	81.4	29.8	19.0		34.9	18.7		51.4	
Level of Service	C	D	C	F	C	B		C	B		D	
Approach Delay (s/veh)		42.3			47.8			25.3			51.4	
Approach LOS		D			D			C			D	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	41.8	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.91	D
Actuated Cycle Length (s)	104.0	Sum of lost time (s)
Intersection Capacity Utilization	93.7%	17.0
Analysis Period (min)	15	ICU Level of Service
		F

c Critical Lane Group

2032 Build (Mitigated)

2032 Build Weekday Evening Mitigated
6: King St/Chestnut St & Route 140

01/22/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	459	41	348	470	37	38	244	321	32	300	96
Future Volume (vph)	125	459	41	348	470	37	38	244	321	32	300	96
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.970	
Flt Protected	0.950			0.950				0.993			0.996	
Satd. Flow (prot)	1805	1845	1615	1787	1881	1615	0	1871	1599	0	2080	0
Flt Permitted	0.345			0.123				0.825			0.919	
Satd. Flow (perm)	656	1845	1615	231	1881	1615	0	1554	1599	0	1920	0
Satd. Flow (RTOR)			124			96			278		12	
Adj. Flow (vph)	134	494	44	359	485	38	43	274	361	35	326	104
Lane Group Flow (vph)	134	494	44	359	485	38	0	317	361	0	465	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Detector Phase	5	2	2	1	6	6	8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	9.0	21.0	21.0	11.0	21.0	21.0	21.0	21.0	11.0	21.0	21.0	21.0
Total Split (s)	15.0	39.0	39.0	21.0	45.0	45.0	35.0	35.0	21.0	35.0	35.0	35.0
Total Split (%)	13.2%	34.2%	34.2%	18.4%	39.5%	39.5%	30.7%	30.7%	18.4%	30.7%	30.7%	30.7%
Maximum Green (s)	12.0	34.0	34.0	18.0	40.0	40.0	30.0	30.0	18.0	30.0	30.0	30.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	1.0	-1.0	-1.0	1.0	-1.0	-1.0		-1.0	1.0		-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag			Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.37	0.83	0.07	0.88	0.61	0.05		0.61	0.36		0.72	
Control Delay (s/veh)	15.4	43.3	0.2	46.5	26.7	0.1		35.1	4.9		36.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay (s/veh)	15.4	43.3	0.2	46.5	26.7	0.1		35.1	4.9		36.7	
Queue Length 50th (ft)	33	253	0	144	203	0		155	21		232	
Queue Length 95th (ft)	89	#529	0	#412	430	0		#324	95		#503	
Internal Link Dist (ft)		491			1140			259			552	
Turn Bay Length (ft)	100		50	165		50			80			
Base Capacity (vph)	425	691	683	410	841	775		516	1013		645	
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	
Reduced v/c Ratio	0.32	0.71	0.06	0.88	0.58	0.05		0.61	0.36		0.72	

Intersection Summary

Cycle Length: 114

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	17%
Maximum Green (s)	14.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	9.0
Pedestrian Calls (#/hr)	6
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

2032 Build Weekday Evening Mitigated
 6: King St/Chestnut St & Route 140

01/22/2025

Actuated Cycle Length: 94.5

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: King St/Chestnut St & Route 140



2032 Build Weekday Evening Mitigated
6: King St/Chestnut St & Route 140

01/22/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	459	41	348	470	37	38	244	321	32	300	96
Future Volume (vph)	125	459	41	348	470	37	38	244	321	32	300	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	16	16	16
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		1.00	
Satd. Flow (prot)	1805	1845	1615	1787	1881	1615		1871	1599		2080	
Flt Permitted	0.35	1.00	1.00	0.12	1.00	1.00		0.83	1.00		0.92	
Satd. Flow (perm)	656	1845	1615	231	1881	1615		1554	1599		1920	
Peak-hour factor, PHF	0.93	0.93	0.93	0.97	0.97	0.97	0.89	0.89	0.89	0.92	0.92	0.92
Adj. Flow (vph)	134	494	44	359	485	38	43	274	361	35	326	104
RTOR Reduction (vph)	0	0	30	0	0	23	0	0	146	0	8	0
Lane Group Flow (vph)	134	494	14	359	485	15	0	317	215	0	457	0
Heavy Vehicles (%)	0%	3%	0%	1%	1%	0%	0%	1%	1%	0%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	38.5	29.6	29.6	50.8	38.9	38.9		30.4	48.6		30.4	
Effective Green, g (s)	36.5	30.6	30.6	49.8	39.9	39.9		31.4	46.6		31.4	
Actuated g/C Ratio	0.37	0.31	0.31	0.51	0.41	0.41		0.32	0.47		0.32	
Clearance Time (s)	3.0	5.0	5.0	3.0	5.0	5.0		5.0	3.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	335	573	501	388	761	654		495	756		612	
v/s Ratio Prot	0.03	0.27		c0.16	0.26				0.05			
v/s Ratio Perm	0.12		0.01	c0.31		0.01		0.20	0.08		c0.24	
v/c Ratio	0.40	0.86	0.03	0.93	0.64	0.02		0.64	0.28		0.75	
Uniform Delay, d1	21.5	32.0	23.6	27.1	23.5	17.6		28.7	15.8		30.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.8	12.7	0.0	27.5	1.8	0.0		2.8	0.2		4.9	
Delay (s)	22.3	44.6	23.6	54.6	25.3	17.6		31.5	16.0		34.9	
Level of Service	C	D	C	D	C	B		C	B		C	
Approach Delay (s/veh)		38.8			36.9			23.3			34.9	
Approach LOS		D			D			C			C	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	33.6	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.84	
Actuated Cycle Length (s)	98.5	Sum of lost time (s) 17.0
Intersection Capacity Utilization	95.1%	ICU Level of Service F
Analysis Period (min)	15	

c Critical Lane Group

2032 Build Saturday Midday Mitigated
6: King St/Chestnut St & Route 140

01/21/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗		↖	↗		↕	
Traffic Volume (vph)	131	537	54	342	534	67	49	186	344	49	207	115
Future Volume (vph)	131	537	54	342	534	67	49	186	344	49	207	115
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.958	
Flt Protected	0.950			0.950				0.990			0.993	
Satd. Flow (prot)	1805	1900	1615	1787	1881	1615	0	1852	1599	0	2037	0
Flt Permitted	0.279			0.113				0.730			0.832	
Satd. Flow (perm)	530	1900	1615	213	1881	1615	0	1365	1599	0	1707	0
Satd. Flow (RTOR)			124			96			369		20	
Adj. Flow (vph)	138	565	57	353	551	69	54	207	382	61	259	144
Lane Group Flow (vph)	138	565	57	353	551	69	0	261	382	0	464	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Detector Phase	5	2	2	1	6	6	8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	9.0	21.0	21.0	11.0	21.0	21.0	21.0	21.0	11.0	21.0	21.0	21.0
Total Split (s)	10.0	37.0	37.0	20.0	47.0	47.0	38.0	38.0	20.0	38.0	38.0	38.0
Total Split (%)	8.8%	32.5%	32.5%	17.5%	41.2%	41.2%	33.3%	33.3%	17.5%	33.3%	33.3%	33.3%
Maximum Green (s)	7.0	32.0	32.0	17.0	42.0	42.0	33.0	33.0	17.0	33.0	33.0	33.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	1.0	-1.0	-1.0	1.0	-1.0	-1.0		-1.0	1.0		-1.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag			Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.48	0.89	0.09	0.96	0.67	0.09		0.60	0.38		0.84	
Control Delay (s/veh)	23.5	52.1	0.3	66.0	30.3	2.5		37.4	3.3		46.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay (s/veh)	23.5	52.1	0.3	66.0	30.3	2.5		37.4	3.3		46.5	
Queue Length 50th (ft)	37	313	0	155	249	0		123	3		232	
Queue Length 95th (ft)	97	#660	0	#430	493	16		260	57		#387	
Internal Link Dist (ft)		491			1140			259			552	
Turn Bay Length (ft)	100		50	165		50			80			
Base Capacity (vph)	286	633	620	368	817	755		468	1007		599	
Starvation Cap Reductn	0	0	0	0	0	0		0	0		0	
Spillback Cap Reductn	0	0	0	0	0	0		0	0		0	
Storage Cap Reductn	0	0	0	0	0	0		0	0		0	
Reduced v/c Ratio	0.48	0.89	0.09	0.96	0.67	0.09		0.56	0.38		0.77	

Intersection Summary

Cycle Length: 114

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Satd. Flow (RTOR)	
Adj. Flow (vph)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	4.0
Minimum Split (s)	19.0
Total Split (s)	19.0
Total Split (%)	17%
Maximum Green (s)	14.0
Yellow Time (s)	3.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	5.0
Flash Don't Walk (s)	9.0
Pedestrian Calls (#/hr)	20
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
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	

2032 Build Saturday Midday Mitigated
 6: King St/Chestnut St & Route 140

01/21/2025

Actuated Cycle Length: 100.3

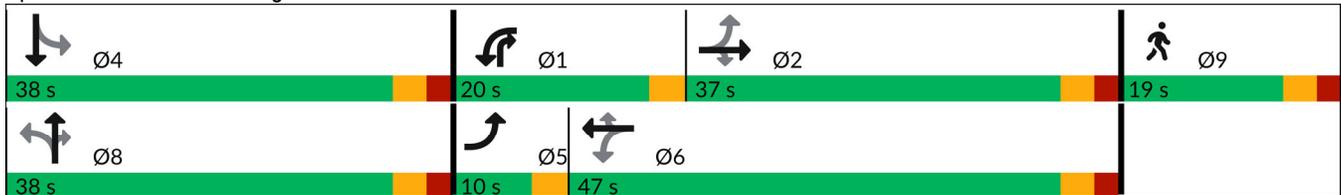
Natural Cycle: 120

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: King St/Chestnut St & Route 140



2032 Build Saturday Midday Mitigated
6: King St/Chestnut St & Route 140

01/21/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	537	54	342	534	67	49	186	344	49	207	115
Future Volume (vph)	131	537	54	342	534	67	49	186	344	49	207	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	16	16	16
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99	1.00		0.99	
Satd. Flow (prot)	1805	1900	1615	1787	1881	1615		1851	1599		2038	
Flt Permitted	0.28	1.00	1.00	0.11	1.00	1.00		0.73	1.00		0.83	
Satd. Flow (perm)	531	1900	1615	212	1881	1615		1365	1599		1706	
Peak-hour factor, PHF	0.95	0.95	0.95	0.97	0.97	0.97	0.90	0.90	0.90	0.80	0.80	0.80
Adj. Flow (vph)	138	565	57	353	551	69	54	207	382	61	259	144
RTOR Reduction (vph)	0	0	39	0	0	40	0	0	205	0	14	0
Lane Group Flow (vph)	138	565	18	353	551	29	0	261	177	0	450	0
Heavy Vehicles (%)	0%	0%	0%	1%	1%	0%	0%	2%	1%	0%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	39.6	32.5	32.5	52.7	42.6	42.6		30.8	48.0		30.8	
Effective Green, g (s)	37.6	33.5	33.5	51.7	43.6	43.6		31.8	46.0		31.8	
Actuated g/C Ratio	0.36	0.32	0.32	0.50	0.42	0.42		0.31	0.44		0.31	
Clearance Time (s)	3.0	5.0	5.0	3.0	5.0	5.0		5.0	3.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	268	615	523	352	793	680		419	711		524	
v/s Ratio Prot	0.03	0.30		c0.16	0.29				0.04			
v/s Ratio Perm	0.16		0.01	c0.34		0.02		0.19	0.07		c0.26	
v/c Ratio	0.51	0.92	0.04	1.00	0.69	0.04		0.62	0.25		0.86	
Uniform Delay, d1	23.5	33.6	23.9	30.8	24.5	17.6		30.7	17.9		33.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	1.7	18.7	0.0	48.7	2.7	0.0		2.9	0.2		13.2	
Delay (s)	25.2	52.4	23.9	79.5	27.1	17.6		33.5	18.1		46.9	
Level of Service	C	D	C	E	C	B		C	B		D	
Approach Delay (s/veh)		45.3			45.4			24.4			46.9	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	40.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	103.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	93.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group