Application for Site Plan Approval.

Property Address – **161 North State Street, Concord, New Hampshire**
Tax Map 583Z, Lot 30

Manchester Health Services, LLC ("Applicant") is the proposing redevelopment of 161 North State Street, formerly a branch bank. The existing lot consists of 1.66 acres, and is owned by Cafua Realty Trust CXXXIX, LLC. A letter of authorization from landlord authorizing Applicant and its agents is submitted herewith.

Applicant proposes redevelopment of the parcel to construct a medical facility offering "outpatient procedures, walk-in services, urgent care" as an allowed use within the Urban Commercial (CU) zoning district. The parcel has frontage on both North State Street and Penacook Street, both public streets.

FULMER LUCAS

August 25, 2025

Project: Clinics providing outpatient procedures, walk-in services, urgent care, and substance use disorder treatment (2025-046)

City of Concord – Planning Board
41 Green Street
Concord, NH 03301
(603)225-8515

Re: Waiver Requests for Major Site Plan Application
Concord FSER
Tax Map 583Z Lot 30
161 North State Street
Concord, NH 03301

On behalf of Concord FSER the applicant requests a waiver from the following sections of the City of Concord Site Plan Regulations:

1. Section 6.03(2)(c) and Section 11.05
2. Section 15.03(16)
3. Section 15.03(19)
4. Section 15.03(22)
5. Section 15.03(23)
6. Section 15.04(6)
7. Section 15.04(21)
8. Section 16.02(14)(a)
9. Section 16.03(9)
10. Section 16.03(11)
11. Section 18.16

<u>5 Criteria for Waivers:</u>

1. The granting of the waiver will not be detrimental to the public safety, health, or welfare or injurious to other property.
   This project will enhance the public safety, health, and welfare of the city of Concord and will not be injurious to other property. The waivers requested will not be detrimental to other properties nor the City of Concord as a whole. The consolidation of the 2-meeting format will still provide for a public hearing with proper notice to abutting owners.

2. The conditions upon which the request for a waiver is based are unique to the property for which the waiver is sought and are not applicable generally to other property.

The project is unique to the property in that the site was previously developed and a complete redevelopment is proposed.

3. Because of the particular physical surroundings, shape, or topographical conditions of the specific property involved, a particular and unnecessary hardship to the owner would result, as distinguished from a mere inconvenience, if the strict letter of these regulations are carried out.
   Granting the above waivers would mitigate unnecessary hardship to the owner of this previously developed site.

4. Specific circumstances relative to the site plan or conditions of the land where a site plan is proposed indicate that the waiver will properly carry out, or not be contrary to, the spirit and intent of these regulations.
   The proposed site plan will not be contrary to the spirit and intent of these regulations if the waivers were granted. Granting the waivers would still allow a full site plan review from the Planning Board, with the opportunity for input from abutting owners.

5. The waivers will not in any manner vary the provisions of the Zoning Ordinance, Master Plan Reports, or Official Map.
   The waivers do not vary the provisions of the Zoning Ordinance, Master Plan Reports, or Official Map, and are properly the subject of waivers applicable to Board processes and submission requirements.

If you have any questions or require additional information, please contact me via email (avery@fulmerlucas.com) or phone (678-371-5954).

Sincerely,

Avery Steed, PE

Concord FSER - 161 N State Street - Waiver Requests 8/11/2025			
No.	Section	Regulation Wording	Waiver Request
1	6.03(2)(c) and 11.05	*Determination of Completeness*. A completed application will contain the required information listed in Section 14.02, Design Review Phase Requirements, will be legible and competently prepared. If it is determined that the application is complete, the Board shall accept the application for consideration, which may take place at the same meeting as the determination of completeness. An application which is determined to be incomplete may be revised and resubmitted to a subsequent meeting of the Board for another determination of completeness. In making a determination of completeness, the Board shall consider the written recommendation of the City Planning Division, as well as any written communications from the applicant, abutters, and parties of interest; however, no hearing shall be opened nor shall testimony be received on a determination of completeness. The next available published deadline date shall constitute the official submittal date of the site plan from which the statutory period for determination of completeness shall be calculated as set forth in NH RSA 676:4. Applications received prior to the deadline date shall be considered for completeness at the next scheduled regular meeting of the Planning Board after the deadline date. Continued Planning Board meetings and special meetings are not considered regular meetings of the Planning Board where an application can be determined complete.	A waiver is requested to merge the two-part process of determination of completeness and planning board hearing instead of separate meetings based on the satisfaction of the five waiver criteria. The applicant is working with Staff to address requirements for a completed application, and the scheduling of the public hearing can be noticed to abutting owners.
2	15.03(16)	*Signs*. The locations of existing ground signs are shown on the existing conditions plan, but the sizes of each existing ground signs are missing as required by this section.	A waiver is requested to not provide existing sign sizes as a complete sign package will be presented post-site plan approval.

3	15.03(19)	*Setbacks and Buffers*. The existing conditions plan is not showing the setbacks and buffers yards and dimensions as required.	A waiver is requested to not provide setbacks, buffer yards, and dimensions on the existing condition sheets. This information is provided throughout the plan set on other pertinent sheets and the project proposes a complete redevelopment of existing conditions.
4	15.03(22)	*Abutting Properties*. The abutting property identified as Map Lot 65 2-7 is missing the property address of 10 Walker Street. This section requires that the property addresses be noted along with the map lot information and property owner name.	A waiver is requested to not provide additional abutting property information for this particular existing condition sheet. The abutter list properly includes all owners.
5	15.03(23)	*Tabulations*. The listed tabulations are missing this required information: existing impervious surface coverage in square foot and percent; the parking required for the existing and proposed uses; and the net land area calculation for nonresidential development.	A waiver is requested to not provide tabulations of existing impervious coverage, the parking required for the existing and proposed uses, or the net land area calculation. The project proposes a complete redevelopment of existing conditions.
6	15.04(6)	*Proposed Site Plan Topography*. Requires existing topographic conditions and all proposed changes on sheet C1.0 and this information is missing.	A waiver is requested to not provide topographic conditions on C1.0. The grading and drainage plan (C2.0) displays existing and proposed topographic changes. The project proposes a complete redevelopment of existing conditions.
7	15.04(21)	*Signs*. The locations and sizes of proposed ground signs are required to be shown on the site plan, and this information is missing from sheet C1.0.	A waiver is requested to not provide proposed signs at this time and to allow for signage to be handled post-

			site plan and separately during construction.
8	16.02(14)(a)	The required profiles for water and sanitary sewer are missing, showing crossings of all municipal and nonmunicipal utilities. Vertical distances between the crossings must also be shown.	A waiver is requested to not provide required profiles for water and sanitary sewer showing crossings and vertical distances of all municipal and nonmunicipal utilities at this time.
9	16.03(9)	*Colored Rendering*. Requires a colored rendering portraying proposed landscaping at the time of initial planting and as expected five years after planting. This colored rendering is missing.	A waiver is requested to not provide the color rendering portraying proposed landscaping at the time of initial planting and as expected five years after planting. A planting plan is included within the site plan set, and only the rendering is withheld.
10	16.03(11)	*Signs*. Requires the location, size, and placement of affixed and freestanding signage on both the site plan and the architectural elevations. It is unclear if any freestanding signage is proposed, and while the location and placement of affixed signage is shown on the architectural elevations, the size of such affixed signage is missing.	A waiver is requested to not provide proposed signs at this time and to allow for signage to be handled post-site plan and separately during construction.
11	18.16	*18.16 Restrictions in Required Landscape Areas:* Parking, and the storage and display of vehicles, goods, and materials are prohibited within perimeter landscaping areas, residential district buffers, and interior parking lot landscaped areas. Internal parking lot islands shall either be grassed or planted with ground cover. Non-organic mulch, stone, or landscaped fabric is not allowed in required landscape areas.	A waiver is requested to allow tree plantings in the parking area at 1:2,000 rather than 1:1,000 that is required.

AUTHORIZATION

The undersigned owner of the property located at the following addresses:

161 N. State Street, Concord, NH (Tax Map 583Z, Lot 30),

Hereby appoints the following development agents:

Manchester Health Services, LLC (Todd Maxwell, VP);
Fulmer Lucas (Avery Steed, PE); and,
Gallagher, Callahan & Gartrell, P.C. (Ari Pollack, Attorney).

To execute any and all documents relating to the submittal of zoning, planning and development applications to the City of Concord and the State of New Hampshire, including, without limitation, applications for zoning variances, and applications for site plan approval, applications for driveway permits, applications for wetlands fill, and applications for alteration of terrain.

Signed this 24th day of April, 2025.

Cafua Realty Trust CXXXIX, LLC, Landowner

By: _____
Mark Cafua, Manager
Duly Authorized

CHAPPELL ENGINEERING ASSOCIATES, LLC
Civil • Environmental • Land Surveying
Structural • Telecom • Traffic • Transportation

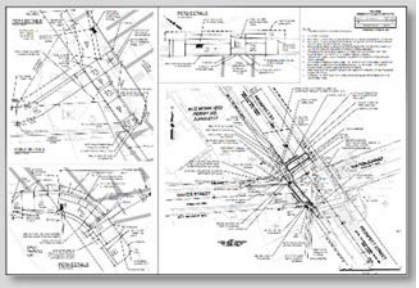
201 Boston Post Rd. West, Ste 205
Marlborough, MA 01752
Tel.: (508) 481-7400
Fax: (508) 481-7406
www.chappellengineering.com

Quality

Traffic Impact and Access Study

Medical Office Building
161 North State Street
Concord, New Hampshire

Accuracy



Prepared for:

Gallager, Callahan & Gartrell, P.C.
Concord, NH 03301

Integrity

July 16, 2025

CHAPPELL ENGINEERING ASSOCIATES, LLC
Civil • Environmental • Land Surveying
Structural • Telecom • Traffic • Transportation

201 Boston Post Road West, Suite 205
Marlborough, MA 01752
Tel.: (508) 481-7400
Fax: (508) 481-7406
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Traffic Impact and Access Study

To:	Mr. Ari Pollack, Esq. Gallager, Callahan & Gartrell, P.C. 214 North State Street Concord, NH 03301	Reg:	Medical Office Building 161 North State Street Concord, NH
		Date:	July 16, 2025
From:	Shaun P. Kelly, Sr. Project Manager Ashley Ryan, Traffic Engineer	Project #:	25063

INTRODUCTION

Chappell Engineering Associates, LLC (CEA) has conducted this Traffic Impact and Access Study (TIAS) to identify the anticipated traffic impacts associated with the proposed redevelopment of a drive-through bank branch, located at 161 North State Street (Route 3) in Concord, New Hampshire. The project entails the redevelopment of the existing bank building to accommodate an approximate 11,000± square foot (sf) medical office facility. Access to the project would continue to be provided via a full access driveway onto Penacook Street and a limited right-in/right-out driveway onto North State Street.

This study evaluates existing traffic characteristics of area roadways and intersections expected to accommodate the majority of project-related traffic, provides an estimate of the expected trip generation characteristics of the project, evaluates the impact of that traffic on the adjacent transportation system, and determines the necessity for improvements to the area roadway system. This study was prepared in general conformance with industry and New Hampshire Department of Transportation (NHDOT) guidelines for the preparation of traffic impact assessments.

As documented in this study, the proposed medical office building redevelopment project is expected to result in no notable impact to traffic operations, with acceptable levels of service maintained at the intersection of North State Street with Penacook Street and Horseshoe Pond Lane. In comparison to the prior use of the project site as a walk-in bank that also provides a drive-through window and ATM, the project is expected to generate significantly less traffic on both a daily and peak hour basis.

PROJECT DESCRIPTION AND HISTORY

The project involves the razing of an existing approximate 11,370± sf commercial building that previously housed a Santander Bank branch. Currently the bank building is vacant, although a drive-up automatic teller machine (ATM) remains operational on site. As part of the site redevelopment, a drive-up ATM would continue to be provided, on the western side of the proposed medical office building.

Access to the project site is currently provided via a wide undefined curb cut onto Penacook Street and a limited access right-in/right-out only driveway onto North State Street. Both entering and exiting left-turn movements are physically restricted at the North State Street driveway as the corridor is median divided. No changes to the current site access locations are proposed in conjunction with the project.

The site currently provides parking for approximately seventy vehicles. The proposed site redevelopment would provide fifty (50) parking spaces, including four (4) handicap accessible parking spaces. Additional covered ambulance parking is also proposed to the east side of the building

The location of the project site, relative to the surrounding transportation network is displayed on Figure 1.

Figure 1
Site Location Map

EXISTING CONDITIONS

Study Area

Evaluation of the traffic impacts associated with the project requires an examination of existing and projected traffic volumes, the volume of traffic expected to be generated by the project, and the impact that this traffic will have on the adjacent streets and intersections. The study area scope for this assessment, as depicted in Figure 2, includes locations expected to accommodate the majority of project-related traffic, including the following intersections:

1. North State Street at Penacook Street and Horseshoe Pond Lane
2. Penacook Street at site driveway
3. North State Street at site driveway

Figure 2
Study Area Intersections

North State Street (Route 3) is a minor arterial roadway under the jurisdiction of NHDOT's District 5 Office, that traverses the study area in a general north-south orientation. Within the study area, North State Street provides two approximate 11-foot lanes of travel in the southbound direction and a single approximate 11-foot lane of travel in the northbound direction with shoulders of varying width provided along both sides of the corridor. North of Penacook Street, northbound and southbound traffic flows are separated by a painted double-yellow centerline. South of Penacook Street, northbound and southbound traffic flows are separated by a raised median. The posted speed limit along this section of North State Street is 30 miles per hour (mph) in both directions. On-street parking is prohibited along both sides of North State Street within the study area. Bituminous concrete sidewalk is provided along both sides of the corridor, north of Penacook Street, and along the western side of the corridor, south of Penacook Street, including along the site frontage. A bus stop is located along the western side of the corridor, immediately south of the project site. Illumination along North State Street is provided via overhead streetlights. Land use in the vicinity of the project site is primarily commercial in nature.

Penacook Street is a local roadway under the jurisdiction of the City of Concord, that traverses the study area in a general east-west orientation. Within the study area, Penacook Street provides an approximate 14-foot lane of travel in each direction with approximate 4-foot shoulders along both sides of the corridor. The posted speed limit along this section of Penacook Street is 30 mph in both directions. On-street parking is prohibited along both sides of Penacook Street in the vicinity of the project site. Bituminous concrete sidewalk is provided along both sides of the corridor. Illumination along Penacook Street is provided via overhead streetlights. Land use in the vicinity of the project site is primarily residential in nature.

North State Street intersects Penacook Street and Horseshoe Pond Lane from the north and south to form a four-way intersection that operates under traffic signal control. The Penacook Street eastbound approach provides an approximate 11-foot wide shared left-turn/through lane and an approximate 11-foot wide exclusive right-turn lane. Sidewalk is provided along both sides of the Penacook Street eastbound approach. The Horseshoe Pond Lane westbound approach provides an approximate 16-foot wide general purpose travel lane. Sidewalk is provided along the north side of Horseshoe Pond Lane. Eastbound and westbound traffic flows on both the eastbound and westbound approaches are separated by a painted double-yellow centerline. The North State Street northbound approach provides an approximate 11-foot wide exclusive left-turn lane and an approximate 11-foot wide shared through/right-turn lane. The North State Street southbound approach provides an approximate 11-foot wide exclusive left-turn lane, an approximate 11-foot wide through lane and an approximate 11-foot wide shared through/right-turn lane. Northbound and southbound traffic flows at this location are separated by a painted double-yellow centerline north of Penacook Street and by a raised median south of Penacook Street. Painted crosswalks are provided across the eastbound, westbound and northbound approaches to this intersection. The traffic signal at this location operates under a four-phase signal cycle, including a protected left-turn phase for northbound left-turns from North State Street to Penacook Street, and an exclusive pedestrian phase provided via pushbutton activation. Illumination in the vicinity of this location is provided via overhead streetlights. Land use in the vicinity of this intersection is primarily commercial in nature.

Traffic Volumes

Base traffic conditions within the study area were developed by conducting manual turning movement and vehicle classification counts (TMC's) at the intersection of North State Street with Penacook Street and Horseshoe Pond Lane in June of 2025. The TMC's were conducted during the weekday AM (7:00 to 9:00 AM) and weekday PM (4:00 to 6:00 PM) time periods. These time periods were chosen as they represent the peak time period for project-related traffic and commuter traffic flows. Additionally, automatic traffic recorder (ATR) counts collected by NHDOT on both Route 3 and Penacook Street, in the general vicinity of the project site, were also reviewed. All traffic count data are provided in the Appendix.

The count data indicate that in the vicinity of the project site, the weekday AM peak hour occurs between 7:30 and 8:30 AM, with the weekday PM peak hour occurring between 4:30 and 5:30

PM. To determine whether the count data should be adjusted to represent peak month conditions, consistent with New Hampshire Department of Transportation (NHDOT) guidelines for traffic impact studies, historical traffic volume data were obtained from NHDOT's Seasonal Adjustment Factors for the latest year available. This document provides a monthly adjustment factor based on the roadway classification of the study roadways, with specific count data provided for a number of corridors within the state, including Station 72099278, located on Route 3 in the City of Concord. Based on a review of this data, June traffic volumes are approximately 2 percent lower than peak month (May) conditions. In accordance with NHDOT guidelines, the collected data were adjusted upwards by 2 percent to reflect peak month conditions. The NHDOT Seasonal Adjustment Factors are provided in the Appendix. The 2025 Existing Peak Month Peak Hour traffic flow networks are shown graphically on Figure 3. The daily and peak hour traffic flows are summarized in Table 1.

Table 1
Existing Traffic Volume Summary

Location/Time Period	Daily Volume[a]	Peak Hour Volume[b]		K Factor[c]	Directional Distribution[d]
Route 3, south of Penacook Street:					
Weekday	14,330	Weekday AM:	1,527	10.7%	60% SB
		Weekday PM:	1,812	12.6%	57% NB
Penacook Street:					
Weekday	2,925	Weekday AM:	354	12.1%	56% WB
		Weekday PM:	392	13.4%	64% EB

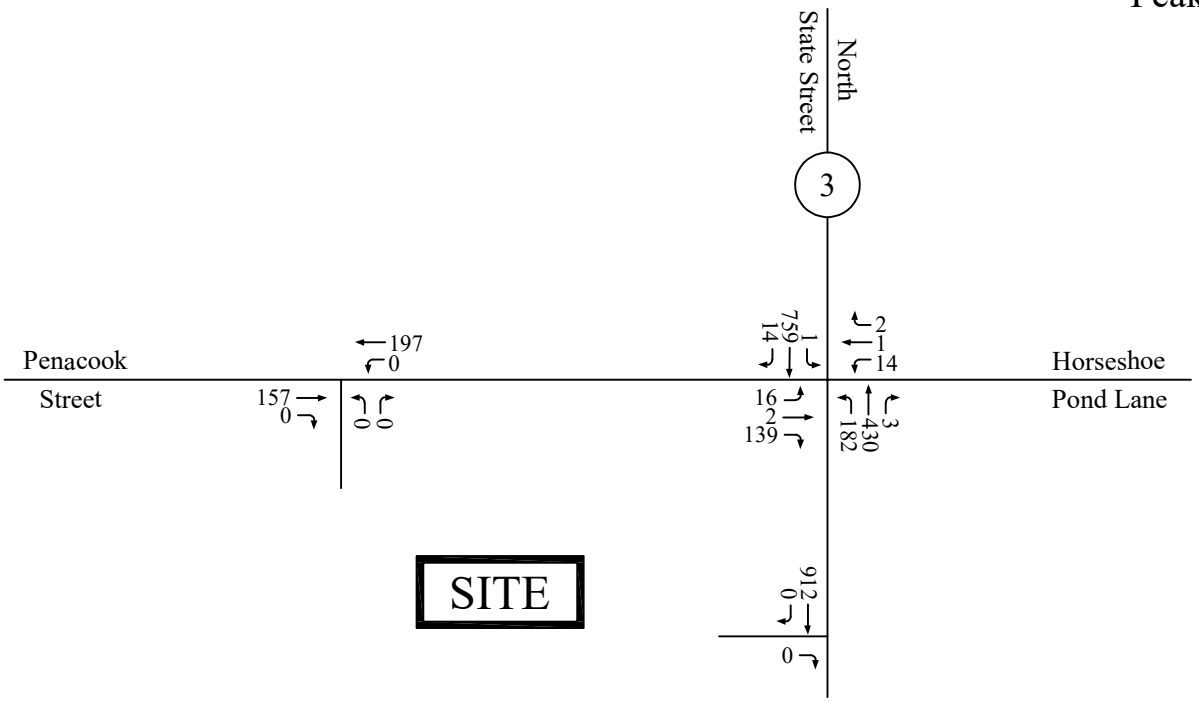
[a] In vehicles per day, based on NHDOT count data adjusted to reflect 0.5% annual growth.
[b] In vehicles per hour.
[c] Percentage of daily traffic occurring during the peak hour.
[d] NB = northbound; SB = southbound; EB = eastbound; WB = westbound.

As summarized in Table 1, Route 3 currently accommodates approximately 14,330 vehicles per day (vpd), including 1,527 vehicles per hour (vph) during the weekday AM peak hour and 1,812 vph during the weekday PM peak hour. During the weekday AM peak hour traffic is oriented 60 percent in the southbound direction, with traffic oriented 57% northbound during the weekday PM peak hour.

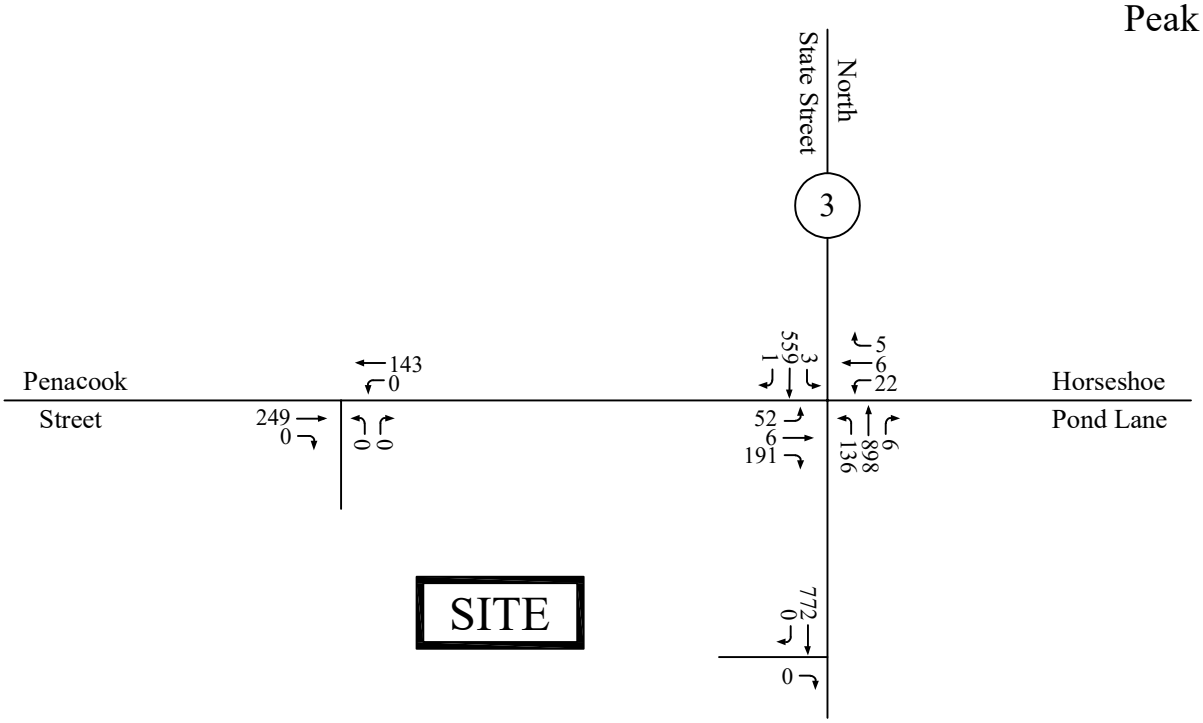
Penacook Street currently accommodates approximately 2,925 vpd, including 354 vph during the weekday AM peak hour and 392 vph during the weekday PM peak hour. During the weekday AM peak hour traffic is oriented 56 percent in the westbound direction, with traffic oriented 64% eastbound during the weekday PM peak hour.

Figure 3
2025 Existing Peak Month
Peak Hour Traffic Volumes

Weekday AM
Peak Hour



Weekday PM
Peak Hour



NOT TO SCALE

Vehicle Speeds

Speed measurements were conducted by way of radar speed detection along both North State Street and Penacook Street, in the vicinity of the site access driveways, to identify operating speeds during off peak unconstrained conditions. The results of the speed measurements are summarized in Table 2.

Table 2
Observed Travel Speeds[a]

Location/Direction	Regulatory Speed Limit	Average Speed	85th Percentile Speed[b]
North State Street			
Southbound	30	33	36
Penacook Street			
Eastbound	30	29	32
Westbound	30	28	31

[a] In miles per hour (mph).
[b] Speed at, or below which 85 percent of all observed vehicles travel.

As shown in Table 2, the average travel speed along North State Street, adjacent to the site, was determined to be 33 mph in the southbound direction, slightly above the regulatory speed limit. The 85th percentile speed was determined to be 36 mph and was utilized for analysis purposes. It is noted that northbound speeds were not collected as the median island on North State Street prohibits exiting left-turn movements from the site driveway.

The average eastbound and westbound travel speeds along Penacook Street were determined to be 29 mph and 28 mph, respectively, slightly below the posted speed limit. This is likely due to the proximity to the traffic signal at North State Street. The 85th percentile speeds in the eastbound and westbound directions were determined to be 32 mph and 31 mph, respectively, and were utilized for analysis purposes.

Sight Distance

To identify potential safety concerns associated with site access and egress, sight distances have been evaluated at site driveway locations on North State Street and Penacook Street to determine if the available sight distances for vehicles exiting the site meet or exceed the minimum distances required for approaching vehicles to safely stop.

The available sight distances were compared with minimum requirements, as established by the American Association of State Highway and Transportation Officials (AASHTO).[1] AASHTO is the national standard by which vehicle sight distance is calculated, measured, and reported. The NHDOT requires the use of AASHTO sight distance standards when preparing traffic impact assessments and studies, as stated in their guidelines for traffic impact assessments.

Sight distance is the length of roadway ahead that is visible to the driver. Stopping Sight Distance (SSD) is the minimum distance required for a vehicle traveling at a certain speed to safely stop before reaching a stationary object in its path. The values are based on a driver perception and reaction time of 2.5 seconds and a braking distance calculated for wet, level pavements. When the roadway is either on an upgrade or downgrade, grade correction factors are applied. Stopping sight distance is measured from an eye height of 3.5 feet to an object height of 2 feet above street level, equivalent to the taillight height of a passenger car. The SSD is measured along the centerline of the traveled way of the major road.

Intersection sight distance (ISD) is provided on minor street approaches to allow the drivers of stopped vehicles a sufficient view of the major roadway to decide when to enter the major roadway. By definition, ISD is the minimum distance required for a motorist exiting a minor street to turn onto the major street, without being overtaken by an approaching vehicle reducing its speed from the design speed to 70 percent of the design speed. ISD is measured from an eye height of 3.5 feet to an object height of 3.5 feet above street level. The use of an object height equal to the driver eye height makes intersection sight distances reciprocal (i.e., if one driver can see another vehicle, then the driver of that vehicle can also see the first vehicle). When the minor street is on an upgrade that exceeds 3 percent, grade correction factors are applied.

SSD is generally more important as it represents the minimum distance required for safe stopping while ISD is based only upon acceptable speed reductions to the approaching traffic stream. However, the ISD must be equal to or greater than the minimum required SSD in order to provide safe operations at the intersection. In accordance with the AASHTO manual, *"If the available sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient sight distance to anticipate and avoid collisions. However, in some cases, this may require a major-road vehicle to stop or slow to accommodate the maneuver by a minor-road vehicle. To enhance traffic operations, intersection sight distances that exceed stopping sight distances are desirable along the major road."* Accordingly, ISD should be at least equal to the distance required to allow a driver approaching the minor road to safely stop.

The available intersection sight distances at the intersections of North State Street and Penacook Street with the site driveways were measured and compared to minimum requirements as established by AASHTO. The 85th percentile travel speeds were utilized to identify the required sight distances. The measured and required sight distances are shown in Table 3.

[1] *A Policy on Geometric Design of Highways and Streets, 7th Edition*; American Association of State Highway and Transportation Officials (AASHTO); 2018.

Table 3
Sight Distance Summary

Location/Direction	Sight Distance (feet)		
	Measured	Minimum Required (SSD)[a]	Desirable (ISD)[b]
North State Street at Site Driveway			
North of intersection	500+	260	345
Penacook Street at Site Driveway			
East of intersection	400+	220	345
West of intersection	400+	210	300

[a] Values based on AASHTO SSD requirements for 85th percentile 30 mph travel speed.
[b] Values based on AASHTO ISD requirements for 85th percentile 30 mph travel speed.

As shown in Table 3, the available sight distances at the intersections of both North State Street and Penacook Street with the site driveways well exceeds the minimum required SSD distances at both locations, with the desirable ISD distance also met at both locations.

To ensure the sight lines are maintained, it is recommended that any proposed landscaping or signs in the vicinity of the driveway locations be kept low (maximum 2 feet in height from street level), or set back outside the sight triangles (as defined by AASHTO) so as not to impede the available sight distances.

It is noted that motor vehicle crash records were requested from the City of Concord Police Department for the intersection of North State Street with Penacook Street and Horseshoe Pond Lane, to identify whether there are any notable crash trends at this location. At the time of this report's preparation, the data has not been received.

Public Transportation

The project site is served by public transportation services offered by the Concord Area Transit (CAT). The CAT provides free public transportation within the study area, including along Route 3 – Penacook Route, which provides a bus stop on North State Street, immediately south of the project site. Service along this route is provided on weekdays between 6:59 AM and 6:26 PM, with approximate one hour headways during peak hours. Public transportation schedules and maps are provided in the Appendix of this report.

FUTURE CONDITIONS

Traffic Growth

Future traffic conditions were projected to the years 2027 and 2037, representing the Opening Year and a future 10-year planning horizon from the opening of the project, consistent with NHDOT guidelines for the preparation of traffic impact assessments. To account for growth in traffic, a growth rate was applied to the peak hour traffic volumes. Based on historical traffic volume information obtained from an NHDOT count station located on Route 3 (Station No. 82099296), south of the site driveway, traffic volumes have generally shown little to no growth since pre-COVID conditions. In order to account for growth in traffic, peak hour traffic volumes were increased by a compounded 1.0 percent per year annual growth rate over the two and twelve year planning horizons.

Background Development Projects

The City of Concord Planning Department was contacted to identify whether there are any planned or approved development projects that are expected to influence traffic volumes within the study area, beyond the aforementioned background growth rate. Based on these discussions, the following project was identified:

- ***Proposed Residential Development – Fisherville Road, Concord –*** approximately 170 units of residential apartment housing are proposed off Fisherville Road (Route 3), north of the project site. Additional traffic expected to be generated by this project were determined based on trip generation data published by the Institute of Transportation Engineers (ITE) and distributed onto the roadway network in accordance with anticipated commuter patterns along the corridor.

No-Build Conditions

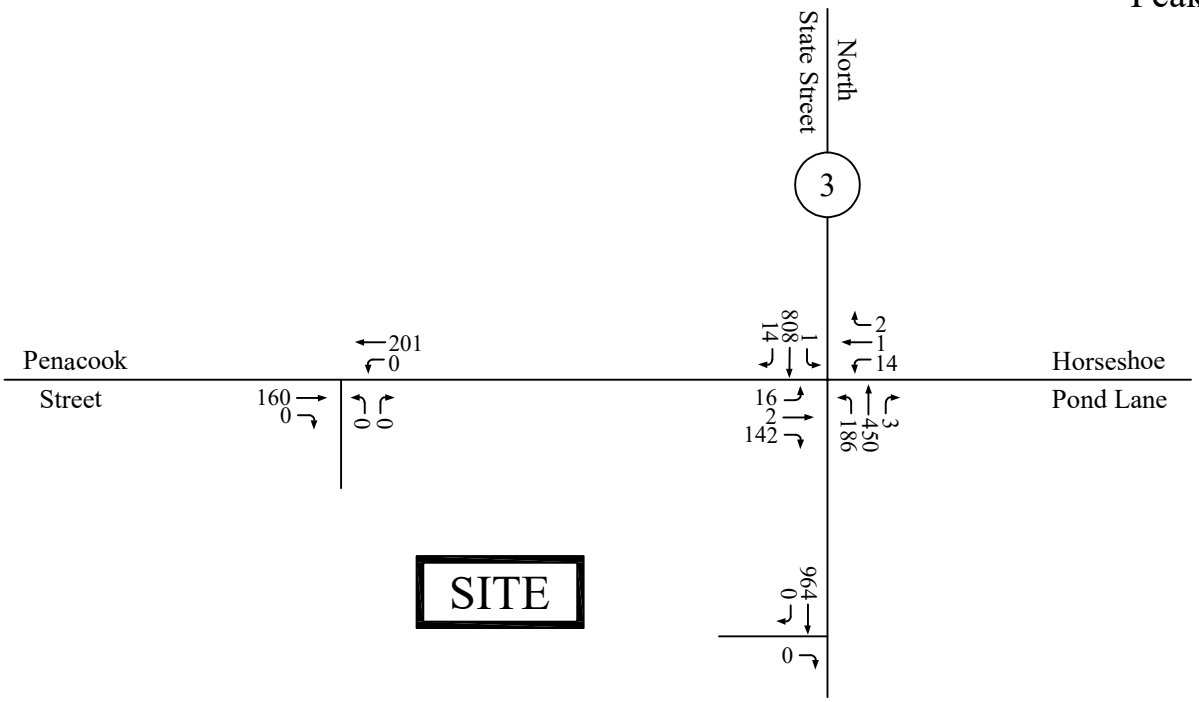
The 2027 Opening Year and 2037 Future No-Build traffic volume networks were accordingly developed by applying a compounded 1.0 percent annual growth rate to the existing adjacent street and intersection volumes as well as traffic associated with the identified background development. The 2027 Opening Year No-Build and 2037 Future No-Build peak-hour traffic-flow networks are displayed on Figure 4 and Figure 5, respectively.

Trip Generation

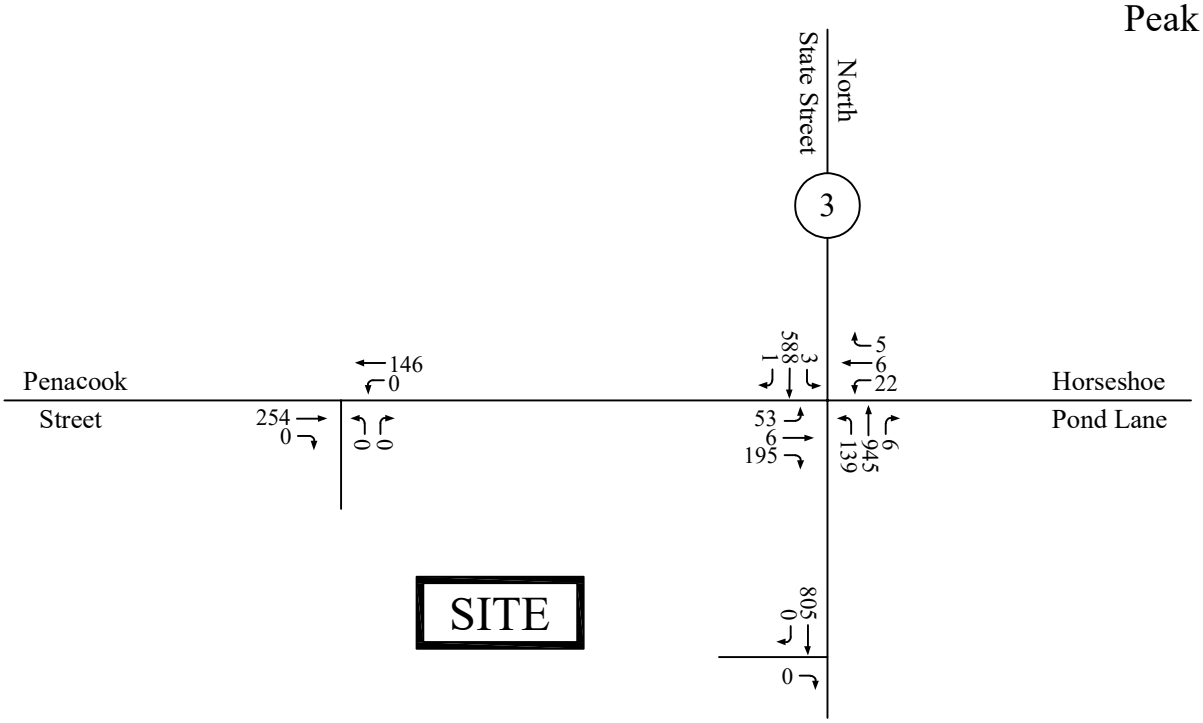
In order to identify the anticipated trip generation characteristics of the project, trip generation data published by the Institute of Transportation Engineers (ITE) were reviewed. The ITE publishes trip generation rates for a number of Land Use Codes (LUCs), including LUC 720 – *Medical-*

Figure 4
2027 No-Build Peak Month
Peak Hour Traffic Volumes

Weekday AM
Peak Hour



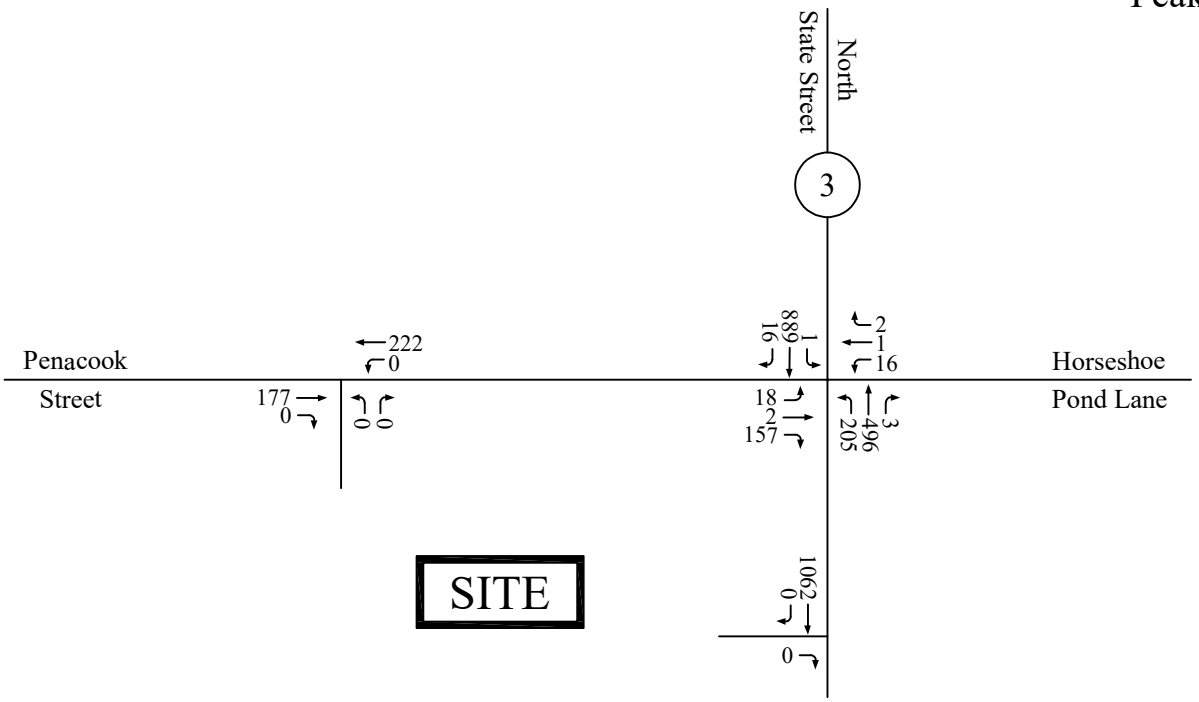
Weekday PM
Peak Hour



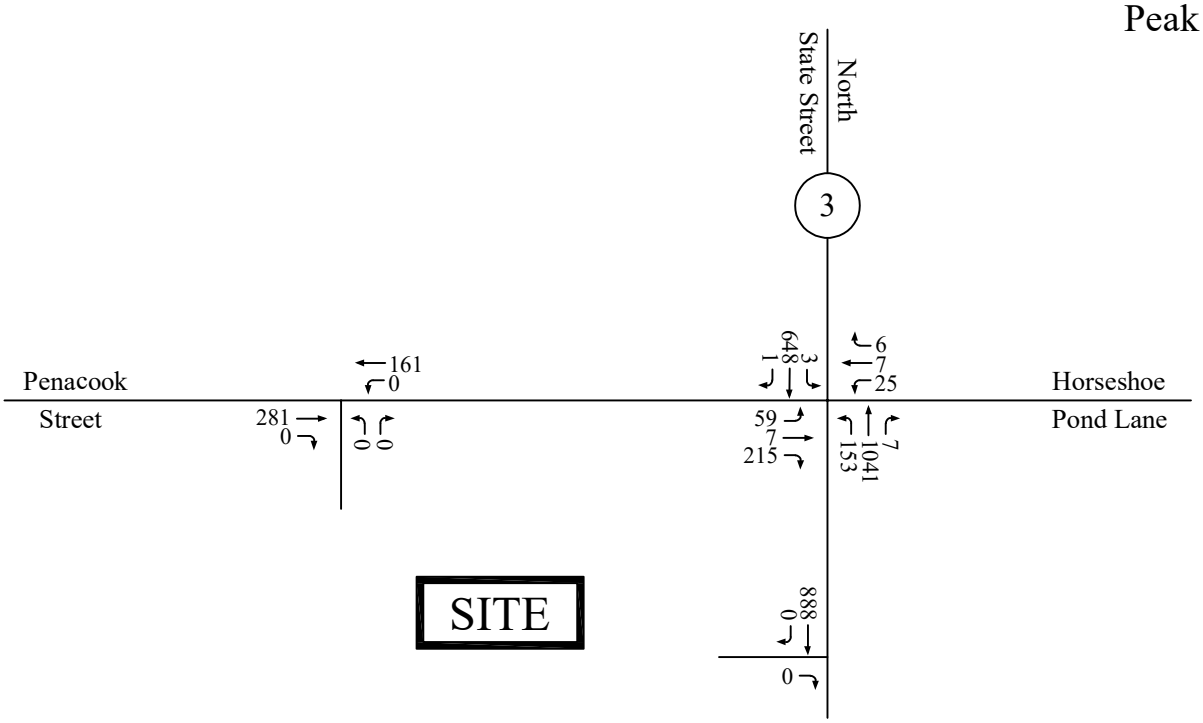
NOT TO SCALE

Figure 5
2037 No-Build Peak Month
Peak Hour Traffic Volumes

Weekday AM
Peak Hour



Weekday PM
Peak Hour



NOT TO SCALE

Dental Office Building, the most appropriate category for the proposed redevelopment. Project-related traffic for a typical weekday, including the weekday AM and weekday PM peak hours, are summarized in Table 4.

Table 4
Trip Generation Summary

Time Period	Vehicle Trips[a]
Weekday Daily	
Enter	198
Exit	198
Total	396
Weekday AM Peak Hour	
Enter	27
Exit	7
Total	34
Weekday PM Peak Hour	
Enter	13
Exit	30
Total	43

[a] Based on ITE data for LUC 720 – *Medical-Dental Office Building*, applied to 11,000 sf.

As summarized in Table 4, on a typical weekday (over a twenty-four hour period) the proposed medical office building is expected to result in a total of 396 new vehicle trips (198 entering and 198 exiting), including 34 new trips (27 entering and 7 exiting) during the weekday AM peak hour and 43 new vehicle trips (13 entering and 30 exiting) during the weekday PM peak hour.

As previously noted, the site currently accommodates a drive-up ATM that was operational at the time of this report's preparation. As such, traffic associated with this use is included in the existing traffic count data. The redevelopment project proposes to maintain an ATM on site, to be located on the western side of the proposed building.

Trip Generation Comparison

As previously noted, the project site currently houses an approximate 11,370± sf building that had previously accommodated a walk-in bank branch that provided a drive-through window and drive-up ATM. In order to provide a comparison to the traffic generation of the prior bank use, if

reactivated, trip generation calculations were performed based on ITE data for LUC 912 – *Drive-In Bank*, the most appropriate category for the former use of the site. Table 5 provides a comparison of the total number of vehicle trips associated with the prior and currently proposed use of the site.

Table 5
Trip Generation Comparison

Time Period	Bank Reactivation Vehicle Trips[a]	Proposed Medical Office Building Vehicle Trips[b]	**Delta**
Weekday Daily			
Enter	570	198	**-372**
Exit	570	198	**-372**
Total	1,140	396	**-744**
Weekday AM Peak Hour			
Enter	66	27	**--39**
Exit	47	7	**-40**
Total	113	34	**-79**
Weekday PM Peak Hour			
Enter	119	13	**-106**
Exit	120	30	**-90**
Total	239	43	**-196**

[a] Based on ITE data for LUC 912 – *Drive-In Bank*, applied to 11,370 sf.

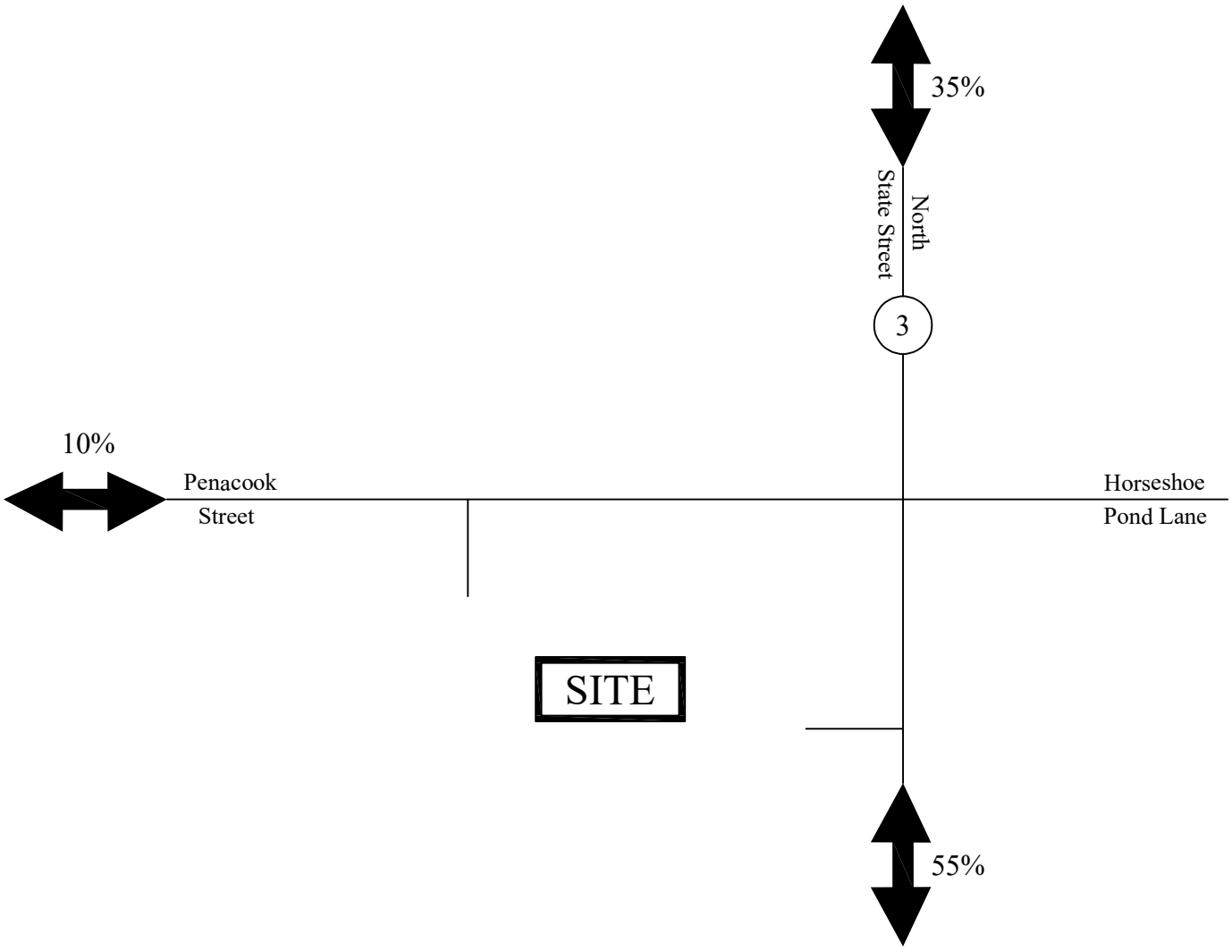
[b] Based on ITE data for LUC 720 – *Medical-Dental Office Building*, applied 11,000 sf.

As summarized in Table 6, in comparison to the former full service bank use, the proposed medical office building is expected to generate significantly less vehicular traffic on both a daily and peak hour basis. It is again noted that the ATM on site that was operational during the preparation of this report would be maintained under post-development conditions.

Trip Distribution

Additional trips expected to be generated by the project were distributed onto the local roadway network based on a review of existing traffic patterns and anticipated commuter patterns. In general, it is expected that 55 percent of project-related traffic will arrive and depart via North State Street, south of the site, due to the proximity to the Interstate 93 (I-93) corridor. The remaining traffic is expected to be distributed 35 percent to and from North State Street, north of the project with the remaining 10 percent arriving and departing via Penacook Street, west of the project. Trip distribution patterns for are displayed in Figure 6.

Figure 6
Trip Distribution Map



NOT TO SCALE

Build Conditions

Based on the traffic generation projections and trip distribution patterns, the weekday AM and weekday PM peak hour traffic volumes generated by the proposed project were assigned to the roadway network as shown on Figure 7. These volumes were added to the 2027 Opening Year No-Build traffic volumes and 2037 Future No-Build traffic volumes to develop the 2027 Opening Year Build traffic volumes and 2037 Future Build traffic volumes, which are graphically depicted on Figure 8 and Figure 9, respectively.

CAPACITY ANALYSIS

Level-of-service (LOS) analyses were conducted at the study area intersections under existing and projected volume conditions to determine the effect that the additional site-generated traffic will have on traffic operations. The capacity analysis methodology is based on the concepts and procedures in the *Highway Capacity Manual*[2] (HCM) and is described in the Appendix. For signalized intersections, the maximum back of queue during an average signal cycle and a 95th percentile signal cycle was calculated for each lane group during the peak periods studied. The back of queue is the length of a backup of vehicles from the stop line of a signalized intersection to the last car in the queue that is required to stop, regardless of the signal indication. The length of this queue depends on a number of factors including signal timing, vehicle arrival patterns, and the saturation flow rate. For unsignalized intersections, the 95th percentile queue represents the length of queue of the critical minor-street movement that is not expected to be exceeded 95 percent of the time during the analysis period (typically one hour). The queue length is a function of the capacity of the movement and the movement's degree of saturation. The Synchro analysis program was used for all capacity analyses. Existing parameters were obtained from signal timing and phasing observations made in the field.

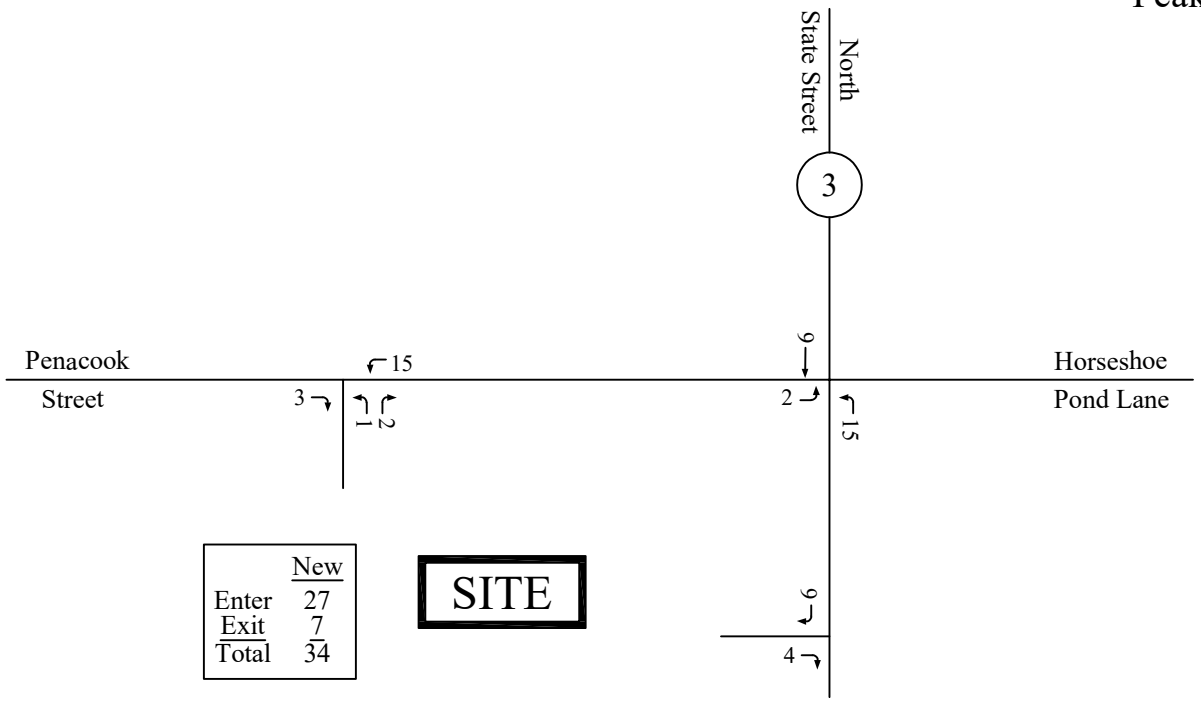
The level-of-service and queue results for the study area intersections are presented in Table 6 and Table 7, and are discussed below. Capacity analysis worksheets are provided in the Appendix.

[2] *Highway Capacity Manual 2010;* Transportation Research Board; Washington, DC; 2010.

Figure 7
Project-Generated
Peak Hour Traffic Volumes

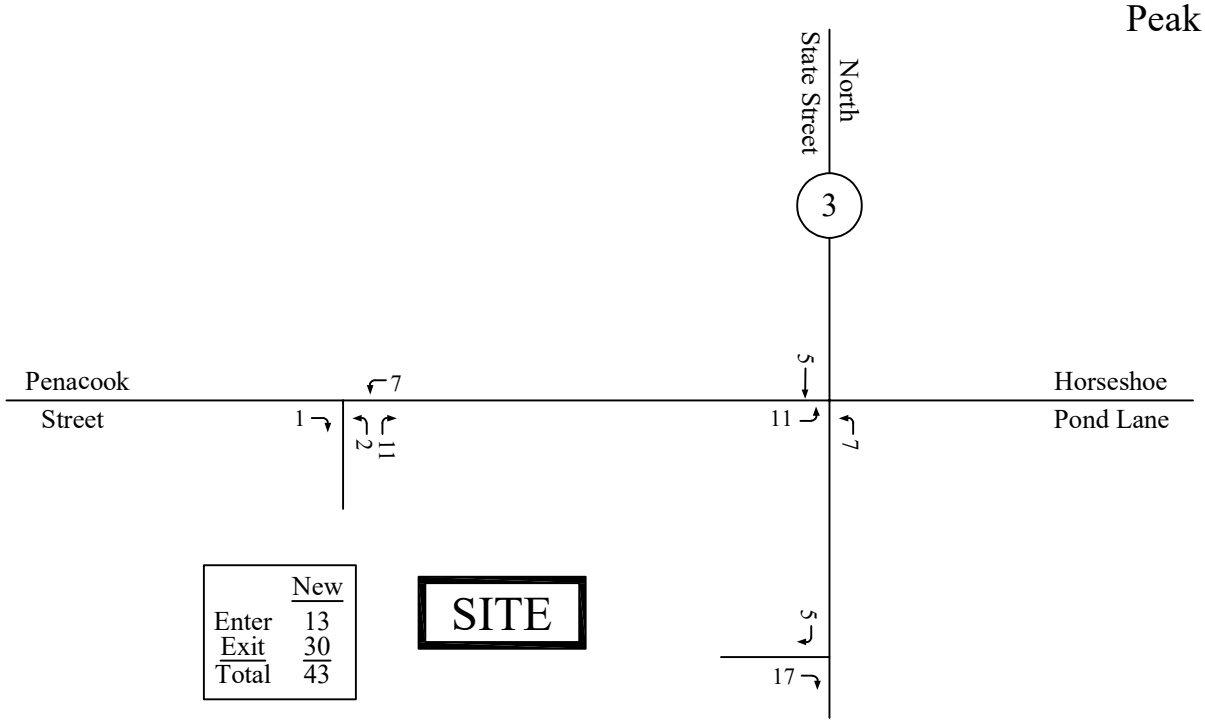
XX - New Trips

Weekday AM Peak Hour



	New
Enter	27
Exit	7
Total	34

Weekday PM Peak Hour

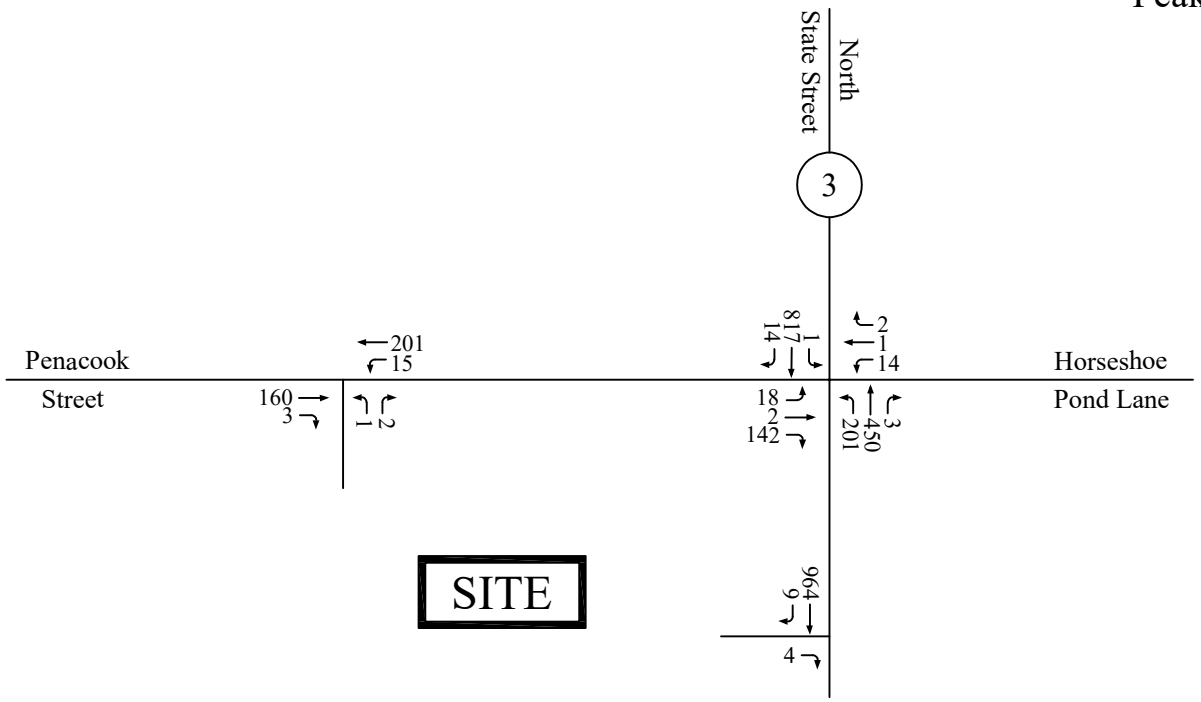


	New
Enter	13
Exit	30
Total	43

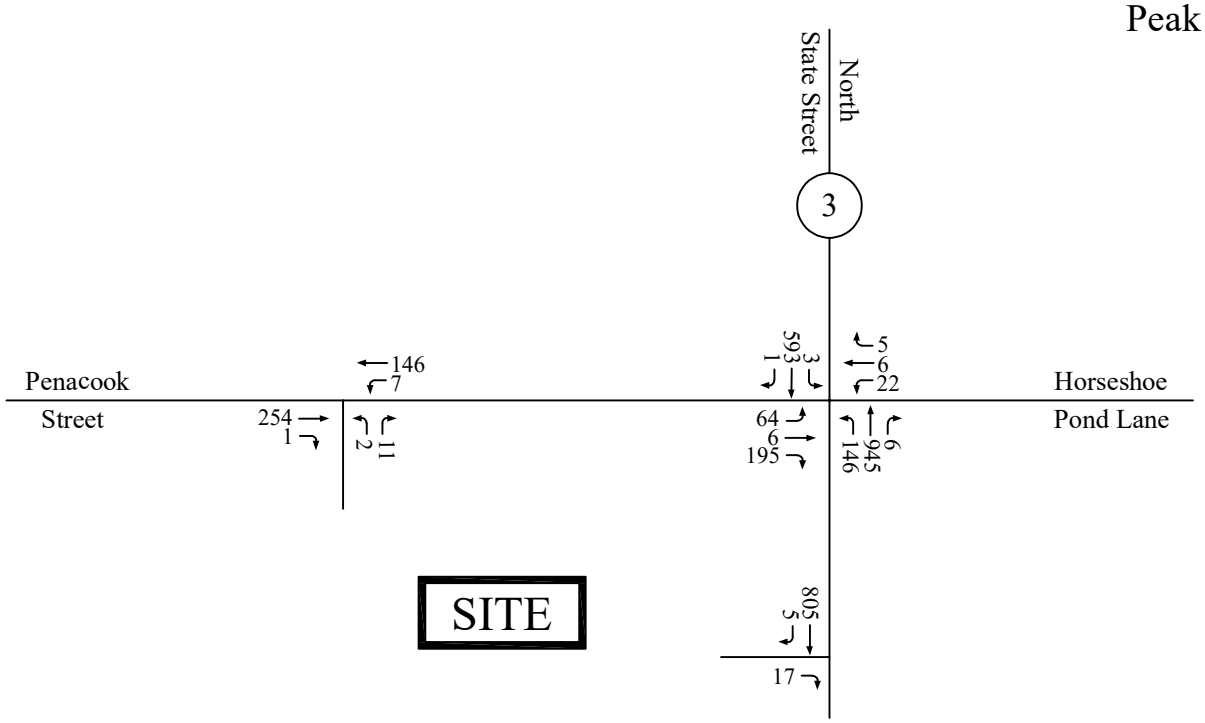
NOT TO SCALE

Figure 8
2027 Build Peak Month
Peak Hour Traffic Volumes

Weekday AM
Peak Hour



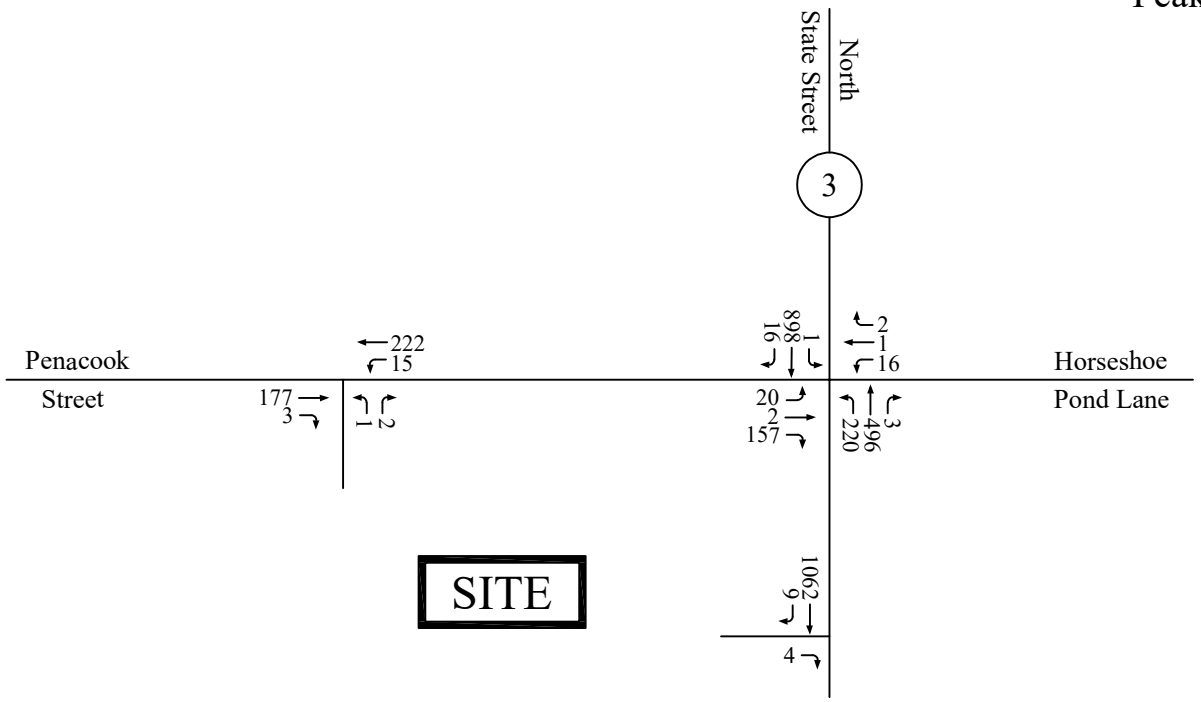
Weekday PM
Peak Hour



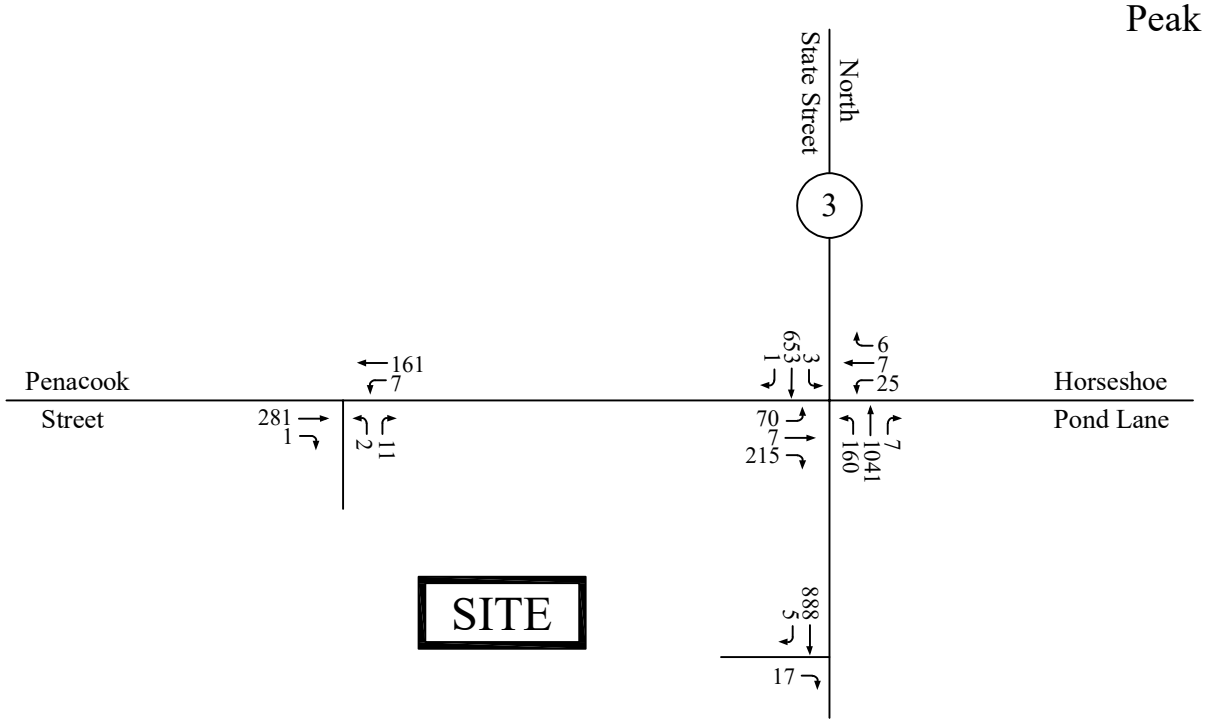
NOT TO SCALE

Figure 9
2037 Build Peak Month
Peak Hour Traffic Volumes

Weekday AM
Peak Hour



Weekday PM
Peak Hour



NOT TO SCALE

Table 6
Level-of-Service Analysis Summary

Location/Peak Hour	2025 Existing				2027 No-Build				2027 Build				2037 No-Build				2037 Build			
Movement	v/c[a]	Delay[b]	LOS[c]	Max Q[d]	v/c	Delay	LOS	Max Q	v/c	Delay	LOS	Max Q	v/c	Delay	LOS	Max Q	v/c	Delay	LOS	Max Q
North State Steet at Penacook Street and Horseshoe Pond Lane																				
Weekday AM Peak																				
EB LT/TH	0.11	26.6	C	25	0.11	27.4	C	26	0.13	28.2	C	28	0.13	29.2	C	28	0.15	30.3	C	30
EB RT	0.48	9.3	A	21	0.49	9.5	A	21	0.50	9.6	A	21	0.53	9.9	A	21	0.53	10.1	B	21
WB ALL	0.09	24.2	C	23	0.09	24.9	C	23	0.09	25.4	C	24	0.11	26.5	C	26	0.11	27.2	C	26
NB LT	0.45	23.7	C	145	0.47	24.6	C	149	0.49	25.0	C	159	0.51	26.4	C	164	0.54	27.0	C	176
NB TH/RT	0.39	4.0	A	100	0.40	4.0	A	106	0.40	4.0	A	107	0.44	4.2	A	126	0.44	4.2	A	126
SB LT	0.00	11.0	B	3	0.00	11.0	B	3	0.00	12.0	B	3	0.00	12.0	B	3	0.00	12.0	B	3
SB TH/RT	0.60	15.5	B	217	0.62	15.8	B	236	0.63	16.4	B	247	0.66	17.0	B	283	0.67	17.6	B	295
Intersection	--	**12.9**	**B**	--	--	**13.2**	**B**	--	--	**13.7**	**B**	--	--	**14.1**	**B**	--	--	**14.6**	**B**	--
Weekday PM Peak																				
EB LT/TH	0.27	27.6	C	66	0.28	30.6	C	72	0.34	31.9	C	84	0.34	35.3	D	83	0.35	35.6	D	94
EB RT	0.47	8.0	A	42	0.49	8.7	A	43	0.49	8.6	A	43	0.54	9.4	A	45	0.54	9.4	A	57
WB ALL	0.12	22.8	C	40	0.12	25.3	C	43	0.12	25.5	C	43	0.15	28.4	C	48	0.15	28.6	C	48
NB LT	0.35	25.8	C	124	0.37	28.1	C	136	0.39	28.7	C	140	0.43	32.1	C	149	0.44	32.3	C	155
NB TH/RT	0.77	10.7	B	364	0.79	11.2	B	401	0.79	11.4	B	401	0.83	13.3	B	516	0.84	13.5	B	516
SB LT	0.01	10.7	B	5	0.01	10.7	B	5	0.01	11.0	B	5	0.02	11.0	B	5	0.02	11.3	B	5
SB TH/RT	0.41	12.2	B	148	0.41	12.2	B	156	0.41	12.3	B	160	0.47	13.2	B	180	0.47	13.7	B	184
Intersection	--	**12.7**	**B**	--	--	**13.2**	**B**	--	--	**13.6**	**B**	--	--	**15.1**	**B**	--	--	**15.5**	**B**	--

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

[a] Volume-to-capacity ratio.
[b] Average control delay (sec./vehicle).
[c] Level of service.
[d] 95th percentile queue in feet, assuming 25 feet/vehicle.

Table 7
Unsignalized Intersection Level-of-Service Analysis Summary

Location/Peak Hour/Movement	2025 Existing				2027 Build				2037 Build			
	V/C[a]	Delay[b]	LOS[c]	Queue[d]	V/C	Delay	LOS	Queue	V/C	Delay	LOS	Queue
Penacook Street at Site Driveway												
Weekday AM Peak Hour												
EB TH/RT	--	--	--	--	0.00	0.0	A	0	0.00	0.0	A	0
WB LT/TH	--	--	--	--	0.01	0.5	A	0	0.01	0.5	A	0
NB LT/RT	--	--	--	--	0.00	9.7	A	0	0.00	9.8	A	0
Weekday PM Peak Hour												
EB TH/RT	--	--	--	--	0.00	0.0	A	0	0.00	0.0	A	0
WB LT/TH	--	--	--	--	0.01	0.4	A	0	0.01	0.4	A	0
NB LT/RT	--	--	--	--	0.02	9.5	A	0	0.02	9.5	A	0
North State Street at Site Driveway												
Weekday AM Peak Hour												
EB RT	--	--	--	--	0.01	12.3	B	0	0.01	12.9	B	0
SB TH/RT	--	--	--	--	0.00	0.0	A	0	0.00	0.0	A	0
Weekday PM Peak Hour												
EB RT	--	--	--	--	0.01	11.5	B	0	0.01	11.5	B	0
SB TH/RT	--	--	--	--	0.00	0.0	A	0	0.00	0.0	A	0

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

[a] Volume-to-capacity ratio.
[b] Average control delay in seconds per vehicle.
[c] Level of service.
[d] 95th percentile queue in feet, assuming 25 feet per vehicle.

As summarized in Table 6, under 2025 Existing conditions, the intersection of North State Street with Penacook Street and Horseshoe Pond Lane currently operates at an overall LOS B during both the weekday AM and weekday PM peak hours. Under future 2027 Opening Year No-Build and 2037 Future No-Build conditions, this location is projected to continue to operate at LOS B during both peak periods. Under 2027 Opening Year Build and 2037 Future Build conditions, this location is projected to continue to operate at an overall LOS B, with project-related traffic projected to result in increases to overall delay of approximately 0.4 to 0.5 seconds as compared to respective No-Build conditions. In all instances vehicle queues are expected to increase by less than one vehicle length as compared to No-Build conditions.

Under both 2027 Opening Year Build and 2037 Future Build conditions, the site driveways onto both North State Street and Penacook Street are projected to operate at LOS A, with vehicles vehicle queues of one vehicle or less expected on both driveway approaches.

CONCLUSIONS

Existing and future conditions at the study area intersections have been described and analyzed with respect to traffic operations and the impact of the proposed project. Conclusions of this effort and recommendations are presented below.

- The project entails the razing of an approximate 11,370± sf building that previously housed a walk-in bank branch that provided a drive-through window and drive-up ATM in order to accommodate an approximate 11,000± sf medical office building.

- No changes to the current site access locations are proposed, with access continuing to be provided via a full access driveway onto Penacook Street and a limited right-in/right-out only driveway provided onto North State Street. It is recommended that the reconstructed driveways provide 24-feet in width to accommodate a 12-foot entering and 12-foot exiting travel lane.

- The project is expected to generate a total of 396 new vehicle trips (198 entering and 198 exiting) on a typical weekday, including 34 vehicle trips (27 entering and 7 exiting) during the weekday AM peak hour and 43 vehicle trips (13 entering and 30 exiting) during the weekday PM peak hour.

- In comparison to the prior use of the project site as a walk-in bank with a drive-through teller and drive-up ATM, the project is expected to generate significantly less traffic on both a daily and peak hour basis.

- The proposed site access points provide adequate sight distance in the required directions to ensure safe access to the project. It is recommended that any signs or landscaping be 2 feet in height or less, or be placed outside the driveway sight triangles to ensure safe access is provided under post-development conditions.

- Both driveways should be placed under STOP-sign (MUTCD R1-1) control, with a painted STOP-line provided at the driveway terminus. A painted double-yellow centerline should be provided to delineate inbound and outbound travel lanes.

- It is recommended that the applicant provide new employees with information related to public transportation options in an effort to reduce vehicle trips to and from the project.

- Under existing conditions, a number of regulatory signs, including 'No Parking' signs on Penacook Street are faded and/or tilted. It is recommended that the applicant, subject to receipt of all required City approvals, agree to replace the existing faded signage and reset the signposts, where required, to reinforce these restrictions.

- Project-related traffic increases result in no notable impacts to area traffic operations, with minimal increases to both delays and vehicle queuing projected. In all instances overall delays

are expected to increase by less than 1 second due to project-related traffic, with no notable impact to vehicular queuing expected due to the project.

In summary, the project is expected to result in only minor increases to vehicle delays and queuing, that result in no notable change in traffic operations. In comparison to the prior use of the site, the project will result in significantly less traffic on daily basis and during peak hours of roadway traffic.

APPENDIX

Traffic Count Data
Seasonal Adjustment Data
Motor Vehicle Speed Data
Public Transportation Information
Background Growth Information
Trip Generation Calculations
Capacity Analysis Worksheets

Traffic Count Data

PDI File #: **250684 A**
Location: **N: North State Street S: North State Street**
Location: **E: Horseshoe Pond Lane W: Penacook Street**
City, State: **Concord, NH**
Client: **Chappell/ S. Kelly**
Site Code: **TBA**
Count Date: **Thursday, June 26, 2025**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	158	0	0	158	2	0	1	0	3	0	70	28	0	98	16	0	2	0	18	277
7:15 AM	6	148	0	0	154	0	0	1	0	1	0	83	19	0	102	31	3	0	0	34	291
7:30 AM	5	204	1	0	210	1	0	4	0	5	0	97	47	0	144	29	2	7	0	38	397
7:45 AM	4	198	0	0	202	1	0	4	0	5	3	120	49	0	172	53	0	2	0	55	434
Total	15	708	1	0	724	4	0	10	0	14	3	370	143	0	516	129	5	11	0	145	1399
8:00 AM	4	161	0	0	165	0	1	5	0	6	0	111	37	2	150	28	0	3	0	31	352
8:15 AM	1	181	0	0	182	0	0	1	0	1	0	94	45	0	139	26	0	4	0	30	352
8:30 AM	1	155	1	0	157	0	0	6	0	6	4	122	39	0	165	31	0	3	0	34	362
8:45 AM	0	149	0	0	149	0	1	7	0	8	2	112	35	0	149	32	1	5	0	38	344
Total	6	646	1	0	653	0	2	19	0	21	6	439	156	2	603	117	1	15	0	133	1410
Grand Total	21	1354	2	0	1377	4	2	29	0	35	9	809	299	2	1119	246	6	26	0	278	2809
Approach %	1.5	98.3	0.1	0.0		11.4	5.7	82.9	0.0		0.8	72.3	26.7	0.2		88.5	2.2	9.4	0.0		
Total %	0.7	48.2	0.1	0.0	49.0	0.1	0.1	1.0	0.0	1.2	0.3	28.8	10.6	0.1	39.8	8.8	0.2	0.9	0.0	9.9	
Exiting Leg Total					839					17					1631					322	2809
Cars	21	1312	2	0	1335	4	2	29	0	35	9	765	298	2	1074	244	6	26	0	276	2720
% Cars	100.0	96.9	100.0	0.0	96.9	100.0	100.0	100.0	0.0	100.0	100.0	94.6	99.7	100.0	96.0	99.2	100.0	100.0	0.0	99.3	96.8
Exiting Leg Total					795					17					1587					321	2720
Heavy Vehicles	0	42	0	0	42	0	0	0	0	0	0	44	1	0	45	2	0	0	0	2	89
% Heavy Vehicles	0.0	3.1	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	5.4	0.3	0.0	4.0	0.8	0.0	0.0	0.0	0.7	3.2
Exiting Leg Total					44					0					44					1	89

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	5	204	1	0	210	1	0	4	0	5	0	97	47	0	144	29	2	7	0	38	397
7:45 AM	4	198	0	0	202	1	0	4	0	5	3	120	49	0	172	53	0	2	0	55	434
8:00 AM	4	161	0	0	165	0	1	5	0	6	0	111	37	2	150	28	0	3	0	31	352
8:15 AM	1	181	0	0	182	0	0	1	0	1	0	94	45	0	139	26	0	4	0	30	352
Total Volume	14	744	1	0	759	2	1	14	0	17	3	422	178	2	605	136	2	16	0	154	1535
% Approach Total	1.8	98.0	0.1	0.0		11.8	5.9	82.4	0.0		0.5	69.8	29.4	0.3		88.3	1.3	10.4	0.0		
PHF	0.700	0.912	0.250	0.000	0.904	0.500	0.250	0.700	0.000	0.708	0.250	0.879	0.908	0.250	0.879	0.642	0.250	0.571	0.000	0.700	0.884
Cars	14	724	1	0	739	2	1	14	0	17	3	398	177	2	580	134	2	16	0	152	1488
Cars %	100.0	97.3	100.0	0.0	97.4	100.0	100.0	100.0	0.0	100.0	100.0	94.3	99.4	100.0	95.9	98.5	100.0	100.0	0.0	98.7	96.9
Heavy Vehicles	0	20	0	0	20	0	0	0	0	0	0	24	1	0	25	2	0	0	0	2	47
Heavy Vehicles %	0.0	2.7	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	5.7	0.6	0.0	4.1	1.5	0.0	0.0	0.0	1.3	3.1
Cars Enter Leg	14	724	1	0	739	2	1	14	0	17	3	398	177	2	580	134	2	16	0	152	1488
Heavy Enter Leg	0	20	0	0	20	0	0	0	0	0	0	24	1	0	25	2	0	0	0	2	47
Total Entering Leg	14	744	1	0	759	2	1	14	0	17	3	422	178	2	605	136	2	16	0	154	1535
Cars Exiting Leg					416					6					874					192	1488
Heavy Exiting Leg					24					0					22					1	47
Total Exiting Leg					440					6					896					193	1535

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Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com
Email: datarequests@pdillc.com

Cars

	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	150	0	0	150	2	0	1	0	3	0	68	28	0	96	16	0	2	0	18	267
7:15 AM	6	141	0	0	147	0	0	1	0	1	0	77	19	0	96	31	3	0	0	34	278
7:30 AM	5	197	1	0	203	1	0	4	0	5	0	90	47	0	137	29	2	7	0	38	383
7:45 AM	4	194	0	0	198	1	0	4	0	5	3	114	49	0	166	52	0	2	0	54	423
Total	15	682	1	0	698	4	0	10	0	14	3	349	143	0	495	128	5	11	0	144	1351
8:00 AM	4	158	0	0	162	0	1	5	0	6	0	104	37	2	143	28	0	3	0	31	342
8:15 AM	1	175	0	0	176	0	0	1	0	1	0	90	44	0	134	25	0	4	0	29	340
8:30 AM	1	151	1	0	153	0	0	6	0	6	4	116	39	0	159	31	0	3	0	34	352
8:45 AM	0	146	0	0	146	0	1	7	0	8	2	106	35	0	143	32	1	5	0	38	335
Total	6	630	1	0	637	0	2	19	0	21	6	416	155	2	579	116	1	15	0	132	1369
Grand Total	21	1312	2	0	1335	4	2	29	0	35	9	765	298	2	1074	244	6	26	0	276	2720
Approach %	1.6	98.3	0.1	0.0		11.4	5.7	82.9	0.0		0.8	71.2	27.7	0.2		88.4	2.2	9.4	0.0		
Total %	0.8	48.2	0.1	0.0	49.1	0.1	0.1	1.1	0.0	1.3	0.3	28.1	11.0	0.1	39.5	9.0	0.2	1.0	0.0	10.1	
Exiting Leg Total					795					17					1587					321	2720

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:30 AM	5	197	1	0	203	1	0	4	0	5	0	90	47	0	137	29	2	7	0	38	383
7:45 AM	4	194	0	0	198	1	0	4	0	5	3	114	49	0	166	52	0	2	0	54	423
8:00 AM	4	158	0	0	162	0	1	5	0	6	0	104	37	2	143	28	0	3	0	31	342
8:15 AM	1	175	0	0	176	0	0	1	0	1	0	90	44	0	134	25	0	4	0	29	340
Total Volume	14	724	1	0	739	2	1	14	0	17	3	398	177	2	580	134	2	16	0	152	1488
% Approach Total	1.9	98.0	0.1	0.0		11.8	5.9	82.4	0.0		0.5	68.6	30.5	0.3		88.2	1.3	10.5	0.0		
PHF	0.700	0.919	0.250	0.000	0.910	0.500	0.250	0.700	0.000	0.708	0.250	0.873	0.903	0.250	0.873	0.644	0.250	0.571	0.000	0.704	0.879
Entering Leg	14	724	1	0	739	2	1	14	0	17	3	398	177	2	580	134	2	16	0	152	1488
Exiting Leg					416					6					874					192	1488
Total					1155					23					1454					344	2976

PDI File #: **250684 A**
Location: **N: North State Street S: North State Street**
Location: **E: Horseshoe Pond Lane W: Penacook Street**
City, State: **Concord, NH**
Client: **Chappell/ S. Kelly**
Site Code: **TBA**
Count Date: **Thursday, June 26, 2025**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	8	0	0	8	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	10
7:15 AM	0	7	0	0	7	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	13
7:30 AM	0	7	0	0	7	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	14
7:45 AM	0	4	0	0	4	0	0	0	0	0	0	6	0	0	6	1	0	0	0	1	11
Total	0	26	0	0	26	0	0	0	0	0	0	21	0	0	21	1	0	0	0	1	48
8:00 AM	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	10
8:15 AM	0	6	0	0	6	0	0	0	0	0	0	4	1	0	5	1	0	0	0	1	12
8:30 AM	0	4	0	0	4	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	10
8:45 AM	0	3	0	0	3	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	9
Total	0	16	0	0	16	0	0	0	0	0	0	23	1	0	24	1	0	0	0	1	41
Grand Total	0	42	0	0	42	0	0	0	0	0	0	44	1	0	45	2	0	0	0	2	89
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	97.8	2.2	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	47.2	0.0	0.0	47.2	0.0	0.0	0.0	0.0	0.0	0.0	49.4	1.1	0.0	50.6	2.2	0.0	0.0	0.0	2.2	
Exiting Leg Total					44					0					44					1	89
Buses	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	4
% Buses	0.0	2.4	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	4.4	50.0	0.0	0.0	0.0	50.0	4.5
Exiting Leg Total					2					0					2					0	4
Single-Unit Trucks	0	29	0	0	29	0	0	0	0	0	0	28	1	0	29	1	0	0	0	1	59
% Single-Unit	0.0	69.0	0.0	0.0	69.0	0.0	0.0	0.0	0.0	0.0	0.0	63.6	100.0	0.0	64.4	50.0	0.0	0.0	0.0	50.0	66.3
Exiting Leg Total					28					0					30					1	59
Articulated Trucks	0	12	0	0	12	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	26
% Articulated	0.0	28.6	0.0	0.0	28.6	0.0	0.0	0.0	0.0	0.0	0.0	31.8	0.0	0.0	31.1	0.0	0.0	0.0	0.0	0.0	29.2
Exiting Leg Total					14					0					12					0	26

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	8	0	0	8	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	10
7:15 AM	0	7	0	0	7	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	13
7:30 AM	0	7	0	0	7	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	14
7:45 AM	0	4	0	0	4	0	0	0	0	0	0	6	0	0	6	1	0	0	0	1	11
Total Volume	0	26	0	0	26	0	0	0	0	0	0	21	0	0	21	1	0	0	0	1	48
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.813	0.000	0.000	0.813	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.750	0.250	0.000	0.000	0.000	0.250	0.857
Buses	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Buses %	0.0	3.8	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	4.2
Single-Unit Trucks	0	21	0	0	21	0	0	0	0	0	0	11	0	0	11	1	0	0	0	1	33
Single-Unit %	0.0	80.8	0.0	0.0	80.8	0.0	0.0	0.0	0.0	0.0	0.0	52.4	0.0	0.0	52.4	100.0	0.0	0.0	0.0	100.0	68.8
Articulated Trucks	0	4	0	0	4	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	13
Articulated %	0.0	15.4	0.0	0.0	15.4	0.0	0.0	0.0	0.0	0.0	0.0	42.9	0.0	0.0	42.9	0.0	0.0	0.0	0.0	0.0	27.1
Buses	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Single-Unit Trucks	0	21	0	0	21	0	0	0	0	0	0	11	0	0	11	1	0	0	0	1	33
Articulated Trucks	0	4	0	0	4	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	13
Total Entering Leg	0	26	0	0	26	0	0	0	0	0	0	21	0	0	21	1	0	0	0	1	48
Buses					1					0					1					0	2
Single-Unit Trucks					11					0					22					0	33
Articulated Trucks					9					0					4					0	13
Total Exiting Leg					21					0					27					0	48

PDI File #: **250684 A**
Location: **N: North State Street S: North State Street**
Location: **E: Horseshoe Pond Lane W: Penacook Street**
City, State: **Concord, NH**
Client: **Chappell/ S. Kelly**
Site Code: **TBA**
Count Date: **Thursday, June 26, 2025**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com
Email: datarequests@pdillc.com

Buses

	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	2
Grand Total	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	4
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	25.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	25.0	0.0	0.0	0.0	25.0	
Exiting Leg Total					2					0					2					0	4

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total Volume	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Exiting Leg					1					0					1					0	2
Total					2					0					2					0	4

PDI File #: **250684 A**
Location: **N: North State Street S: North State Street**
Location: **E: Horseshoe Pond Lane W: Penacook Street**
City, State: **Concord, NH**
Client: **Chappell/ S. Kelly**
Site Code: **TBA**
Count Date: **Thursday, June 26, 2025**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com
Email: datarequests@pdillc.com

Single-Unit Trucks

	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	6	0	0	6	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	7
7:15 AM	0	5	0	0	5	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	8
7:30 AM	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	10
7:45 AM	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	8
Total	0	21	0	0	21	0	0	0	0	0	0	11	0	0	11	1	0	0	0	1	33
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	6
8:15 AM	0	5	0	0	5	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	9
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	5
8:45 AM	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	6
Total	0	8	0	0	8	0	0	0	0	0	0	17	1	0	18	0	0	0	0	0	26
Grand Total	0	29	0	0	29	0	0	0	0	0	0	28	1	0	29	1	0	0	0	1	59
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	96.6	3.4	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	49.2	0.0	0.0	49.2	0.0	0.0	0.0	0.0	0.0	0.0	47.5	1.7	0.0	49.2	1.7	0.0	0.0	0.0	1.7	
Exiting Leg Total					28					0					30					1	59

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	6	0	0	6	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	7
7:15 AM	0	5	0	0	5	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	8
7:30 AM	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	10
7:45 AM	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	8
Total Volume	0	21	0	0	21	0	0	0	0	0	0	11	0	0	11	1	0	0	0	1	33
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.875	0.000	0.000	0.875	0.000	0.000	0.000	0.000	0.000	0.000	0.688	0.000	0.000	0.688	0.250	0.000	0.000	0.000	0.250	0.825
Entering Leg	0	21	0	0	21	0	0	0	0	0	0	11	0	0	11	1	0	0	0	1	33
Exiting Leg					11					0					22					0	33
Total					32					0					33					1	66

PDI File #: **250684 A**
Location: **N: North State Street S: North State Street**
Location: **E: Horseshoe Pond Lane W: Penacook Street**
City, State: **Concord, NH**
Client: **Chappell/ S. Kelly**
Site Code: **TBA**
Count Date: **Thursday, June 26, 2025**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com
Email: datarequests@pdillc.com

Articulated Trucks

	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4
7:30 AM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Total	0	4	0	0	4	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	13
8:00 AM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4
8:15 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
8:30 AM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
8:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	8	0	0	8	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	13
Grand Total	0	12	0	0	12	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	26
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	46.2	0.0	0.0	46.2	0.0	0.0	0.0	0.0	0.0	0.0	53.8	0.0	0.0	53.8	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					14					0					12					0	26

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4
7:30 AM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
8:00 AM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4
Total Volume	0	4	0	0	4	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	14
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.833	0.000	0.000	0.833	0.000	0.000	0.000	0.000	0.000	0.875
Entering Leg	0	4	0	0	4	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	14
Exiting Leg					10					0					4					0	14
Total					14					0					14					0	28

PDI File #: **250684 A**
Location: **N: North State Street S: North State Street**
Location: **E: Horseshoe Pond Lane W: Penacook Street**
City, State: **Concord, NH**
Client: **Chappell/ S. Kelly**
Site Code: **TBA**
Count Date: **Thursday, June 26, 2025**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	North State Street							Horseshoe Pond Lane							North State Street							Penacook Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	3
Total	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	3
8:00 AM	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Grand Total	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	5
Approach %	0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
Total %	0.0	60.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	40.0	
Exiting Leg Total							0							2							3							0	5

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	North State Street							Horseshoe Pond Lane							North State Street							Penacook Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	3
8:00 AM	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	5
% Approach Total	0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.375	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.417
Entering Leg	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	5
Exiting Leg							0							2							3							0	5
Total							3							2							3							2	10

PDI File #: **250684 A**
Location: **N: North State Street S: North State Street**
Location: **E: Horseshoe Pond Lane W: Penacook Street**
City, State: **Concord, NH**
Client: **Chappell/ S. Kelly**
Site Code: **TBA**
Count Date: **Thursday, June 26, 2025**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com
Email: datarequests@pdillc.com

Pedestrians

	North State Street							Horseshoe Pond Lane							North State Street							Penacook Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	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	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	2	0	0	0	0	1	1	2	5
Approach %	0	0	0	0	0	0		0	0	0	0	0	100		0	0	0	0	50	50		0	0	0	0	50	50		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	20	20	0	0	0	0	20	20	40	0	0	0	0	20	20	40	
Exiting Leg Total							0							1							2							2	5

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	North State Street							Horseshoe Pond Lane							North State Street							Penacook Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	1	0	0	0	0	1	1	2	4
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	50.0	50.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.250	0.500	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	1	0	0	0	0	1	1	2	4
Exiting Leg							0							1							1							2	4
Total							0							2							2							4	8

PDI File #: **250684 A**
Location: **N: North State Street S: North State Street**
Location: **E: Horseshoe Pond Lane W: Penacook Street**
City, State: **Concord, NH**
Client: **Chappell/ S. Kelly**
Site Code: **TBA**
Count Date: **Thursday, June 26, 2025**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	148	1	0	149	0	1	4	0	5	2	165	18	0	185	65	0	26	0	91	430
4:15 PM	2	110	0	0	112	3	1	6	0	10	2	205	46	0	253	30	0	18	0	48	423
4:30 PM	0	124	1	0	125	2	3	5	0	10	2	208	30	0	240	56	4	15	0	75	450
4:45 PM	0	134	2	0	136	2	1	6	0	9	1	235	29	0	265	33	2	17	0	52	462
Total	2	516	4	0	522	7	6	21	0	34	7	813	123	0	943	184	6	76	0	266	1765
5:00 PM	0	131	0	0	131	0	1	4	0	5	2	224	35	1	262	65	0	10	0	75	473
5:15 PM	1	159	0	0	160	1	1	7	0	9	1	213	38	0	252	33	0	9	0	42	463
5:30 PM	3	136	0	0	139	0	0	4	0	4	3	195	31	0	229	36	0	11	0	47	419
5:45 PM	0	129	0	0	129	2	0	1	0	3	1	186	34	0	221	31	0	7	0	38	391
Total	4	555	0	0	559	3	2	16	0	21	7	818	138	1	964	165	0	37	0	202	1746
Grand Total	6	1071	4	0	1081	10	8	37	0	55	14	1631	261	1	1907	349	6	113	0	468	3511
Approach %	0.6	99.1	0.4	0.0		18.2	14.5	67.3	0.0		0.7	85.5	13.7	0.1		74.6	1.3	24.1	0.0		
Total %	0.2	30.5	0.1	0.0	30.8	0.3	0.2	1.1	0.0	1.6	0.4	46.5	7.4	0.0	54.3	9.9	0.2	3.2	0.0	13.3	
Exiting Leg Total					1754					24					1458					275	3511
Cars	6	1054	4	0	1064	10	8	37	0	55	14	1612	261	1	1888	348	6	112	0	466	3473
% Cars	100.0	98.4	100.0	0.0	98.4	100.0	100.0	100.0	0.0	100.0	100.0	98.8	100.0	100.0	99.0	99.7	100.0	99.1	0.0	99.6	98.9
Exiting Leg Total					1734					24					1440					275	3473
Heavy Vehicles	0	17	0	0	17	0	0	0	0	0	0	19	0	0	19	1	0	1	0	2	38
% Heavy Vehicles	0.0	1.6	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.0	0.3	0.0	0.9	0.0	0.4	1.1
Exiting Leg Total					20					0					18					0	38

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	124	1	0	125	2	3	5	0	10	2	208	30	0	240	56	4	15	0	75	450
4:45 PM	0	134	2	0	136	2	1	6	0	9	1	235	29	0	265	33	2	17	0	52	462
5:00 PM	0	131	0	0	131	0	1	4	0	5	2	224	35	1	262	65	0	10	0	75	473
5:15 PM	1	159	0	0	160	1	1	7	0	9	1	213	38	0	252	33	0	9	0	42	463
Total Volume	1	548	3	0	552	5	6	22	0	33	6	880	132	1	1019	187	6	51	0	244	1848
% Approach Total	0.2	99.3	0.5	0.0		15.2	18.2	66.7	0.0		0.6	86.4	13.0	0.1		76.6	2.5	20.9	0.0		
PHF	0.250	0.862	0.375	0.000	0.863	0.625	0.500	0.786	0.000	0.825	0.750	0.936	0.868	0.250	0.961	0.719	0.375	0.750	0.000	0.813	0.977
Cars	1	539	3	0	543	5	6	22	0	33	6	867	132	1	1006	187	6	50	0	243	1825
Cars %	100.0	98.4	100.0	0.0	98.4	100.0	100.0	100.0	0.0	100.0	100.0	98.5	100.0	100.0	98.7	100.0	100.0	98.0	0.0	99.6	98.8
Heavy Vehicles	0	9	0	0	9	0	0	0	0	0	0	13	0	0	13	0	0	1	0	1	23
Heavy Vehicles %	0.0	1.6	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	1.3	0.0	0.0	2.0	0.0	0.4	1.2
Cars Enter Leg	1	539	3	0	543	5	6	22	0	33	6	867	132	1	1006	187	6	50	0	243	1825
Heavy Enter Leg	0	9	0	0	9	0	0	0	0	0	0	13	0	0	13	0	0	1	0	1	23
Total Entering Leg	1	548	3	0	552	5	6	22	0	33	6	880	132	1	1019	187	6	51	0	244	1848
Cars Exiting Leg					922					15					749					139	1825
Heavy Exiting Leg					14					0					9					0	23
Total Exiting Leg					936					15					758					139	1848

PDI File #: **250684 A**
Location: **N: North State Street S: North State Street**
Location: **E: Horseshoe Pond Lane W: Penacook Street**
City, State: **Concord, NH**
Client: **Chappell/ S. Kelly**
Site Code: **TBA**
Count Date: **Thursday, June 26, 2025**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com
Email: datarequests@pdillc.com

Cars

	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	145	1	0	146	0	1	4	0	5	2	163	18	0	183	65	0	26	0	91	425
4:15 PM	2	109	0	0	111	3	1	6	0	10	2	204	46	0	252	29	0	18	0	47	420
4:30 PM	0	120	1	0	121	2	3	5	0	10	2	204	30	0	236	56	4	15	0	75	442
4:45 PM	0	130	2	0	132	2	1	6	0	9	1	233	29	0	263	33	2	16	0	51	455
Total	2	504	4	0	510	7	6	21	0	34	7	804	123	0	934	183	6	75	0	264	1742
5:00 PM	0	130	0	0	130	0	1	4	0	5	2	223	35	1	261	65	0	10	0	75	471
5:15 PM	1	159	0	0	160	1	1	7	0	9	1	207	38	0	246	33	0	9	0	42	457
5:30 PM	3	135	0	0	138	0	0	4	0	4	3	192	31	0	226	36	0	11	0	47	415
5:45 PM	0	126	0	0	126	2	0	1	0	3	1	186	34	0	221	31	0	7	0	38	388
Total	4	550	0	0	554	3	2	16	0	21	7	808	138	1	954	165	0	37	0	202	1731
Grand Total	6	1054	4	0	1064	10	8	37	0	55	14	1612	261	1	1888	348	6	112	0	466	3473
Approach %	0.6	99.1	0.4	0.0		18.2	14.5	67.3	0.0		0.7	85.4	13.8	0.1		74.7	1.3	24.0	0.0		
Total %	0.2	30.3	0.1	0.0	30.6	0.3	0.2	1.1	0.0	1.6	0.4	46.4	7.5	0.0	54.4	10.0	0.2	3.2	0.0	13.4	
Exiting Leg Total					1734					24					1440					275	3473

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	120	1	0	121	2	3	5	0	10	2	204	30	0	236	56	4	15	0	75	442
4:45 PM	0	130	2	0	132	2	1	6	0	9	1	233	29	0	263	33	2	16	0	51	455
5:00 PM	0	130	0	0	130	0	1	4	0	5	2	223	35	1	261	65	0	10	0	75	471
5:15 PM	1	159	0	0	160	1	1	7	0	9	1	207	38	0	246	33	0	9	0	42	457
Total Volume	1	539	3	0	543	5	6	22	0	33	6	867	132	1	1006	187	6	50	0	243	1825
% Approach Total	0.2	99.3	0.6	0.0		15.2	18.2	66.7	0.0		0.6	86.2	13.1	0.1		77.0	2.5	20.6	0.0		
PHF	0.250	0.847	0.375	0.000	0.848	0.625	0.500	0.786	0.000	0.825	0.750	0.930	0.868	0.250	0.956	0.719	0.375	0.781	0.000	0.810	0.969
Entering Leg	1	539	3	0	543	5	6	22	0	33	6	867	132	1	1006	187	6	50	0	243	1825
Exiting Leg					922					15					749					139	1825
Total					1465					48					1755					382	3650

PDI File #: **250684 A**
Location: **N: North State Street S: North State Street**
Location: **E: Horseshoe Pond Lane W: Penacook Street**
City, State: **Concord, NH**
Client: **Chappell/ S. Kelly**
Site Code: **TBA**
Count Date: **Thursday, June 26, 2025**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com
Email: datarequests@pdillc.com

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	3
4:30 PM	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	8
4:45 PM	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	7
Total	0	12	0	0	12	0	0	0	0	0	0	9	0	0	9	1	0	1	0	2	23
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
5:30 PM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4
5:45 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	5	0	0	5	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	15
Grand Total	0	17	0	0	17	0	0	0	0	0	0	19	0	0	19	1	0	1	0	2	38
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		50.0	0.0	50.0	0.0		
Total %	0.0	44.7	0.0	0.0	44.7	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	2.6	0.0	2.6	0.0	5.3	
Exiting Leg Total					20					0					18					0	38
Buses	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
% Buses	0.0	5.9	0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	10.5	0.0	0.0	10.5	0.0	0.0	0.0	0.0	0.0	7.9
Exiting Leg Total					2					0					1					0	3
Single-Unit Trucks	0	13	0	0	13	0	0	0	0	0	0	15	0	0	15	1	0	1	0	2	30
% Single-Unit	0.0	76.5	0.0	0.0	76.5	0.0	0.0	0.0	0.0	0.0	0.0	78.9	0.0	0.0	78.9	100.0	0.0	100.0	0.0	100.0	78.9
Exiting Leg Total					16					0					14					0	30
Articulated Trucks	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
% Articulated	0.0	17.6	0.0	0.0	17.6	0.0	0.0	0.0	0.0	0.0	0.0	10.5	0.0	0.0	10.5	0.0	0.0	0.0	0.0	0.0	13.2
Exiting Leg Total					2					0					3					0	5

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	3
4:30 PM	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	8
4:45 PM	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	7
Total Volume	0	12	0	0	12	0	0	0	0	0	0	9	0	0	9	1	0	1	0	2	23
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		50.0	0.0	50.0	0.0		
PHF	0.000	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.563	0.000	0.000	0.563	0.250	0.000	0.250	0.000	0.500	0.719
Buses	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1	0.0	0.0	11.1	0.0	0.0	0.0	0.0	0.0	4.3
Single-Unit Trucks	0	10	0	0	10	0	0	0	0	0	0	8	0	0	8	1	0	1	0	2	20
Single-Unit %	0.0	83.3	0.0	0.0	83.3	0.0	0.0	0.0	0.0	0.0	0.0	88.9	0.0	0.0	88.9	100.0	0.0	100.0	0.0	100.0	87.0
Articulated Trucks	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Articulated %	0.0	16.7	0.0	0.0	16.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.7
Buses	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Single-Unit Trucks	0	10	0	0	10	0	0	0	0	0	0	8	0	0	8	1	0	1	0	2	20
Articulated Trucks	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Entering Leg	0	12	0	0	12	0	0	0	0	0	0	9	0	0	9	1	0	1	0	2	23
Buses					1					0					0					0	1
Single-Unit Trucks					9					0					11					0	20
Articulated Trucks					0					0					2					0	2
Total Exiting Leg					10					0					13					0	23

PDI File #: **250684 A**
Location: **N: North State Street S: North State Street**
Location: **E: Horseshoe Pond Lane W: Penacook Street**
City, State: **Concord, NH**
Client: **Chappell/ S. Kelly**
Site Code: **TBA**
Count Date: **Thursday, June 26, 2025**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com
Email: datarequests@pdillc.com

Buses

	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	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	1	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Grand Total	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	33.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					2					0					1					0	3

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Exiting Leg					1					0					1					0	2
Total					2					0					2					0	4

PDI File #: **250684 A**
Location: **N: North State Street S: North State Street**
Location: **E: Horseshoe Pond Lane W: Penacook Street**
City, State: **Concord, NH**
Client: **Chappell/ S. Kelly**
Site Code: **TBA**
Count Date: **Thursday, June 26, 2025**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com
Email: datarequests@pdillc.com

Single-Unit Trucks

	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	2
4:30 PM	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	7
4:45 PM	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	7
Total	0	10	0	0	10	0	0	0	0	0	0	8	0	0	8	1	0	1	0	2	20
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
5:30 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	10
Grand Total	0	13	0	0	13	0	0	0	0	0	0	15	0	0	15	1	0	1	0	2	30
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		50.0	0.0	50.0	0.0		
Total %	0.0	43.3	0.0	0.0	43.3	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	3.3	0.0	3.3	0.0	6.7	
Exiting Leg Total					16					0					14					0	30

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	2
4:30 PM	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	7
4:45 PM	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	7
Total Volume	0	10	0	0	10	0	0	0	0	0	0	8	0	0	8	1	0	1	0	2	20
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		50.0	0.0	50.0	0.0		
PHF	0.000	0.625	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.250	0.000	0.250	0.000	0.500	0.714
Entering Leg	0	10	0	0	10	0	0	0	0	0	0	8	0	0	8	1	0	1	0	2	20
Exiting Leg					9					0					11					0	20
Total					19					0					19					2	40

PDI File #: **250684 A**
Location: **N: North State Street S: North State Street**
Location: **E: Horseshoe Pond Lane W: Penacook Street**
City, State: **Concord, NH**
Client: **Chappell/ S. Kelly**
Site Code: **TBA**
Count Date: **Thursday, June 26, 2025**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Articulated Trucks

	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
Grand Total	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	60.0	0.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					2					0					3					0	5

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	North State Street					Horseshoe Pond Lane					North State Street					Penacook Street					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.750
Entering Leg	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
Exiting Leg					2					0					1					0	3
Total					3					0					3					0	6

PDI File #: **250684 A**
Location: **N: North State Street S: North State Street**
Location: **E: Horseshoe Pond Lane W: Penacook Street**
City, State: **Concord, NH**
Client: **Chappell/ S. Kelly**
Site Code: **TBA**
Count Date: **Thursday, June 26, 2025**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Class:

Bicycles (on Roadway and Crosswalks)

	North State Street							Horseshoe Pond Lane							North State Street							Penacook Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:30 PM	0	1	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	4	0	0	0	1	5	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	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	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Grand Total	0	4	0	0	0	1	5	0	0	1	0	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Approach %	0.0	80.0	0.0	0.0	0.0	20.0		0.0	0.0	33.3	0.0	33.3	33.3		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	50.0	0.0	0.0	0.0	12.5	62.5	0.0	0.0	12.5	0.0	12.5	12.5	37.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							1							2							5							0	8

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	North State Street							Horseshoe Pond Lane							North State Street							Penacook Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:30 PM	0	1	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	4	0	0	0	1	5	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
% Approach Total	0.0	80.0	0.0	0.0	0.0	20.0		0.0	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.333	0.000	0.000	0.000	0.250	0.417	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	4	0	0	0	1	5	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Exiting Leg							1							0							5							0	6
Total							6							1							5							0	12

PDI File #: **250684 A**
Location: **N: North State Street S: North State Street**
Location: **E: Horseshoe Pond Lane W: Penacook Street**
City, State: **Concord, NH**
Client: **Chappell/ S. Kelly**
Site Code: **TBA**
Count Date: **Thursday, June 26, 2025**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
508-875-0100 datarequests@pdillc.com

Pedestrians

	North State Street							Horseshoe Pond Lane							North State Street							Penacook Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Grand Total	0	0	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	1	1	2	0	0	0	0	0	0	0	6
Approach %	0	0	0	0	0	0		0	0	0	0	75	25		0	0	0	0	50	50		0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	50	16.7	66.7	0	0	0	0	16.7	16.7	33.3	0	0	0	0	0	0	0	
Exiting Leg Total							0							4							2							0	6

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	North State Street							Horseshoe Pond Lane							North State Street							Penacook Street							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0	1	1	0	0	0	0	0	0	0	4
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	66.7	33.3		0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.250	0.750	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0	1	1	0	0	0	0	0	0	0	4
Exiting Leg							0							3							1							0	4
Total							0							6							2							0	8

Traffic Count (TCDS)

Home | Locate | Locate All | Email This | Auto-Locate: ☐

List View | All DIRs

Record 1 of 1 Goto Record go

Location ID	82099175	MPO ID	
Type	SPOT	HPMS ID	
On NHS	No	On HPMS	No
LRS ID	L0990079__	LRS Loc Pt.	
SF Group	04 (2024)	Route Type	
AF Group	04 (2024)	Route	
GF Group	E (2024)	Active	Yes
Class Dist Grp	Default (2024)	Category	3
Seas Clss Grp	Default (2024)		
WIM Group	Default (2024)		
QC Group	Default		
Fnct'l Class	Major Collector	Milepost	
Located On	Penacook St		
Loc On Alias	PENACOOK ST WEST OF US 3 (NO. STATE ST)		

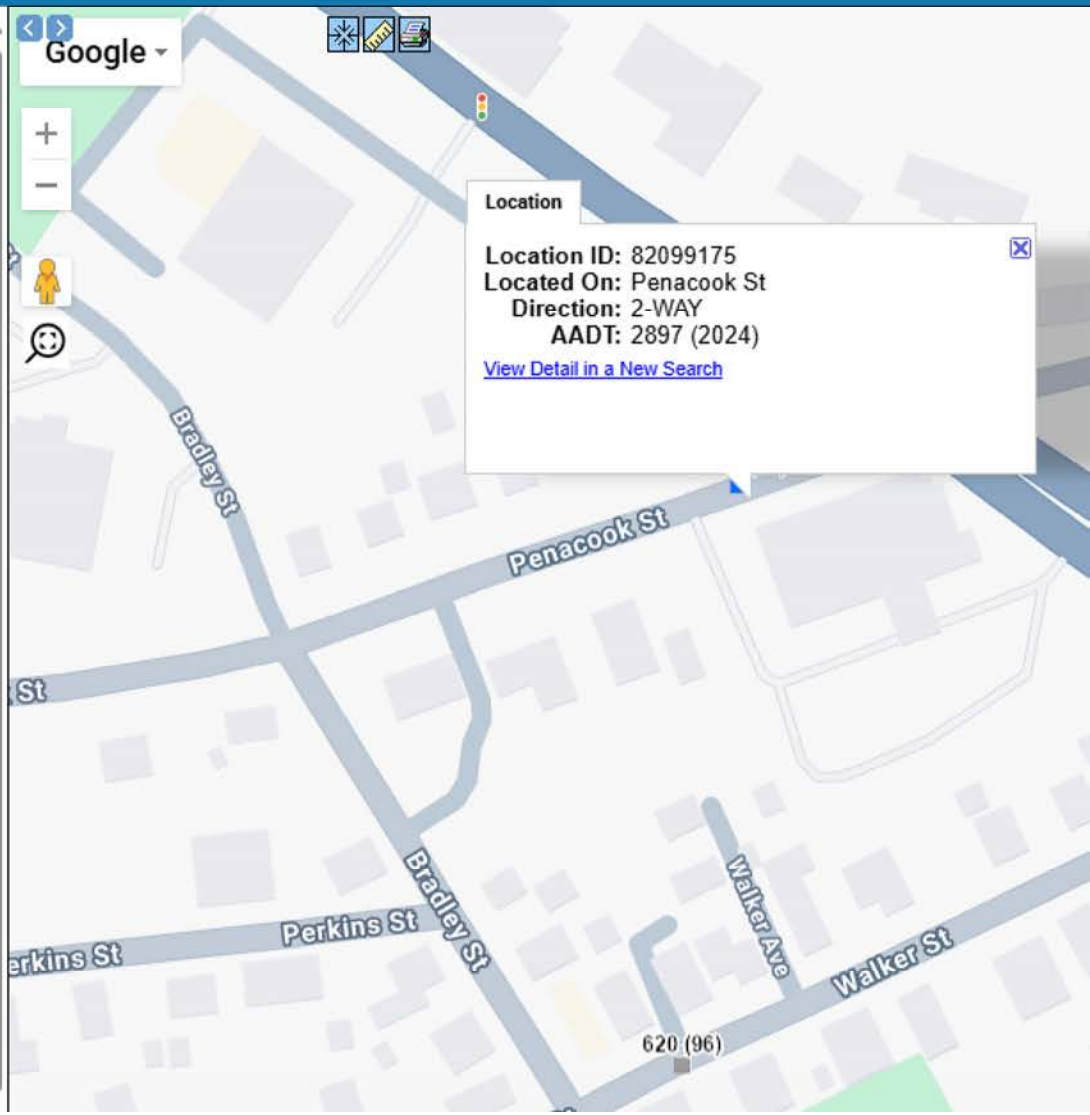
More Detail

STATION DATA

Directions: 2-WAY

AADT

	Year	AADT	DHV-30	K %	D %	PA	BC	Src
	2024	2,897[3]				2,683 (93%)	214 (7%)	Grown from 2023
	2023	2,840[3]		14		2,638 (93%)	202 (7%)	Grown from 2022
	2022	2,776	397	14		2,600 (94%)	176 (6%)	
	2021	3,988[3]		15		3,625 (91%)	363 (9%)	Grown from 2020
	2020	3,596[3]		15		3,272 (91%)	324 (9%)	Grown from 2019



Traffic Count (TCDS)

Home | Locate | Locate All | Email This | Auto-Locate: ☐

List View | All DIRs

Record 1 of 1 Goto Record go

Location ID	82099296	MPO ID	
Type	SPOT	HPMS ID	
On NHS	No	On HPMS	No
LRS ID	U0000003__	LRS Loc Pt.	
SF Group	04 (2024)	Route Type	
AF Group	04 (2024)	Route	US 3
GF Group	E (2024)	Active	Yes
Class Dist Grp	Default (2024)	Category	3
Seas Clss Grp	Default (2024)		
WIM Group	Default (2024)		
QC Group	Default		
Fnct'l Class	Minor Arterial	Milepost	
Located On	Bouton St		
Loc On Alias	US 3 (BOUTON ST) NORTH OF CHURCH ST		

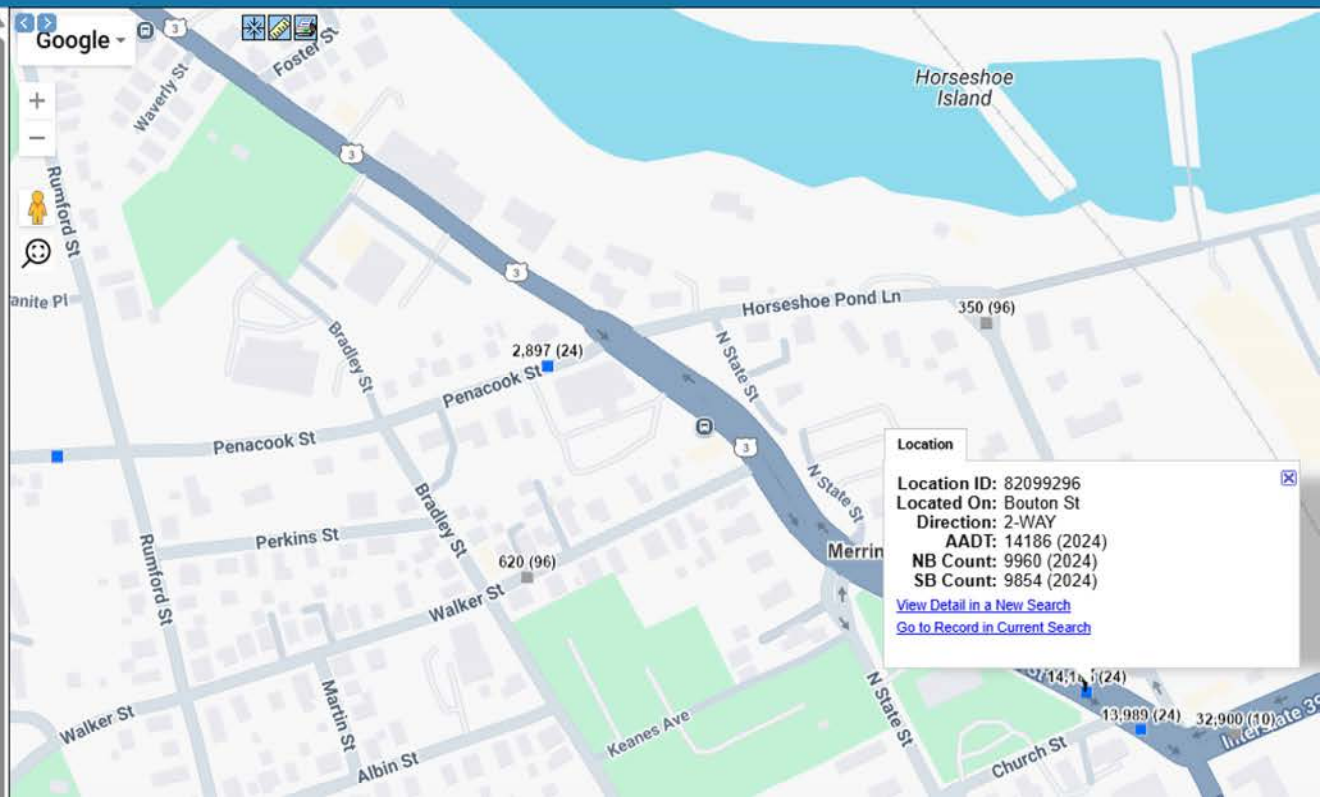
More Detail

STATION DATA

Directions: 2-WAY | NB | SB

AADT

	Year	AADT	DHV-30	K %	D %	PA	BC	Src
	2024	14,186[3]				13,137 (93%)	1,049 (7%)	Grown from 2023
	2023	13,908	1,304	9	54	12,920 (93%)	988 (7%)	
	2022	19,360[3]		11	54	18,140 (94%)	1,220 (6%)	Grown from 2021
	2021	18,999[3]		11	54	17,270 (91%)	1,729 (9%)	Grown from 2020
	2020	17,132	1,866	11	54	15,591 (91%)	1,541 (9%)	



Seasonal Adjustment Data

Year 2023 Monthly Data

Town: Concord
Station: 72099278
Location: US 3 (Fisherville Rd) north of Sewalls Falls Rd
Group: 4

Month	MADT	Adjustment to Average	Adjustment to Peak
January	10,134	1.08	1.16
February	10,259	1.07	1.15
March	10,363	1.06	1.13
April	10,995	1.00	1.07
May	11,761	0.93	1.00
June	***11,555***	***0.95***	***1.02***
July	11,204	0.98	1.05
August	11,346	0.97	1.04
September	11,238	0.97	1.05
October	11,293	0.97	1.04
November	10,691	1.02	1.10
December	10,580	1.04	1.11

AADT: 10,952
Peak Month: 11,761

Motor Vehicle Speed Data

Vehicle Speed Data - Concord, NH
Chappell Engineering Job # 25063
Date/Time: July 13, 2025 11:00 AM

Location: Penacook Street (Eastbound)

Obs	Speed	Obs	Speed
1	31	26	35
2	28	27	29
3	30	28	29
4	26	29	31
5	25	30	30
6	32	31	33
7	30	32	28
8	28	33	23
9	28	34	22
10	24	35	30
11	26	36	29
12	32	37	27
13	30	38	28
14	27	39	31
15	30	40	31
16	26	41	30
17	33	42	34
18	23	43	26
19	29	44	22
20	34	45	28
21	26	46	31
22	31	47	30
23	29	48	33
24	29	49	28
25	31	50	31

Average Speed 29
85th Percentile Speed 32

Location: Penacook Street (Westbound)

Obs	Speed	Obs	Speed
1	26	26	28
2	28	27	28
3	24	28	25
4	30	29	24
5	25	30	29
6	25	31	31
7	28	32	30
8	24	33	24
9	29	34	28
10	30	35	29
11	32	36	30
12	25	37	32
13	29	38	24
14	27	39	27
15	30	40	29
16	26	41	31
17	29	42	26
18	24	43	31
19	26	44	25
20	30	45	30
21	25	46	26
22	31	47	28
23	29	48	33
24	32	49	30
25	26	50	29

Average Speed 28
85th Percentile Speed 31

Location: N. State Street (Southbound)

Obs	Speed	Obs	Speed
1	34	26	37
2	32	27	34
3	36	28	30
4	30	29	32
5	37	30	24
6	34	31	24
7	29	32	41
8	31	33	34
9	33	34	31
10	32	35	38
11	35	36	35
12	33	37	36
13	39	38	29
14	34	39	33
15	31	40	36
16	28	41	35
17	30	42	32
18	32	43	26
19	29	44	31
20	32	45	32
21	34	46	34
22	30	47	32
23	36	48	36
24	32	49	37
25	34	50	35

Average Speed 33
85th Percentile Speed 36

Public Transportation Information

CAT CONCORD AREA TRANSIT

Transit System Map
Bus Schedules
Rider Guide

FREE *public transportation in Concord, New Hampshire, and surrounding communities.*

Where will you go today?

Effective November 2023

Includes the new Concord-Laconia Connector

603-225-1989
concordareatransit.com

Concord Area Transit provides **FREE** *public transportation for Concord, New Hampshire, and surrounding communities.*

Whether you're going to work, school, shopping or just out for fun, use this guide to learn where the bus can take you.

Plan Your Trip

Use the map and schedules to find your route, bus stop and pickup time.

Call CAT at 603-225-1989 *for help planning your trip, or use Google Maps on your phone or computer to plan your trip.*

Catch Your Bus

CAT buses pick up and drop off only at signed bus stops. All bus stop locations are shown on the map. Arrive at your stop a few minutes early. As the bus approaches, you'll see the route name in the electronic sign above the driver. Signal to the driver so they know you'd like to board.

Signal Your Stop

About a block before your stop, let the driver know you want to get off. Pull the cord, press the tape or just tell the driver your stop is coming up.

Accessibility

All CAT buses are wheelchair accessible via lifts or ramps. Once on board, the transit driver will secure your wheelchair or scooter.

Bikes on the Bus

All CAT buses are equipped with bike racks. Ride your bike to the bus stop and then take it along for easy access to your destination.

Rules of the Road

For everyone's comfort and safety, please:

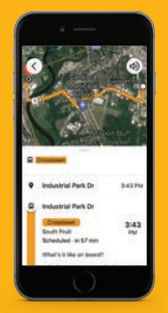
- *No food or drink on the bus.*
- *No smoking on the bus.*
- *Mobility devices (wheelchairs and scooters) are required to be secured by the driver.*
- *Use headphones when listening to audio.*
- *Unruly passengers will not be transported.*

For more information, please visit concordareatransit.com.

Title VI

CAPBM Transportation Services operates its programs and services without regard to race, color, and national origin in accordance with Title VI of the Civil Rights Act. Any person who believes she or he has been aggrieved by any unlawful discriminatory practice under Title VI may file a complaint with the CAPBM Transportation Services. For more information on the CAPBM Transportation Services' civil rights program, the procedures to file a complaint, or to file a complaint, please contact Cindy Yanski at 603-225-1989 ext. 1210, (TTY 800-735-2964); email cyanski@capbm.org; or visit our administrative office at 2 Industrial Park Dr., Concord, NH 03301. For more information, visit www.concordareatransit.com. For transportation-related Title VI matters, a complaint may also be filed directly with the New Hampshire Department of Transportation, Attn: Shannon Aiton, Title VI Coordinator, PO Box 483, 7 Hazen Drive Concord, NH 03302-0483; 603-271-2467; TTY: 800-735-2964; titlevi@dot.nh.gov. Federal Transit Administration, Office of Civil Rights, Attention: Complaint Team, East Building, 5th Floor-TCR, 1200 New Jersey Ave., SE Washington, DC, 20590. If information is needed in another language, contact Cindy Yanski at 603-225-1989 ext. 1210, (TTY 800-735-2964); email cyanski@capbm.org.

Plan your trip with Google Maps.



Just put in your start point and destination, then click on the transit icon to get detailed CAT route and schedule information.

Learn more at **concordareatransit.com**

Service Alerts

Stay up to date for Service Alerts at **concordareatransit.com/service-alerts** *and on our Facebook page at* **@CAPBMTransit**

Travel Training

If you'd like to learn more about using CAT and MST services, we offer travel training programs. Call our Travel Trainer at 603-225-1989 *to learn more.*

Ridesharing

NH Rideshare provides Rideshare information and matching. Visit **www.commutesmartnh.org** *to get started.*

Need help?

Call the Mobility Manager with your transportation questions at 603-225-1989. The Mobility Manager is knowledgeable about many transportation options in the region.

Concord Area Transit
PO Box 1016,
Concord, NH 03302-1016

603-225-1989 ***concordareatransit.com***

A service of

COMMUNITY ACTION PROGRAM
BELKNAP-MERRIMACK COUNTIES, INC.
EMPOWERING COMMUNITIES SINCE 1965

Concord-Laconia Connector

Monday - Friday Northbound

	Concord →			Penacook →				Boscawen →			Franklin →			Tilton →				Laconia
	Eagle Square ①	NH Correctional Facility	Fisherville Rd & Cremin St	Penacook Park ①	Boscawen Park & Ride ②	Merchants Way ③	King St. & Depot St. Boscawen ④	NH Veteran's Cemetery* ⑤	Merrimack County Jail ⑥	Merrimack County Nursing Home ⑦	Franklin Industrial Park ⑧	Memorial St. downtown Franklin ⑨	Walmart - Tilton ⑩	Hobby Lobby Tilton* ⑪	Tanger Outlets Tilton ⑫	Belknap Marketplace ⑬	Concord Hospital - Laconia ⑭	Church St Parking - Dwntn Laconia ⑮
AM	5:45	5:52	5:58	6:03	6:06	6:09	6:15	*6:18	6:23	6:28	6:35	6:42	6:55	*6:57	7:03	7:18	7:26	7:31
				9:01	9:04	9:07	9:13	*9:16	9:21	9:26	9:33	9:40	9:53	*10:00	10:20	10:35	10:43	10:53
PM				**12:29**	**12:32**	**12:40**	**12:46**	***12:49**	**12:54**	**12:59**	**1:06**	**1:13**	**1:26**	***1:33**	**1:41**	**1:56**	**2:04**	**2:20**
				4:00	**4:03**	**4:06**	**4:12**	***4:15**	**4:20**	**4:25**	**4:32**	**4:39**	**4:52**	***4:59**	**5:14**	**5:29**	**5:37**	**5:42**

*** these stops on request only. To be dropped off, ask driver. To be picked up, call CAT at 603-225-1989.**

Monday - Friday Southbound

	Laconia →			Tilton →			Franklin →			Boscawen →			Penacook →				Concord
	Concord Hospital - Laconia ⑭	Church St Parking - Dwntn Laconia ⑮	Belknap Marketplace ⑬	Tanger Outlets Tilton ⑫	Hobby Lobby Tilton* ⑪	Walmart - Tilton ⑩	Memorial St. downtown Franklin ⑨	Franklin Industrial Park ⑧	Merrimack County Nursing Home ⑦	Merrimack County Jail ⑥	NH Veteran's Cemetery* ⑤	King St. & Depot St. Boscawen ④	Boscawen Park & Ride ②	Merchants Way ③	Penacook Park ①	Fisherville Rd & Cremin St	NH Correctional Facility	State House ①
AM	7:26	7:31	7:39	7:54	*7:59	8:06	8:19	8:26	8:33	8:38	*8:43	8:46	8:49	8:55	9:01			
	10:43	10:53	11:01	11:16	*11:21	11:28	11:41	11:48	11:55	**12:00**	***12:05**	**12:08**	**12:11**	**12:22**	**12:29**			
PM	**2:04**	**2:20**	**2:28**	**2:48**	***2:53**	**3:00**	**3:13**	**3:20**	**3:27**	**3:32**	***3:37**	**3:41**	**3:44**	**3:54**	**4:00**			
	5:37	**5:42**	**5:50**	**6:05**	***6:10**	**6:17**	**6:30**	**6:37**	**6:44**	**6:49**	***6:54**	**6:57**	**7:00**	**7:03**	**7:09**	**7:14**	**7:20**	**7:27**

*** these stops on request only. To be dropped off, ask driver. To be picked up, call CAT at 603-225-1989.**

Transportation for Seniors and Persons with Disabilities

Origin-to-destination transportation is provided to persons with disabilities and seniors in the greater Concord area, as well as communities throughout Belknap and Merrimack Counties. Service is by advance reservation and vehicles are wheelchair accessible.

For more information about eligibility, call the CAT office at 603-225-1989
(TTY Relay 7-1-1) or for TTY 1-800-735-2964.

CAT ADA Paratransit 603-225-1989

Reservations at least 24 hours in advance

- *For persons with disabilities who are unable to use fixed-route bus service and are eligible under the Americans with Disabilities Act (ADA) guidelines.*
- *Serves locations within ¾ mile of a CAT bus route; same hours as CAT fixed-route services.*

CAT Senior Bus 603-225-1989

Reservations 7 days in advance up to 2:30pm the day before

- *For seniors (60+) in the Greater Concord Area.*
- *Operates 8am to 3pm. Serves Concord on Mon, Wed, Fri; towns north of Concord on Tues; towns south of Concord on Thurs.*

Mid-State Transit 603-225-1989

Reservations 7 days in advance up to 2:30pm the day before

- *For seniors (60+) and persons with disabilities outside of the Concord area.*
- *M-F 8:30am to 3pm. Serves different towns on different days – call to learn about service in your area.*

Penacook Route

Monday - Friday

Southbound to downtown → | Northbound from downtown →

	Penacook Park (5)	Briar Pipe Apartments (6)	Fisherville Rd & Cremin St (4)	NH Correctional Facility (3)	**State House (1)**	Concord Hospital (2)	**Eagle Square (1)**	NH Correctional Facility (3)	Fisherville Rd & Cremin St (4)	Penacook Park (5)	Briar Pipe Apartments (6)
AM					6:20	6:27	6:40	6:47	6:53	#	6:59
	#	6:59	7:03	7:09	7:16	7:26	7:41	7:48	7:54	#	8:00
	#	8:00	8:04	8:10	8:17	8:27	8:42	8:49	8:55	9:01	9:03
	9:01	9:03	9:05	9:11	9:18–9:38*	9:48	10:03	10:10	10:16	#	10:22
	#	10:22	10:26	10:32	10:39	10:49	11:04	11:12	11:18	#	11:24
	#	11:24	11:28	11:34	11:44	11:54	**12:09**	**12:17**	**12:23**	**12:29**	**12:31**
PM	**12:29**	**12:31**	**12:33**	**12:39**	**12:49**	**12:59**	**1:14**	**1:22**	**1:28**	#	**1:34**
	#	**1:34**	**1:38**	**1:44**	**1:54**	**2:04**	**2:19**	**2:27**	**2:33**	#	**2:39**
	#	**2:39**	**2:43**	**2:49**	**2:59–3:15***	**3:25**	**3:40**	**3:48**	**3:54**	**4:00**	**4:02**
	4:00	**4:02**	**4:04**	**4:10**	**4:20**	**4:30**	**4:45**	**4:53**	**4:58**	#	**5:04**
	#	**5:04**	**5:08**	**5:14**	**5:24**	**5:34**	**5:44**	**5:52**	**5:58**	#	**6:06**
	#	**6:06**	**6:10**	**6:16**	**6:26**						

* bus arrives at first time shown; departs at second time shown.

\# these stops on request only. To be dropped off, ask driver. To be picked up, call 603-225-1989.

Crosstown Route

Monday - Friday

Westbound to downtown → | Eastbound from downtown →

	Industrial Park Dr (11)	Airport Rd & Quincy St (12)	Everett Arena (13)	Market Basket Fort Eddy Rd (10)	NHTI (9)	Commercial St at Horseshoe Pond (8)	**State House (1)**	Clinton St at District Court (6)	South Fruit St (7)	**Eagle Square (1)**	Commercial St at Horseshoe Pond (8)	NHTI (9)	Market Basket Fort Eddy Rd (10)	Industrial Park Dr (11)
AM	5:50	5:55	5:58	6:01	6:05	6:08	6:15	6:20	6:24	6:31	6:37	6:40	6:44	6:51
	6:51	6:56	6:59	7:02	7:06	7:09	7:15	7:20	7:24	7:31	7:37	7:40	7:44	7:51
	7:51	7:56	7:59	8:02	8:06	8:09	8:15	8:20	8:24	8:31	8:37	8:40	8:44	8:51
	8:51	8:56	8:59	9:02	9:06	9:09	9:15–9:35*	9:40	9:44	9:51	9:57	10:00	10:04	10:11
	10:11	10:16	10:19	10:22	10:26	10:29	10:35	10:41	10:45	10:52	10:58	11:01	11:05	11:12
	11:12	11:17	11:20	11:23	11:27	11:30	11:36	11:42	11:46	11:53–11:55*	**12:01**	**12:04**	**12:08**	**12:15**
PM	**12:15**	**12:20**	**12:23**	**12:26**	**12:30**	**12:33**	**12:39**	**12:45**	**12:49**	**12:56**	**1:02**	**1:05**	**1:09**	**1:16**
	1:16	**1:21**	**1:24**	**1:27**	**1:31**	**1:34**	**1:40**	**1:46**	**1:50**	**1:57**	**2:03**	**2:06**	**2:10**	**2:17**
	2:19	**2:24**	**2:27**	**2:30**	**2:34**	**2:37**	**2:43–3:03***	**3:09**	**3:13**	**3:20**	**3:26**	**3:29**	**3:33**	**3:40**
	3:43	**3:48**	**3:51**	**3:54**	**3:58**	**4:01**	**4:07**	**4:13**	**4:17**	**4:24**	**4:30**	**4:33**	**4:37**	**4:44**
	4:44	**4:49**	**4:52**	**4:55**	**4:59**	**5:02**	**5:08**	**5:15**	**5:19**	**5:26**	**5:32**	**5:35**	**5:39**	**5:46**
	5:46	**5:53**	**5:56**	**5:59**	**6:03**	**6:06**	**6:12**	**6:19**	**6:23**	**6:30**				

* bus arrives at first time shown; departs at second time shown.

Heights Route

Monday - Friday

Westbound to downtown → | Eastbound from downtown →

	Walmart (20)	Havenwood Heritage Heights (18)	Everett Arena (17)	Concord Bus Terminal (15)	**State House (1)**	S Main St & Thorndike St (14)	**Eagle Square (1)**	Post Office (16)	Havenwood Heritage Heights (18)	Walmart (19)
AM	5:50	5:58	6:01	6:04	6:06	6:10	6:24	6:29	6:37	6:51
	6:51	6:59	7:04	7:07	7:09	7:13	7:27	7:32	7:40	7:54
	7:54	8:01	8:06	8:09	8:11	8:15	8:29–8:49*	8:54	9:02	9:16
	9:16	9:23	9:28	9:31	9:33	9:37	9:51	9:56	10:04	10:18
	10:18	10:25	10:30	10:33	10:35	10:39	10:53	10:58	11:06	11:20
	11:20	11:28	11:33	11:36	11:38	11:42	11:56	**12:01**	**12:09**	**12:23**
PM	**12:23**	**12:31**	**12:36**	**12:39**	**12:41**	**12:45**	**12:59**	**1:04**	**1:12**	**1:26**
	1:26	**1:34**	**1:39**	**1:42**	**1:44**	**1:48**	**2:02**	**2:07**	**2:15**	**2:29**
	2:29	**2:37**	**2:42**	**2:45**	**2:47–3:09***	**3:13**	**3:27**	**3:32**	**3:40**	**3:54**
	3:54	**4:02**	**4:07**	**4:10**	**4:17**	**4:21**	**4:35**	**4:40**	**4:48**	**5:02**
	5:02	**5:10**	**5:15**	**5:18**	**5:25**	**5:29**	**5:45**	**5:50**	**5:58**	**6:12**
	6:12	**6:20**	**6:25**	**6:28**	**6:30**	**6:34**				

* bus arrives at first time shown; departs at second time shown.

All routes operate as continuous loops
On all routes, each trip continues as the next trip on the schedule.

Bus Route
One-way portion of route
Bus Stop location
On-request route segment See notes on map for details
Time location on schedule
If your bus stop is between these points, use these times to gauge when the bus will arrive. Please arrive at your stop a few minutes early.
Downtown Transfer Point (State House and Eagle Square bus stops)
Transfer between all routes at these bus stops.

Service Days and Holidays

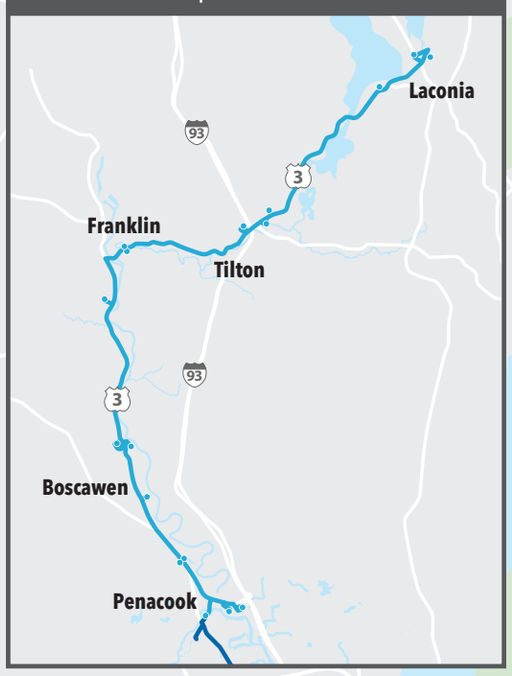
CAT operates **Monday thru Friday**. *There is* **no** *CAT service on the following holidays:*

- New Year's Day
- Presidents' Day
- Independence Day
- Veterans Day
- Christmas Day
- MLK Day
- Memorial Day
- Labor Day
- Thanksgiving Day

Concord-Laconia Connector

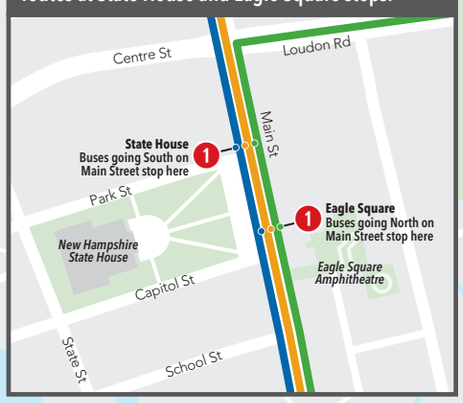
Service to/from Boscawen, Franklin, Tilton, Laconia

Transfer to/from Penacook Route at Penacook Park.
See other side for map and schedule.



Downtown Concord

Transfer between Crosstown, Heights, and Penacook routes at State House and Eagle Square stops.



Schedules, routes, fares and policies subject to change. See concordareatransit.com for updates.

Map for reference only. Information is believed to be accurate but accuracy is not guaranteed.

Concord Bus Terminal:
Westbound Heights Route to downtown serves the bus terminal on every trip.
On eastbound trips from downtown, service must be requested:
To be dropped off, ask driver. To be picked up, call CAT at 603-225-1989.

Service to DHHS available on request.
To be dropped off at DHHS, ask driver.
To be picked up at DHSS, call CAT at 603-225-1989.

Effective November 2023

CAT CONCORD AREA TRANSIT

603-225-1989
concordareatransit.com

Background Growth Information

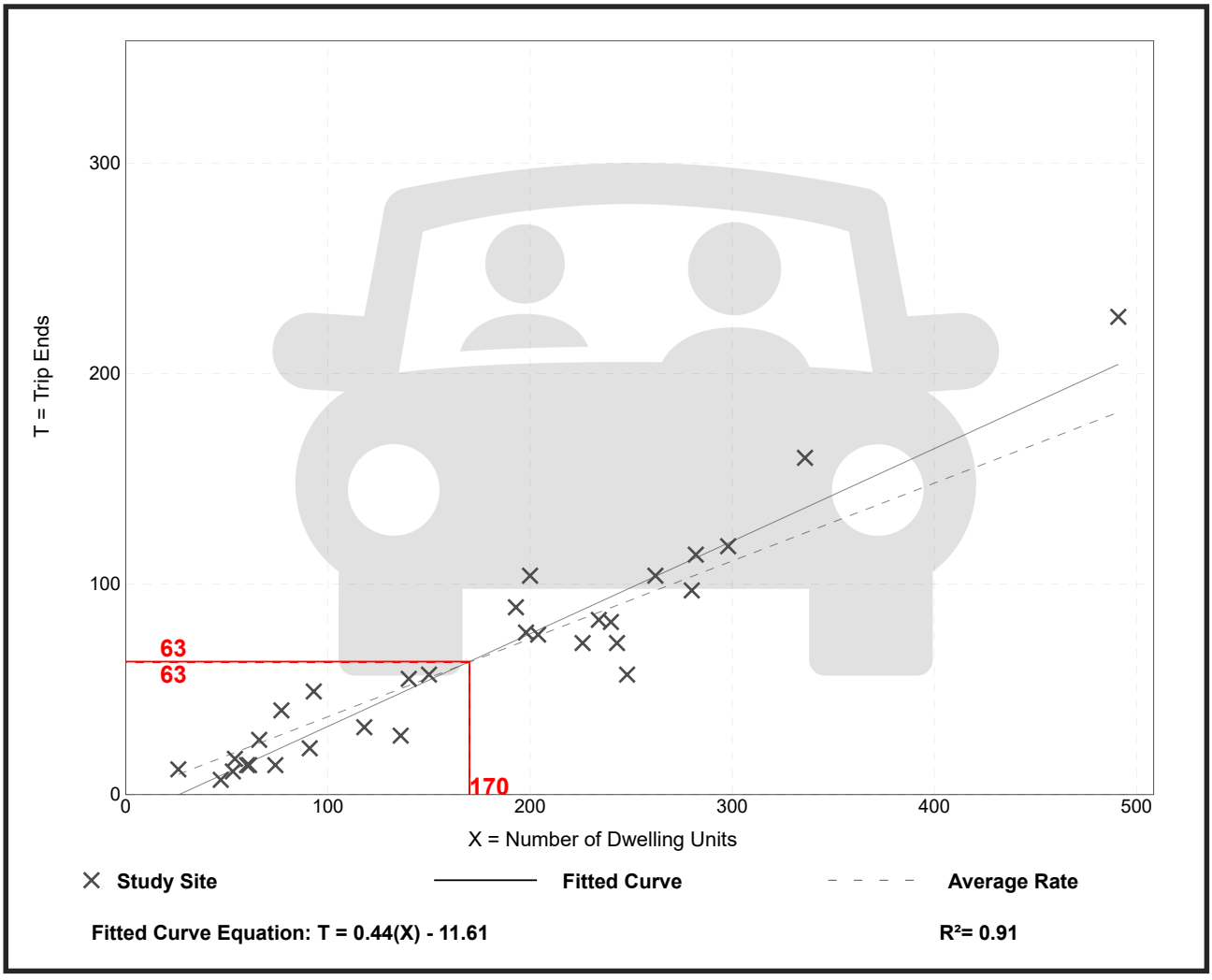
Multifamily Housing (Mid-Rise)
Not Close to Rail Transit (221)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 30
Avg. Num. of Dwelling Units: 173
Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.37	0.15 - 0.53	0.09

Data Plot and Equation



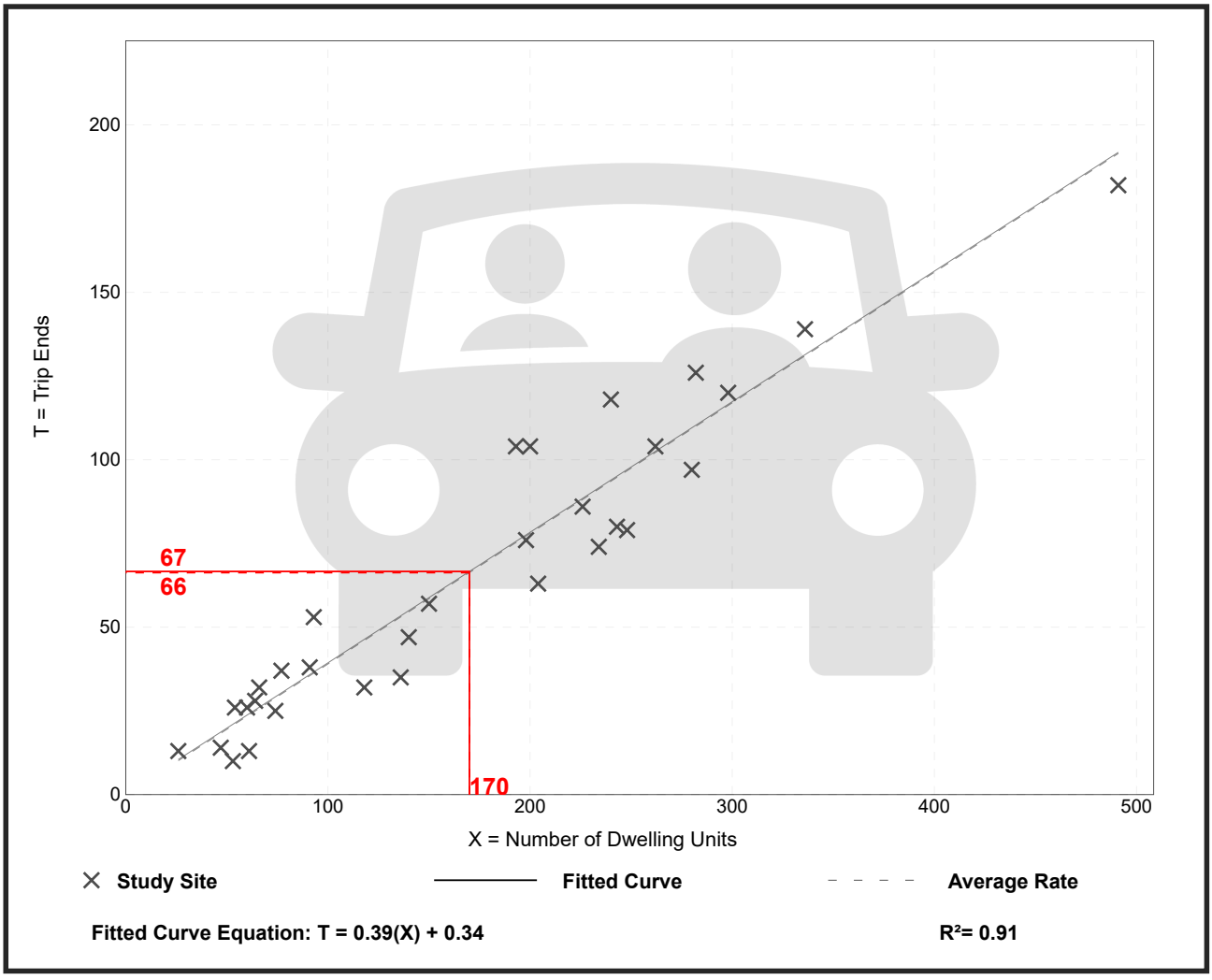
Multifamily Housing (Mid-Rise)
Not Close to Rail Transit (221)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 31
Avg. Num. of Dwelling Units: 169
Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.39	0.19 - 0.57	0.08

Data Plot and Equation



Trip Generation Calculations

Medical-Dental Office Building - Stand-Alone
(720)

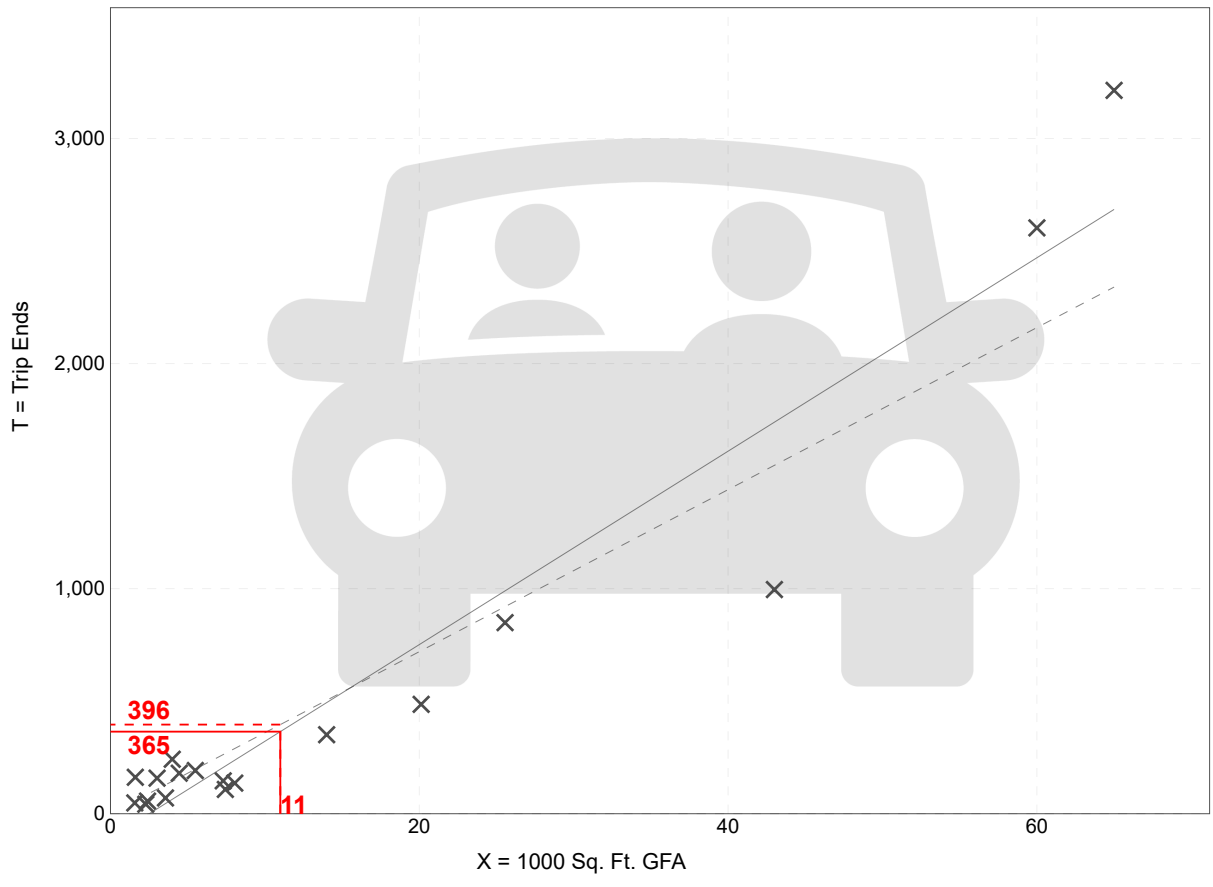
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 18
Avg. 1000 Sq. Ft. GFA: 15
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
36.00	14.52 - 100.75	13.38

Data Plot and Equation



Fitted Curve Equation: T = 42.97(X) - 108.01

R^2= 0.92

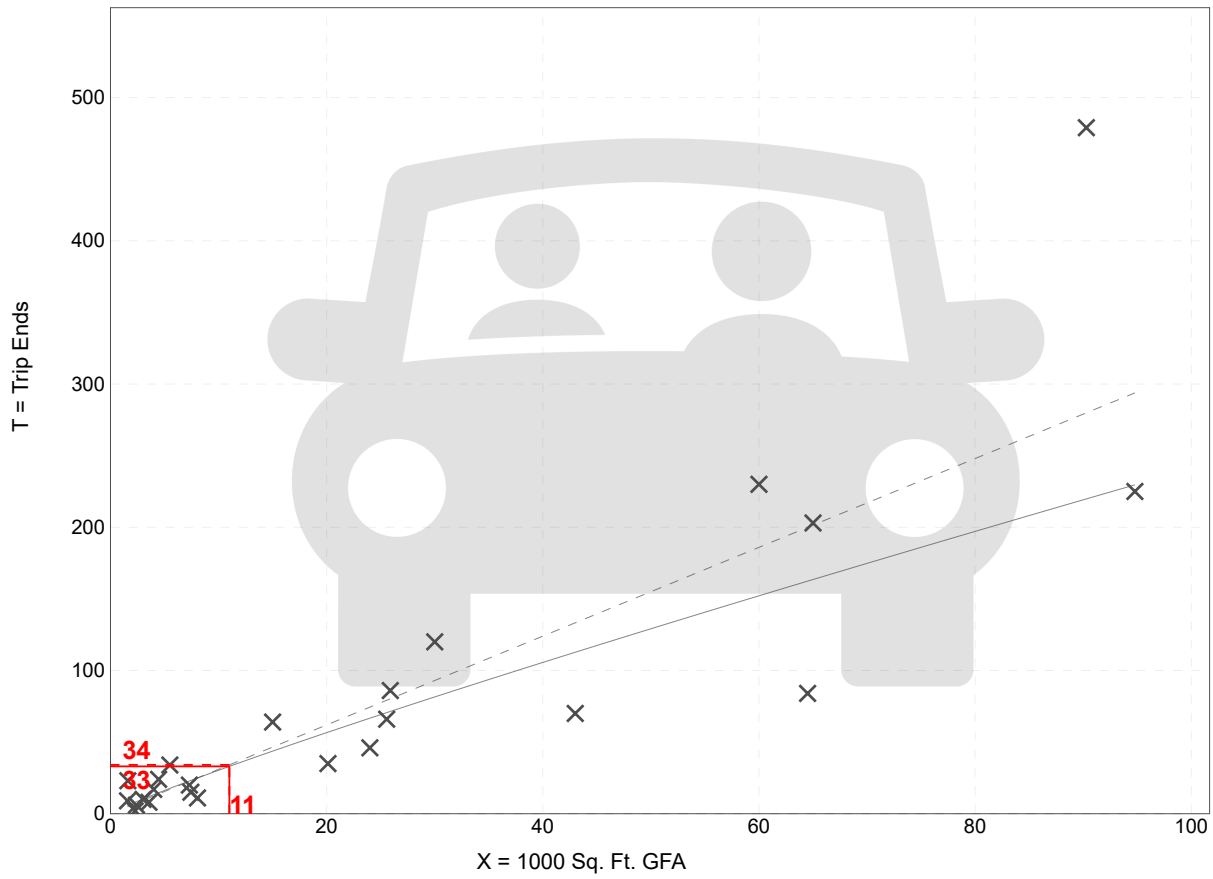
Medical-Dental Office Building - Stand-Alone
(720)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	24
Avg. 1000 Sq. Ft. GFA:	25
Directional Distribution:	79% entering, 21% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.10	0.87 - 14.30	1.49

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.90 Ln(X) + 1.34 **R^2= 0.80**

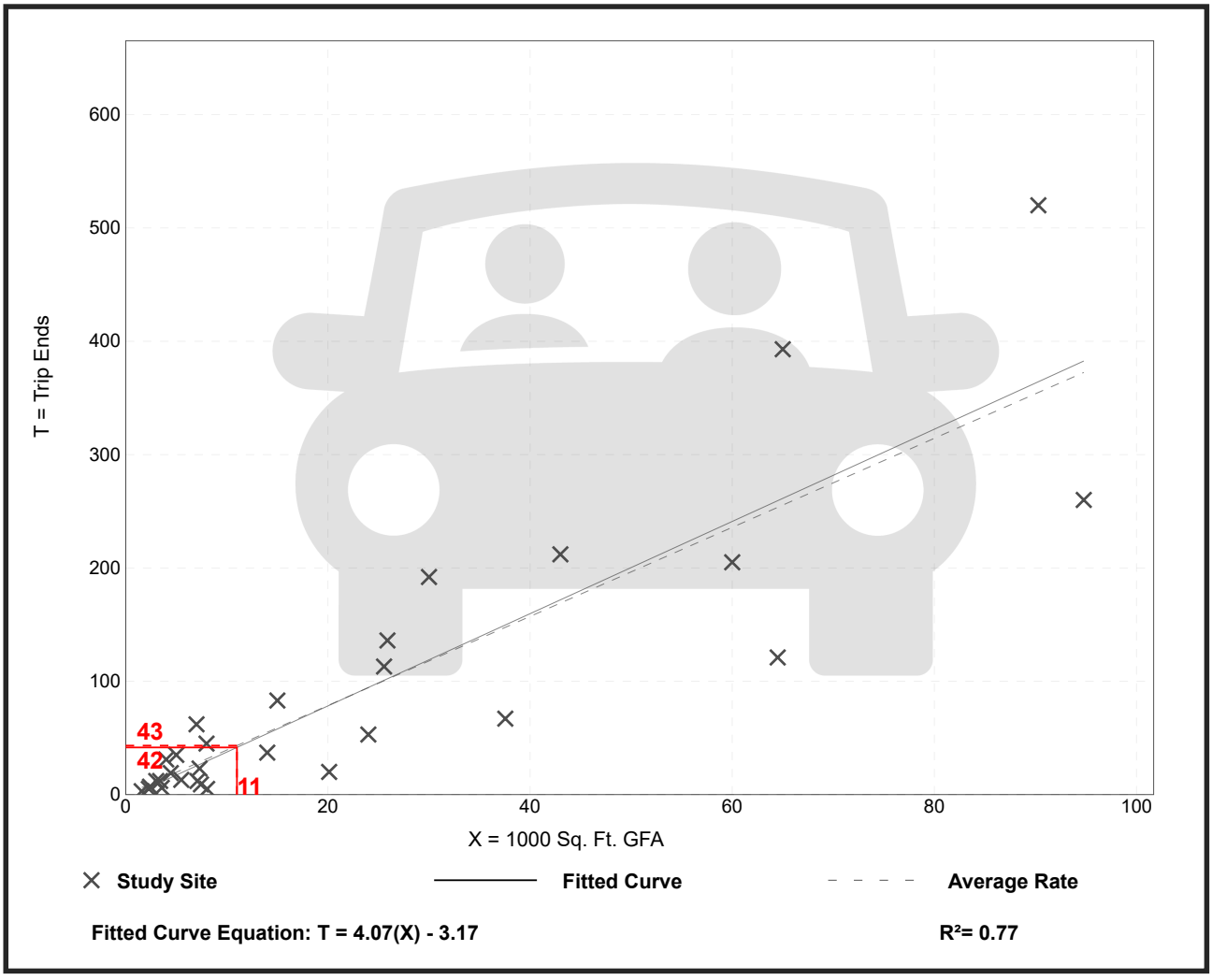
Medical-Dental Office Building - Stand-Alone
(720)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	30
Avg. 1000 Sq. Ft. GFA:	23
Directional Distribution:	30% entering, 70% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.93	0.62 - 8.86	1.86

Data Plot and Equation



Drive-in Bank
(912)

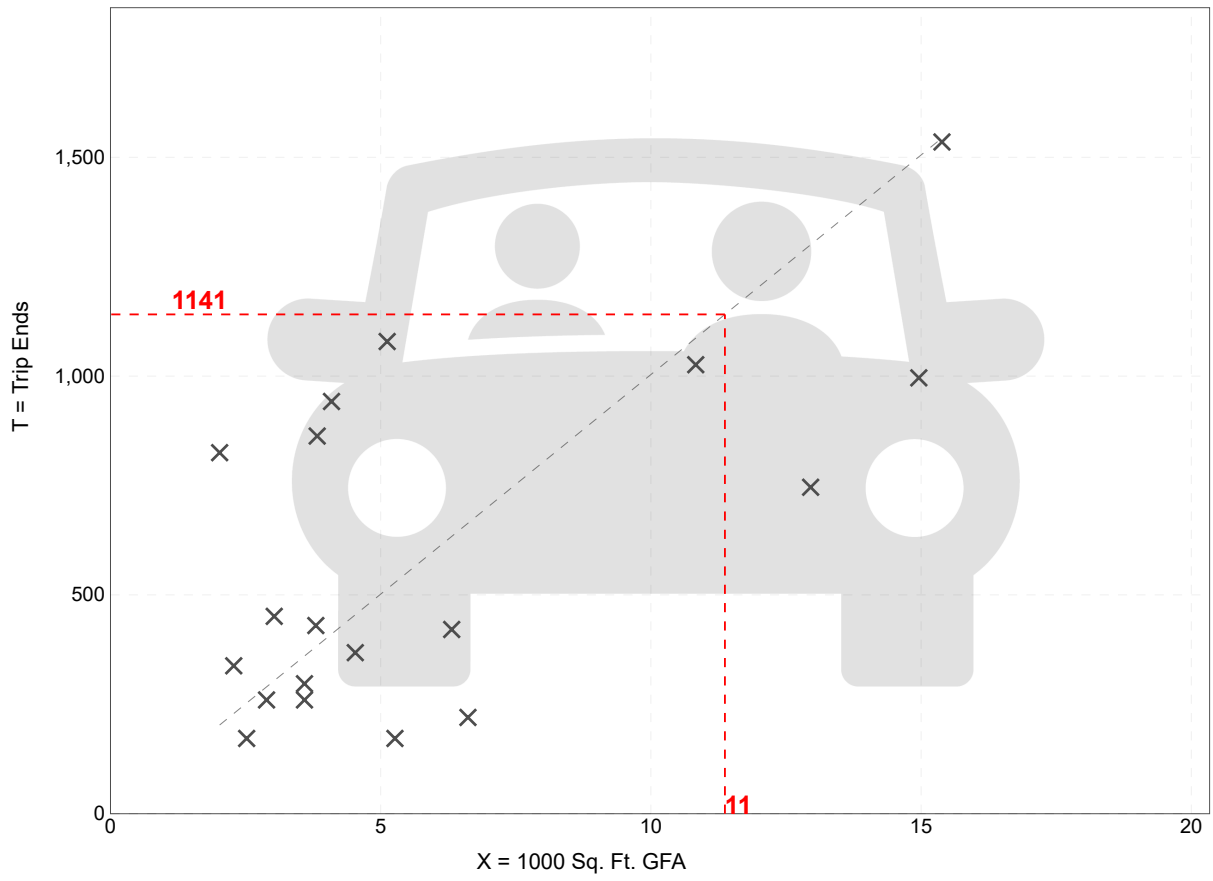
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 19
Avg. 1000 Sq. Ft. GFA: 6
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
100.35	32.67 - 408.42	68.62

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ****

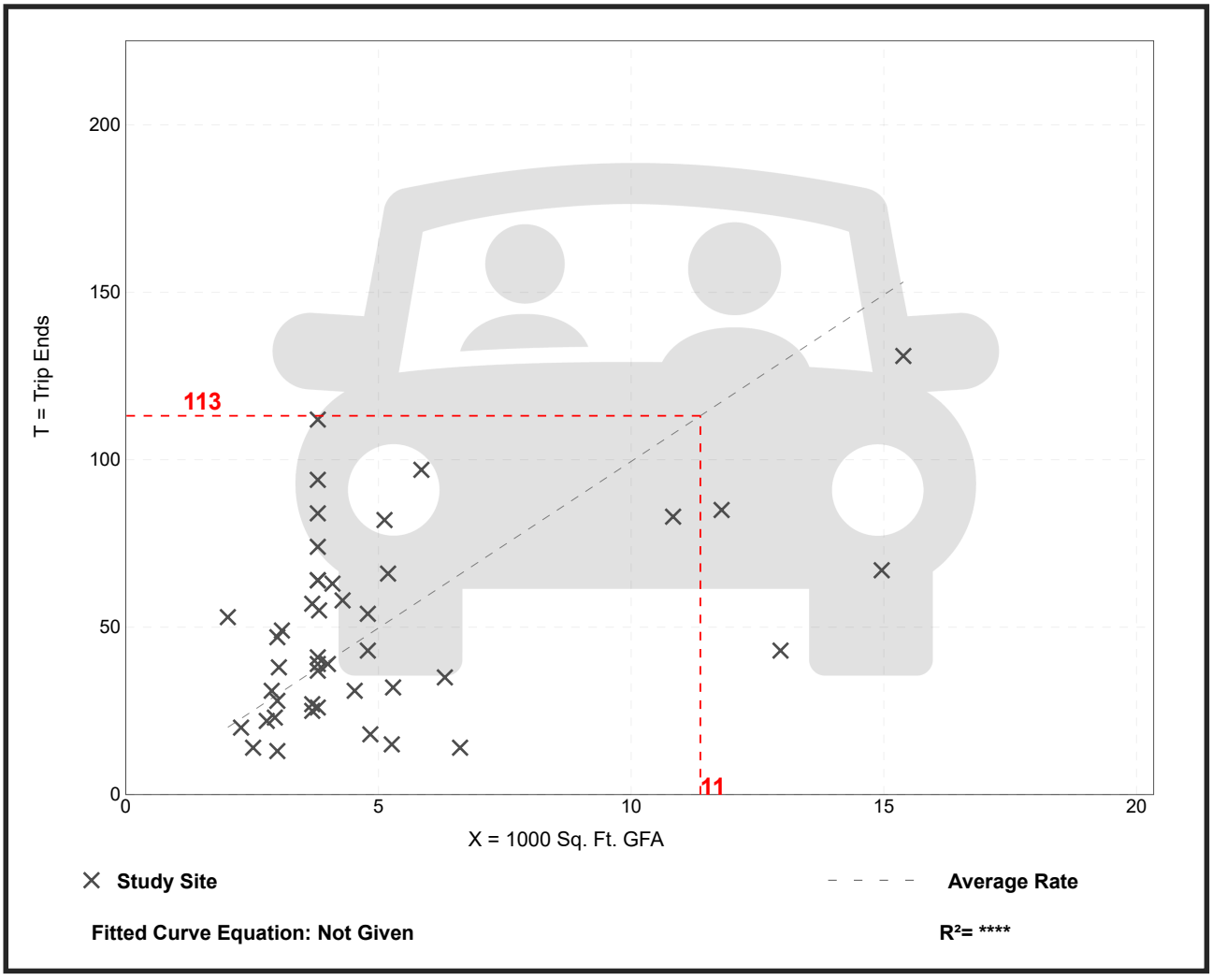
Drive-in Bank
(912)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 44
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 58% entering, 42% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.95	2.12 - 29.47	6.00

Data Plot and Equation



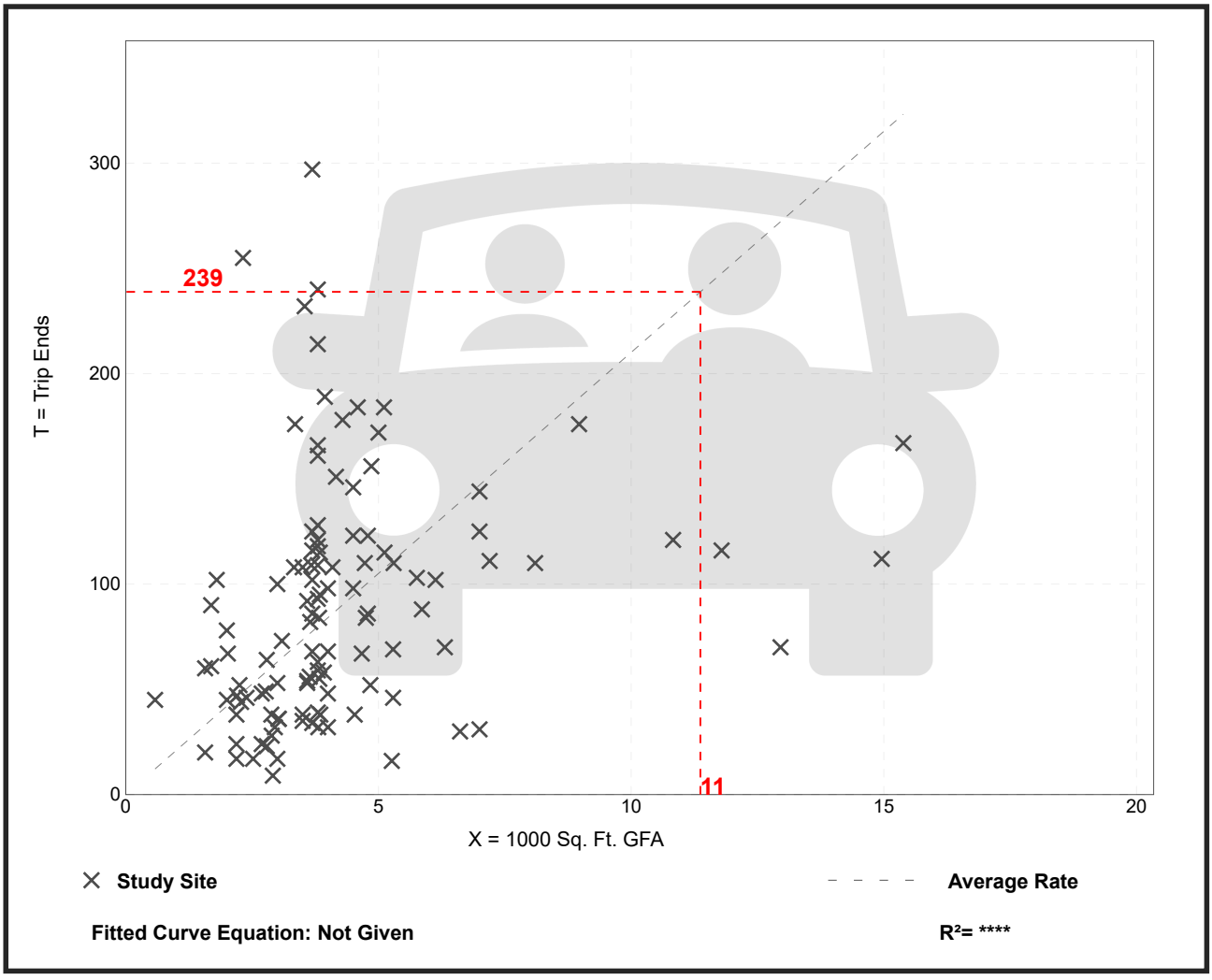
Drive-in Bank
(912)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 114
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 50% entering, 50% exiting

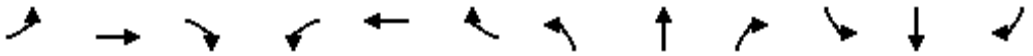
Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
21.01	3.04 - 109.91	15.13

Data Plot and Equation



Capacity Analysis Worksheets

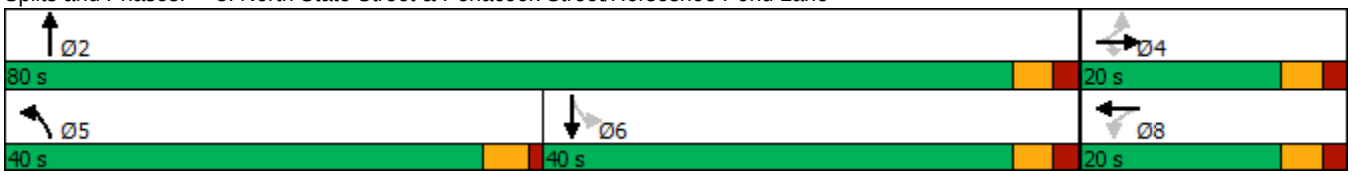


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	2	139	14	1	2	182	430	3	1	759	14
Future Volume (vph)	16	2	139	14	1	2	182	430	3	1	759	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	16	16	16	11	11	11	11	11	11
Storage Length (ft)	150		0	0		0	0		0	200		200
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.983			0.999			0.997	
Flt Protected		0.958			0.960		0.950			0.950		
Satd. Flow (prot)	0	1760	1531	0	2032	0	1745	1731	0	1745	3380	0
Flt Permitted		0.781			0.794		0.950			0.484		
Satd. Flow (perm)	0	1434	1531	0	1681	0	1745	1731	0	889	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			199		3			1			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		345			563			187			540	
Travel Time (s)		7.8			12.8			4.3			12.3	
Peak Hour Factor	0.70	0.70	0.70	0.71	0.71	0.71	0.88	0.88	0.88	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	6%	1%	0%	3%	0%
Adj. Flow (vph)	23	3	199	20	1	3	207	489	3	1	843	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	199	0	24	0	207	492	0	1	859	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.85	0.85	0.85	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0		10.0	15.0		15.0	15.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0		40.0	80.0		40.0	40.0	
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%		40.0%	80.0%		40.0%	40.0%	
Maximum Green (s)	15.0	15.0	15.0	15.0	15.0		35.5	75.0		35.0	35.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.5	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0	-2.0		-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		3.0	3.0		3.0		2.5	3.0		3.0	3.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		Min	Min	
Act Effct Green (s)		9.5	9.5		9.5		15.3	42.7		24.7	24.7	
Actuated g/C Ratio		0.16	0.16		0.16		0.26	0.73		0.42	0.42	
v/c Ratio		0.11	0.48		0.09		0.45	0.39		0.00	0.60	
Control Delay		26.6	9.3		24.2		23.7	4.0		11.0	15.5	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		26.6	9.3		24.2		23.7	4.0		11.0	15.5	
LOS		C	A		C		C	A		B	B	
Approach Delay		11.3			24.2			9.8			15.5	
Approach LOS		B			C			A			B	

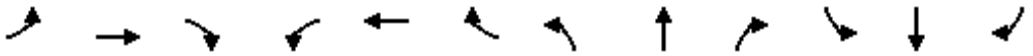
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 58.5			
Natural Cycle: 40			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 12.9		Intersection LOS: B	
Intersection Capacity Utilization 49.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: North State Street & Penacook Street/Horseshoe Pond Lane



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	26	199	24	207	492	1	859
v/c Ratio	0.11	0.48	0.09	0.45	0.39	0.00	0.60
Control Delay	26.6	9.3	24.2	23.7	4.0	11.0	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.6	9.3	24.2	23.7	4.0	11.0	15.5
Queue Length 50th (ft)	8	0	6	56	41	0	109
Queue Length 95th (ft)	25	21	23	145	100	3	217
Internal Link Dist (ft)	265		483		107		460
Turn Bay Length (ft)						200	
Base Capacity (vph)	438	605	515	1175	1712	590	2247
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	0.06	0.33	0.05	0.18	0.29	0.00	0.38

Intersection Summary

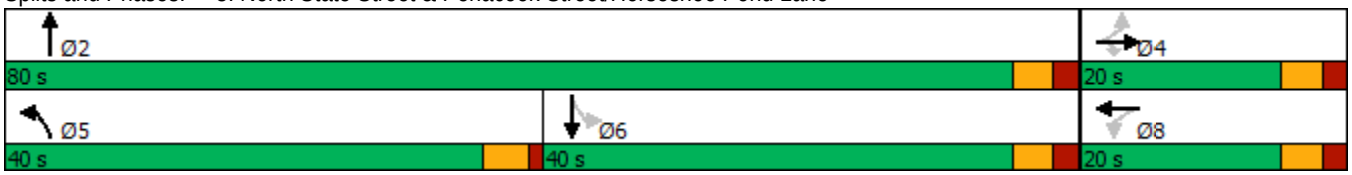


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	6	191	22	6	5	136	898	6	3	569	1
Future Volume (vph)	52	6	191	22	6	5	136	898	6	3	569	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	16	16	16	11	11	11	11	11	11
Storage Length (ft)	150		0	0		0	0		0	200		200
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.980			0.999				
Flt Protected		0.957			0.967		0.950			0.950		
Satd. Flow (prot)	0	1727	1561	0	2041	0	1745	1799	0	1745	3421	0
Flt Permitted		0.740			0.810		0.950			0.287		
Satd. Flow (perm)	0	1335	1561	0	1709	0	1745	1799	0	527	3421	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			236		6			1				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		345			563			187			540	
Travel Time (s)		7.8			12.8			4.3			12.3	
Peak Hour Factor	0.81	0.81	0.81	0.83	0.83	0.83	0.96	0.96	0.96	0.86	0.86	0.86
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	2%	0%	0%	2%	0%
Adj. Flow (vph)	64	7	236	27	7	6	142	935	6	3	662	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	71	236	0	40	0	142	941	0	3	663	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.85	0.85	0.85	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0		10.0	15.0		15.0	15.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0		40.0	80.0		40.0	40.0	
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%		40.0%	80.0%		40.0%	40.0%	
Maximum Green (s)	15.0	15.0	15.0	15.0	15.0		35.5	75.0		35.0	35.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.5	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0	-2.0		-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		3.0	3.0		3.0		2.5	3.0		3.0	3.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		Min	Min	
Act Effct Green (s)		11.4	11.4		11.4		13.1	39.0		26.8	26.8	
Actuated g/C Ratio		0.20	0.20		0.20		0.23	0.68		0.47	0.47	
v/c Ratio		0.27	0.47		0.12		0.35	0.77		0.01	0.41	
Control Delay		27.6	8.0		22.8		25.8	10.7		10.7	12.2	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		27.6	8.0		22.8		25.8	10.7		10.7	12.2	
LOS		C	A		C		C	B		B	B	
Approach Delay		12.6			22.8			12.6			12.2	
Approach LOS		B			C			B			B	

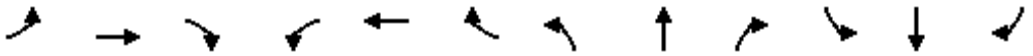
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 57			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 12.7		Intersection LOS: B	
Intersection Capacity Utilization 74.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: North State Street & Penacook Street/Horseshoe Pond Lane



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	71	236	40	142	941	3	663
v/c Ratio	0.27	0.47	0.12	0.35	0.77	0.01	0.41
Control Delay	27.6	8.0	22.8	25.8	10.7	10.7	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.6	8.0	22.8	25.8	10.7	10.7	12.2
Queue Length 50th (ft)	19	0	9	37	141	1	74
Queue Length 95th (ft)	66	42	40	124	364	5	148
Internal Link Dist (ft)	265		483		107		460
Turn Bay Length (ft)						200	
Base Capacity (vph)	440	673	568	1245	1749	381	2477
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	0.16	0.35	0.07	0.11	0.54	0.01	0.27

Intersection Summary

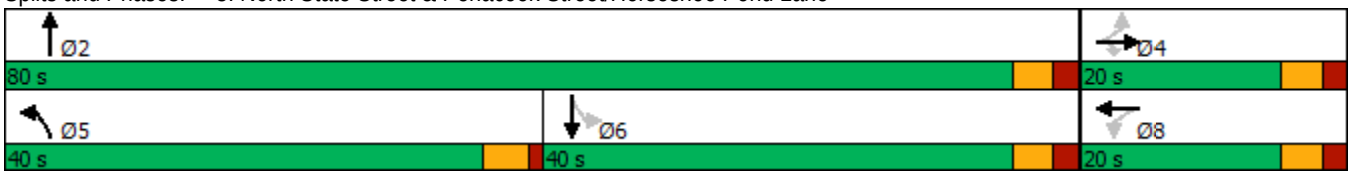


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	2	142	14	1	2	186	450	3	1	808	14
Future Volume (vph)	16	2	142	14	1	2	186	450	3	1	808	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	16	16	16	11	11	11	11	11	11
Storage Length (ft)	150		0	0		0	0		0	200		200
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.983			0.999			0.997	
Flt Protected		0.958			0.960		0.950			0.950		
Satd. Flow (prot)	0	1760	1531	0	2032	0	1745	1731	0	1745	3380	0
Flt Permitted		0.781			0.794		0.950			0.474		
Satd. Flow (perm)	0	1434	1531	0	1681	0	1745	1731	0	871	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			203		3			1			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		345			563			187			540	
Travel Time (s)		7.8			12.8			4.3			12.3	
Peak Hour Factor	0.70	0.70	0.70	0.71	0.71	0.71	0.88	0.88	0.88	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	6%	1%	0%	3%	0%
Adj. Flow (vph)	23	3	203	20	1	3	211	511	3	1	898	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	26	203	0	24	0	211	514	0	1	914	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.85	0.85	0.85	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0		10.0	15.0		15.0	15.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0		40.0	80.0		40.0	40.0	
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%		40.0%	80.0%		40.0%	40.0%	
Maximum Green (s)	15.0	15.0	15.0	15.0	15.0		35.5	75.0		35.0	35.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.5	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0	-2.0		-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		3.0	3.0		3.0		2.5	3.0		3.0	3.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		Min	Min	
Act Effct Green (s)		9.6	9.6		9.6		15.7	44.5		26.3	26.3	
Actuated g/C Ratio		0.16	0.16		0.16		0.26	0.74		0.44	0.44	
v/c Ratio		0.11	0.49		0.09		0.47	0.40		0.00	0.62	
Control Delay		27.4	9.5		24.9		24.6	4.0		11.0	15.8	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		27.4	9.5		24.9		24.6	4.0		11.0	15.8	
LOS		C	A		C		C	A		B	B	
Approach Delay		11.5			24.9			10.0			15.8	
Approach LOS		B			C			B			B	

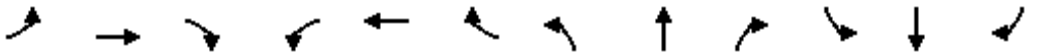
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 60.4			
Natural Cycle: 40			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 50.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: North State Street & Penacook Street/Horseshoe Pond Lane



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	26	203	24	211	514	1	914
v/c Ratio	0.11	0.49	0.09	0.47	0.40	0.00	0.62
Control Delay	27.4	9.5	24.9	24.6	4.0	11.0	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.4	9.5	24.9	24.6	4.0	11.0	15.8
Queue Length 50th (ft)	8	0	7	62	44	0	121
Queue Length 95th (ft)	26	21	23	149	106	3	236
Internal Link Dist (ft)	265		483		107		460
Turn Bay Length (ft)						200	
Base Capacity (vph)	422	594	497	1134	1711	558	2169
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	0.06	0.34	0.05	0.19	0.30	0.00	0.42

Intersection Summary

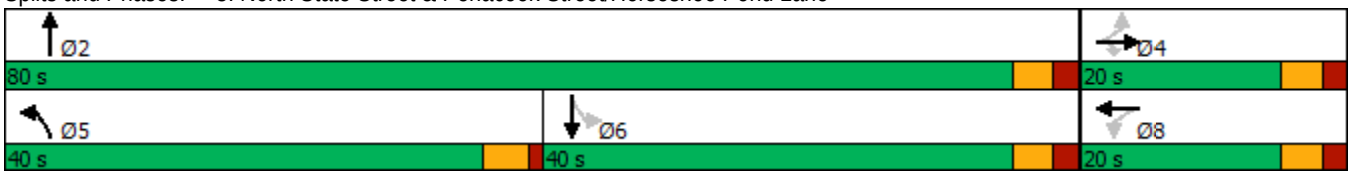


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	6	195	22	6	5	139	945	6	3	588	1
Future Volume (vph)	53	6	195	22	6	5	139	945	6	3	588	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	16	16	16	11	11	11	11	11	11
Storage Length (ft)	150		0	0		0	0		0	200		200
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.980			0.999				
Flt Protected		0.957			0.967		0.950			0.950		
Satd. Flow (prot)	0	1727	1561	0	2041	0	1745	1799	0	1745	3421	0
Flt Permitted		0.737			0.809		0.950			0.257		
Satd. Flow (perm)	0	1330	1561	0	1707	0	1745	1799	0	472	3421	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			241		6			1				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		345			563			187			540	
Travel Time (s)		7.8			12.8			4.3			12.3	
Peak Hour Factor	0.81	0.81	0.81	0.83	0.83	0.83	0.96	0.96	0.96	0.86	0.86	0.86
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	2%	0%	0%	2%	0%
Adj. Flow (vph)	65	7	241	27	7	6	145	984	6	3	684	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	72	241	0	40	0	145	990	0	3	685	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.85	0.85	0.85	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0		10.0	15.0		15.0	15.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0		40.0	80.0		40.0	40.0	
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%		40.0%	80.0%		40.0%	40.0%	
Maximum Green (s)	15.0	15.0	15.0	15.0	15.0		35.5	75.0		35.0	35.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.5	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0	-2.0		-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		3.0	3.0		3.0		2.5	3.0		3.0	3.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		Min	Min	
Act Effct Green (s)		11.6	11.6		11.6		13.7	42.7		30.0	30.0	
Actuated g/C Ratio		0.19	0.19		0.19		0.22	0.70		0.49	0.49	
v/c Ratio		0.28	0.49		0.12		0.37	0.79		0.01	0.41	
Control Delay		30.6	8.7		25.3		28.1	11.2		10.7	12.0	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		30.6	8.7		25.3		28.1	11.2		10.7	12.0	
LOS		C	A		C		C	B		B	B	
Approach Delay		13.7			25.3			13.3			12.0	
Approach LOS		B			C			B			B	

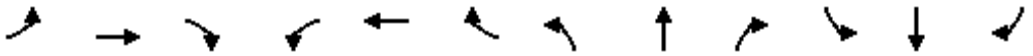
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 61			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 76.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: North State Street & Penacook Street/Horseshoe Pond Lane



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	72	241	40	145	990	3	685
v/c Ratio	0.28	0.49	0.12	0.37	0.79	0.01	0.41
Control Delay	30.6	8.7	25.3	28.1	11.2	10.7	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.6	8.7	25.3	28.1	11.2	10.7	12.0
Queue Length 50th (ft)	21	0	9	41	161	1	79
Queue Length 95th (ft)	72	43	43	136	401	5	156
Internal Link Dist (ft)	265		483		107		460
Turn Bay Length (ft)						200	
Base Capacity (vph)	415	653	537	1190	1724	332	2409
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	0.17	0.37	0.07	0.12	0.57	0.01	0.28

Intersection Summary

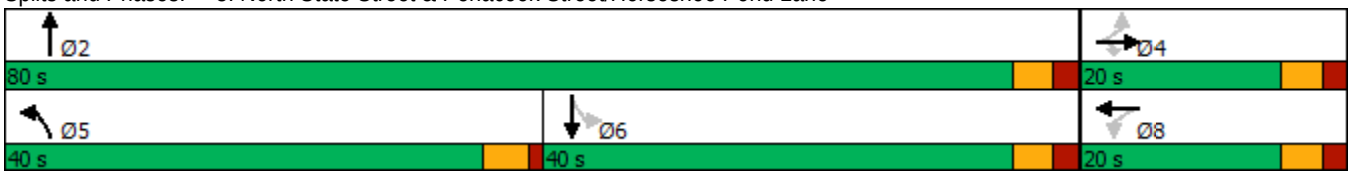


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	2	157	16	1	2	205	496	3	1	889	16
Future Volume (vph)	18	2	157	16	1	2	205	496	3	1	889	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	16	16	16	11	11	11	11	11	11
Storage Length (ft)	150		0	0		0	0		0	200		200
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.985			0.999			0.997	
Flt Protected		0.957			0.959		0.950			0.950		
Satd. Flow (prot)	0	1758	1531	0	2034	0	1745	1731	0	1745	3380	0
Flt Permitted		0.772			0.784		0.950			0.451		
Satd. Flow (perm)	0	1418	1531	0	1663	0	1745	1731	0	828	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			224		3			1			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		345			563			187			540	
Travel Time (s)		7.8			12.8			4.3			12.3	
Peak Hour Factor	0.70	0.70	0.70	0.71	0.71	0.71	0.88	0.88	0.88	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	6%	1%	0%	3%	0%
Adj. Flow (vph)	26	3	224	23	1	3	233	564	3	1	988	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	224	0	27	0	233	567	0	1	1006	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.85	0.85	0.85	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0		10.0	15.0		15.0	15.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0		40.0	80.0		40.0	40.0	
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%		40.0%	80.0%		40.0%	40.0%	
Maximum Green (s)	15.0	15.0	15.0	15.0	15.0		35.5	75.0		35.0	35.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.5	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0	-2.0		-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		3.0	3.0		3.0		2.5	3.0		3.0	3.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		Min	Min	
Act Effct Green (s)		9.8	9.8		9.8		16.8	48.3		28.8	28.8	
Actuated g/C Ratio		0.15	0.15		0.15		0.26	0.75		0.45	0.45	
v/c Ratio		0.13	0.53		0.11		0.51	0.44		0.00	0.66	
Control Delay		29.2	9.9		26.5		26.4	4.2		12.0	17.0	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		29.2	9.9		26.5		26.4	4.2		12.0	17.0	
LOS		C	A		C		C	A		B	B	
Approach Delay		12.1			26.5			10.7			17.0	
Approach LOS		B			C			B			B	

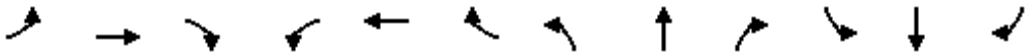
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 64.3			
Natural Cycle: 40			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 14.1		Intersection LOS: B	
Intersection Capacity Utilization 54.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: North State Street & Penacook Street/Horseshoe Pond Lane



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	29	224	27	233	567	1	1006
v/c Ratio	0.13	0.53	0.11	0.51	0.44	0.00	0.66
Control Delay	29.2	9.9	26.5	26.4	4.2	12.0	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	9.9	26.5	26.4	4.2	12.0	17.0
Queue Length 50th (ft)	10	0	8	76	51	0	145
Queue Length 95th (ft)	28	21	26	164	126	3	283
Internal Link Dist (ft)	265		483		107		460
Turn Bay Length (ft)						200	
Base Capacity (vph)	391	585	461	1063	1702	498	2034
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	0.07	0.38	0.06	0.22	0.33	0.00	0.49

Intersection Summary

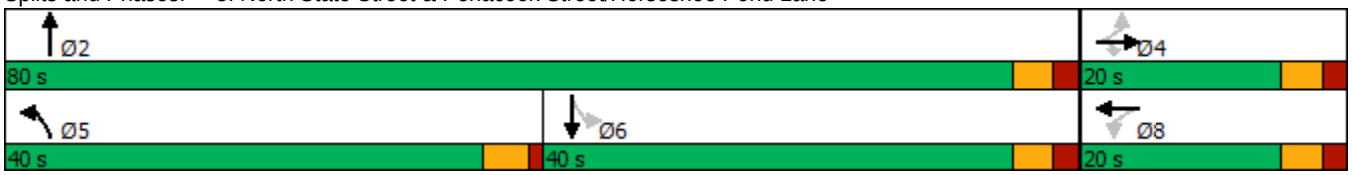


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	7	215	25	7	6	153	1041	7	3	648	1
Future Volume (vph)	59	7	215	25	7	6	153	1041	7	3	648	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	16	16	16	11	11	11	11	11	11
Storage Length (ft)	150		0	0		0	0		0	200		200
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.979			0.999				
Flt Protected		0.957			0.968		0.950			0.950		
Satd. Flow (prot)	0	1727	1561	0	2041	0	1745	1799	0	1745	3421	0
Flt Permitted		0.759			0.801		0.950			0.213		
Satd. Flow (perm)	0	1370	1561	0	1689	0	1745	1799	0	391	3421	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			265		7			1				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		345			563			187			540	
Travel Time (s)		7.8			12.8			4.3			12.3	
Peak Hour Factor	0.81	0.81	0.81	0.83	0.83	0.83	0.96	0.96	0.96	0.86	0.86	0.86
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	2%	0%	0%	2%	0%
Adj. Flow (vph)	73	9	265	30	8	7	159	1084	7	3	753	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	82	265	0	45	0	159	1091	0	3	754	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.85	0.85	0.85	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0		10.0	15.0		15.0	15.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0		40.0	80.0		40.0	40.0	
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%		40.0%	80.0%		40.0%	40.0%	
Maximum Green (s)	15.0	15.0	15.0	15.0	15.0		35.5	75.0		35.0	35.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.5	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0	-2.0		-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		3.0	3.0		3.0		2.5	3.0		3.0	3.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		Min	Min	
Act Effct Green (s)		12.2	12.2		12.2		14.8	50.2		32.6	32.6	
Actuated g/C Ratio		0.18	0.18		0.18		0.21	0.73		0.47	0.47	
v/c Ratio		0.34	0.54		0.15		0.43	0.83		0.02	0.47	
Control Delay		35.3	9.4		28.4		32.1	13.3		11.0	13.2	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		35.3	9.4		28.4		32.1	13.3		11.0	13.2	
LOS		D	A		C		C	B		B	B	
Approach Delay		15.5			28.4			15.7			13.2	
Approach LOS		B			C			B			B	

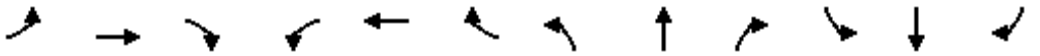
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 69.1			
Natural Cycle: 55			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 15.1		Intersection LOS: B	
Intersection Capacity Utilization 82.3%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: North State Street & Penacook Street/Horseshoe Pond Lane



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	82	265	45	159	1091	3	754
v/c Ratio	0.34	0.54	0.15	0.43	0.83	0.02	0.47
Control Delay	35.3	9.4	28.4	32.1	13.3	11.0	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	9.4	28.4	32.1	13.3	11.0	13.2
Queue Length 50th (ft)	30	0	13	57	224	1	99
Queue Length 95th (ft)	83	45	48	149	516	5	180
Internal Link Dist (ft)	265		483		107		460
Turn Bay Length (ft)						200	
Base Capacity (vph)	373	618	465	1049	1682	251	2199
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	0.22	0.43	0.10	0.15	0.65	0.01	0.34

Intersection Summary

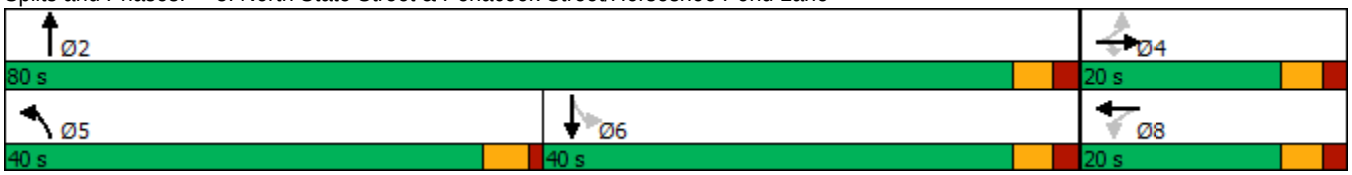


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	2	142	14	1	2	201	450	3	1	817	14
Future Volume (vph)	18	2	142	14	1	2	201	450	3	1	817	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	16	16	16	11	11	11	11	11	11
Storage Length (ft)	150		0	0		0	0		0	200		200
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.983			0.999			0.997	
Flt Protected		0.957			0.960		0.950			0.950		
Satd. Flow (prot)	0	1758	1531	0	2032	0	1745	1731	0	1745	3380	0
Flt Permitted		0.773			0.792		0.950			0.474		
Satd. Flow (perm)	0	1420	1531	0	1676	0	1745	1731	0	871	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			203		3			1			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		345			563			187			540	
Travel Time (s)		7.8			12.8			4.3			12.3	
Peak Hour Factor	0.70	0.70	0.70	0.71	0.71	0.71	0.88	0.88	0.88	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	6%	1%	0%	3%	0%
Adj. Flow (vph)	26	3	203	20	1	3	228	511	3	1	908	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	203	0	24	0	228	514	0	1	924	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.85	0.85	0.85	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0		10.0	15.0		15.0	15.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0		40.0	80.0		40.0	40.0	
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%		40.0%	80.0%		40.0%	40.0%	
Maximum Green (s)	15.0	15.0	15.0	15.0	15.0		35.5	75.0		35.0	35.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.5	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0	-2.0		-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		3.0	3.0		3.0		2.5	3.0		3.0	3.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		Min	Min	
Act Effct Green (s)		9.6	9.6		9.6		16.4	45.7		26.7	26.7	
Actuated g/C Ratio		0.16	0.16		0.16		0.27	0.74		0.43	0.43	
v/c Ratio		0.13	0.50		0.09		0.49	0.40		0.00	0.63	
Control Delay		28.2	9.6		25.4		25.0	4.0		12.0	16.4	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		28.2	9.6		25.4		25.0	4.0		12.0	16.4	
LOS		C	A		C		C	A		B	B	
Approach Delay		11.9			25.4			10.4			16.4	
Approach LOS		B			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 61.6			
Natural Cycle: 40			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 13.7		Intersection LOS: B	
Intersection Capacity Utilization 51.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: North State Street & Penacook Street/Horseshoe Pond Lane



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	29	203	24	228	514	1	924
v/c Ratio	0.13	0.50	0.09	0.49	0.40	0.00	0.63
Control Delay	28.2	9.6	25.4	25.0	4.0	12.0	16.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.2	9.6	25.4	25.0	4.0	12.0	16.4
Queue Length 50th (ft)	9	0	7	69	45	0	128
Queue Length 95th (ft)	28	21	24	159	107	3	247
Internal Link Dist (ft)	265		483		107		460
Turn Bay Length (ft)						200	
Base Capacity (vph)	410	586	486	1111	1706	547	2125
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	0.07	0.35	0.05	0.21	0.30	0.00	0.43

Intersection Summary

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	160	3	15	201	1	2
Future Vol, veh/h	160	3	15	201	1	2
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	174	3	16	218	1	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	177	0	426	89
Stage 1	-	-	-	-	176	-
Stage 2	-	-	-	-	250	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1398	-	571	952
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	791	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1398	-	564	952
Mov Cap-2 Maneuver	-	-	-	-	564	-
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	781	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	774	-	-	1398	-
HCM Lane V/C Ratio	0.004	-	-	0.012	-
HCM Control Delay (s)	9.7	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

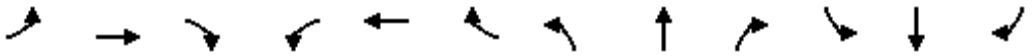
Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	4	0	0	964	9
Future Vol, veh/h	0	4	0	0	964	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	3
Mvmt Flow	0	4	0	0	1048	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	529	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	499	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	499	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	499	-	-
HCM Lane V/C Ratio	-	0.009	-	-
HCM Control Delay (s)	-	12.3	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

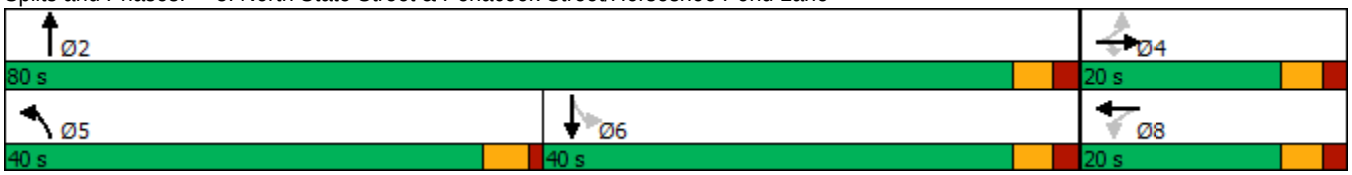


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	6	195	22	6	5	146	945	6	3	593	1
Future Volume (vph)	64	6	195	22	6	5	146	945	6	3	593	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	16	16	16	11	11	11	11	11	11
Storage Length (ft)	150		0	0		0	0		0	200		200
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.980			0.999				
Flt Protected		0.956			0.967		0.950			0.950		
Satd. Flow (prot)	0	1724	1561	0	2041	0	1745	1799	0	1745	3421	0
Flt Permitted		0.725			0.805		0.950			0.255		
Satd. Flow (perm)	0	1308	1561	0	1699	0	1745	1799	0	468	3421	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			241		6			1				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		345			563			187			540	
Travel Time (s)		7.8			12.8			4.3			12.3	
Peak Hour Factor	0.81	0.81	0.81	0.83	0.83	0.83	0.96	0.96	0.96	0.86	0.86	0.86
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	2%	0%	0%	2%	0%
Adj. Flow (vph)	79	7	241	27	7	6	152	984	6	3	690	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	86	241	0	40	0	152	990	0	3	691	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.85	0.85	0.85	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0		10.0	15.0		15.0	15.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0		40.0	80.0		40.0	40.0	
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%		40.0%	80.0%		40.0%	40.0%	
Maximum Green (s)	15.0	15.0	15.0	15.0	15.0		35.5	75.0		35.0	35.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.5	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0	-2.0		-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		3.0	3.0		3.0		2.5	3.0		3.0	3.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		Min	Min	
Act Effct Green (s)		12.1	12.1		12.1		13.9	43.4		30.5	30.5	
Actuated g/C Ratio		0.19	0.19		0.19		0.22	0.70		0.49	0.49	
v/c Ratio		0.34	0.49		0.12		0.39	0.79		0.01	0.41	
Control Delay		31.9	8.6		25.5		28.7	11.4		11.0	12.3	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		31.9	8.6		25.5		28.7	11.4		11.0	12.3	
LOS		C	A		C		C	B		B	B	
Approach Delay		14.7			25.5			13.7			12.3	
Approach LOS		B			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 62.2			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 13.6		Intersection LOS: B	
Intersection Capacity Utilization 76.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: North State Street & Penacook Street/Horseshoe Pond Lane



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	86	241	40	152	990	3	691
v/c Ratio	0.34	0.49	0.12	0.39	0.79	0.01	0.41
Control Delay	31.9	8.6	25.5	28.7	11.4	11.0	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.9	8.6	25.5	28.7	11.4	11.0	12.3
Queue Length 50th (ft)	26	0	10	45	170	1	83
Queue Length 95th (ft)	84	43	43	140	401	5	160
Internal Link Dist (ft)	265		483		107		460
Turn Bay Length (ft)						200	
Base Capacity (vph)	399	644	523	1169	1724	323	2366
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	0.22	0.37	0.08	0.13	0.57	0.01	0.29

Intersection Summary

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	254	1	7	146	2	11
Future Vol, veh/h	254	1	7	146	2	11
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	276	1	8	159	2	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	277	0	452	139
Stage 1	-	-	-	-	277	-
Stage 2	-	-	-	-	175	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1284	-	551	884
Stage 1	-	-	-	-	746	-
Stage 2	-	-	-	-	855	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1284	-	547	884
Mov Cap-2 Maneuver	-	-	-	-	547	-
Stage 1	-	-	-	-	746	-
Stage 2	-	-	-	-	849	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	807	-	-	1284	-
HCM Lane V/C Ratio	0.018	-	-	0.006	-
HCM Control Delay (s)	9.5	-	-	7.8	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

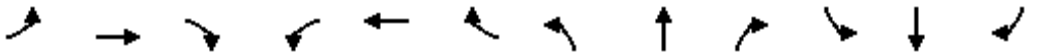
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	17	0	0	805	5
Future Vol, veh/h	0	17	0	0	805	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	3
Mvmt Flow	0	18	0	0	875	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	440	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	570	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	570	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	570	-	-
HCM Lane V/C Ratio	-	0.032	-	-
HCM Control Delay (s)	-	11.5	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

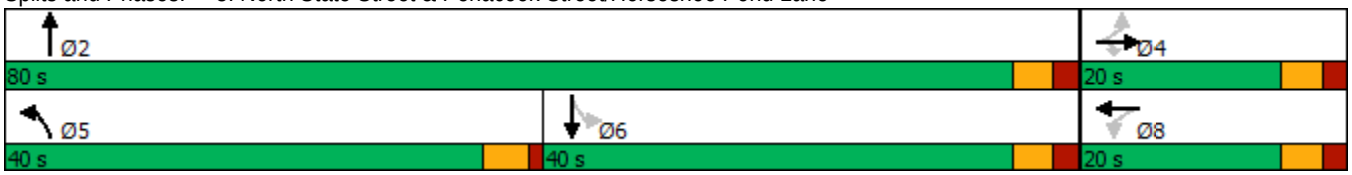


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	2	157	16	1	2	220	496	3	1	898	16
Future Volume (vph)	20	2	157	16	1	2	220	496	3	1	898	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	16	16	16	11	11	11	11	11	11
Storage Length (ft)	150		0	0		0	0		0	200		200
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.985			0.999			0.997	
Flt Protected		0.957			0.959		0.950			0.950		
Satd. Flow (prot)	0	1758	1531	0	2034	0	1745	1731	0	1745	3380	0
Flt Permitted		0.765			0.782		0.950			0.451		
Satd. Flow (perm)	0	1405	1531	0	1659	0	1745	1731	0	828	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			224		3			1			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		345			563			187			540	
Travel Time (s)		7.8			12.8			4.3			12.3	
Peak Hour Factor	0.70	0.70	0.70	0.71	0.71	0.71	0.88	0.88	0.88	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	6%	1%	0%	3%	0%
Adj. Flow (vph)	29	3	224	23	1	3	250	564	3	1	998	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	224	0	27	0	250	567	0	1	1016	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.85	0.85	0.85	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0		10.0	15.0		15.0	15.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0		40.0	80.0		40.0	40.0	
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%		40.0%	80.0%		40.0%	40.0%	
Maximum Green (s)	15.0	15.0	15.0	15.0	15.0		35.5	75.0		35.0	35.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.5	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0	-2.0		-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		3.0	3.0		3.0		2.5	3.0		3.0	3.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		Min	Min	
Act Effct Green (s)		9.8	9.8		9.8		17.6	49.7		29.5	29.5	
Actuated g/C Ratio		0.15	0.15		0.15		0.27	0.76		0.45	0.45	
v/c Ratio		0.15	0.53		0.11		0.54	0.43		0.00	0.67	
Control Delay		30.3	10.1		27.2		27.0	4.1		12.0	17.6	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		30.3	10.1		27.2		27.0	4.1		12.0	17.6	
LOS		C	B		C		C	A		B	B	
Approach Delay		12.6			27.2			11.1			17.6	
Approach LOS		B			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 65.8			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 55.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: North State Street & Penacook Street/Horseshoe Pond Lane



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	32	224	27	250	567	1	1016
v/c Ratio	0.15	0.53	0.11	0.54	0.43	0.00	0.67
Control Delay	30.3	10.1	27.2	27.0	4.1	12.0	17.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.3	10.1	27.2	27.0	4.1	12.0	17.6
Queue Length 50th (ft)	11	0	9	85	53	0	153
Queue Length 95th (ft)	30	21	26	176	126	3	295
Internal Link Dist (ft)	265		483		107		460
Turn Bay Length (ft)						200	
Base Capacity (vph)	379	576	450	1039	1697	486	1987
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	0.08	0.39	0.06	0.24	0.33	0.00	0.51

Intersection Summary

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	177	3	15	222	1	2
Future Vol, veh/h	177	3	15	222	1	2
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	192	3	16	241	1	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	195	0	467	98
Stage 1	-	-	-	-	194	-
Stage 2	-	-	-	-	273	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1377	-	539	939
Stage 1	-	-	-	-	820	-
Stage 2	-	-	-	-	772	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1377	-	532	939
Mov Cap-2 Maneuver	-	-	-	-	532	-
Stage 1	-	-	-	-	820	-
Stage 2	-	-	-	-	762	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	748	-	-	1377	-
HCM Lane V/C Ratio	0.004	-	-	0.012	-
HCM Control Delay (s)	9.8	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

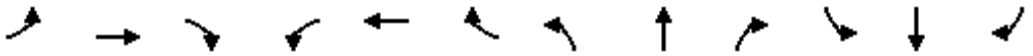
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	4	0	0	1062	9
Future Vol, veh/h	0	4	0	0	1062	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	3
Mvmt Flow	0	4	0	0	1154	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	582	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	461	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	461	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	461	-	-
HCM Lane V/C Ratio	-	0.009	-	-
HCM Control Delay (s)	-	12.9	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

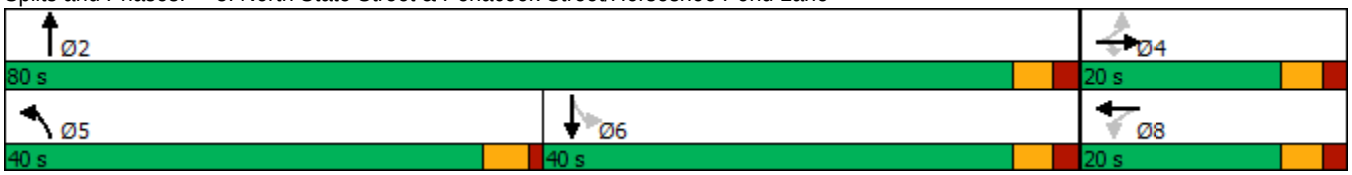


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	7	215	25	7	6	160	1041	7	3	653	1
Future Volume (vph)	70	7	215	25	7	6	160	1041	7	3	653	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	16	16	16	11	11	11	11	11	11
Storage Length (ft)	150		0	0		0	0		0	200		200
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.979			0.999				
Flt Protected		0.956			0.968		0.950			0.950		
Satd. Flow (prot)	0	1724	1561	0	2041	0	1745	1799	0	1745	3421	0
Flt Permitted		0.783			0.800		0.950			0.213		
Satd. Flow (perm)	0	1412	1561	0	1686	0	1745	1799	0	391	3421	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			250		7			1				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		345			563			187			540	
Travel Time (s)		7.8			12.8			4.3			12.3	
Peak Hour Factor	0.86	0.86	0.86	0.83	0.83	0.83	0.96	0.96	0.96	0.86	0.86	0.86
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	2%	0%	0%	2%	0%
Adj. Flow (vph)	81	8	250	30	8	7	167	1084	7	3	759	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	89	250	0	45	0	167	1091	0	3	760	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	0.85	0.85	0.85	1.04	1.04	1.04	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	10.0	10.0	10.0	10.0	10.0		10.0	15.0		15.0	15.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0		40.0	80.0		40.0	40.0	
Total Split (%)	20.0%	20.0%	20.0%	20.0%	20.0%		40.0%	80.0%		40.0%	40.0%	
Maximum Green (s)	15.0	15.0	15.0	15.0	15.0		35.5	75.0		35.0	35.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.5	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0	-2.0		-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		3.0	3.0		3.0		2.5	3.0		3.0	3.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	Min		Min	Min	
Act Effct Green (s)		12.6	12.6		12.6		15.2	50.9		32.9	32.9	
Actuated g/C Ratio		0.18	0.18		0.18		0.22	0.73		0.47	0.47	
v/c Ratio		0.35	0.52		0.15		0.44	0.84		0.02	0.47	
Control Delay		35.6	9.3		28.6		32.3	13.5		11.3	13.7	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		35.6	9.3		28.6		32.3	13.5		11.3	13.7	
LOS		D	A		C		C	B		B	B	
Approach Delay		16.2			28.6			16.0			13.6	
Approach LOS		B			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 70.1			
Natural Cycle: 55			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 15.5		Intersection LOS: B	
Intersection Capacity Utilization 82.3%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: North State Street & Penacook Street/Horseshoe Pond Lane



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	89	250	45	167	1091	3	760
v/c Ratio	0.35	0.52	0.15	0.44	0.84	0.02	0.47
Control Delay	35.6	9.3	28.6	32.3	13.5	11.3	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	9.3	28.6	32.3	13.5	11.3	13.7
Queue Length 50th (ft)	33	0	14	62	232	1	103
Queue Length 95th (ft)	94	57	48	155	516	5	184
Internal Link Dist (ft)	265		483		107		460
Turn Bay Length (ft)						200	
Base Capacity (vph)	379	602	458	1034	1674	247	2170
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	0.23	0.42	0.10	0.16	0.65	0.01	0.35

Intersection Summary

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	281	1	7	161	2	11
Future Vol, veh/h	281	1	7	161	2	11
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	305	1	8	175	2	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	306	0	497	153
Stage 1	-	-	-	-	306	-
Stage 2	-	-	-	-	191	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1253	-	517	866
Stage 1	-	-	-	-	721	-
Stage 2	-	-	-	-	841	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1253	-	513	866
Mov Cap-2 Maneuver	-	-	-	-	513	-
Stage 1	-	-	-	-	721	-
Stage 2	-	-	-	-	835	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	783	-	-	1253	-
HCM Lane V/C Ratio	0.018	-	-	0.006	-
HCM Control Delay (s)	9.7	-	-	7.9	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	17	0	0	888	5
Future Vol, veh/h	0	17	0	0	888	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	3
Mvmt Flow	0	18	0	0	965	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	485	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	533	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	533	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	533	-	-
HCM Lane V/C Ratio	-	0.035	-	-
HCM Control Delay (s)	-	12	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

FULMER LUCAS

DRAINAGE REPORT

FOR

CONCORD FSER
161 N STATE STREET, CONCORD, NH 03301
FLE PROJECT #1361-14

ISSUED: 2025.07.10
REVISED: XXXX.XX.XX

Attachments:

- Drainage Area Maps
  - Overall Existing Drainage Area Map
  - Overall Proposed Drainage Area Map
- Drainage Area Summary
- USDA Web Soil Survey
- Water Quality Calculations
  - BMP Worksheet
  - Filtration Device Design Calculations
- Hydraflow Report for 2-, 10-, 25-, and 100-Year Storm Events

PROJECT OVERVIEW:

The proposed project consists of a one-story, 11,150 square foot free-standing emergency room building located at 161 N State Street in Concord, New Hampshire. The proposed work for the development consists of the construction of the FSER building, associated parking, infrastructure, utilities, and ATM on-site. The site has been designed to meet the regulations of the City of Concord and the New Hampshire Stormwater Manual.

In the existing condition, the site is occupied by a bank and consists mostly of impervious building, parking, and drivable surfaces. There are a few interior landscape islands and perimeter landscaped areas with low-density trees and shrubs. The entire site features type "A" soils. There are two existing outfalls for the bank development that ultimately flow to a single point of analysis (existing storm manhole within N State St). 'Outfall 1' collects runoff from a small portion of the site and enters the public system within Penacook St. 'Outfall 2' collects runoff from the majority of the site and enters the public storm system within N State St. These outfalls are both analyzed at a single Point of Interest (POI 1) for pre and post development stormwater runoff calculations. Please refer to the Existing Drainage Map and Hydraflow Report for 2-,10-,25-, and 100-year stormwater runoff estimates.

The proposed design will send site runoff to a single outfall (Outfall 1) to the existing storm infrastructure within N State St. at POI 1. Post-development peak flows to POI 1 will be reduced from the pre-development condition. The attached drainage area maps and drainage area summary provide detailed information of the existing and proposed drainage patterns on the site.

WATER QUALITY:

NHDES water quality requirements for this re-development site will be satisfied using a manufactured filtration device (Contech Jellyfish Filter Device). Please refer to the attached BMP worksheet and Jellyfish water quality calculations for reference.

WATER QUANTITY:

The pre-developed condition of the site consists of a weighted average curve number of 87.3, and the post-developed condition of the site will see the curve number decrease to 79.9. POI 1 will experience a reduction to its pre-developed peak outflow for the 2-,10-, 25-, and 100-year storms in the post-developed condition. The outflow summary for POI 1 is provided below. See the attached Hydraflow Report for detailed analysis.

POI 1 Peak Flow Summary		
	Peak Flow (CFS)	
Storm Frequency	Pre-	Post-
2 Year	4.27	3.01
10 Year	8.14	6.57
25 Year	10.59	8.95
100 Year	14.31	12.65

Drainage Area Maps

811
Know what's below.
Call before you dig.

OUTFALL 1 TO POI 1

1-1 PENACOOK STORM TO POI 1
DRAINAGE AREA = 0.16 AC
CN = 93.4
TOC = 5 MIN

POI 1 OVERALL DRAINAGE AREA
DRAINAGE AREA = 1.66 AC
CN = 87.3
TOC: 5 MIN

POI 1
2-YEAR: 4.27 CFS
10-YEAR: 8.14 CFS
25-YEAR: 10.59 CFS
100-YEAR: 12.65 CFS

OUTFALL 2 TO POI 1

1-2 STATE ST. STORM TO POI 1
DRAINAGE AREA = 1.50 AC
CN = 86.7
TOC = 5 MIN

LEGEND:
- SOIL GROUP TURF A
- IMPERVIOUS AREA
- DRAINAGE AREA BOUNDARY
- FLOW PATH

0 10 20 40 60
SCALE: 1" = 20'

SURVEY INFO
PROVIDED BY: GREENMAN-PEDERSEN, INC.
DATUM: NEW HAMPSHIRE STATE PLANE (NAD83 & NAVD 88)

FULMER LUCAS
2002 RICHARD JONES RD - SUITE B200
NASHVILLE, TENNESSEE 37215
INFO@FULMERLUCAS.COM - (615) 345-3770

STATE OF NEW HAMPSHIRE
HUGH ROSS LUCAS
No.17785
LICENSED PROFESSIONAL ENGINEER
07/10/2025

SITE DEVELOPMENT PLANS FOR:
CONCORD FSER
161 NORTH STATE STREET
CONCORD, MERRIMACK COUNTY, NEW HAMPSHIRE 03301

DR.	DATE	DESCRIPTION

OVERALL EXISTING DRAINAGE AREA MAP

PRE

1361-14 CONCORD FSER

Thursday, July 10, 2025
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811
Know what's below.
Call before you dig.

PROPOSED 1-STORY
± 11,150 SF FSER
FFE = 281.00

DRAINAGE AREA 1-1
DRAINAGE AREA = 1.66 AC
CN = 79.9
TOC: 5 MIN

POI 1
2-YEAR: 3.01 CFS
10-YEAR: 6.57 CFS
25-YEAR: 8.95 CFS
100-YEAR: 12.65 CFS

OUTFALL 1 TO POI 1

LEGEND:

- SOIL GROUP TURF A
- IMPERVIOUS AREA
- DRAINAGE AREA BOUNDARY
- FLOW PATH

0 10 20 40 60
SCALE: 1" = 20'

SURVEY INFO
PROVIDED BY: GREENMAN-PEDERSEN, INC.
DATUM: NEW HAMPSHIRE STATE PLANE (NAD83 & NAVD 88)

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07/10/2025

SITE DEVELOPMENT PLANS FOR:
CONCORD FSER
161 NORTH STATE STREET
CONCORD, MERRIMACK COUNTY, NEW HAMPSHIRE 03301

DR.	DATE	DESCRIPTION

OVERALL PROPOSED DRAINAGE AREA MAP

POST

1361-14 CONCORD FSER

Thursday, July 10, 2025
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Drainage Area Summary

POI 1 Pre-Developed Conditions Drainage Summary			
Outfall 1			
Drainage Area 1-1 N State St. Storm to POI 1			
Cover Type/Soil Group	CN	Area (SF)	Area (AC)
Turf A	**49.0**	**15052**	**0.35**
Gravel A	**76.0**	**0**	**0.00**
Forest A	**36.0**	**0**	**0.00**
Turf B	**69.0**	**0**	**0.00**
Gravel B	**85.0**	**0**	**0.00**
Forest B	**60.0**	**0**	**0.00**
Turf C	**79.0**	**0**	**0.00**
Gravel C	**89.0**	**0**	**0.00**
Forest C	**73.0**	**0**	**0.00**
Turf D	**84.0**	**0**	**0.00**
Gravel D	**91.0**	**0**	**0.00**
Forest D	**79.0**	**0**	**0.00**
Impervious	**98.0**	**50289**	**1.15**
		Drainage Area 2-1 Total Area (Ac)	**Weighted CN**
		1.50	**86.7**

POI 1 Pre-Developed Conditions Drainage Summary			
Outfall 2			
Drainage Area 2-1 Penacook Storm to POI 1			
Cover Type/Soil Group	CN	Area (SF)	Area (AC)
Turf A	**49.0**	**641**	**0.01**
Gravel A	**76.0**	**0**	**0.00**
Forest A	**36.0**	**0**	**0.00**
Turf B	**69.0**	**0**	**0.00**
Gravel B	**85.0**	**0**	**0.00**
Forest B	**60.0**	**0**	**0.00**
Turf C	**79.0**	**0**	**0.00**
Gravel C	**89.0**	**0**	**0.00**
Forest C	**73.0**	**0**	**0.00**
Turf D	**84.0**	**0**	**0.00**
Gravel D	**91.0**	**0**	**0.00**
Forest D	**79.0**	**0**	**0.00**
Impervious	**98.0**	**6147**	**0.14**
		Drainage Area 1-1 Total Area (Ac)	**Weighted CN**
		0.16	**93.4**

POI 1 Post-Developed Conditions Drainage Summary			
Outfall 1			
Drainage Area 1-1 Proposed Drainage Area			
Cover Type/Soil Group	CN	Area (SF)	Area (AC)
Turf A	**49.0**	**26685**	**0.61**
Gravel A	**76.0**	**0**	**0.00**
Forest A	**36.0**	**0**	**0.00**
Turf B	**69.0**	**0**	**0.00**
Gravel B	**85.0**	**0**	**0.00**
Forest B	**60.0**	**0**	**0.00**
Turf C	**79.0**	**0**	**0.00**
Gravel C	**89.0**	**0**	**0.00**
Forest C	**73.0**	**0**	**0.00**
Turf D	**84.0**	**0**	**0.00**
Gravel D	**91.0**	**0**	**0.00**
Forest D	**79.0**	**0**	**0.00**
Impervious	**98.0**	**45444**	**1.04**
		Drainage Area 1-1 Total Area (Ac)	**Weighted CN**
		1.66	**79.9**

USDA Web Soil Survey

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Merrimack and Belknap Counties, New Hampshire

June 18, 2025

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:1,560 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Merrimack and Belknap Counties, New Hampshire
Survey Area Data: Version 30, Sep 3, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 6, 2022—Oct 22, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
498A	Urban land-Pootatuck complex, 0 to 3 percent slopes	0.0	0.0%
598B	Windsor-Urban land complex, 0 to 8 percent slopes	10.5	100.0%
Totals for Area of Interest		**10.5**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Merrimack and Belknap Counties, New Hampshire

498A—Urban land-Pootatuck complex, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 9dl7
Elevation: 200 to 1,970 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 100 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 45 percent
Pootatuck, occasionally flooded, and similar soils: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Typical profile

H1 - 0 to 6 inches: variable

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

Description of Pootatuck, Occasionally Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and/or coarse-loamy alluvium derived from granite, gneiss or schist

Typical profile

H1 - 0 to 14 inches: very fine sandy loam
H2 - 14 to 60 inches: fine sandy loam
H3 - 60 to 65 inches: fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Ecological site: F144BY120ME - Small Floodplain Riparian Complex (reserved)
Hydric soil rating: No

Minor Components

Rippowam, frequently flooded
Percent of map unit: 7 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: Yes

Windsor
Percent of map unit: 5 percent
Landform: Terraces
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Saco, frequently flooded
Percent of map unit: 5 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Occum, occasionally flooded
Percent of map unit: 3 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

598B—Windsor-Urban land complex, 0 to 8 percent slopes

Map Unit Setting
National map unit symbol: 2w2wq
Elevation: 0 to 920 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition
Windsor and similar soils: 45 percent
Urban land: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Windsor

Setting

Landform: Dunes, deltas, outwash terraces, outwash plains
Landform position (three-dimensional): Tread, riser
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Loose sandy glaciofluvial deposits derived from granite and/or loose sandy glaciofluvial deposits derived from schist and/or loose sandy glaciofluvial deposits derived from gneiss

Typical profile

A - 0 to 3 inches: loamy sand
Bw - 3 to 25 inches: loamy sand
C - 25 to 65 inches: sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F144AY022MA - Dry Outwash
Hydric soil rating: No

Description of Urban Land

Typical profile

M - 0 to 10 inches: cemented material

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 0 inches to manufactured layer
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: Unranked

Minor Components

Udorthents

Percent of map unit: 10 percent
Landform: Dunes, deltas, outwash terraces, outwash plains
Landform position (three-dimensional): Tread, riser
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Hydric soil rating: No

Hinckley

Percent of map unit: 5 percent
Landform: Eskers, deltas, kames, outwash plains
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest, head slope, rise
Down-slope shape: Convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Deerfield

Percent of map unit: 5 percent
Landform: Deltas, outwash plains, terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

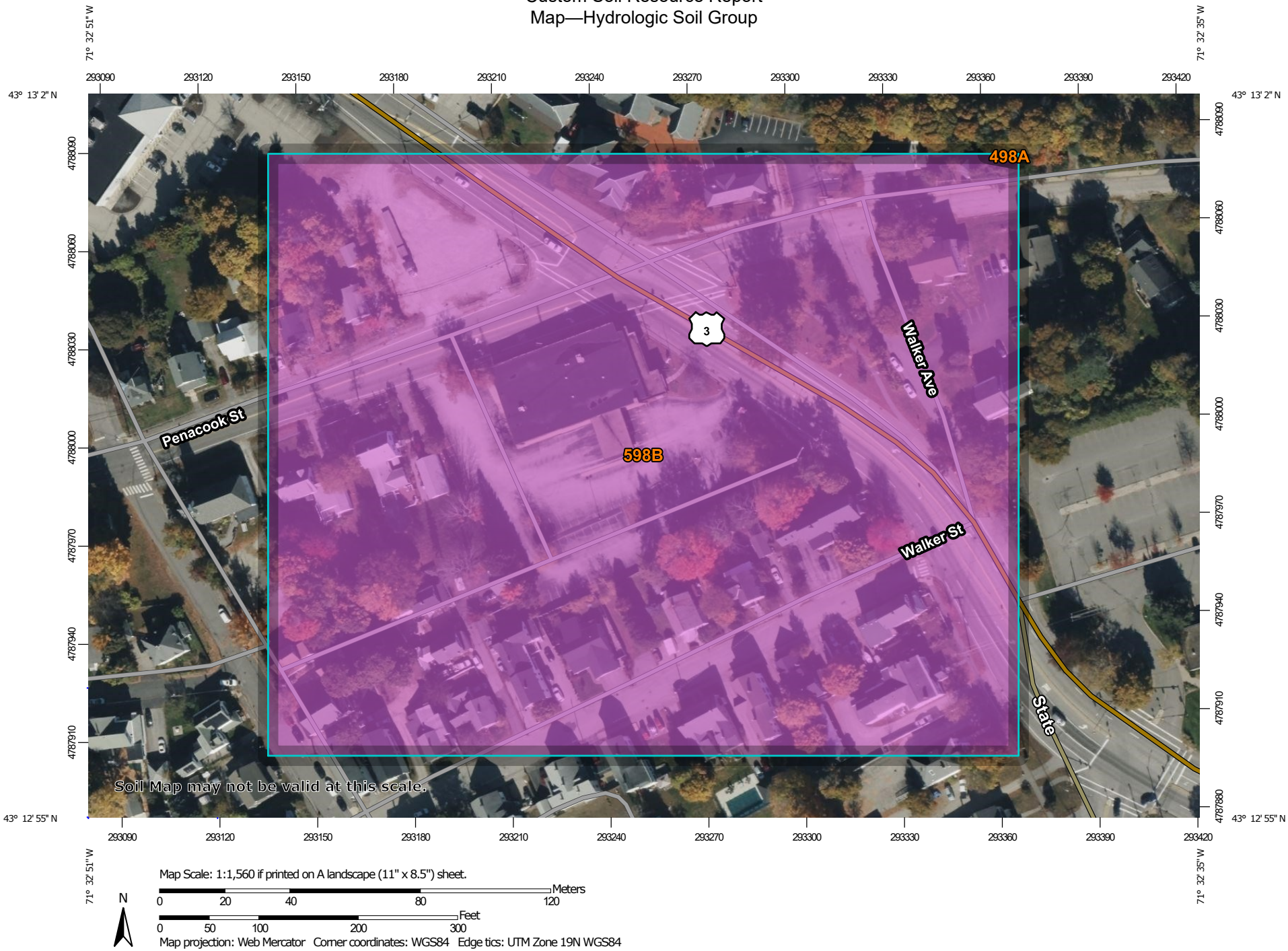
Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Custom Soil Resource Report
Map—Hydrologic Soil Group



Map Scale: 1:1,560 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Merrimack and Belknap Counties, New Hampshire
Survey Area Data: Version 30, Sep 3, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 6, 2022—Oct 22, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND	MAP INFORMATION
	imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
498A	Urban land-Pootatuck complex, 0 to 3 percent slopes		0.0	0.0%
598B	Windsor-Urban land complex, 0 to 8 percent slopes	A	10.5	100.0%
Totals for Area of Interest			**10.5**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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Water Quality Calculations

GENERAL CALCULATIONS - WQV and WQF
(optional worksheet)

This worksheet may be useful when designing a BMP **that does not fit into one of the specific worksheets already provided** (i.e. for a technology which is not a stormwater wetland, infiltration practice, etc.)

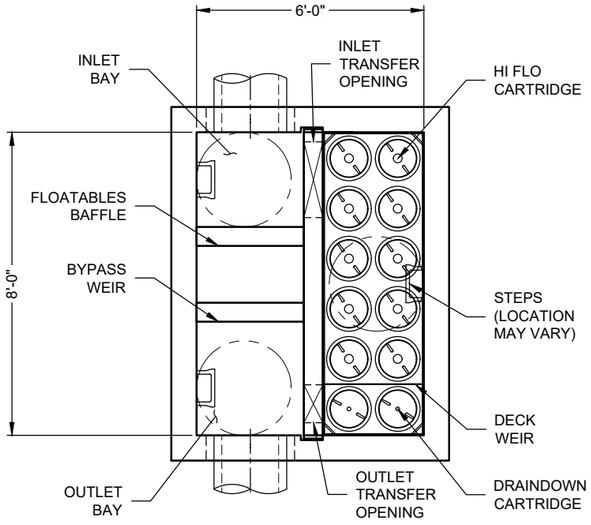
Water Quality Volume (WQV)

1.35	ac	A = Area draining to the practice
1.03	ac	A_I = Impervious area draining to the practice
0.77	decimal	I = Percent impervious area draining to the practice, in decimal form
0.74	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)
1.00	ac-in	WQV= 1" x Rv x A
3,623	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")

Water Quality Flow (WQF)

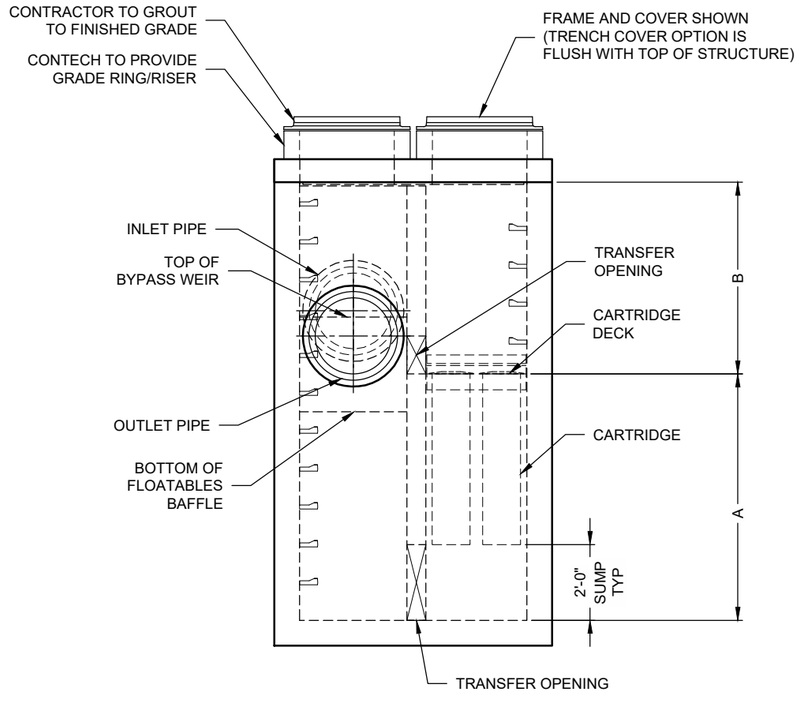
1	inches	P = Amount of rainfall. For WQF in NH, P = 1".
0.74	inches	Q = Water quality depth. Q = WQV/A
97	unitless	CN = Unit peak discharge curve number. CN =1000/(10+5P+10Q–10*[Q^2 + 1.25*Q*P] $^{0.5}$)
0.3	inches	S = Potential maximum retention. S = (1000/CN) - 10
0.053	inches	Ia = Initial abstraction. Ia = 0.2S
6.0	minutes	T_c = Time of Concentration
650.0	cfs/mi^2/in	q_u is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
1.014	cfs	WQF = q_u x WQV. Conversion: to convert "cfs/mi^2/in * ac-in" to "cfs" multiply by 1mi^2/640ac.

Designer's Notes:



PLAN VIEW

(TOP SLAB NOT SHOWN FOR CLARITY)



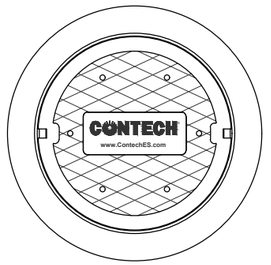
ELEVATION VIEW

JELLYFISH DESIGN NOTES

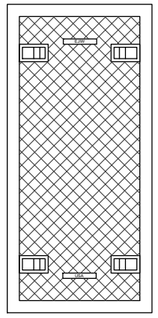
JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD

CARTRIDGE SELECTION

CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	5'-4"	4'-3"	3'-3"
FLOW RATE HI-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	1.96	1.47	0.98	0.54
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.



24"
TRENCH COVER
(LENGTH VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	*
WATER QUALITY FLOW RATE (cfs)	*
PEAK FLOW RATE (cfs)	*
RETURN PERIOD OF PEAK FLOW (yrs)	*
# OF CARTRIDGES REQUIRED (HF / DD)	*
CARTRIDGE LENGTH	*

PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	*	*	*	*	*
INLET #2	*	*	*	*	*
OUTLET	*	*	*	*	*

SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION	*

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES:

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
D. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

Jellyfish Filter

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

JELLYFISH JFPD0806
STANDARD DETAIL
PEAK DIVERSION CONFIGURATION

Hydraflow Report for 2-, 10-, 25-, and 100-Year Storm Events

Hydraflow Table of Contents

Hydrograph Report

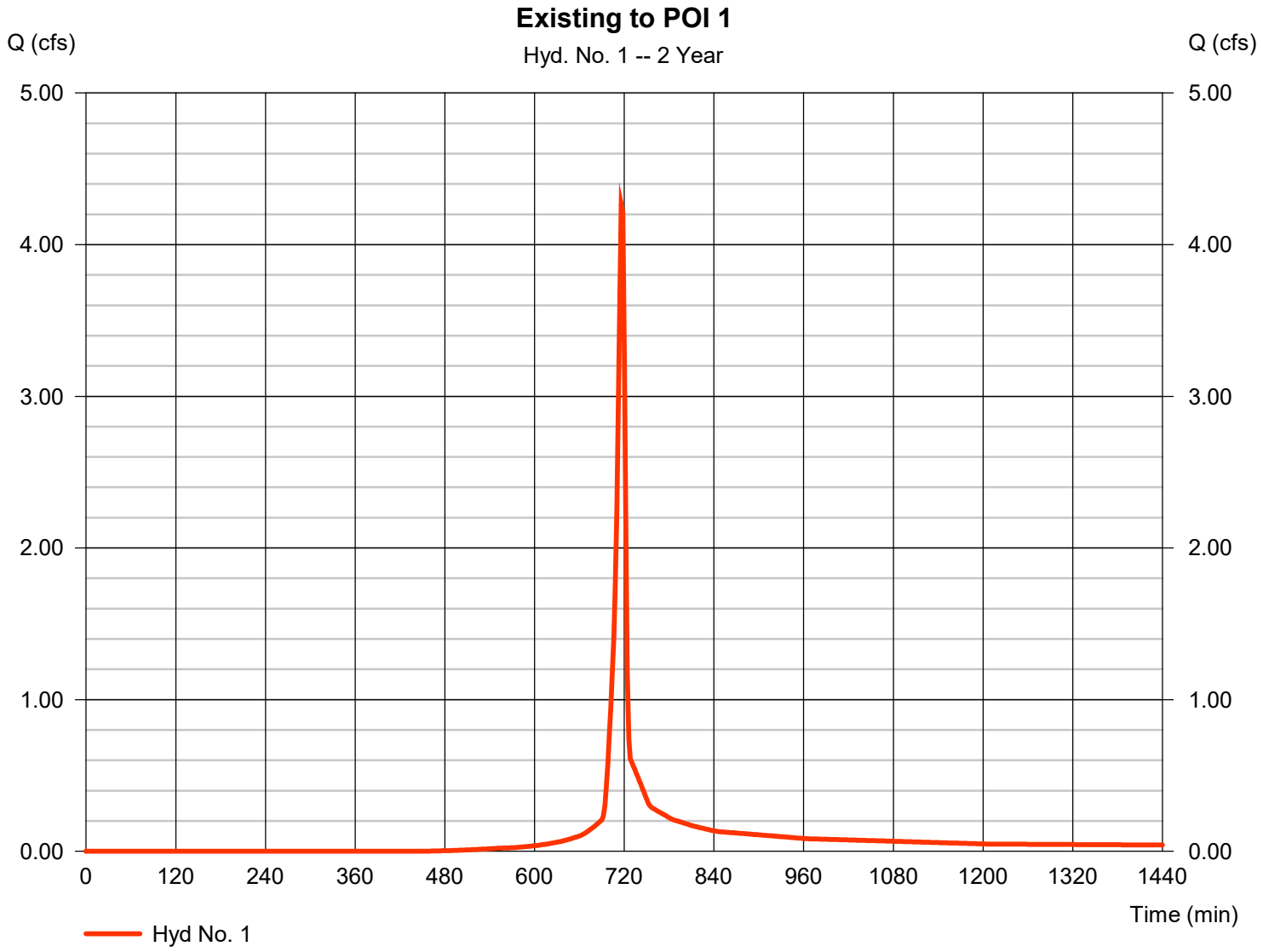
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2024 Thursday, 07 / 10 / 2025

Hyd. No. 1

Existing to POI 1

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.266 cfs
Storm frequency	=	2 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	8,651 cuft
Drainage area	=	1.660 ac	Curve number	=	87*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	2.76 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.360 x 49) + (1.300 x 98)] / 1.660



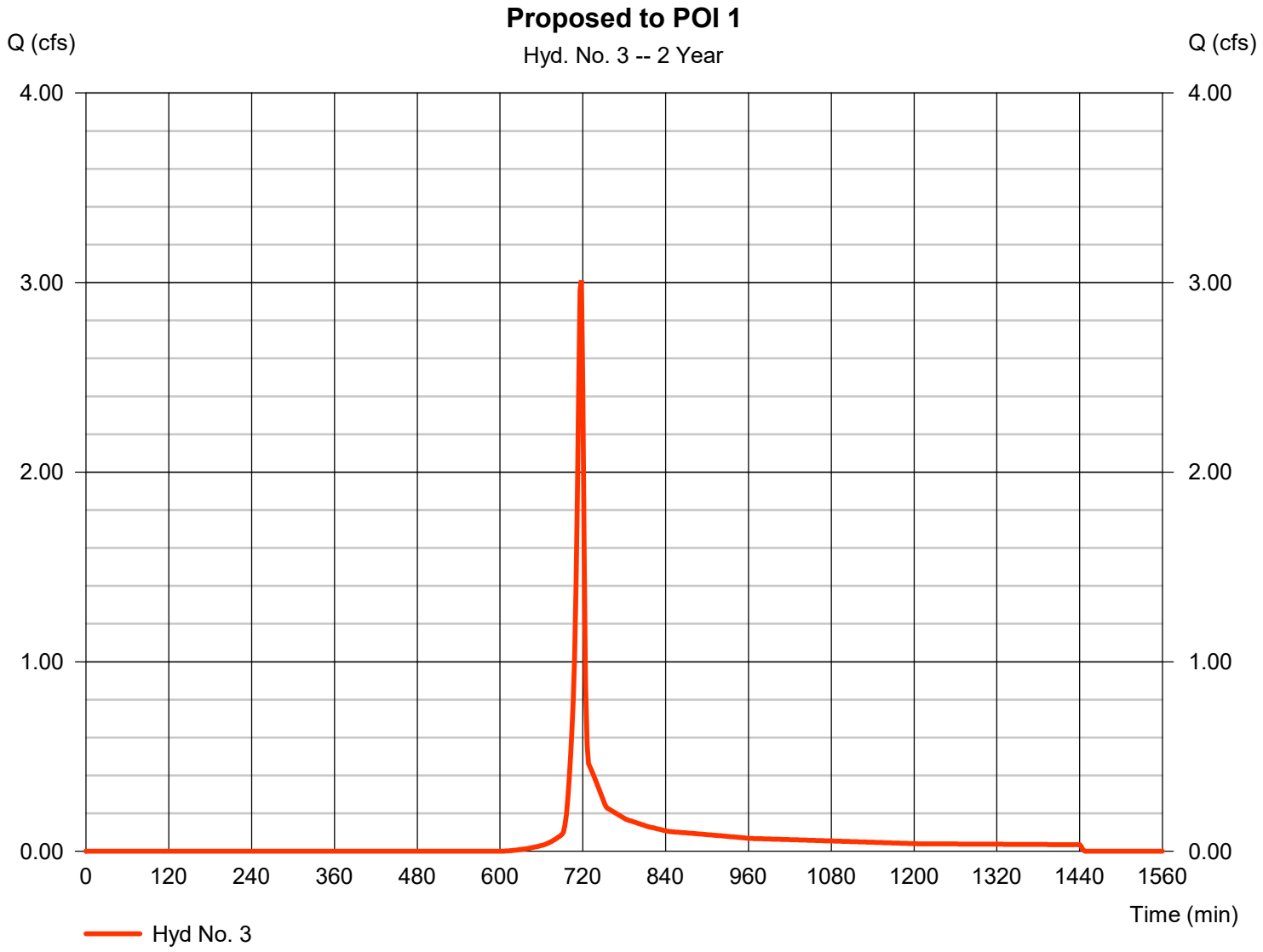
Hydrograph Report

Hyd. No. 3

Proposed to POI 1

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.012 cfs
Storm frequency	=	2 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	6,025 cuft
Drainage area	=	1.650 ac	Curve number	=	80*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	2.76 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.610 x 49) + (1.040 x 98)] / 1.650



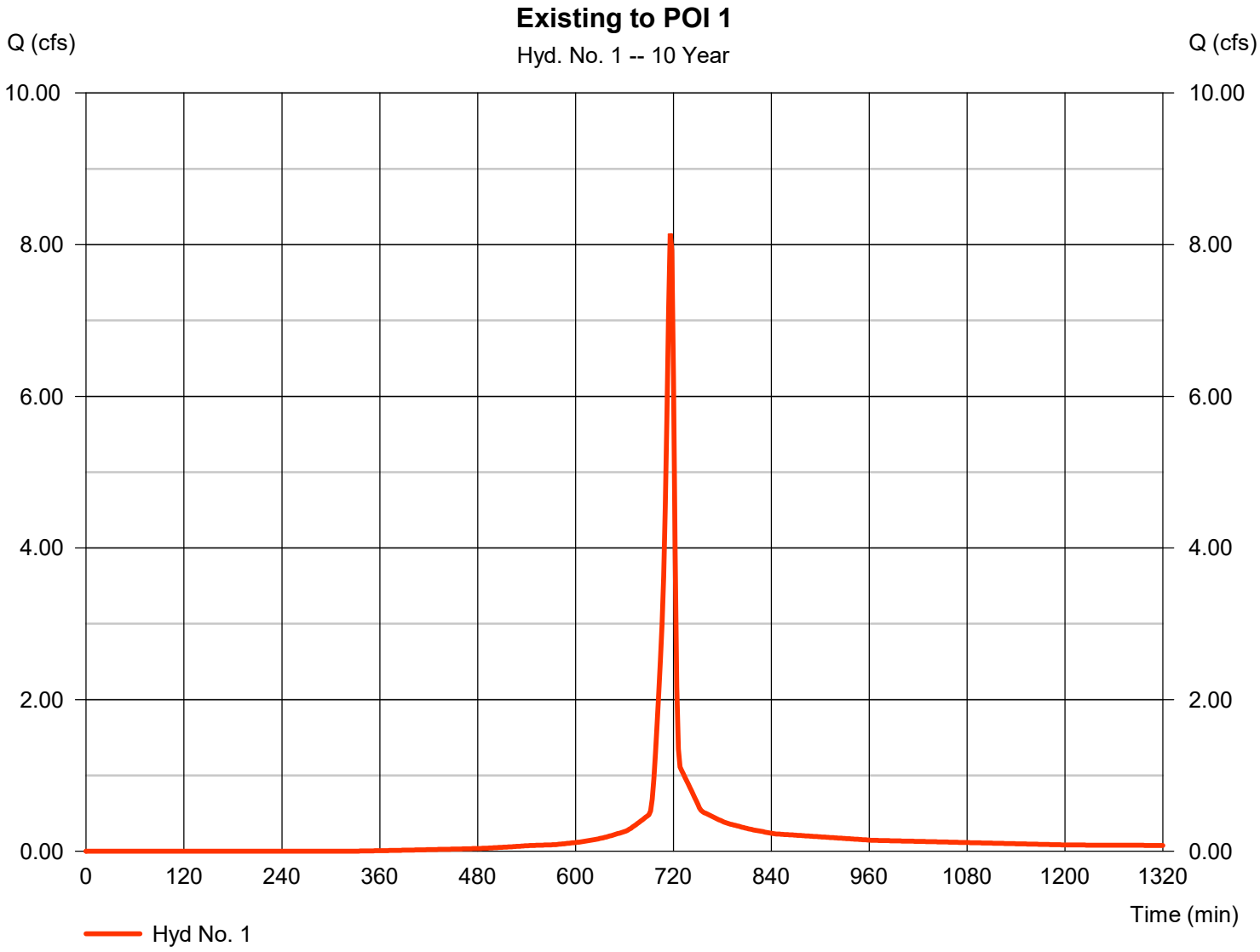
Hydrograph Report

Hyd. No. 1

Existing to POI 1

Hydrograph type	=	SCS Runoff	Peak discharge	=	8.144 cfs
Storm frequency	=	10 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	16,929 cuft
Drainage area	=	1.660 ac	Curve number	=	87*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.39 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.360 x 49) + (1.300 x 98)] / 1.660



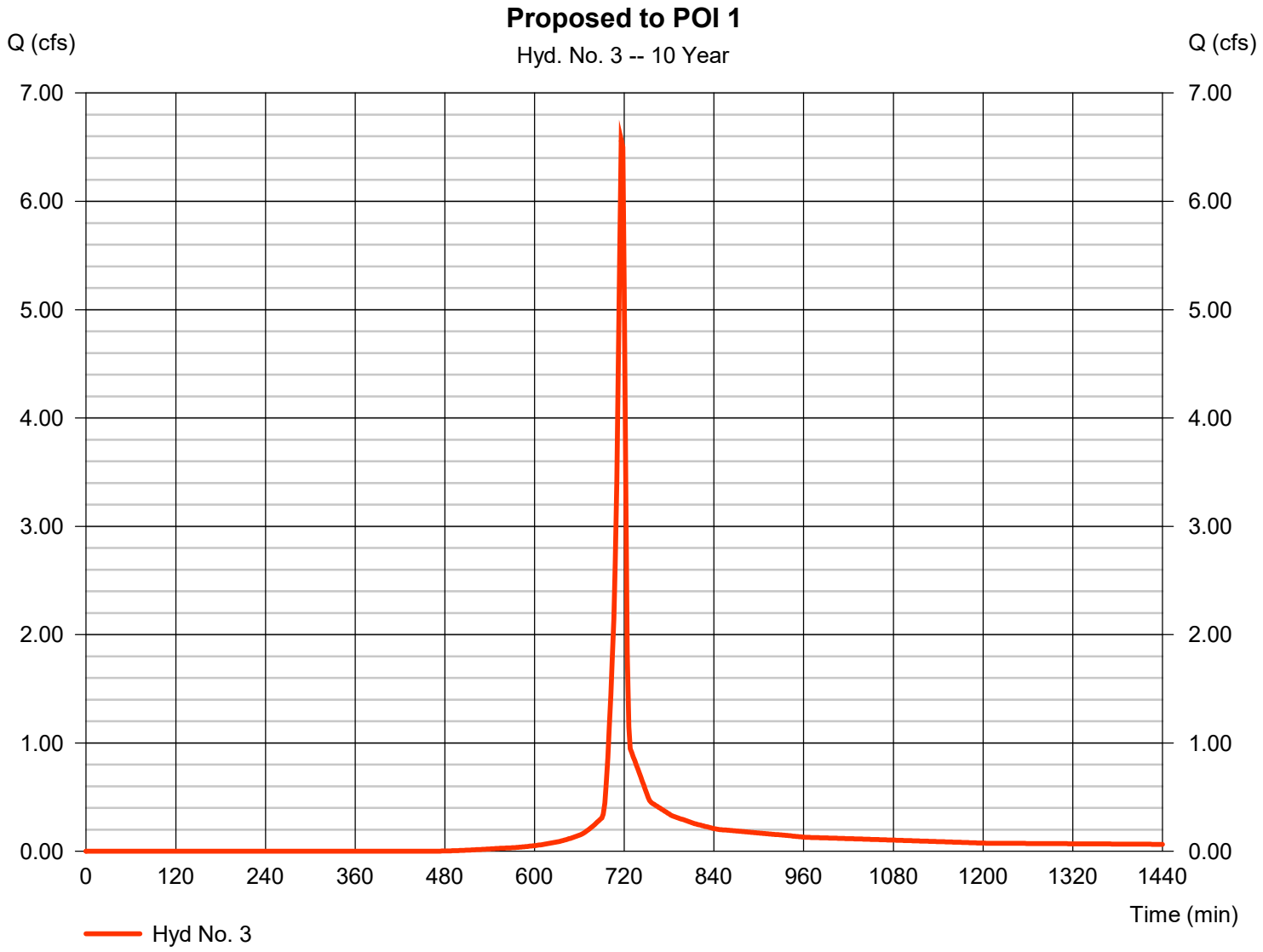
Hydrograph Report

Hyd. No. 3

Proposed to POI 1

Hydrograph type	=	SCS Runoff	Peak discharge	=	6.567 cfs
Storm frequency	=	10 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	13,297 cuft
Drainage area	=	1.650 ac	Curve number	=	80*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.39 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.610 x 49) + (1.040 x 98)] / 1.650



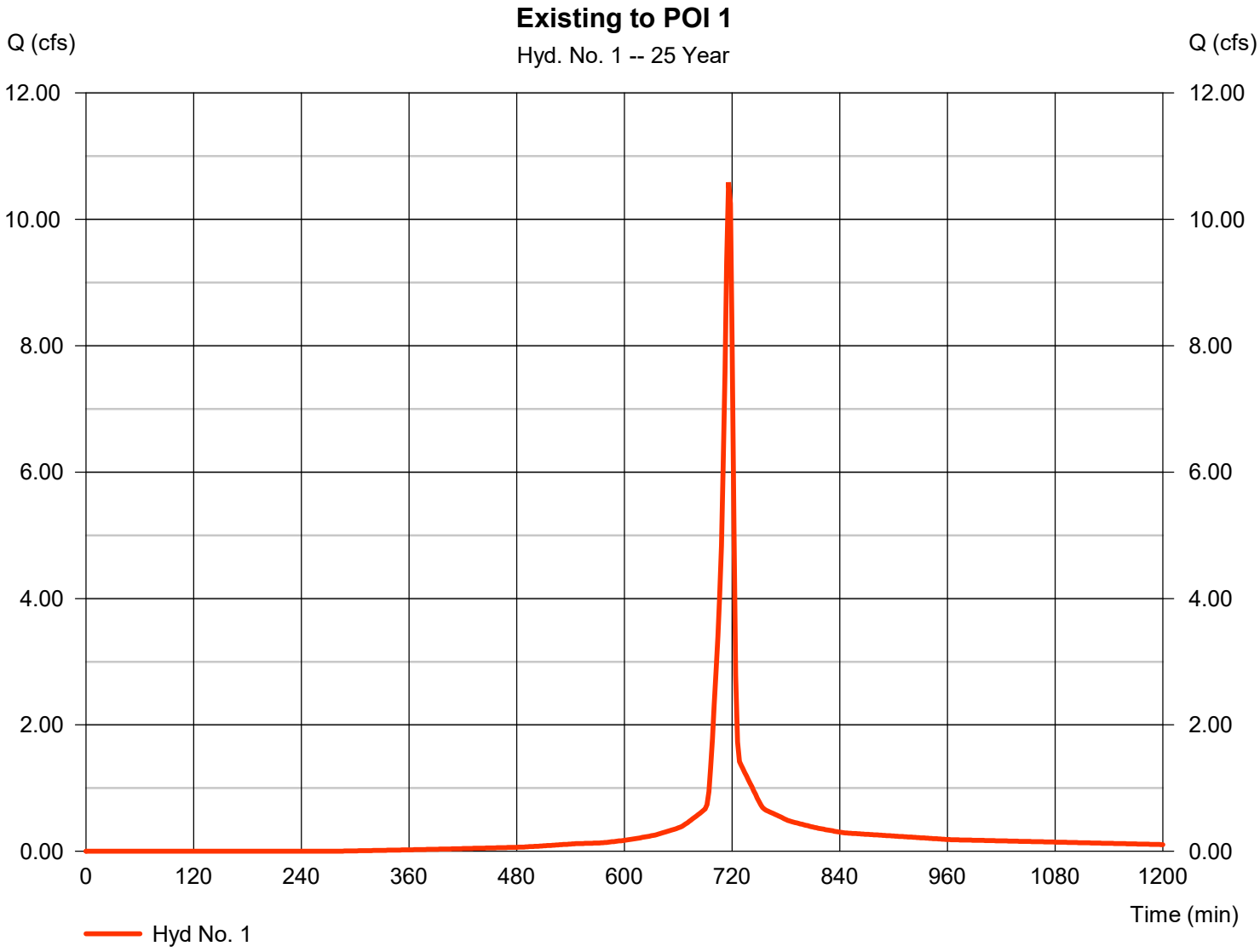
Hydrograph Report

Hyd. No. 1

Existing to POI 1

Hydrograph type	=	SCS Runoff	Peak discharge	=	10.59 cfs
Storm frequency	=	25 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	22,342 cuft
Drainage area	=	1.660 ac	Curve number	=	87*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.41 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.360 x 49) + (1.300 x 98)] / 1.660



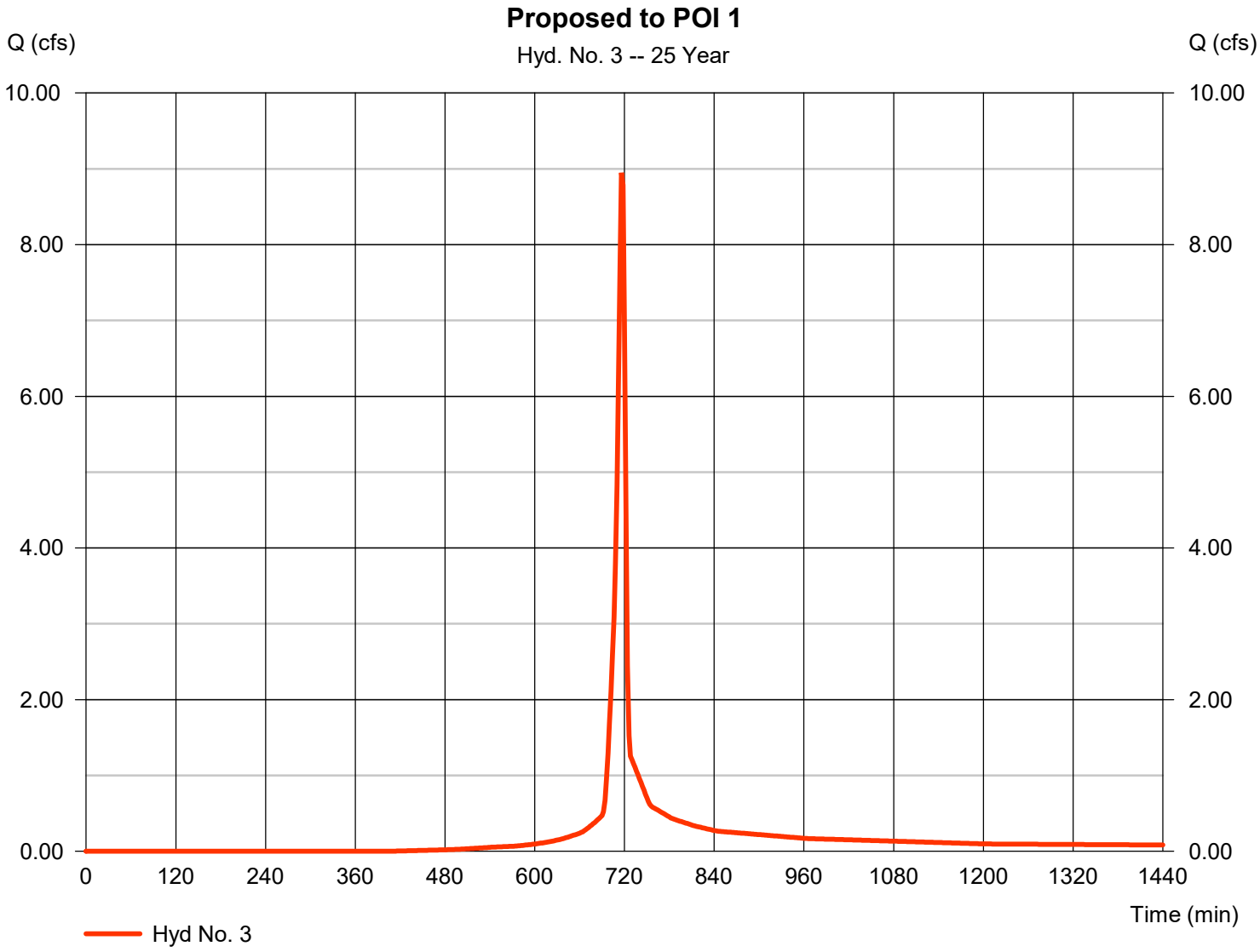
Hydrograph Report

Hyd. No. 3

Proposed to POI 1

Hydrograph type	=	SCS Runoff	Peak discharge	=	8.949 cfs
Storm frequency	=	25 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	18,269 cuft
Drainage area	=	1.650 ac	Curve number	=	80*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.41 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.610 x 49) + (1.040 x 98)] / 1.650



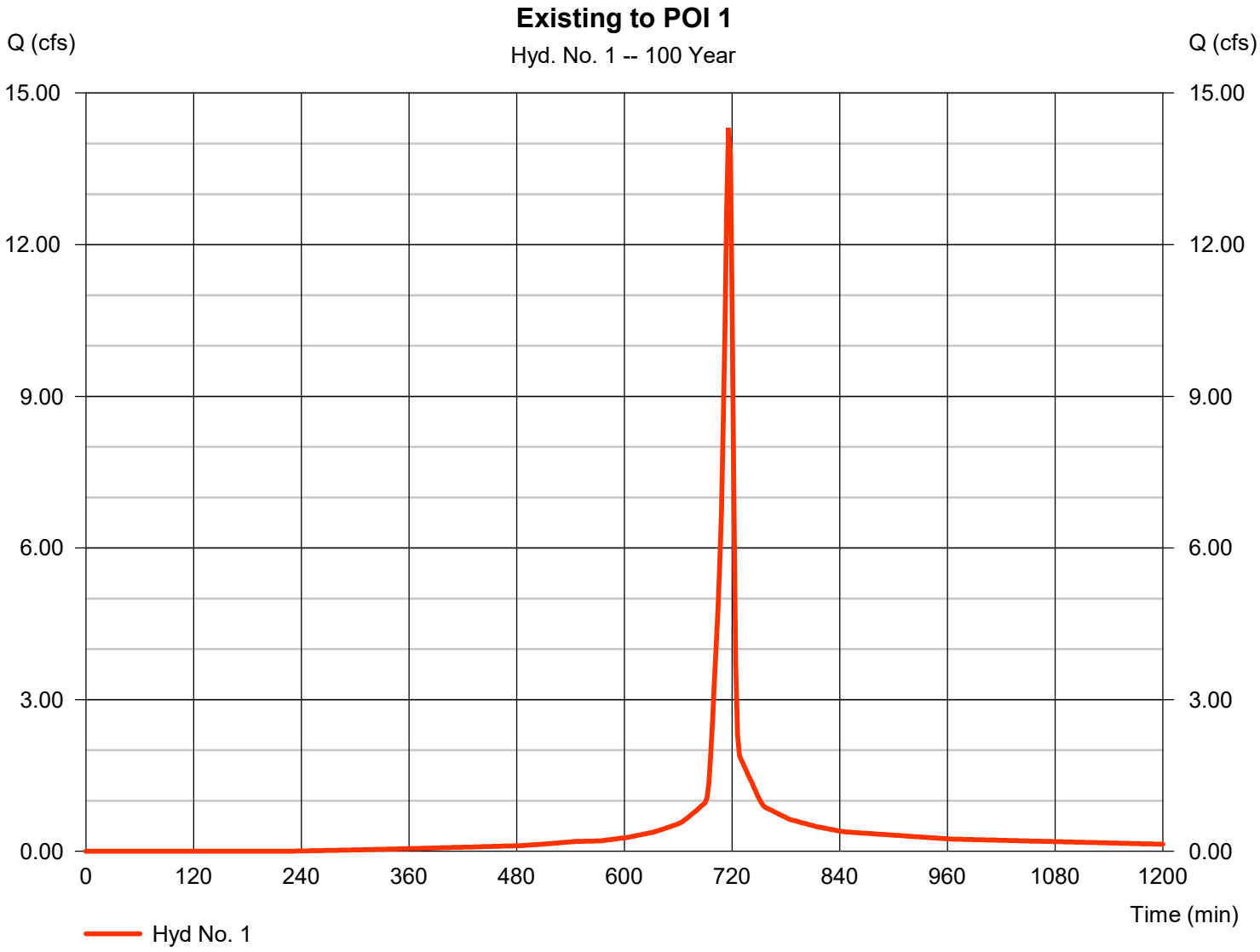
Hydrograph Report

Hyd. No. 1

Existing to POI 1

Hydrograph type	=	SCS Runoff	Peak discharge	=	14.31 cfs
Storm frequency	=	100 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	30,790 cuft
Drainage area	=	1.660 ac	Curve number	=	87*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.97 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.360 x 49) + (1.300 x 98)] / 1.660



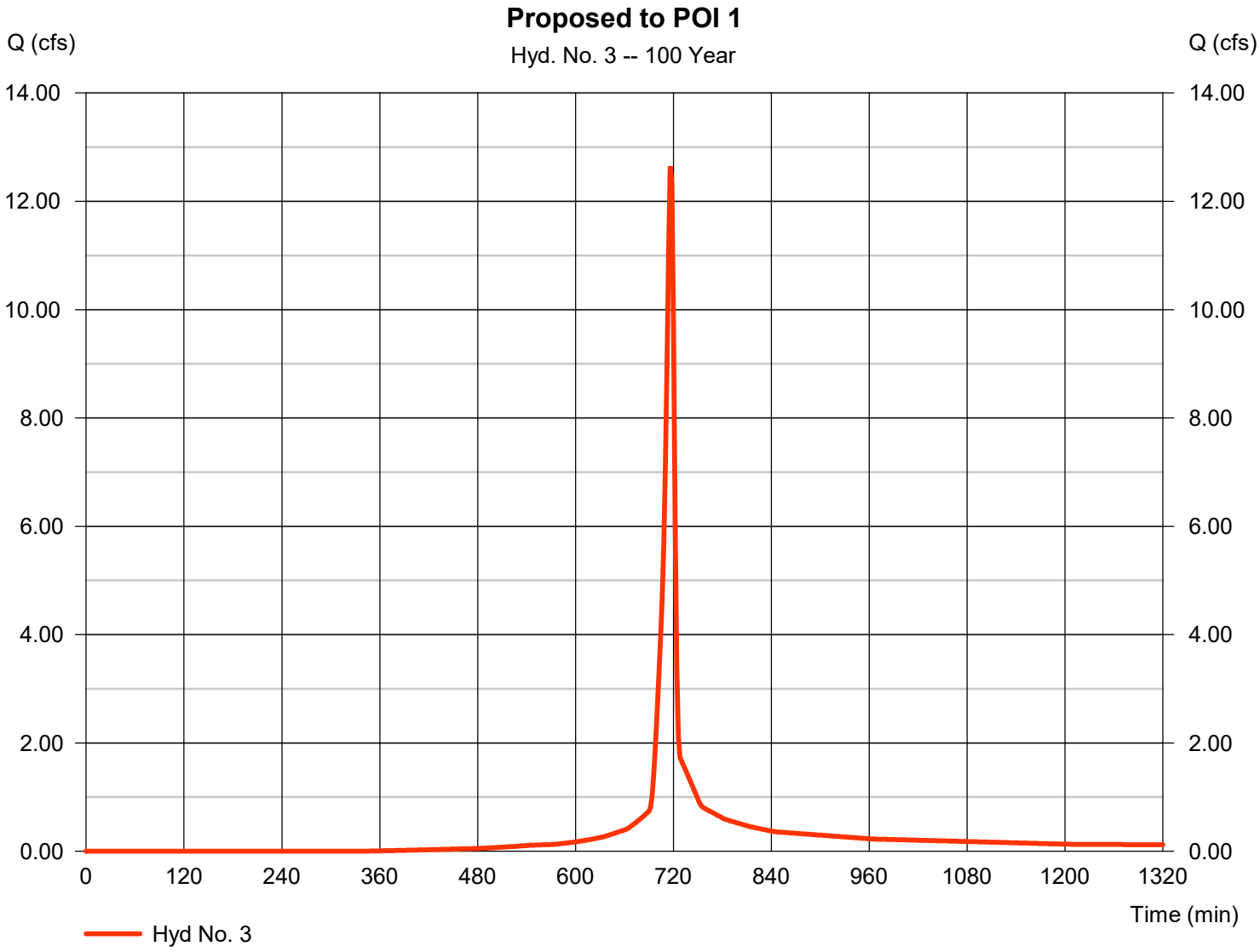
Hydrograph Report

Hyd. No. 3

Proposed to POI 1

Hydrograph type	=	SCS Runoff	Peak discharge	=	12.65 cfs
Storm frequency	=	100 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	26,205 cuft
Drainage area	=	1.650 ac	Curve number	=	80*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.97 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.610 x 49) + (1.040 x 98)] / 1.650



Hydraflow Rainfall Report

Precip. file name: Z:\1361_HCA Real Estate\14 - Concord FSER\03 - Calcs\Detention\Concord NH.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	2.22	2.76	0.00	3.65	4.39	5.41	6.17	6.97