Partners Community Physicians Organization Medical Office Building

Amesbury, Massachusetts

PREPARED FOR

Partners Community Physicians
Organization, Inc.
800 Boylston Street, 11th Floor
Boston, MAA 02119

PREPARED BY

vhb

99 High Street
10th Floor
Boston, MA 02110
617.728.7777

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1

Introduction/Overview

Project Description

The Partners Community Physicians Organization's Pentucket Medical practice is an outpatient physician practice with over 100 clinicians and over 340 support staff, based at several locations throughout the Merrimack Valley. Its Newburyport site was established nearly 20 years ago, and it currently provides adult primary care services as well as allergy, cardiology, endocrinology, gastroenterology and nephrology. Several ancillary services are also provided at this location, including phlebotomy, plain film X-ray, cardiac stress testing, and nutritionist services. The practice subleases a portion of its Newburyport office to unrelated providers of foot and ankle services and physical rehabilitation; there is also a dialysis provider that leases directly from the landlord.

Pentucket Medical has grown along with the demand for healthcare services, and the current Newburyport site is no longer adequate for the practice's needs. At its Newburyport site, Pentucket occupies about 25,000 sf and it currently has 20 clinicians and 37 support staff. The premises requires an extensive renovation in order to meet the expectations of today's patients, and the building itself is not conducive for the necessary expansion. By relocating the Newburyport practice, Pentucket Medical will be able to provide additional services to the community, including pediatrics, dermatology, telehealth, behavioral health, and an urgent care center. In conjunction with commercial real estate consultants, several sites were reviewed and Pentucket Medical and Partners Community Physicians Organization (PCPO) have identified the proposed Amesbury site on Elm Street as the best location to meet the practice's and its patients' needs. The location in Amesbury's "Golden Triangle" provides an ideal mix of highway and local road accessibility and visibility, and it also provides an opportunity to further increase the number of patients Pentucket Medical serves from this region as well as Southern New Hampshire. The relocation is only three (3) miles from the current Newburyport site, allowing Pentucket Medical to continue providing services to its current patient population, and with minimal disruption to existing clinicians and support staff.

By owning the 9 +/- acre site and the new building, PCPO will retain the flexibility to increase the size of the building from the initial 35,000 sf identified for Phase I to 60,000 sf when demand warrants. Ownership also ensures that PCPO and Pentucket Medical will continue to provide services to the community in the long term.

The project's first phase will include 35,000 sf of space and include approximately 38 exam rooms, 6 consult rooms, and 4 procedure rooms. PCPO will employ up to 33 clinicians and 75 support staff to run the operation. The expected hours of operation are Monday – Friday 7:30 AM – 7:00 PM; Saturday 8:30 AM – 4:30 PM and Sunday 8:30 AM – 2:30 PM. Urgent care services will be available at this site between 9:00 AM and 9:00 PM, seven days per week. Off hours staffing is flexed based on organizational experience and local demand, however the base (or core) staffing when the urgent care is open consists of minimum personnel levels of 1 MD/APC, and 2 Technician/Medical/Administrative Support staff.

Access to the site will be provided by a proposed Subdivision Road that is planned to intersect Elm Street opposite the main Hampton Inn entrance driveway, creating a four way intersection at that point. The analyses contained in this study have been based on the assumption that the project would be fully constructed at 60,000 sf. An interim analysis for Phase 1 conditions on the site driveway is also included.

The proposed site is located within an area known locally as the "Golden Triangle," formed by its surrounding roadways: I-495, I-95 and Elm Street. The City of Amesbury has designated the Golden Triangle as an economic development zone and has taken steps related to zoning, tax financing, and infrastructure improvement funding to promote development within the Triangle. The Triangle is currently vacant, commercially–zoned property.

Recognizing the potential for future development, the City has asked that the Subdivision Road that will serve the proposed PCPO project be designed so that it is capable of being extended to serve possible future development within the Golden Triangle "behind" (i.e. north of) the Project Site. The City anticipates that the Subdivision Road serving the site will become a public way in the future and that its intersection with Elm Street will be improved. As currently envisioned, this intersection would be signalized and feature turning lanes. The City of Amesbury will be responsible for the implementation of these improvements. There is no proposal currently under consideration by the City for any specific development other than the proposed PCPO project. The PCPO project is a stand-alone, independent undertaking.

A Traffic Scoping Letter (TSL) that outlined the parameters of the study was prepared and submitted to MassDOT's Office of Transportation Planning on October 17, 2016 and a copy was attached to the Environmental Notification Form (ENF) filed on that same date with the Commonwealth's Executive Office of Energy and Environmental Affairs.

Site Location

Figure 1 shows a site location map. The Site is located on Elm Street, just north of Route 110. The site is adjacent to and north of the Amesbury Animal Hospital. It is less than a quarter mile northwest of I-95 Exit 58 (Amesbury, Route 110).

Study Methodology

Following consultation with both City of Amesbury staff and MassDOT Highway Division District 4 staff, VHB prepared this traffic assessment in three stages. The first stage involved an assessment of existing traffic conditions within the study area including an inventory of existing roadway geometry; observations of traffic flow, including daily and peak period traffic counts; and a review of vehicular crash data.

The second stage of the study established the framework for evaluating the transportation impacts of the proposed Project. Specific travel demand forecasts for the Project were assessed along with future traffic demands on the study area roadways due to projected background traffic growth and other proposed area developments that may occur independent of the proposed PCPO Amesbury Medical Office Building development. The year 2023, a seven year time horizon, was selected as the design year for the analysis for the preparation of this traffic impact and access assessment in accordance with the Massachusetts Department of Transportation (MassDOT) guidelines. A supplemental analysis for 2020 conditions at the Subdivision Access Road intersection was also conducted.

The third and final stage involved conducting traffic analyses to identify both existing and projected future roadway capacities and demands. These analyses were used as the basis for determining potential Project impacts and to help identify mitigation measures that would be implemented by the Proponent (PCPO) as part of the Project.

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Existing Conditions

Evaluation of the transportation impacts associated with the Project requires a thorough understanding of the existing transportation conditions in the study area including, roadway geometry, traffic counts, daily and peak hour traffic flow, and traffic safety data. Each of these elements is described in detail below.

Study Area

As outlined in the Traffic Scoping Letter (TSL), the following eight (8) intersections and their approach roadways were included in the assessment. The study area intersections are identified in Figure 2.

- Macy Street (Route 110) at Stop & Shop Driveway – *signalized*
- Macy Street (Route 110) at Elm Street/Clarks Road – *signalized*
- Macy Street (Route 110) at I-95 SB ramps – *unsignalized*
- Macy Street (Route 110) at I-95 NB ramps – *unsignalized*
- Elm Street at Rocky Hill Road – *unsignalized*
- Elm Street at Stop & Shop Driveway – *unsignalized*
- Elm Street at Amesbury Animal Hospital (277 Elm Street) – *unsignalized*
- Elm Street at Hampton Inn Driveway (284 Elm Street) - *unsignalized*

The existing conditions analysis consisted of an inventory of traffic control, roadway, driveway and intersection geometry, daily and peak hour traffic volume counts, and a review of recent crash history.

Roadway Geometry

Descriptions of the study area roadways and intersections are included below.

Roadways

Elm Street

Elm Street, is classified by MassDOT as a minor arterial roadway and is under MassDOT jurisdiction. It runs in a general northwest-southeast direction between downtown Amesbury and Route 110 just west of the I-95 Exit 58 interchange. Within the study area, Elm Street is a two-lane roadway with one lane in each direction. Land uses along Elm Street in the vicinity of the Site are primarily low density residential and commercial. The posted speed limit is 35 miles per hour. At its intersection with Macy Street (Route 110), Elm Street widens to provide three lanes on its southbound approach leg.

Macy Street (Route 110)

Macy Street is classified by MassDOT as a minor arterial roadway and it too is under MassDOT jurisdiction. It runs in a general east-west direction between Main Street in Amesbury and Clark Road and Merrill Street/Rabbit Road just east of the I-95 Exit 58 interchange. Within the study area, Macy Street is a four lane roadway with two lanes in each direction with turn lanes added at the intersection of the Stop & Shop Driveway and at Elm Street. The posted speed limit is 40 miles per hour.

Rocky Hill Road

Rocky Hill Road is a local roadway under the jurisdiction of the City of Amesbury. It runs between Macy Street (west of the Carriage Town Marketplace shopping center) and Elm Street. Access to the Sparhawk Elementary School is from a driveway located just west of Rocky Hill Road. Rocky Hill Road is a two-lane roadway with one travel lane in each direction. The posted speed limit is 30 miles per hour.

Intersections

Macy Street (Route 110) at Stop & Shop Driveway

Macy Street at Stop & Shop Driveway is a signalized three legged "T" intersection. The Macy Street eastbound approach provides a left-turn only lane and two through lanes. The Macy

Street westbound approach provides one through lane and one through/right lane. The Stop & Shop Driveway provides one left-only lane and one right-only lane. Sidewalks are present along the north side of Macy Street and along the west side of the Stop & Shop Driveway. A crosswalk is provided across the Stop & Shop Driveway approach.

Macy Street (Route 110) at Elm Street/Clarks Road

Macy Street (Route 110) at Elm Street/Clarks Road is a signalized four-legged intersection. The Macy Street (Route 110) eastbound approach provides one left-turn only lane, one through lane, and one though/right lane. The Macy Street (Route 110) westbound approach provides one left-turn only lane, two through lanes, and one signalized channelized right-turn only lane. The Elm Street southbound approach provides two left-turn only lanes and one through/right lane. The Clarks Road northbound approach provides one left-turn only lane and one through/right lane. Sidewalks are present along the north side of the Macy Street eastbound approach and along the south side of the Macy Street westbound approach. Sidewalks are also provided along the east side of Elm Street and Clarks Road. Crosswalks are provided across the Macy Street westbound approach and across the Elm Street southbound approach.

Macy Street (Route 110) at I-95 Southbound Ramps

Macy Street (Route 110) at the I-95 southbound ramps are the unsignalized on/off ramp system for I-95 southbound. Macy Street (Route 110) eastbound and westbound are both uncontrolled and they provide two through lanes in each direction. The I-95 southbound off ramp provides one left turn lane towards Macy Street (Route 110) westbound and one yield-controlled channelized right turn lane towards Macy Street (Route 110) eastbound. Sidewalks are present along the north and south sides of Macy Street (Route 110) with crosswalks across all ramps.

Macy Street (Route 110) at I-95 Northbound Ramps

Macy Street (Route 110) at the I-95 northbound ramps are the unsignalized on/off ramp system for I-95 northbound. Macy Street (Route 110) eastbound is uncontrolled and provides two through lanes and a left-turn only lane. Macy Street (Route 110) westbound is also uncontrolled and provides two through lanes and one right-turn only channelized lane under yield control. The I-95 northbound off ramp intersecting Macy Street (Route 110) eastbound (Exit 58A) is a channelized right turn only lane under yield control. The I-95 northbound off ramp intersecting Macy Street (Route 110) westbound (Exit 58B) is a channelized right turn only lane under yield control.

Elm Street at Rocky Hill Road

Elm Street at Rocky Hill Road is an unsignalized three legged "T" intersection. All three approaches provide one general purpose lane. Rocky Hill Road is under stop control while Elm

Street is uncontrolled. Sidewalks are provided along the west side of Elm Street southbound approach and along the north side of Rocky Hill Road. No crosswalks are provided at this intersection.

Elm Street at Stop & Shop Driveway

Elm Street at Stop & Shop driveway is an unsignalized three legged "T" intersection. All three approaches provide one general purpose lane each. The Stop & Shop driveway is under stop control, while Elm Street is uncontrolled. A sidewalk is present on the north side of Stop & Shop Driveway and a crosswalk is provided across the Stop & Shop driveway.

Elm Street at Amesbury Animal Hospital

Elm Street at the Amesbury Animal Hospital is an unsignalized "T" intersection. Elm Street is uncontrolled and has no break in the double yellow center line. The Animal Hospital driveway provides one stop controlled general purpose lane. No sidewalks or crosswalks are provided.

Elm Street at Hampton Inn Driveway

The Hampton Inn features two driveways that connect on the south side of the building, creating a two-way circulation loop around the building. The easternmost driveway functions as the site's main entrance. Both driveways are unsignalized and they feature one lane in each direction. Elm Street passing the Hampton Inn site is uncontrolled and has no break in the double yellow center line. Sidewalks are provided directly adjacent to the hotel on Elm Street; no crosswalks are provided.

Public Transportation and Bicycle Facilities

Public transportation services are available through the Merrimack Valley Regional Transit Authority (MVRTA) between Amesbury, Newburyport, and Salisbury (MVRTA Route #54). This route operates seven days a week from 6:23 AM though 7:05 PM on weekdays and from 7:34 AM through 7:05 PM on weekends. The route starts at Costello Transportation Center in Amesbury and ends at Salisbury Beach. The closest stop to the project site is located at the Stop & Shop in the Carriage Town Marketplace.

It should be noted that the City of Amesbury and MassDOT are working together and with nearby property owners to develop an east-west bike trail that will ultimately pass close to the site.

Traffic Volumes

Because of the site's proximity to Salisbury Beach and other North Shore summer destinations, automatic traffic counts (ATR) were obtained along Elm Street just north of the Hampton Inn before, during, and after Labor Day weekend in order to have a better understanding of the seasonal fluctuations in traffic along the corridor. ATRs were conducted for 72 hours between Tuesday August 16, 2016 and Thursday August 18, 2016 (summer counts), for 72 hours between Friday September 2, 2016 and Monday September 5, 2016 (Labor Day counts), and for 48 hours between Wednesday September 14, 2016 and Thursday September 15, 2016 (September counts). The ATR counts are summarized in Table 1

Table 1 Daily Traffic Volume – Elm Street at the Amesbury Animal Hospital (284 Elm Street)

	Weekday	Morning Peak Hour			Evening Peak Hour			Saturday	Saturday Peak Hour		
	ADT[a]	Volume	K Factor[b]	Dir. Dist.[c]	Volume	K Factor	Dir. Dist	ADT	Volume	K Factor	Dir. Dist
Aug.	12,850	892	0.070	67%SB	1,096	0.085	61%NB	-	-	-	-
Sept.	13,150	955	0.730	65%SB	1,150	0.087	62%NB	-	-	-	-
Labor Day Weekend	-	-	-	-	-	-	-	9,350	769	0.082	51%SB

Source: Based on automatic traffic recorder counts conducted in August and September 2016
a Average Daily Traffic volume, expressed in vehicles per day
b Represents the percent daily traffic which occurs during the peak hour
c Directional distribution of peak hour traffic

As shown in the table above, the daily traffic volumes in August and September were generally consistent but daily and peak hour volumes on the Saturday of Labor Day weekend were considerably lower. The Saturday counts on Labor Day weekend were counted at the request of City of Amesbury staff.

For the weekday counts in August and September, there are approximately 13,000 average daily vehicles traveling on Elm Street (this is the total volume that combines both directions). During the morning and evening peak hours, the traffic is highly directional. In the morning, southbound traffic from downtown Amesbury is heavier as drivers travel towards the I-95 ramps. During the evening, the pattern is reversed with over 60 percent of Elm Street's traffic headed towards downtown Amesbury.

In addition to daily traffic volumes, turning movement counts were conducted for all study area intersections in September, 2016. Peak hour turning movement counts (TMC) were collected at the eight (8) study area intersections from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM, consistent with the commuter peak periods. Peak hours for the network specifically were calculated to be 7:30 AM – 8:30 AM and 4:45 PM – 5:45 PM for the morning and evening, respectively. Volumes were obtained for cars, trucks, pedestrians, and bikes at

all study area intersections. It is noted that the Hampton Inn opened after the September 2016 counts were taken so the turns shown at this site are estimated. Figures 3 and 4 show the morning and evening peak hour vehicle volumes, respectively.

Figures 5 and 6 show the observed morning and evening bike and pedestrian volumes, respectively. No pedestrians or bikes were counted at most of the eight intersections.

Seasonal Adjustment

The traffic data collected for the study was obtained during the month of September. After reviewing the MassDOT Statewide Traffic Data Collection 2011 Weekday Seasonal Factors, the seasonal adjustment needed to be applied to the counts was 0.93 (for Group 4 – I-495 Interstate). It was concluded that since the volumes were higher than the average, no seasonal factor was used. The MassDOT Seasonal Factors Sheet can be found in the Appendix.

Crash History

To identify crash trends in the study area, the most current crash data were obtained for the study area intersections from MassDOT for a five-year period (2010 through 2014). A summary of the data is presented in Table 2. Intersections that do not have any recorded crashes have been omitted.

MassDOT's latest District 4 average crash rate for signalized intersections is 0.73 and 0.56 for unsignalized intersections. The crash rates represent the number of reported crashes for every million vehicles that pass through an intersection. As shown in Table 2, all eight (8) intersections studied have crash rates that are currently below the respective District 4 averages.

Crash rates were calculated using the MassDOT Intersection Crash Rate Worksheet, which uses as an input the evening peak hourly volumes and the total number of crashes over a five year period. For this analysis a "K" factor of 0.09 was used to translate the peak hourly volume from, to an intersection daily volume. Calculations for these crash rates can be found in the Appendix.

As shown in the table below, there have not been any fatalities reported for this time period and no crashes involving non-motorists (bikes and pedestrians) were reported. Most crashes occur at the intersection of Macy Street (Route 110) at Elm Street (46 crashes). The majority are either rear-end crashes (17), angled (12) and sideswipes (12). Most of these are property damage only (40) with the rest resulting in non-fatal injuries or unknown. The time of day in

which majority of these crashes occurred was during non-peak weekday times (24). Pavement conditions for most of the crashes were reported as dry (34).

Table 2 Crash Data (2010-2014)

	Macy Street (Route 110)				Elm Street	
	Stop & Shop Driveway	Elm Street	I-95 SB Ramps	I-95 NB Ramps	Rocky Hill Road	Stop & Shop Driveway
District 6 Average Crash Rate	0.73	0.73	0.56	0.56	0.56	0.56
MassDOT Calculated Crash Rate	0.08	0.64	0.03	0.12	0.14	0.44
Year						
2010	1	9	0	2	0	1
2011	0	9	0	2	2	2
2012	1	11	0	0	0	3
2013	2	12	2	4	1	5
2014	0	5	0	0	0	1
Total	4	46	2	8	3	12
Collision Type						
Angle	0	12	0	3	1	3
Head-on	0	2	0	0	1	0
Rear-end	3	17	2	3	0	5
Rear-to-rear	0	1	0	0	0	0
Sideswipe, opposite direction	0	0	0	0	0	0
Sideswipe, same direction	1	12	0	0	0	0
Single vehicle crash	0	2	0	2	1	4
Total	4	46	2	8	3	12
Crash Severity						
Fatal injury	0	0	0	0	0	0
Non-fatal injury	1	5	1	2	1	1
Property Damage Only	3	40	1	6	2	11
Unknown/Not Reported	0	1	0	0	0	0
Total	4	46	2	8	3	12
Time of Day						
Weekday, 7:00 AM - 9:00 AM	1	3	0	0	1	0
Weekday, 4:00 PM - 6:00 PM	0	10	2	2	0	2
Saturday, 11:00 AM - 2:00 PM	2	1	0	0	0	2
Weekday, other time	1	24	0	4	2	3
Weekend, other time	0	8	0	2	0	5
Total	4	46	2	8	3	12
Pavement Conditions						
Dry	4	34	2	5	2	6
Wet	0	9	0	1	1	4
Snow/Ice/Slush	0	3	0	2	0	2
Total	4	46	2	8	3	12
Non-Motorist (Bike, Pedestrian)	0	0	0	0	0	0

Source: MassDOT Crash Records Web Reporting

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Future Conditions

Traffic volumes in the study area were projected for a seven (7) year traffic-planning horizon (2023). Independent of the Project, volumes on the roadway network under the future no build conditions were assumed to include existing traffic and new traffic resulting from background traffic growth, as well as planned projects. Under the build condition, Project generated traffic volumes were added to the no-build volumes to reflect the build conditions within the Project study area. As noted previously, this evaluation assumes that the PCPO Amesbury Medical Office Building would be fully built (both phases), totaling 60,000 sf. Phase 1 is planned to be approximately 35,000 sf.

Background Traffic Growth

Traffic growth on area roadways is a function of the expected land development, economic activity, and changes in demographics. Several methods can be used to estimate this growth. A procedure frequently employed is to estimate an annual percentage increase and apply that increase to study area traffic volumes. An alternative procedure is to identify estimated traffic generated by planned new major developments that would be expected to impact the project study area roadways. For the purpose of this assessment, both methods were considered.

Historic Traffic Growth

As specified in the Transportation Scoping Letter, and consistent with other studies in the area, annual growth rate of one (1) percent per year was used for the future conditions traffic analyses to account for growth in traffic over the next seven (7) years.

Other Site-Specific Growth

In addition to accounting for background growth, the traffic associated with other planned and/or approved developments near the Site were considered. The City of Amesbury Planning Department indicates two (2) planned developments in the area that would generate additional traffic through the study area.

Amesbury Chevrolet Proposed Addition - This project, submitted on March 21, 2016, proposes a 16,000 sf addition to the Amesbury Chevrolet dealership located at 103 Macy Street. This project's TIA has studied the intersection of Macy Street (Route 110) and Elm Street and the total existing intersection volumes are within 5% difference in the morning and 1% difference in the evening when compared to the volumes documented in this TIA.

Elm Street Hampton Inn – This project was not fully occupied or open for business until after the traffic counts for the PCPO project were conducted. The Hotel is located at 284 Elm Street, directly opposite the Site and contains 93 rooms. The Hotel has two driveways and it is planned that the Subdivision Road that will serve the proposed PCPO project will be aligned with the southernmost driveway on Elm Street. For this analysis, a trip generation calculation was made using the Institute of Transportation Engineers (ITE) Land Use Code (LUC) 310 – Hotel. The trips were then distributed using existing traffic patterns on Elm Street.

The 2023 no-build traffic volumes were developed adding the one (1) percent per year growth rate to the existing conditions volumes plus the traffic generated by the specific area projects discussed. The resulting 2023 Morning and Evening no-build peak hour traffic volume networks are shown in Figures 7 and 8, respectively.

Site-Generated Traffic Volumes

The rate at which any development generates traffic is dependent upon a number of factors such as size, location, and nature of the land use. To estimate the trip generating characteristics for a new development, traffic projections are typically derived from trip generation rates published in the Institute of Transportation Engineers (ITE) Trip Generation Manual[1]. The analysis methodology used for the estimation of project-related traffic volumes in this study is described below.

Project Trip Generation

The Project's expected hours of operation are Monday – Friday 7:30 AM – 7:00 PM; Saturday 8:30 AM – 4:30 PM and Sunday 8:30 AM – 2:30 PM. Urgent care services will be available at this site between 9:00 AM and 9:00 PM, seven days per week. Off hours urgent care staffing

[1] Trip Generation Manual, 9th Edition, Institute of Transportation Engineers, Washington, D.C. 2009

will be flexed based on organizational experience and local demand, however the base (or core) staffing when the urgent care is open would consist of one MD, one technician and one administrative support staff person.

Building activities will be during the day only; no overnight patient stays are planned.

At full build the Project involves the construction of approximately 60,000 square feet of medical office space. To estimate the traffic generation, ITE Land Use Code (LUC) 720 – Medical-Dental Office Building. Table 3 provides the daily and peak hour trip generation projections based on the ITE methodology.

Table 3 PCPO MOB Net New Trip Generation

Time Period	Phase 1	Phase 2	Full Build
	35,000 sf	25,000 sf	60,000 sf
Weekday Daily (Enter + Exit)	1,265	905	2,170
Weekday Morning Peak Hour (vph)			
Enter	70	45	115
Exit	15	15	30
Total	85	60	145
Weekday Evening Peak Hour (vph)			
Enter	35	25	60
Exit	90	65	155
Total	125	90	215

vph - vehicles per hour

As shown in Table 3, at full build, the Project is expected to generate approximately 145 new trips (115 entering/30 exiting) during the weekday morning peak hour and 215 new trips (60 entering/155 exiting) during the evening peak hour. The trip generation calculations are included in the Appendix.

Trip Distribution

The directional distribution of traffic approaching and departing the Project was developed using the patient origin zip codes provided by the PCPO for the existing Pentucket Medical site in Newburyport for the period between September 2015 and September 2016.

Table 4 Trip Distribution

Direction	Percent Distribution	Staff Distribution
To/From Elm Street North	13%	7%
To/From Macy Street (Route 110) West	30%	41%
To/From I-95 South	32%	39%
To/From I-95 North	5%	5%
To/From Macy Street (Route 110) East	20%	8%
Total	100%	100%

Source: PCPO Patient and Employee Data

Since the staff survey only contained 50 responses, compared to over 35,000 for the patient survey throughout the year, the distribution for the patient data was used as the overall distribution for the entire project generated trips. Staff trips also represent a small fraction of the total vehicle trips that are expected. Figure 9 graphically depicts the patient trip distribution percentages within the study area.

To develop the build conditions peak hour traffic volume, Project generated traffic volumes noted above were added to the no-build conditions peak hour traffic volumes. The build morning and evening peak hour traffic volume networks are shown in Figures 10 and 11, respectively.

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Traffic Operations Analysis

Measuring the existing traffic volumes and projecting future traffic volumes quantifies traffic flow within the study area. To assess the quality of traffic flow, a set of roadway capacity analyses were conducted with respect to existing and projected no-build and build traffic volume conditions. Capacity analyses provide an indication of how well the roadway facilities serve the traffic demands placed upon them. Roadway operating conditions are classified by calculated levels of service.

Level-of-service Criteria

Level of service (LOS) is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volumes. It is a qualitative measure of a number of factors including roadway geometrics, speed, travel delay, and freedom to maneuver. Level of service provides an index to the operational qualities of a roadway segment or an intersection. Level of service designations range from A to F, with LOS A representing the best operating conditions and LOS F representing congested operating conditions.

For this study, capacity analyses were completed for the signalized and unsignalized intersections within the study area using Synchro 8 traffic analysis software. Level of service designation is reported differently for signalized and unsignalized intersections. For signalized intersections, the analysis considers the operation of each lane or lane group entering the intersection and the LOS designation is for overall conditions at the intersection. For unsignalized intersections, the analysis assumes that traffic on the mainline is not affected by traffic on the side streets. The LOS is only determined for left-turns from the main street and all movements from the minor street. The evaluation criteria used to analyze intersections is based on the HCM 2000.[2] Table 5 below shows the different letter grades and delay criteria for signalized and unsignalized intersections.

[2] Highway Capacity Manual 2000; Transportation Research Board, Washington, D.C

Table 5 Level of Service Criteria for Unsignalized and Signalized Intersections

Level of Service	Unsignalized Intersection Control Delay (sec/veh)	Signalized Intersection Control Delay (sec/veh)
LOS A	0-10	≤ 10
LOS B	> 10-15	> 10-20
LOS C	> 15-25	> 20-35
LOS D	> 25-35	> 35-55
LOS E	> 35-50	> 55-80
LOS F	> 50	> 80

Source: Highway Capacity Manual, 2000

Signalized Intersection Capacity Analysis

Capacity analyses conducted for the signalized intersections are summarized in Table 6. The capacity analyses were conducted for the existing, no-build and build conditions.

Morning Peak Hour

The intersection of Elm Street (Route 110) at the Stop & Shop Driveway, operates at a LOS A for existing, no-build, and build scenarios.

The intersection of Macy Street (Route 110) at Elm Street operates at an overall LOS C under existing conditions with the Macy Street (Route 110) eastbound left turn movement being the lowest movement, operating at a LOS E. Under the no-build scenario, due to other background growth not related to the proposed PCPO project, the overall intersection LOS will decrease to LOS D, but with only a 5.1 second increase in delay. Under the Build scenario, there is no change in the overall level of service and only a 1.4 second additional increase in delay.

Evening Peak Hour

The intersection of Elm Street (Route 110) at the Stop & Shop driveway operates at LOS B for existing, no-build, and build scenarios.

The intersection of Elm Street (Route 110) at Elm Street operates at an overall LOS C under existing conditions with the Clarks Road approach operating at LOS E. Under no-build conditions, this intersection remains at a LOS C, but the Clarks Road approach is forecast to decline to LOS F. Under build conditions, the overall intersection will operate at LOS D with a small increase in delay (2.9 seconds).

Table 6 Signalized Intersection Capacity Analysis Summary

		2016 Existing Conditions					2023 No-Build Conditions					2023 Build Conditions				
Peak Period	**Movement**	**v/c[a]**	**Delay[b]**	**LOS[c]**	**50th[d]**	**95th[e]**	**v/c**	**Delay**	**LOS**	**50th**	**95th**	**v/c**	**Delay**	**LOS**	**50th**	**95th**
Macy Street (Route 110) at Stop & Shop Driveway																
Weekday Morning	Macy St (Rte 110) EB L	0.40	46	D	26	59	0.42	46	D	28	62	0.42	46	D	28	62
	Macy St (Rte 110) EB T	0.48	2	A	94	135	0.52	3	A	108	156	0.54	3	A	113	164
	Macy St (Rte 110) WB T/R	0.32	5	A	91	140	0.36	6	A	101	156	0.36	6	A	103	158
	S&S Driveway SB L	0.28	48	D	12	30	0.24	46	D	13	32	0.24	46	D	13	32
	S&S Driveway SB R	0.03	40	D	0	20	0.03	39	D	0	20	0.03	39	D	0	20
	Overall	**0.50**	**5**	**A**	**-**	**-**	**0.54**	**6**	**A**	**-**	**-**	**0.56**	**6**	**A**	**-**	**-**
Weekday Evening	Macy St (Rte 110) EB L	0.61	46	D	73	125	0.66	50	D	78	137	0.66	50	D	78	137
	Macy St (Rte 110) EB T	0.36	3	A	66	115	0.39	3	A	80	123	0.40	3	A	85	116
	Macy St (Rte 120) WB T/R	0.58	12	B	217	358	0.63	12	B	261	372	0.65	13	B	280	381
	S&S Driveway SB L	0.38	44	D	35	71	0.39	44	D	37	75	0.39	44	D	37	76
	S&S Driveway SB R	0.23	34	C	28	68	0.30	35	C	41	88	0.32	35	C	44	94
	Overall	**0.56**	**12**	**B**	**-**	**-**	**0.61**	**12**	**B**	**-**	**-**	**0.62**	**12**	**B**	**-**	**-**
Macy Street (Route 110) at Elm Street/Clarks Road																
Weekday Morning	Macy St (Rte 110) EB L	0.79	74	E	43	#110	0.73	67	E	59	112	0.82	76	E	87	#185
	Macy St (Rte 110) EB T/R	0.95	39	D	~480	#616	0.95	42	D	~610	#786	0.96	44	D	~610	#786
	Macy St (Rte 110) WB L	0.53	46	D	20	50	0.51	53	D	26	59	0.51	53	D	26	59
	Macy St (Rte 110) WB T	0.52	21	C	169	226	0.53	23	C	225	289	0.56	26	C	226	289
	Macy St (Rte 110) WB R	0.16	6	A	0	9	0.18	7	A	0	12	0.23	8	A	0	13
	Clarks Rd NB L	0.43	41	D	28	57	0.46	50	D	40	72	0.46	50	D	40	72
	Clarks Rd NB T/R	0.30	41	D	14	54	0.30	49	D	18	60	0.30	49	D	18	60
	Elm St SB L	0.80	38	D	173	221	0.89	53	D	244	#327	0.90	53	D	253	#341
	Elm St SB T/R	0.20	28	C	36	71	0.23	34	C	53	99	0.25	34	C	57	104
	Overall	**0.87**	**33**	**C**	**-**	**-**	**0.90**	**38**	**D**	**-**	**-**	**0.91**	**40**	**D**	**-**	**-**
Weekday Evening	Macy St (Rte 110) EB L	0.67	60	E	56	107	0.68	59	E	71	#144	0.78	70	E	86	#181
	Macy St (Rte 110) EB T/R	0.65	25	C	305	408	0.75	29	C	357	464	0.77	31	C	373	464
	Macy St (Rte 110) WB L	0.70	63	E	62	116	0.66	58	E	67	#132	0.67	58	E	67	#132
	Macy St (Rte 110) WB T	0.75	27	C	382	511	0.87	35	C	453	#617	0.90	39	D	468	#617
	Macy St (Rte 110) WB R	0.48	10	A	33	57	0.56	12	B	55	89	0.61	13	B	65	110
	Clarks Rd NB L	0.40	47	D	48	89	0.43	47	D	53	95	0.43	47	D	53	95
	Clarks Rd NB T/R	0.84	76	E	100	#212	0.92	94	F	~122	#242	0.94	100	F	~122	#242
	Elm St SB L	0.66	44	D	140	178	0.67	43	D	152	194	0.76	45	D	185	239
	Elm St SB T/R	0.25	39	D	45	88	0.27	38	D	52	98	0.33	37	D	63	122
	Overall	**0.74**	**30**	**C**	**-**	**-**	**0.81**	**35**	**C**	**-**	**-**	**0.86**	**38**	**D**	**-**	**-**

Notes: a = volume-to-capacity ratio, b = average delay in seconds per vehicle, c = level of service, d = 50th percentile queue length in feet, e = 95th percentile queue length in feet,
~ = Volume exceeds capacity, queue is theoretically infinite, # = 95th percentile volume exceeds capacity, queue may be longer, m = Volume for 95th percentile is metered by upstream signal

Unsignalized Intersection Capacity Analysis

Capacity analyses conducted for the unsignalized intersections are summarized in Table 7. The capacity analyses were conducted for the existing, no-build and build conditions. It is important to note that the critical gap for these intersections, meaning the distance (expressed in seconds) between vehicles on the main street that a driver on a minor street will accept and merge with main street traffic, is the default critical gap calculated by the Synchro 8 software using HCM 2000 methodologies. 7.1 seconds was used for left turns and 6.2 seconds for right turns.

Morning Peak Hour

Under existing conditions, all intersections operate at LOS C or better with the exception of The I-95 NB ramp southbound right movement, which operates at LOS D. Under no-build conditions, the I-95 SB ramp northbound left movement at the Macy Street (Route 110) intersection declines from LOS C to LOS D, with a 3 second increase in delay. The I-95 NB ramp southbound right turn movement at its intersection with Macy Street (Route 110) is forecast to decline from LOS D to LOS E, with a 16 second increase in delay. Again, under the no-build condition for 2023, both the Rocky Hill Road eastbound approach at its intersection with Elm Street and the Stop & Shop eastbound driveway are forecast to decline from LOS C to LOS D.

Under build conditions, the I-95 SB ramp northbound left movement at the Macy Street (Route 110) intersection is forecast to decrease from LOS D to LOS E with an 8 second increase in delay. The I-95 NB ramp southbound right movement at the Macy Street (Route 110) intersection is expected to decrease from LOS E to LOS F with a 6 second increase in delay.

Operations on the main Hampton Inn driveway approach at its intersection with Elm Street are forecast to decline from LOS C to LOS D with a 7 second increase in delay.

The Subdivision Road approach at its intersection with Elm Street is forecast to operate at LOS E with 44 seconds of delay, again using the methodology's critical gap of 7.1 seconds for left turns and 6.2 seconds for right turns.

Evening Peak Hour

Under existing conditions, all intersections operate at LOS D or better except the I-95 NB ramp southbound right movement at the intersection of Macy Street (Route 110) and the Stop & Shop driveway eastbound approach to Elm Street which both operate at LOS F.

Under no-build conditions, two changes are forecast: the I-95 SB ramp's northbound left turn is expected to decline from LOS D to LOS E with a 6.2 second increase in delay. The Hampton Inn driveway's eastbound approach to Elm Street is forecast to decline from LOS C to LOS E with a 29 second increase in delay.

Under build conditions, the I-95 SB northbound left movement at the intersection with Macy Street (Route 110) is forecast to see conditions decline from LOS E to LOS F with a 12 second increase in delay. The Hampton Inn driveway's eastbound movement at its intersection with Elm Street is forecast to decline from LOS E to LOS F.

At full build, the Subdivision Road approach at the intersection with Elm Street is forecast to operate at LOS F with a long delays using the default assumption for the critical gap of 6.2 seconds for drivers turning right, and 7.1 seconds for drivers turning left out of the planned Subdivision Road serving the PCPO site. Because this is an important consideration for the project, an interim condition was also evaluated. Reported in the Table 8 below is an evaluation for intersection LOS on the Subdivision Road for the year 2020, assuming that only Phase I of the project is constructed. The result indicates shorter delays than for the full build condition for both the morning and evening peak periods. Under the Phase 1 scenario in Table 8, the Synchro model forecasts long delays for drivers turning left out of the site during the evening peak.

Recognizing the potential for future development, the City has asked that the Subdivision Road that will serve the proposed PCPO project be designed so that it is capable of being extended to serve possible future development within the Golden Triangle "behind" (i.e. north of) the Project Site. The City anticipates that the Subdivision Road serving the site will become a public way in the future and that its intersection with Elm Street will be improved. As currently envisioned, this intersection would be signalized and feature turning lanes. The City of Amesbury will be responsible for the implementation of these improvements.

Table 7 Unsignalized Intersection Capacity Analysis Summary

		Existing Conditions				No-Build Conditions				Build Conditions			
Peak Period	**Critical Movement**	**v/c [a]**	**Del [b]**	**LOS [c]**	**95 Q [d]**	**v/c**	**Del**	**LOS**	**95 Q**	**v/c**	**Del**	**LOS**	**95 Q**
I-95 SB Ramps at Macy Street (Route 110)													
Weekday Morning	I-95 Ramp NB L	0.17	24	C	15	0.21	28	D	20	0.41	35	E	47
	I-95 Ramp NB R	0.21	13	B	19	0.23	14	B	22	0.24	14	B	23
Weekday Evening	I-95 Ramp NB L	0.29	35	D	28	0.35	41	E	37	0.51	53	F	62
	I-95 Ramp NB R	0.15	10	A	13	0.16	10	A	14	0.16	10	A	14
I-95 NB Ramps at Macy Street (Route 110)													
Weekday Morning	I-95 Ramp NB R	0.34	15	C	37	0.39	16	C	44	0.38	16	C	44
	I-95 Ramp SB R	0.81	31	D	202	0.92	47	E	286	0.95	53	F	311
Weekday Evening	I-95 Ramp NB R	0.64	23	C	110	0.73	30	D	147	0.75	32	D	156
	I-95 Ramp SB R	2.03	488	F	1768	2.34	630	F	2127	2.35	633	F	2137
Elm Street at Rocky Hill Road													
Weekday Morning	Rocky Hill Rd EB LR	0.36	24	C	40	0.45	31	D	55	0.47	32	D	58
Weekday Evening	Rocky Hill Rd EB LR	0.23	27	D	21	0.29	33	D	28	0.30	34	D	30
Elm Street at Stop & Shop Driveway													
Weekday Morning	S&S Driveway EB LR	0.19	22	C	17	0.24	25	D	23	0.25	26	D	24
Weekday Evening	S&S Driveway EB LR	0.83	78	F	148	1.07	151	F	218	1.12	168	F	229
Elm Street at Amesbury Animal Hospital													
Weekday Morning	Animal Hospital WB LR	0.07	16	C	5	0.08	18	C	6	0.08	18	C	6
Weekday Evening	Animal Hospital WB LR	0.04	20	C	3	0.05	23	C	4	0.05	24	C	4
Elm Street at Hampton Inn Driveway/Access Road (Proposed)													
Weekday Morning	Hotel Driveway EB LR	0.02	20	C	1	0.29	23	C	30	0.37	30	D	40
	Access Road WB LR	*Not Applicable Under Condition*				*Not Applicable Under Condition*				0.26	44	E	24
Weekday Evening	Hotel Driveway EB LR	0.04	16	C	3	0.59	45	E	82	0.87	107	F	142
	Access Road WB LR	*Not Applicable Under Condition*				*Not Applicable Under Condition*				1.69	422	F	331

Notes: a = volume-to-capacity ratio, b = average delay in seconds per vehicle, c = level of service, d = 95th percentile queue length in feet

Table 8 Interim Condition – Subdivision Road Unsignalized LOS Comparison for 2020 and 2023

Condition	Phase 1 (2020)				Full Build (2023)			
	v/c[a]	Delay[b]	LOS[c]	Q[d]	v/c	Delay	LOS	Q
Morning Peak Hour	0.12	35	D	10	0.26	44.5	E	24
Evening Peak Hour	0.89	118	F	129	1.69	421.8	F	331

Notes: a = volume-to-capacity ratio, b = average delay in seconds per vehicle, c = level of service, d = 95th percentile queue length in feet

5

Mitigation

The proponent recognizes that the project will result in a set of modest traffic increases and impacts in the area and has developed mitigation plan which are intended to help reduce auto trips by providing travel options. The following transportation elements are planned:

- The proponent will fund the design and construction of the proposed Subdivision Road that will provide access to the Site under the guidance of the City of Amesbury. The details of this roadway design are currently under discussion with the City. A two lane southbound approach to Elm Street is proposed and the approach would initially be placed under stop control.

- A gated access/egress driveway is being planned to provide a second means of access/egress in case of emergencies.

- The proponent will provide supplemental traffic information and analysis to the City and the property owner in support of the City of Amesbury, as a separate project, to advance the design and seek state grant funding for making widening and signalization improvements along Elm Street, generally between the Amesbury Animal Hospital and the intersection with Macy Street (Route 110). The City of Amesbury intends to signalize the intersection of the Subdivision Road at Elm Street, add turn lanes and make other improvements along this section of Elm Street.

- The proponent supports the City's and MassDOT's efforts to build a strong east-west bicycle trail link that will be available to staff and patients of the proposed PCPO building. This link will be promoted within the facility.

- The proponent will provide secure on-site bicycle parking/storage.

- The proponent will designate preferred carpool parking spaces for its staff.

- The proponent will evaluate the feasibility of providing electric charging facilities on site.

- The proponent will implement a comprehensive Travel Demand Management program and will designate an on-site Transportation Coordinator to serve as the

liaison between building staff/patients with the City, MassDOT and the Commonwealth's MassRIDES program.

- A transportation information kiosk or display area will be established for sharing travel alternatives information.
- The proponent will work with the MVRTA to evaluate how to encourage use of existing MVRTA bus service. As part of this project, the proponent will work with the MVRTA to locate a new bus stop at the PCPO building site, further encouraging the use of this existing service.
- The proponent will work with the City of Amesbury to evaluate implementation of a shuttle van service for the fully built project between the site and downtown Amesbury.
- The proponent will provide travel options information on its web site.

Conclusion

This study documents the traffic evaluation prepared by VHB in support of a proposed 60,000 sf medical office building that will be located on Elm Street in Amesbury. Specifically, VHB evaluated the existing traffic operations and safety conditions of the roadways near the Project, analyzed the impact of background traffic growth and estimated the impacts of the Project. The proponent has developed a detailed transportation mitigation program to help address the impacts of the project, as outlined above.

Source Info: USGS

Approximate Site Location

Town Boundaries

Figure 1

Site Location

Partners Community Physicians Organization Office
Amesbury, Massachusetts

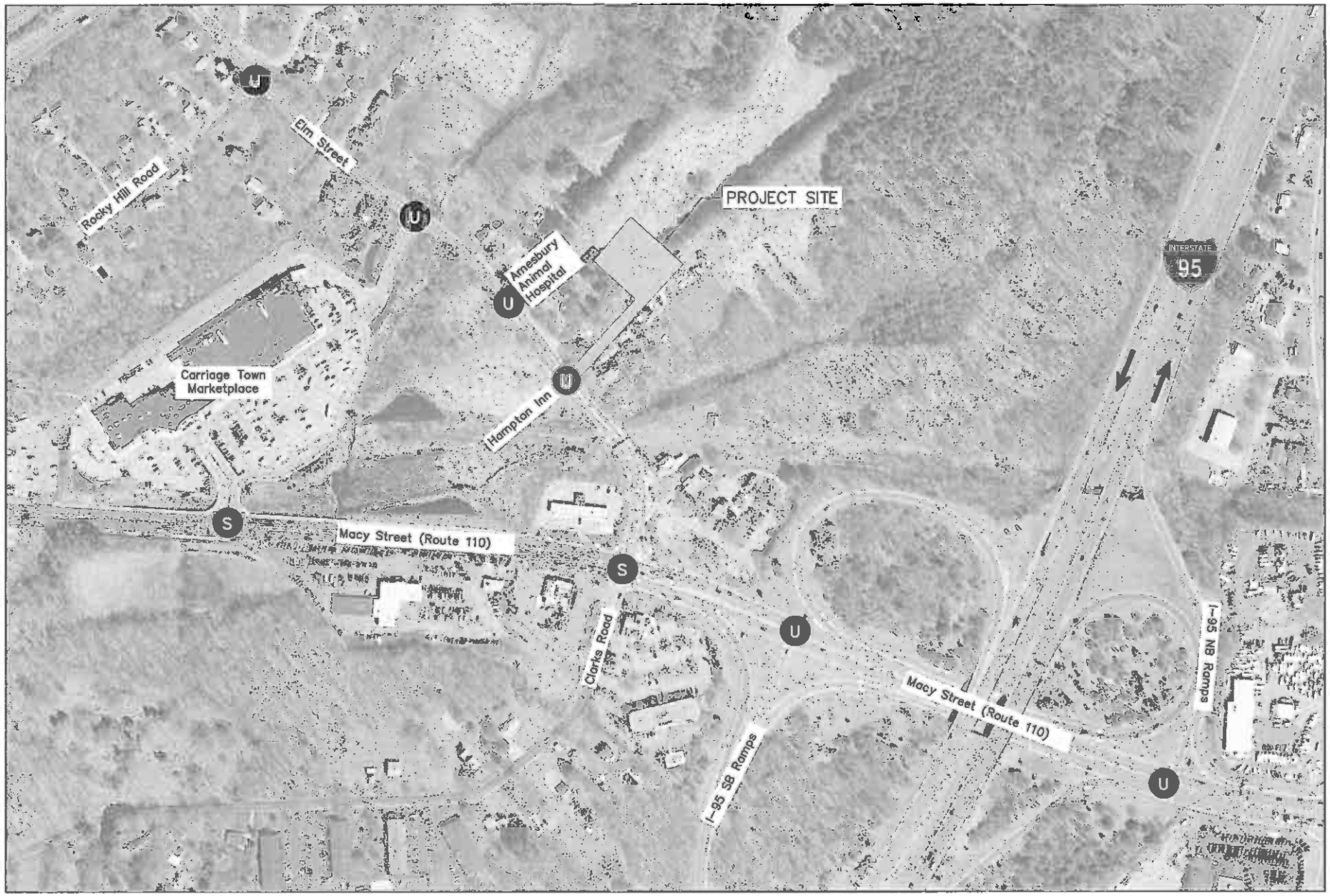
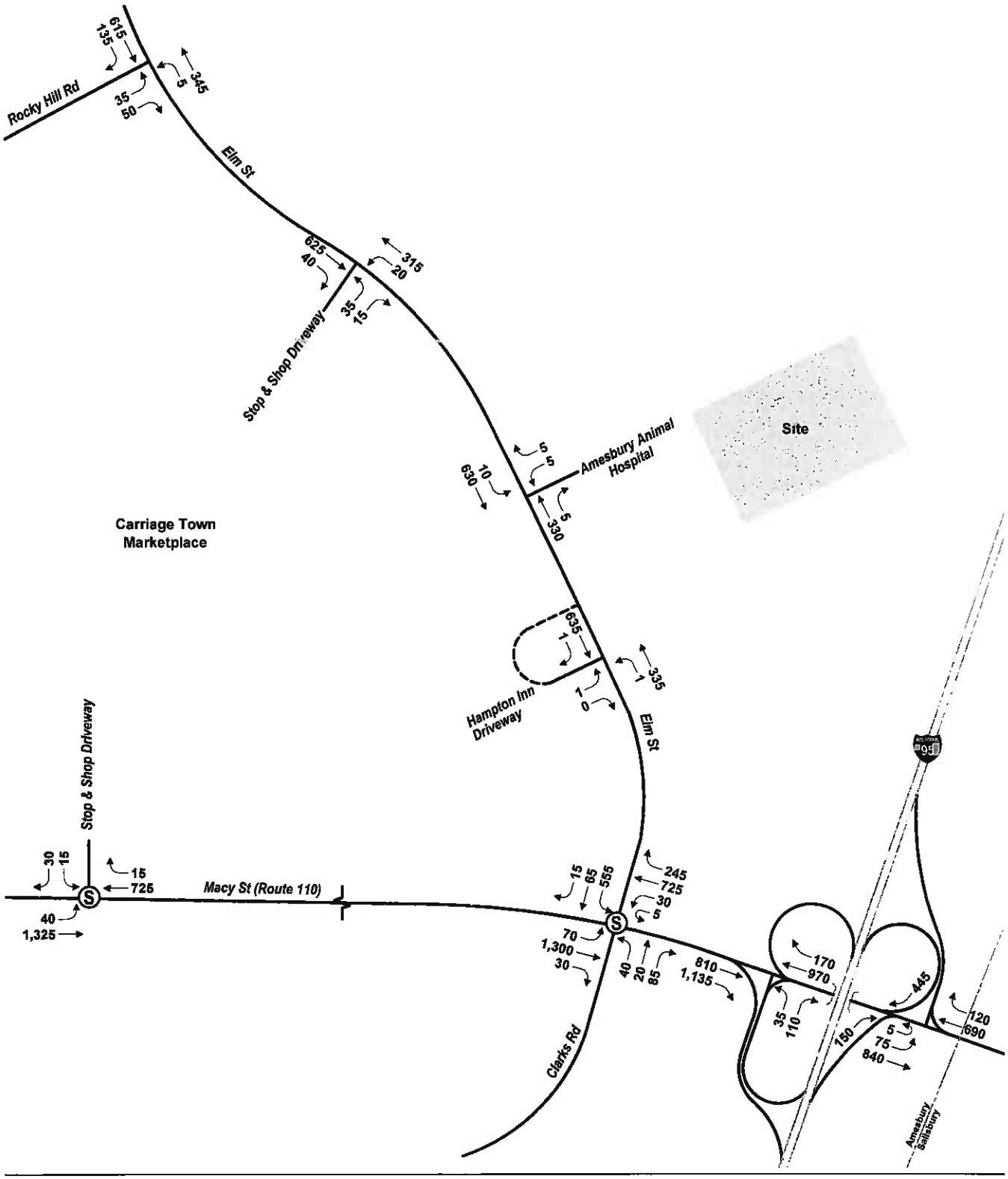


Figure 2
Proposed Intersection Analysis Locations

Partners Community Physicians Organization Office
Amesbury, Massachusetts

Not to Scale

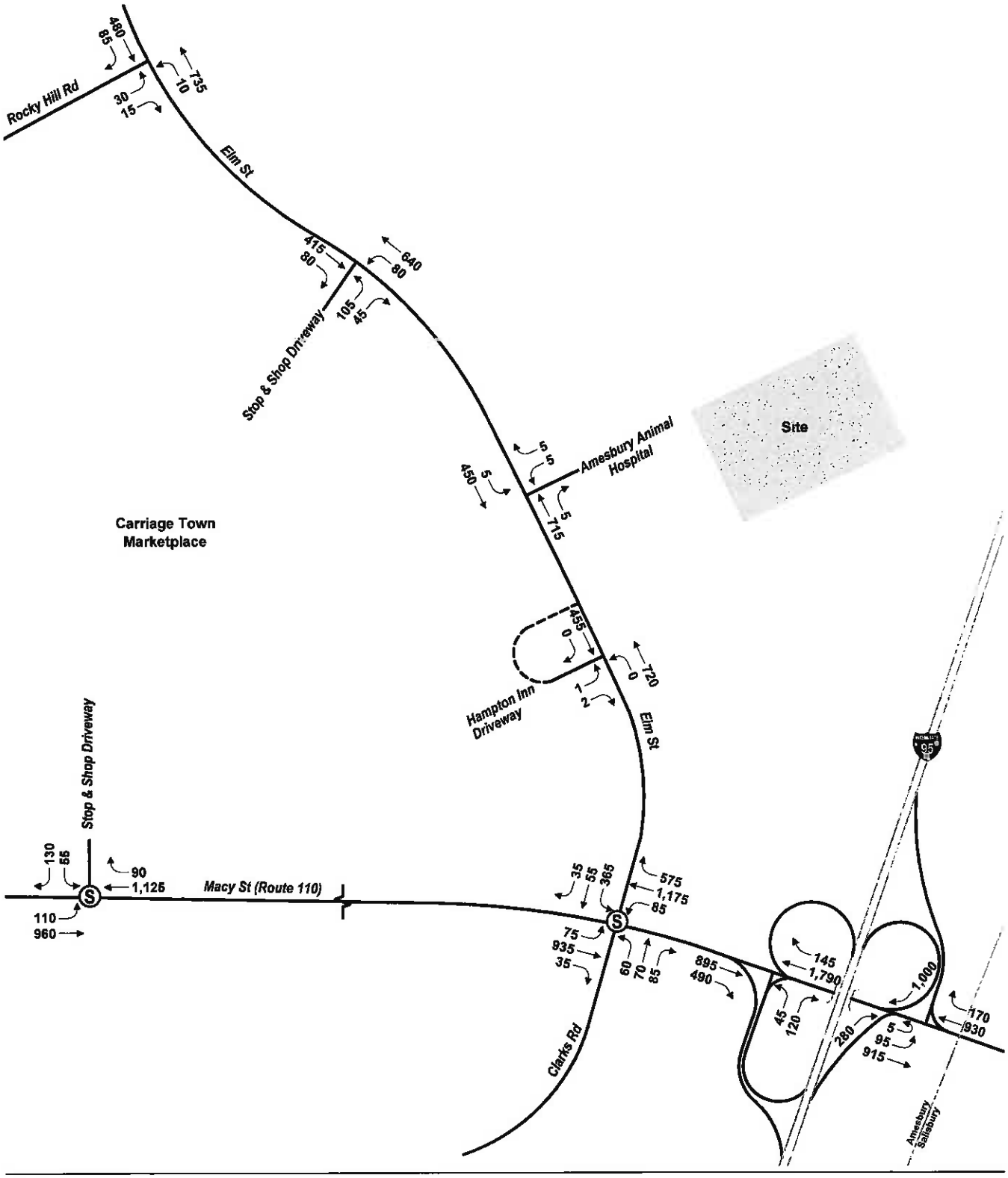


Not to Scale

Figure 3

2016 Existing Morning Vehicle Volumes
7:30 AM - 8:30 AM

Partners Community Physicians Organization Office
Amesbury, Massachusetts

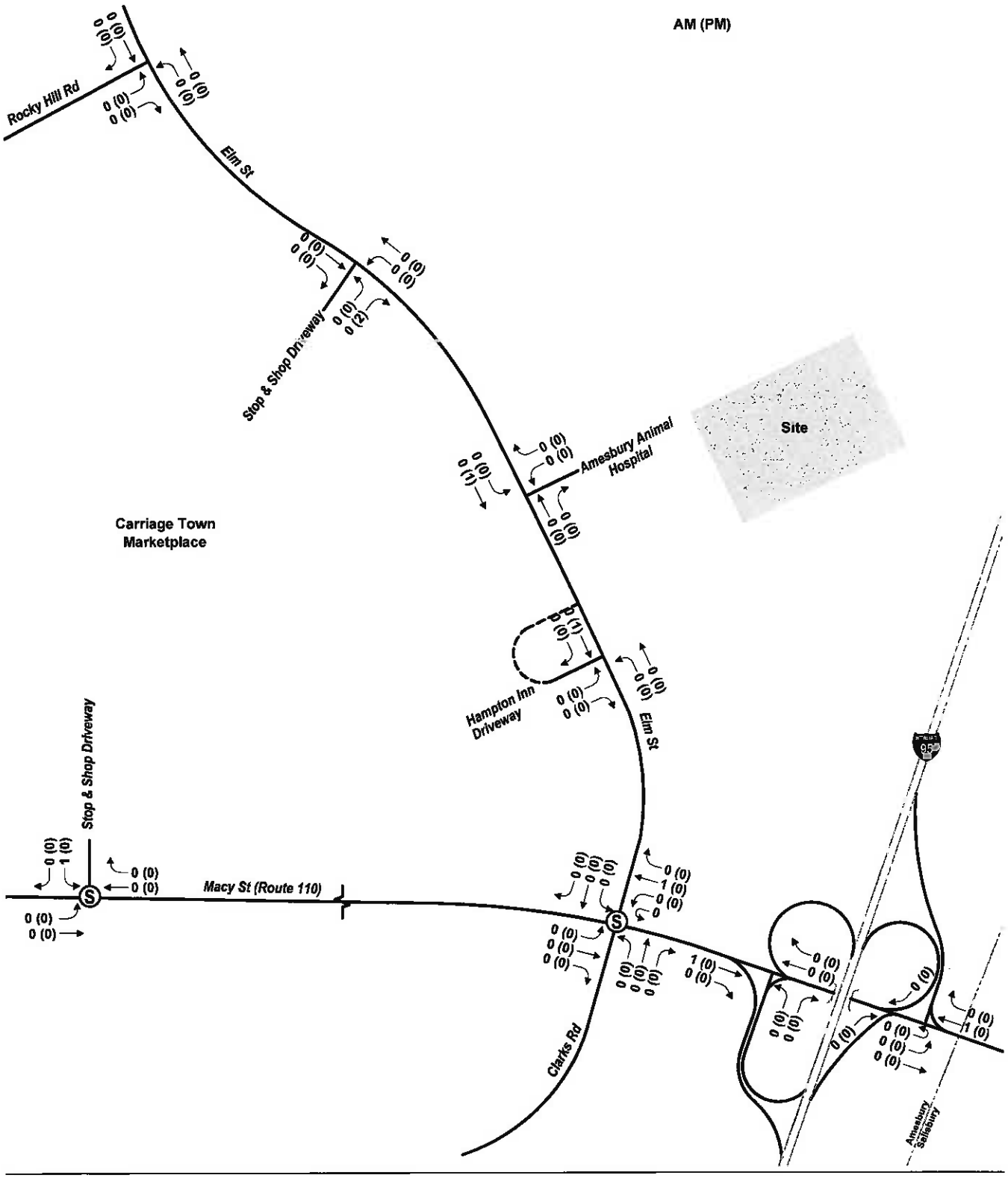


Not to Scale

Figure 4

2016 Existing Evening Vehicle Volumes
4:45 PM - 5:45 PM

Partners Community Physicians Organization Office
Amesbury, Massachusetts

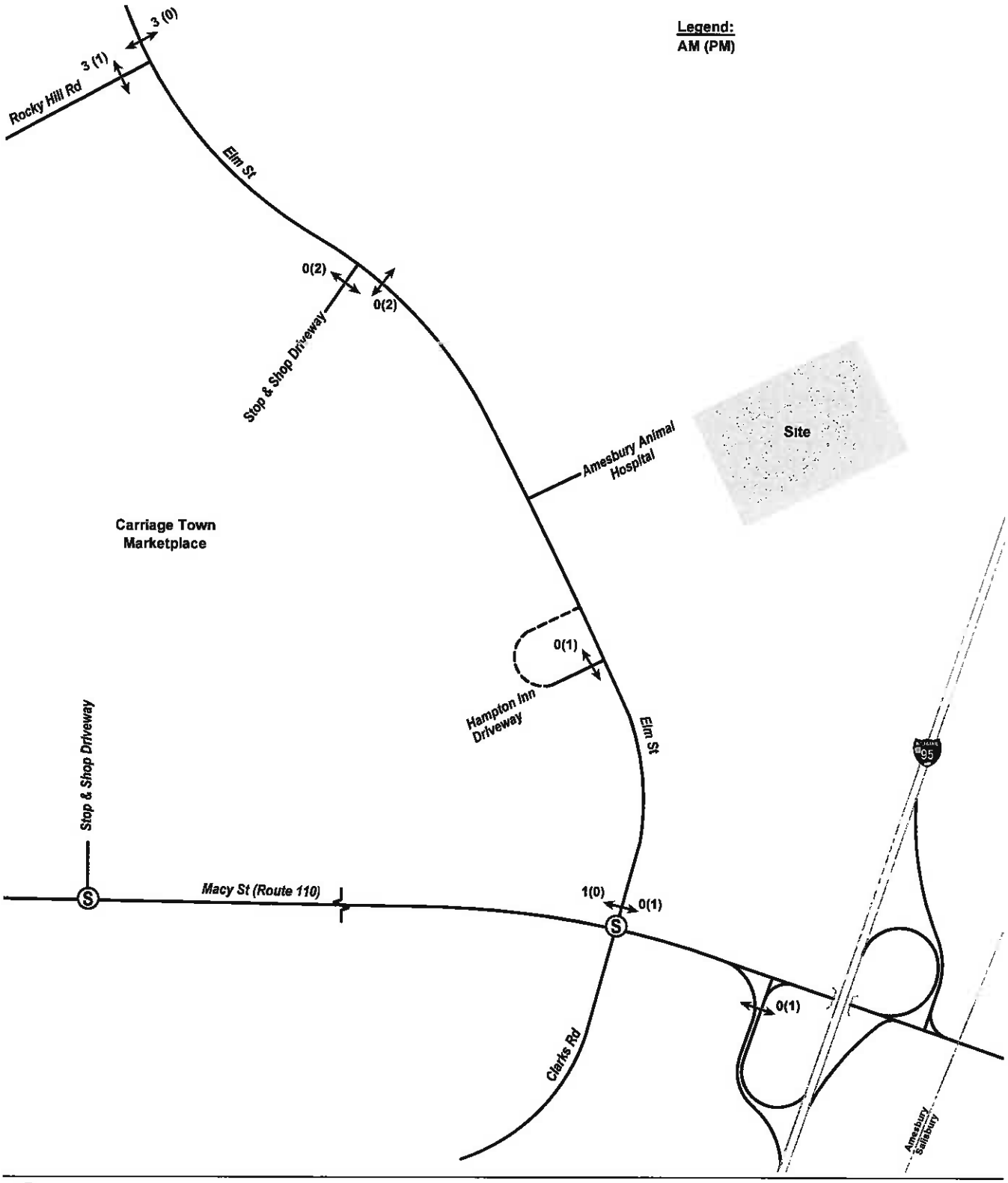


Not to Scale

Figure 5

2016 Existing Bicycle Volumes
Morning and Evening Peak Hour

Partners Community Physicians Organization Office
Amesbury, Massachusetts

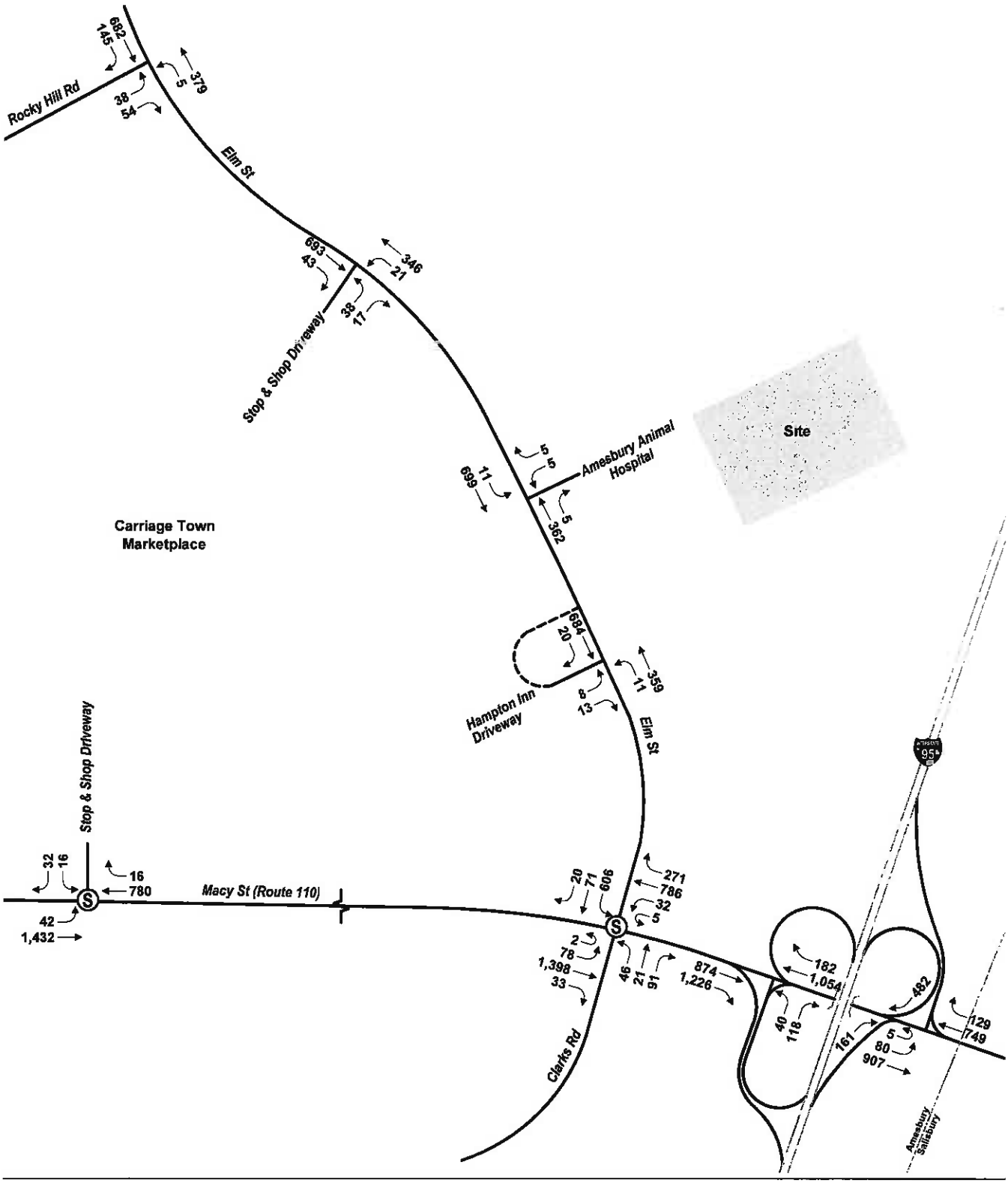


Not to Scale

Figure 6

2016 Existing Pedestrian Volumes
Morning and Evening Peak Hour

Partners Community Physicians Organization Office
Amesbury, Massachusetts

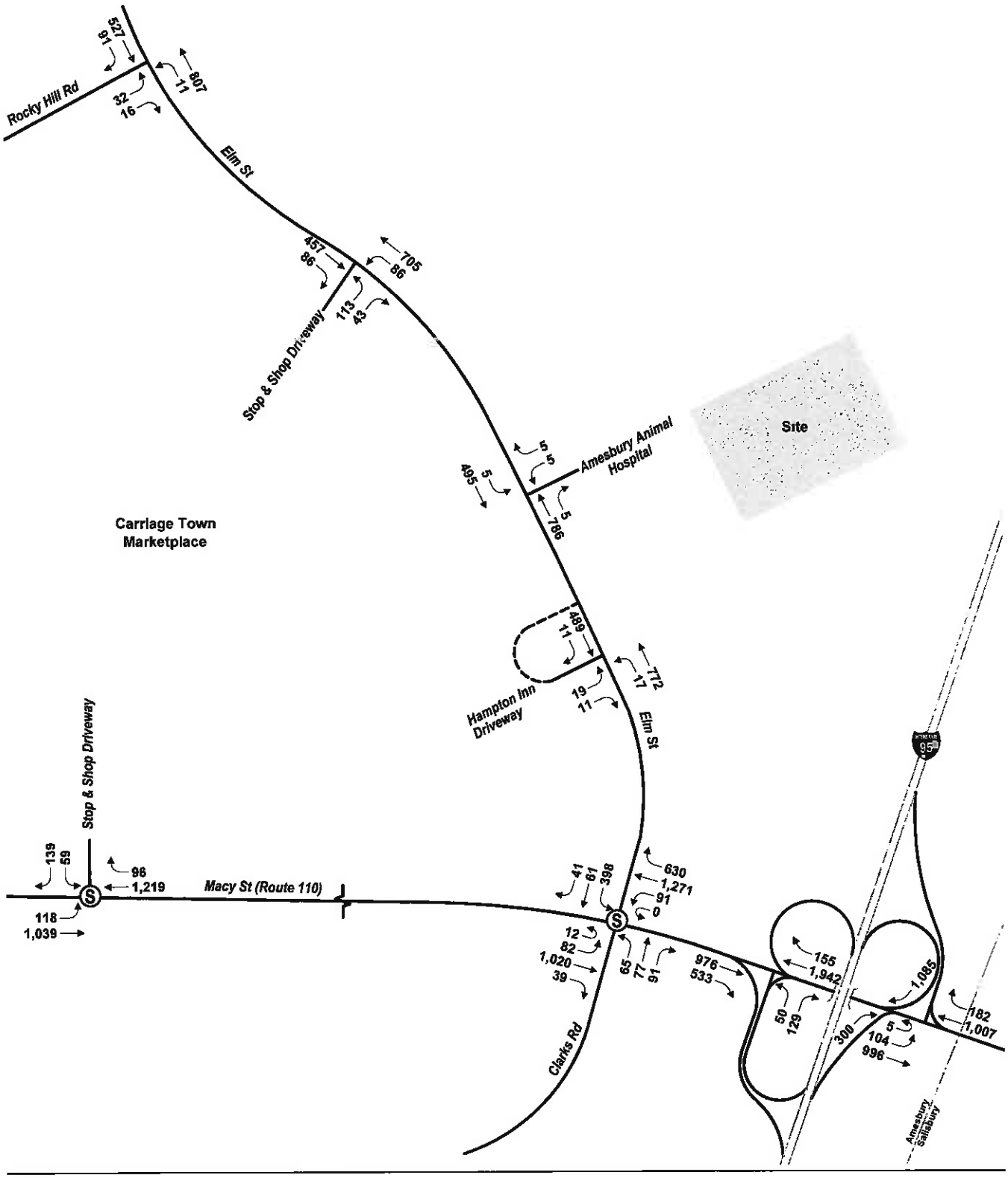


Not to Scale

Figure 7

2023 No-Build Morning Vehicle Volumes
7:30 AM - 8:30 AM

Partners Community Physicians Organization Office
Amesbury, Massachusetts

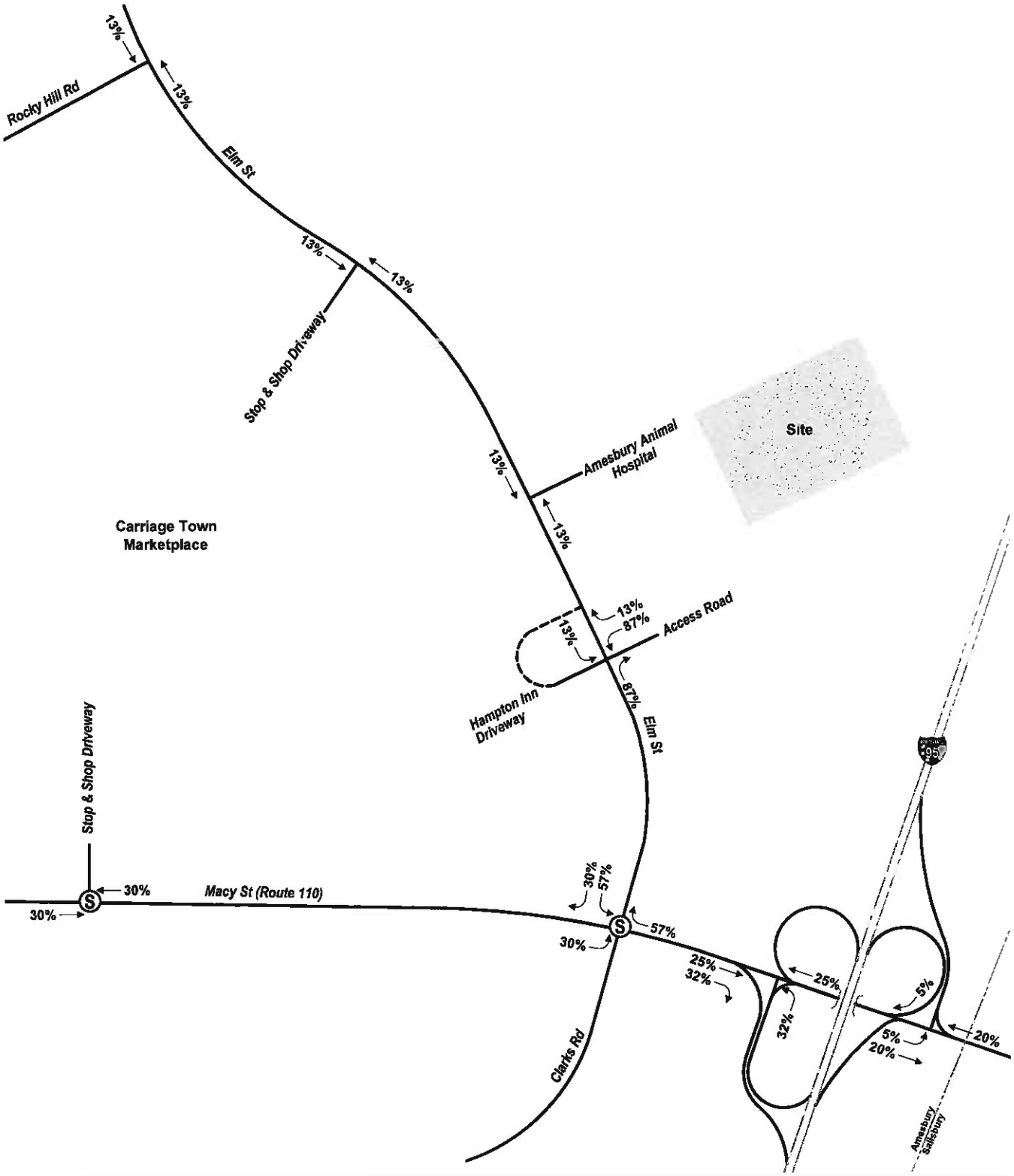


Not to Scale

Figure 8

2023 No-Build Evening Vehicle Volumes
4:45 PM - 5:45 PM

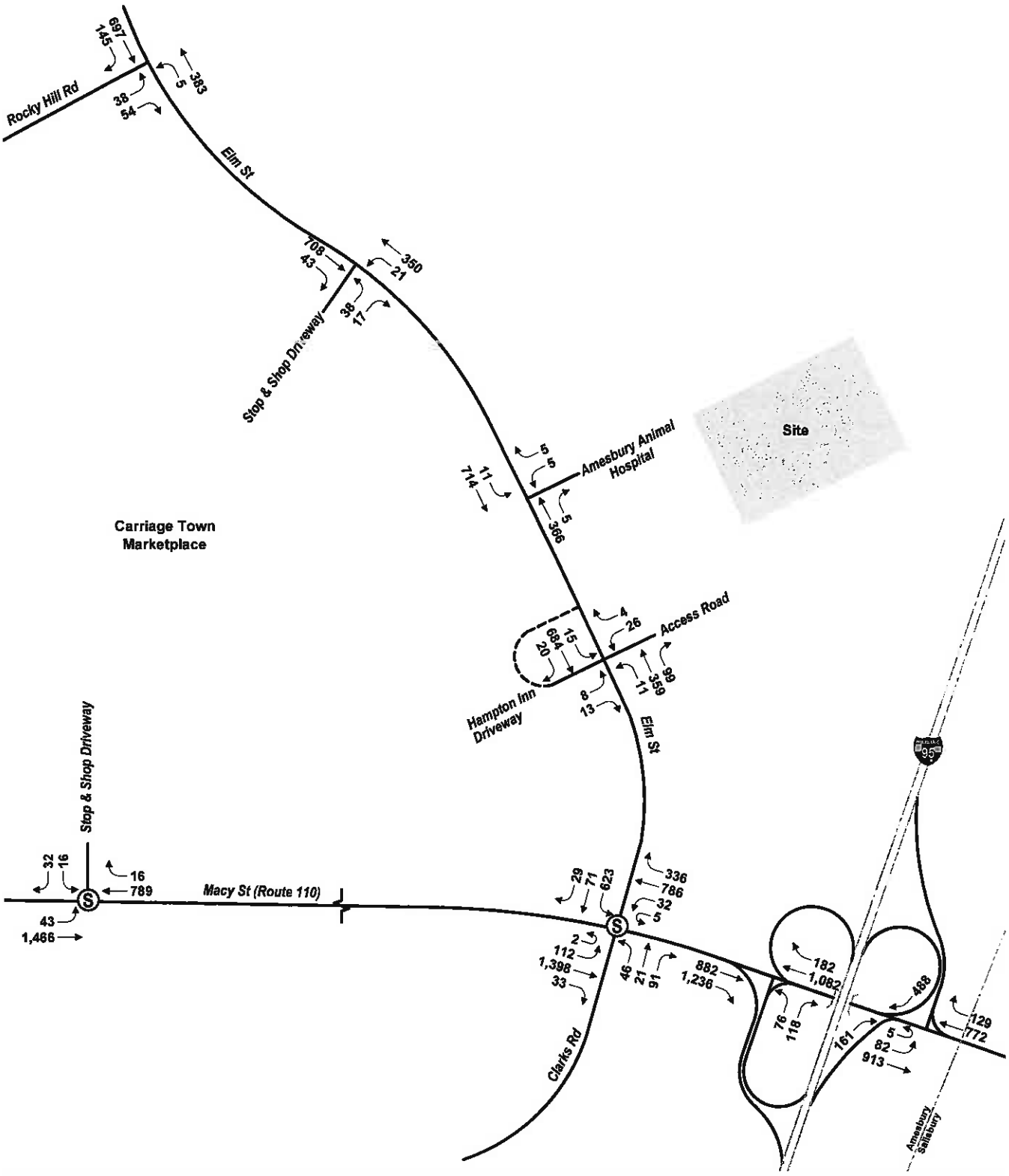
Partners Community Physicians Organization Office
Amesbury, Massachusetts



Not to Scale

Figure 9
Trip Distribution

Partners Community Physicians Organization Office
Amesbury, Massachusetts

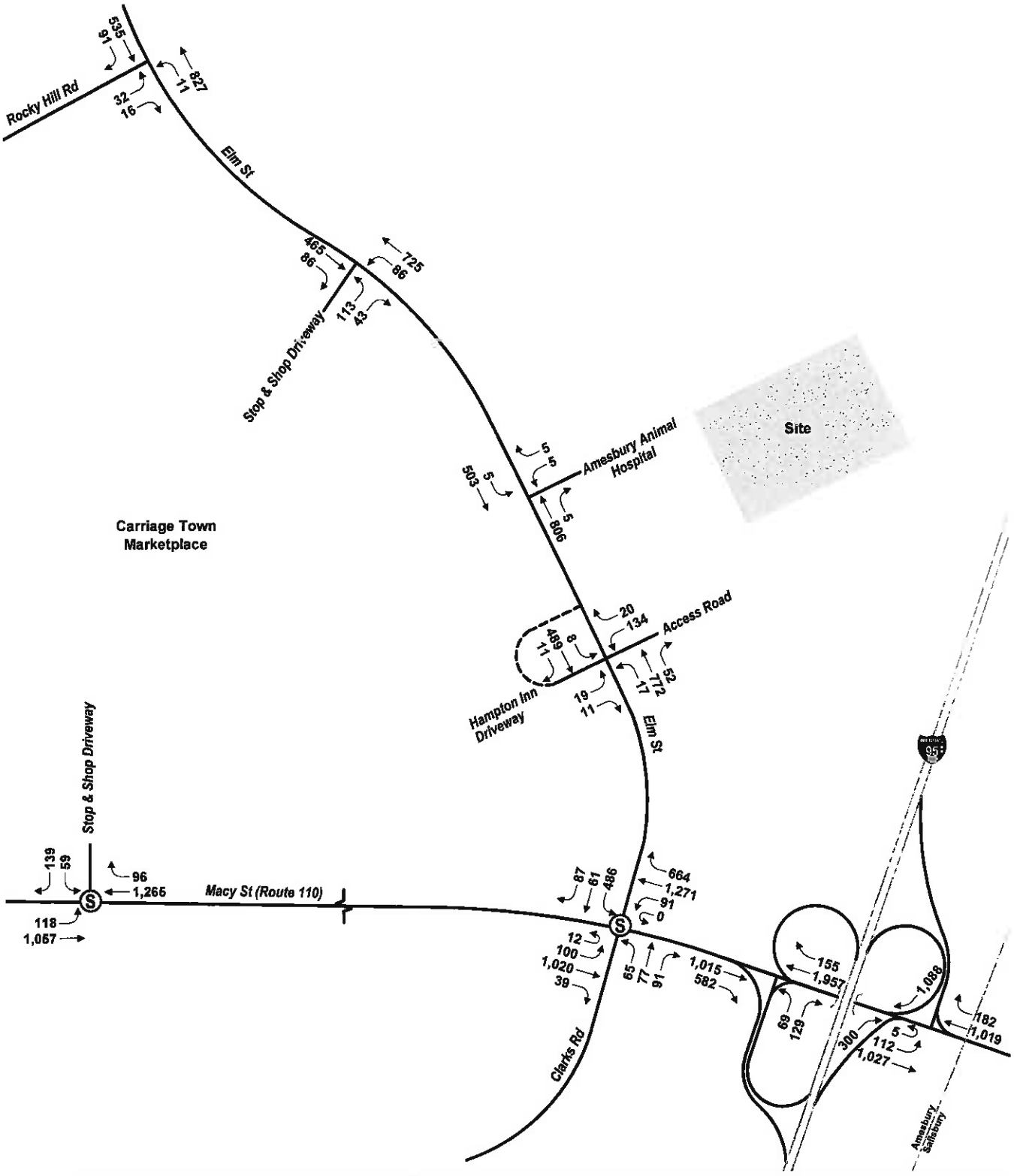


Not to Scale

Figure 10

2023 Build Morning Vehicle Volumes
7:30 AM - 8:30 AM

Partners Community Physicians Organization Office
Amesbury, Massachusetts



Not to Scale

Figure 11

2023 Build Evening Vehicle Volumes
4:45 PM - 5:45 PM

Partners Community Physicians Organization Office
Amesbury, Massachusetts

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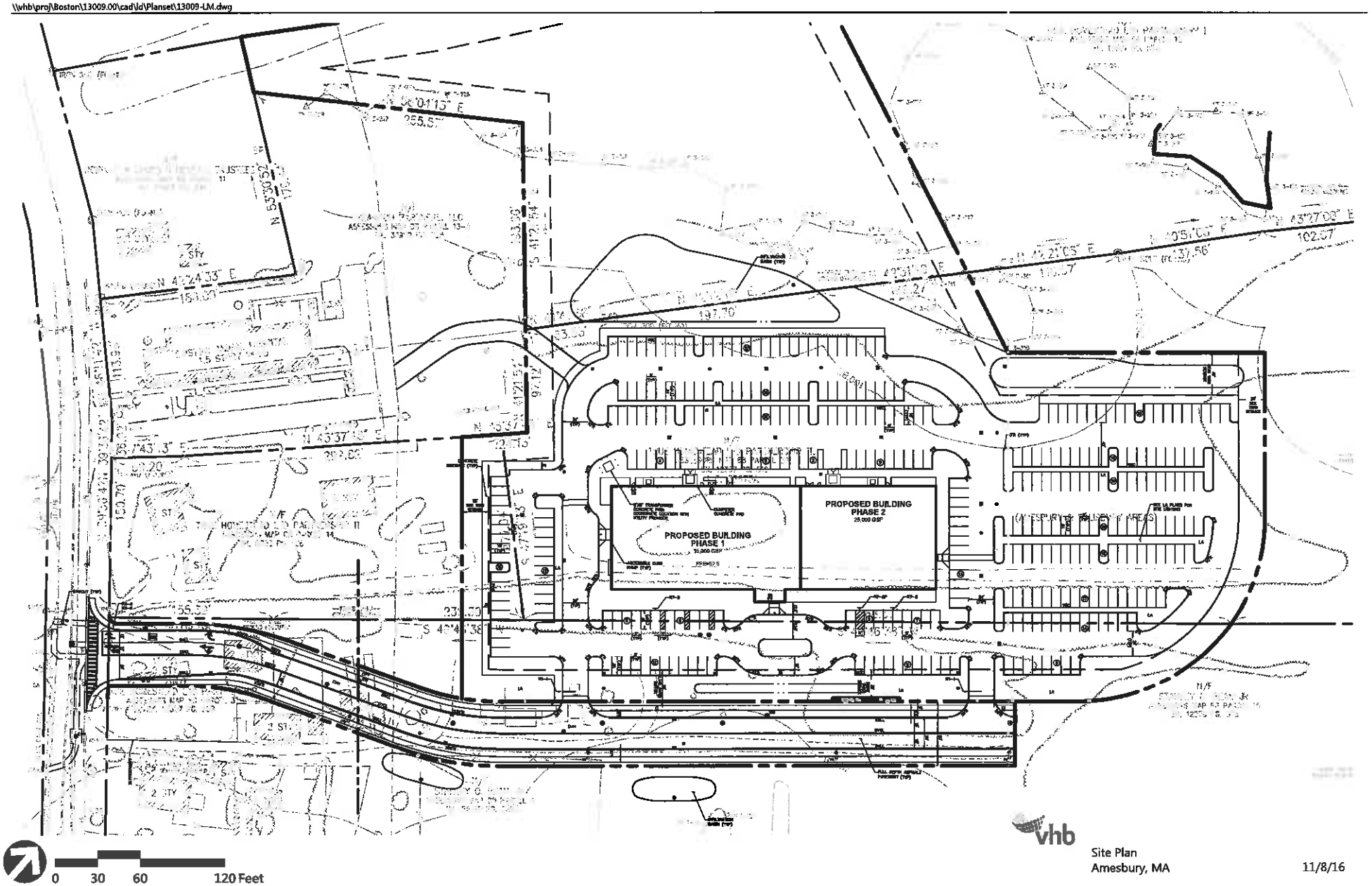

0 30 60 120 Feet

vhb

Site Plan
Amesbury, MA

11/8/16

Transportation Scoping Letter (TSL)

October 17, 2016

Ref: 13009.00

J. Lionel Lucien, P.E.
Manager, Public/Private Development Unit
Office of Transportation Planning
10 Park Plaza Room 4150
Boston, MA 02116

Re: Transportation Scoping Letter for Proposed Partners Community Physicians Organization Amesbury Medical Office Building Project, Elm Street, Amesbury, MA

Dear Mr. Lucien,

On behalf of the Partners Community Physicians Organization (the project Proponent), VHB has prepared this Transportation Scoping Letter (TSL) to outline the technical assumptions and key transportation issues that will be addressed in the Transportation Impact Assessment (TIA) for the above referenced Project.

Background

The Proponent plans to construct an approximately 60,000 gross square foot medical office building with approximately 330 parking spaces (the Project) on a 10.14 acre parcel of land on Elm Street in the City of Amesbury. The site is approximately mid-way between I-95 and I-495 within an area known locally as the "Golden Triangle" - the land generally bounded by I-95, I-495 and Elm Street. The proposed project will provide a range of typical medical office building services including primary, a range of specialties and an urgent care center. The proposed project will also provide ancillary services that will include phlebotomy, plain film X-ray, cardiac stress testing, and nutritional services.

While the project will likely be built in two phases, the Proponent will be seeking MEPA review and a MassDOT Access Permit for the full build condition. Access to the site is proposed via a new access drive on Elm Street directly opposite and aligned with the easternmost driveway serving the new Hampton Inn hotel. Figure 1 shows the site location.

The Golden Triangle has been previously studied by the City of Amesbury regarding its development potential for a variety of uses, but with the exception of the Amesbury Animal Hospital at 277 Elm Street and the Hampton Inn Amesbury at 284 Elm Street, no other developments have proceeded. The City of Amesbury has designated the Golden Triangle as an economic development zone and has taken steps related to zoning, tax financing, and infrastructure improvement funding to promote development within the Triangle. The Triangle is currently vacant, commercially-zoned property.

Engineers | Scientists | Planners | Designers

101 Walnut Street
P.O. Box 9151
Watertown, Massachusetts 02472
P 617.924.1770
F 617.924.2286

An initial informational meeting about the proposed project was held with MassDOT Highway Division District 4 staff on August 24, 2016 to make them aware that planning for this project was underway. In addition, the Proponent and its designers and consultants have been engaged in a series of meetings with City staff.

Review Thresholds

Based on Section 11.03.06.b of the MEPA Regulations, the Project exceeds the following three traffic thresholds for an ENF review.

> *Generation of 2,000 or more new ADT on roadways providing access to a single location*
>
> *Generation of 1,000 or more new ADT on roadways providing access to a single location and construction of 150 or more new parking spaces at a single location.*
>
> *Construction of 300 or more new parking spaces at a single location*

The Proponent plans to prepare a Transportation Impact Assessment and this TSL has been prepared for MassDOT review prior to the submission of the TIA. Our intent is to seek MassDOT input and concurrence on the TIA assumptions.

Trip Generation

Site-generated traffic volumes estimates were developed based on data provided the Institute of Transportation Engineers (ITE) Trip Generation[1]. Specifically, ITE land use code (LUC) 750 (Medical-Dental Office Building) were used in the calculations. The trip generation projections summarized in Table 1.

Table 1: Vehicle Trip Generation Summary

Time Period	Movement	Trips
Weekday Daily [a]	Enter	1,085
	Exit	1,085
	Total	2,170
Weekday Morning Peak Hour [b]	Enter	115
	Exit	30
	Total	145
Weekday Evening Peak Hour [b]	Enter	60
	Exit	155
	Total	215

a vehicles per day
b vehicles per hour

[1] Trip Generation: Ninth Edition; Institute of Transportation Engineers (ITE); Washington D.C.; 2012

Trip Distribution

The following trip distribution patterns were developed based on a forecast of expected patient and staff home locations by the Proponent.

Table 2: Trip Distribution Summary (From Sept 2015 – Sept 2016 Data)

Major Roadway	Direction (From/To)	Patient Distribution	Staff Distribution
Route 110	East	12%	2%
	West	30%	41%
I-95	North	5%	5%
	South	32%	39%
Elm Street	West	13%	7%
Rabbit Road	North	2%	2%
Merrill Street	South	6%	4%
	Total	*100%*	*100*

Mode Split

Public transportation services are available through the Merrimack Valley Regional Transit Authority (MVRTA) between Amesbury, Newburyport and Salisbury (MVRTA Route #54). The Proponent intends to fully promote the availability of travel options (transit, car-pool, bike and walk). The expectation is that the majority of patients and many of the building staff will drive to the site. During the preparation of the TIA, available census mode split data will be reviewed, along with other data to better understand the potential for reducing traffic generation by the project through the encouragement of alternative travel options.

Study Area Network & Analysis Periods

Based on the foregoing preliminary data as well as a review of some of the prior traffic documents prepared for other project proposals on the site, VHB identified the locations shown in Figure 2 for inclusion in the traffic analyses. Consistent with study periods reviewed for other projects, the TIA for the Project will also focus on the weekday morning and evening peak hours.

Safety

A preliminary review of vehicle crash data available from MassDOT indicates that there are no HSIP-eligible crash clusters within the proposed study area network. There is a crash cluster near the intersection of Route 110 and Rocky Hill Road but it is beyond the limits of our proposed study area.

Site Plan

A site plan is currently under development for the Project. A more detailed discussion of planned access improvements and associated changes to the roadway network will be included in the TIA.

Based on the preliminary information presented in this TSL, we respectfully request your feedback on the proposed TIA scope. If you have any questions or need additional information to review the TSL, please contact me at (617) 607-2944 or via e-mail.

Very truly yours,

David A. Bohn, PE
Senior Principal
dbohn@vhb.com

cc: W. Scott, N. Jain – City of Amesbury
R. Shea, J. Tuchin – PCPO
C. Favazzo – LMP
H. Moshier, L. Chow, V. Kalikiri, A. Santiago - VHB