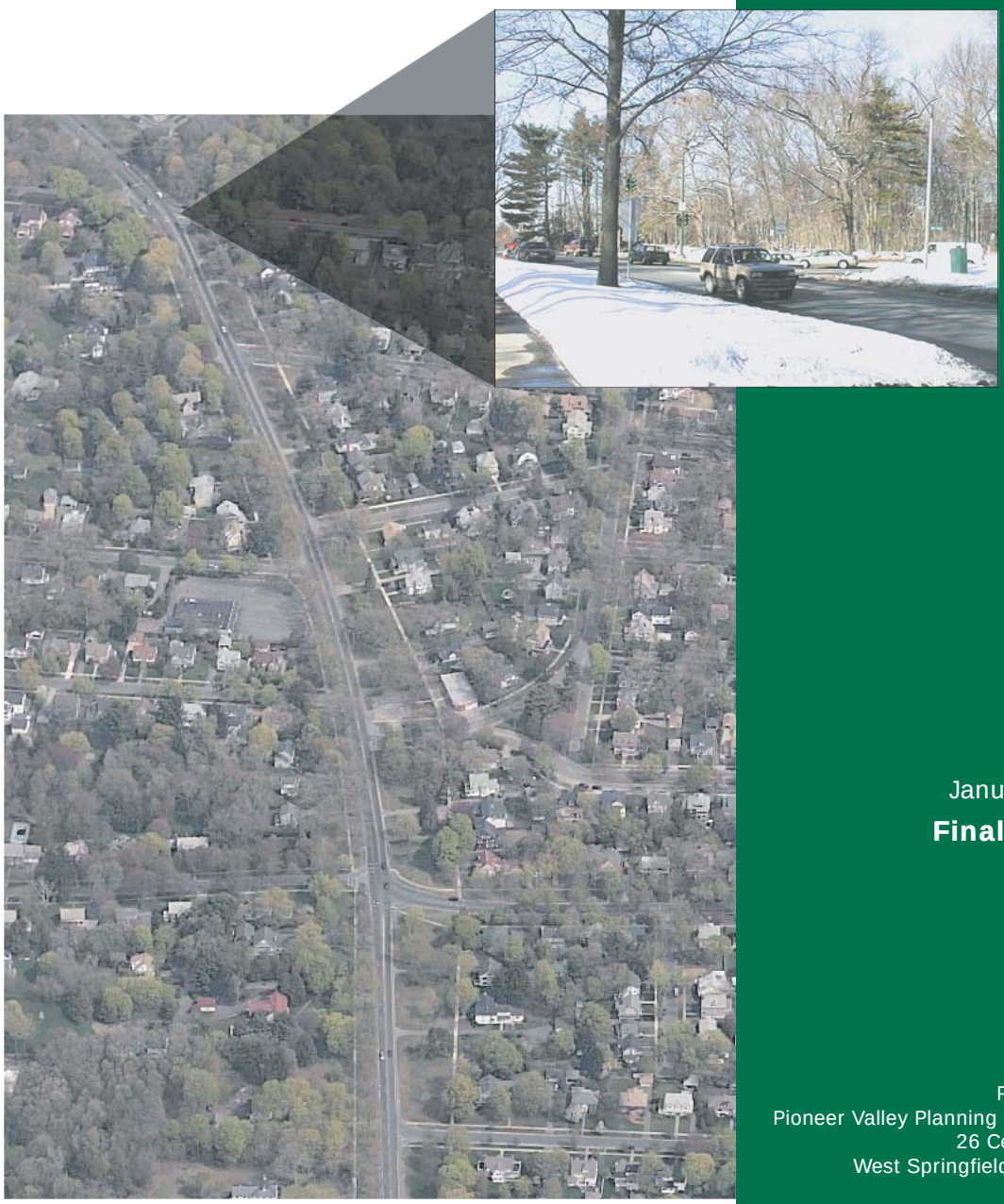
Town of Longmeadow

Route 5 Signal Study



January 2005

Final Report

Prepared by:
Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA 01089

Prepared in cooperation with th Executive Office of Transportation, the Massachusetts Highway Department and the U.S. Department of Transportation–Federal Highway Administration and the Federal Transit Administration.

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I. INTRODUCTION

The goal of the Longmeadow Route 5 Signal Study is to provide a detailed analysis of the effects of the existing traffic conditions and patterns on the current traffic signal system along Longmeadow Street – Route 5 and Laurel Street. The study utilizes the existing traffic signal timing plans and future traffic projects the impacts of alternative signal plans and possible infrastructure improvements along the Route - 5 Longmeadow Street corridor.

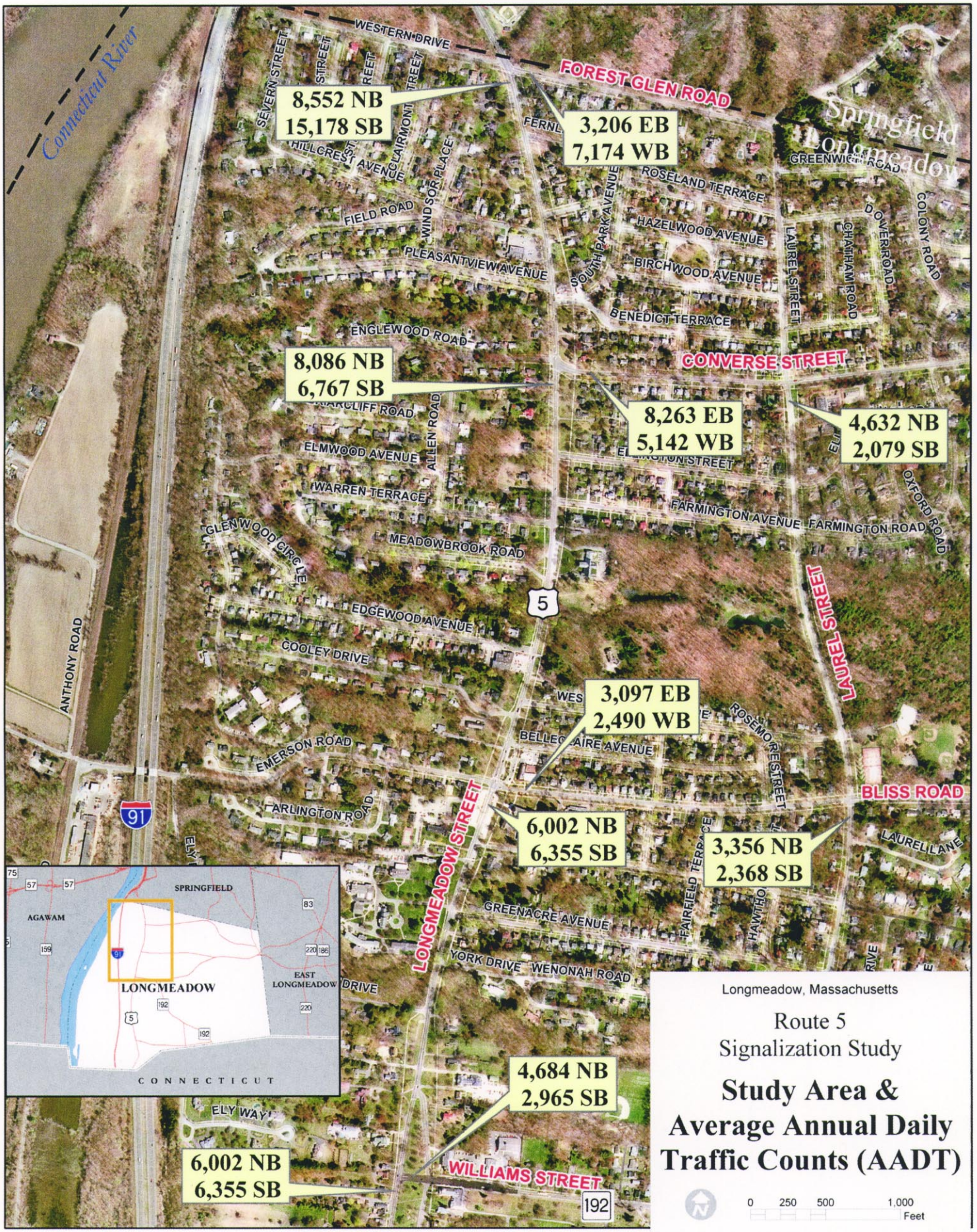
A high volume of commuter traffic as well as requests from local residents prompted the Longmeadow Board of Selectmen to request this study from the Pioneer Valley Planning Commission (PVPC). The PVPC conducted this study as a part of their Unified Planning Work Program for the Pioneer Valley Metropolitan Planning Organization. This section of Longmeadow Street - Route 5 currently appears as one of the top 30 congested locations in the Pioneer Valley Region.

The focal points of this study include: overall traffic operations, congestion related concerns, safety issues and pedestrian and bicycle concerns throughout the study area. This study is designed to identify current and future deficiencies and to present a wide range of conceptual solutions that could be implemented by the Town of Longmeadow.

A. Study Area

The proposed study area encompasses the area bounded by the Springfield/Longmeadow Town Line to the south, Williams Road to the north, Laurel Street to the east, and Route 5 – Longmeadow Street to the west. Other major roadways included in the analysis are Forest Glen Road, Converse Street and Bliss Road. The complete study area is shown in Figure I-1.

Figure I - 1



Map Document: (X:\gis\traffic\longmeadow_TMC\study_area_adt_map.mxd)
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Pioneer Valley Planning Commission - August, 2004.

II. EXISTING TRANSPORTATION CONDITIONS

This section provides a technical evaluation of the transportation components throughout the Longmeadow Route 5 study area. It includes a presentation of the data collected, analysis of traffic operations, and a series of short term recommendations to the overall performance and safety of the corridor.

The Town of Longmeadow has the maintenance authority over this section of Longmeadow Street – Route 5.

A. DATA COLLECTION

A comprehensive data collection activity was conducted for this study to identify existing deficiencies. This activity consisted of obtaining traffic volumes, crash data, signal timing and phasing information and information on existing signs, travel lanes, pavement markings and pedestrian facilities. PVPC staff collected a large portion of the data used in this report. Additional data was obtained from the Massachusetts Highway Department (MassHighway), the City of Springfield and the Town of Longmeadow.

1. Daily Vehicle Volume

Vehicle volume data was collected for use in the transportation analysis of the Route 5 area in order to measure the travel demands on an average weekday. Average Daily Traffic (ADT) volumes were compiled for typical weekday 48-hour periods at various mid-block locations within the study area using Automatic Traffic Recorders (ATRs). All ADT volumes were factored to represent Average Annual Daily Traffic (AADT) levels. Table II-l presents a summary of the weekday AADT volumes in the study area.

The traffic volume along Longmeadow Street- Route 5 increases and decreases dramatically at the intersections of Forest Glen, Converse Street and Bliss Road indicating the traffic patterns as vehicles cut through these side streets to access Laurel Street and points east of Longmeadow. The largest decrease occurs after Forest Glen Road at the intersection of Longmeadow Street – Route 5 and Converse Street decreasing by 55%. Forest Glen Road and Converse Street carry the majority of the cut through traffic in the westbound direction and eastbound direction respectively.

Table II-1 - Average Annual Daily Traffic

	Weekday		
Location	**NB/EB**	**SB/WB**	**Total**
Route 5 – Longmeadow Street south of Forest Glen Rd.	8,552	15,178	23,730
Route 5 – Longmeadow Street south of Converse St.	8,086	6,767	14,853
Route 5 – Longmeadow Street south of Bliss Rd.	6,002	6,355	12,357
Route 5 – Longmeadow Street south of Williams St.	6,723	4,579	11,302
Forest Glen Rd. east of Route 5	3,206	7,174	10,380
Converse Street east of Route 5	8,263	5,142	13,405
Bliss Road east of Route 5	3,097	2,490	5,587
Williams Street east of Route 5	4,684	2,965	7,649

Laurel Street south of Converse St.	4,632	2,079	6,711
Laurel Street south of Bliss Rd.	3,356	2,368	5,724

2. Hourly Vehicle Volume

Manual Turning Movement Counts (TMC) were conducted at several intersections within the study area. The TMCs were conducted during the peak commuter periods. The weekday commuter period occurs during the morning hours of 7:00 AM to 9:00 AM and the afternoon hours of 4:00 PM to 6:00 PM. At each location two-hour TMCs were conducted to identify the peak four consecutive 15-minute periods of traffic through the intersection. These consecutive peak 15-minute periods constitute a location's "Peak Hour Volume". The peak hour of traffic volume represents the most critical period for operations and will be the focus for some of the analyses conducted in this Study.

The locations of all 10 turning movement counts conducted by the PVPC are shown below.

- Route 5 – Longmeadow Street south of Forest Glen Road
- Route 5 – Longmeadow Street south of Converse Street
- Route 5 – Longmeadow Street south of Bliss Road
- Route 5 – Longmeadow Street south of Williams Street
- Forest Glen Road east of Route 5
- Converse Street east of Route 5
- Bliss Road east of Route 5
- Williams Street east of Route 5
- Laurel Street south of Converse Street
- Laurel Street south of Bliss Road

The TMC data also identifies the peak hour factor and vehicle classification at each intersection. The peak hour factor (PHF) accounts for variations in demand during the peak hour. The PHF is defined as the ratio of the volume occurring during the peak hour to the maximum rate of flow during a given time period within the peak hour.[1] For traffic engineering analysis the flow rate in the peak 15 minutes of the peak hour is used to determine the operational characteristics of traffic facilities. The flow rate is obtained from the peak hour volume by using the peak hour factor.

Vehicle classification identifies the percentage of heavy vehicles and passenger cars on the roadway. Heavy vehicles include trucks, recreational vehicles and buses. The percent of heavy vehicles in the traffic flow is an important component in calculating the serviceability of a corridor or intersection. Trucks impact traffic flow because they occupy more roadway space than passenger cars and have poorer operating capabilities with respect to acceleration, deceleration and maneuverability.

[1] Institute of Transportation Engineers, Transportation and Traffic Engineering Handbook,

As traffic volumes tend to fluctuate over the course of the year, the Massachusetts Highway Department (MassHighway) develops traffic volume adjustment factors to reflect monthly variations. These factors were examined to determine how traffic conditions along the Route 5 Corridor in November - January compare to average month conditions.

Based on the MassHighway data, traffic volumes during the month of November and December are estimated to be slightly higher than the annual average. Conversely, traffic during the month of January is on average slightly lower than the annual average. Therefore, the traffic count data was adjusted accordingly to reflect average month conditions. Turning movement count data for the AM and PM peak hours are summarized on Figures II-1 - II-2.

B. Crash Experience

The intersection crash history was used to estimate the safety conditions throughout the study area. Crash information was gathered for the four major intersections along Longmeadow Street as well as other key intersections along Laurel Street. Table II-2 summarizes the number of crashes by location and type for a period of five years (1997-2002) to identify any common conditions and possible causes.

The number of crashes experienced throughout the study area, remain relatively constant from year to year and by location. The intersection of Laurel Street with Bliss Road has a spike of reported crashes in the 2000 calendar year. This is unusual, given the previous and future years total number of crashes. It is unclear why this irregularity occurred but the intersection seems to have returned to a normal range.

It is also important to note that the key intersections of Forest Glen Road, Converse Street and Bliss Road with Longmeadow Street – Route 5 and Laurel Street with Converse Street, experience the highest number of crashes within the study area. This section within the study area experiences the highest traffic volumes which also contribute to significant delay and congestion. These intersections also have a significant number of Rear End type accidents. Nearly 91% of the accidents occurring at the intersection of Longmeadow Street with Forest Glen Road are Rear End type crashes which can be common in congested areas.

It should be noted that local crash records could identify a much higher level of crashes in the study area. This is possible because crashes with less than $1000 of damage are not required to be reported to the state. In addition, many crashes that occur in the immediate vicinity of an intersection may be incorrectly identified. ie. a crash that occurs at a private driveway immediately adjacent to the intersection.

Table II-2 - Crash History Summary

Location	Year	Number of Crashes	Type	Number of Crashes	Severity	
Longmeadow Street with Forest Glen Road	1997	2	Angle	1	PD	12
	1998	5	Rear End	21	PI	11
	1999	2	Sideswipe	0	F	0
	2000	7	Head on	1		
	2001	4	Ped/Bike	0		
	2002	3	Fixed Object	0		
Longmeadow Street with Converse Street	1997	5	Angle	8	PD	11
	1998	8	Rear End	11	PI	11
	1999	4	Sideswipe	0	F	0
	2000	3	Head on	2		
	2001	1	Ped/Bike	0		
	2002	1	Fixed Object	1		
Longmeadow Street with Bliss Road	1997	4	Angle	12	PD	12
	1998	3	Rear End	6	PI	5
	1999	6	Sideswipe	0	F	0
	2000	3	Head on	0		
	2001	0	Ped/Bike	0		
	2002	2	Fixed Object	0		
Longmeadow Street with Williams Street	1997	5	Angle	14	PD	12
	1998	6	Rear End	4	PI	6
	1999	3	Sideswipe	0	F	0
	2000	3	Head on	1		
	2001	1	Ped/Bike	0		
	2002	1	Fixed Object	0		
Laurel Street with Converse Street	1997	4	Angle	15	PD	18
	1998	6	Rear End	11	PI	11
	1999	7	Sideswipe	0	F	0
	2000	1	Head on	2		
	2001	4	Ped/Bike	0		
	2002	7	Fixed Object	1		
Laurel Street with Bliss Road	1997	2	Angle	10	PD	9
	1998	2	Rear End	8	PI	12
	1999	4	Sideswipe	0	F	0
	2000	10	Head on	1		
	2001	2	Ped/Bike	0		
	2002	1	Fixed Object	2		

Note: PD = Property damage, PI = Personal injury, F = Fatality
Source: MassHighway Crash History

Figure II-1

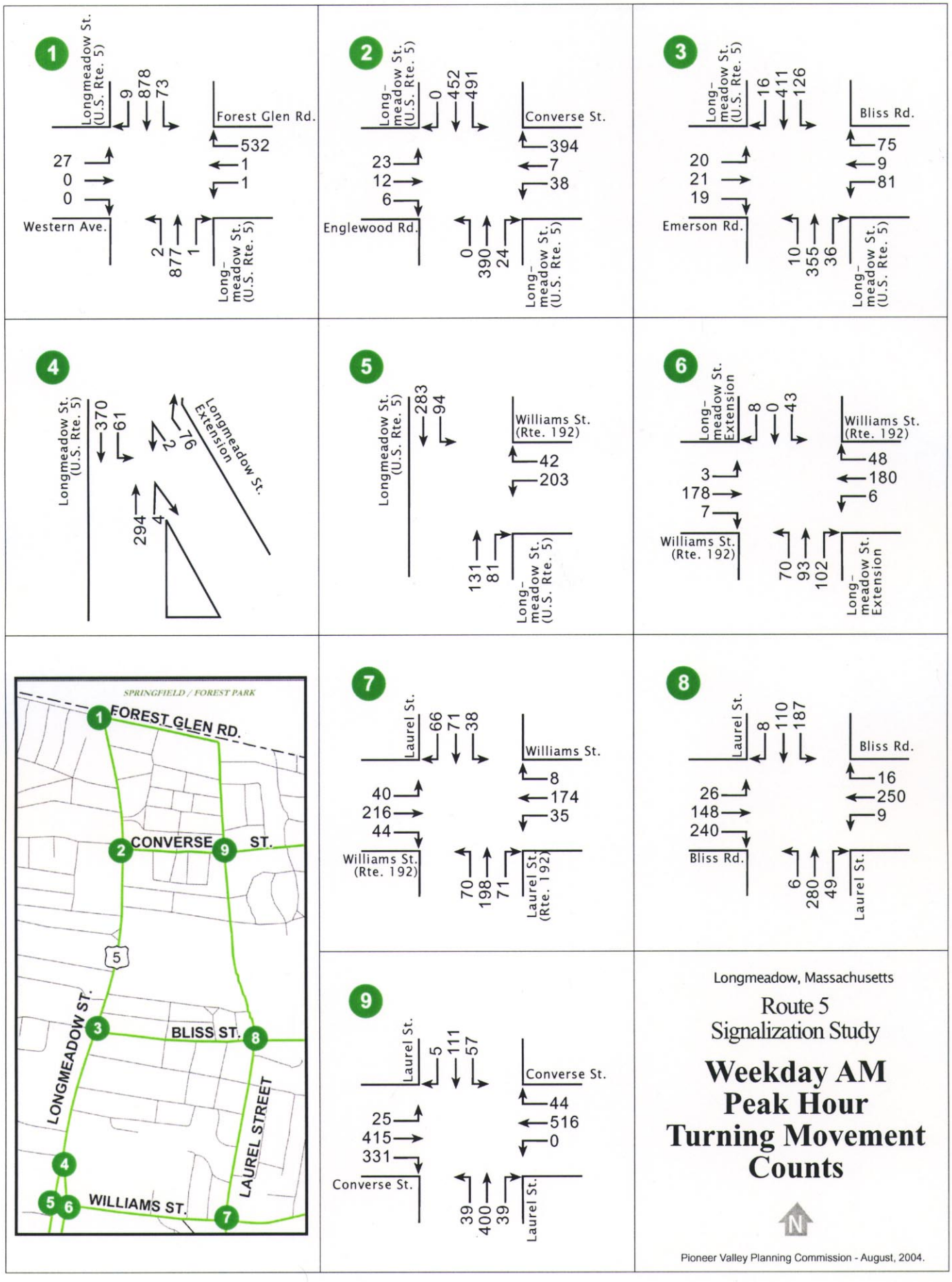
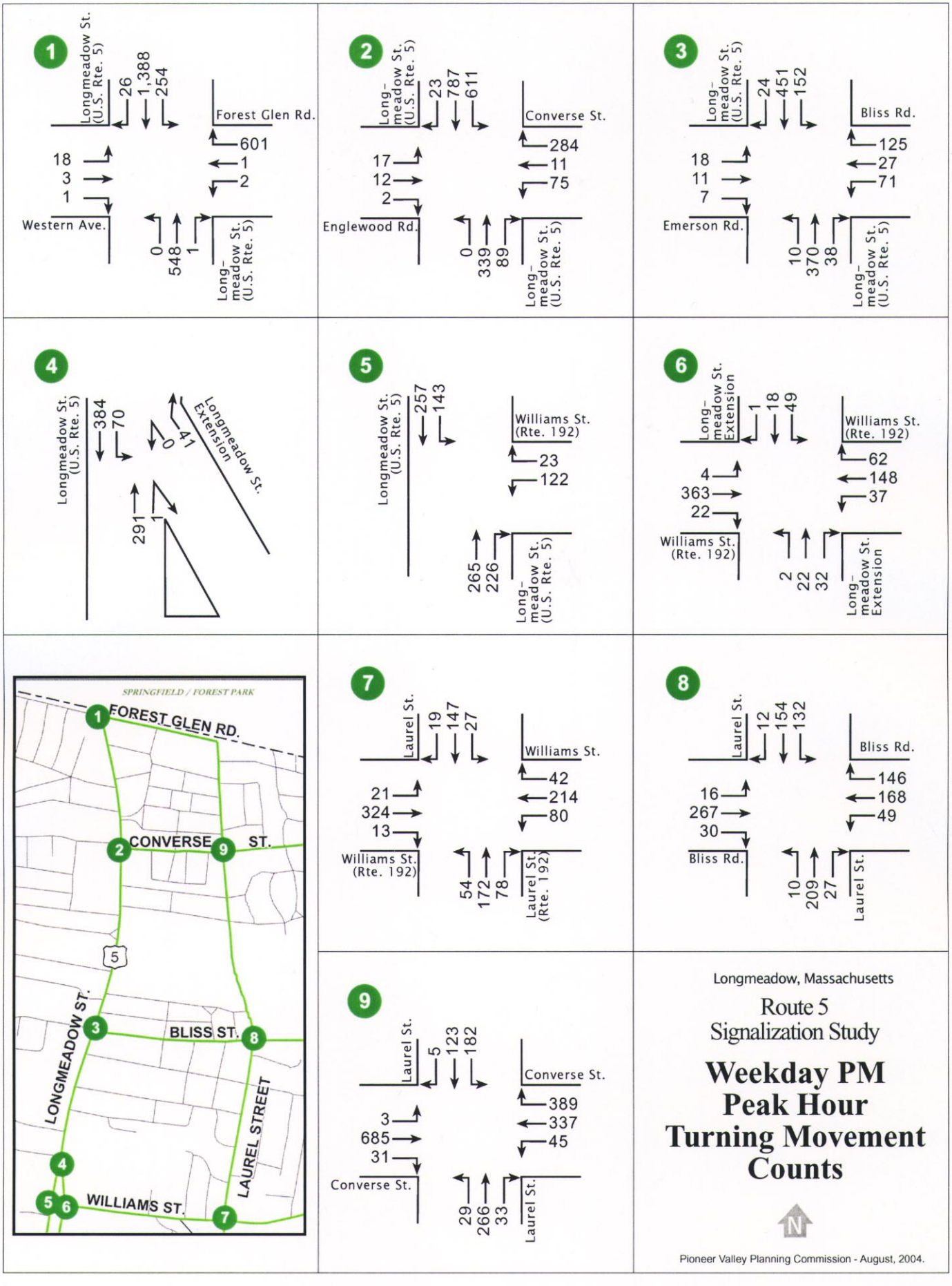

1
Longmeadow St. (U.S. Rte. 5)
9
878
73
Forest Glen Rd.
532
1
1
27
0
0
Western Ave.
2
877
1
Long-meadow St. (U.S. Rte. 5)
2
Long-meadow St. (U.S. Rte. 5)
0
452
491
Converse St.
394
7
38
23
12
6
Englewood Rd.
0
390
24
Long-meadow St. (U.S. Rte. 5)
3
Long-meadow St. (U.S. Rte. 5)
16
411
126
Bliss Rd.
75
9
81
20
21
19
Emerson Rd.
10
355
36
Long-meadow St. (U.S. Rte. 5)
4
Longmeadow St. (U.S. Rte. 5)
370
61
76
2
Longmeadow St. Extension
294
4
5
Longmeadow St. (U.S. Rte. 5)
283
94
Williams St. (Rte. 192)
42
203
131
81
Long-meadow St. (U.S. Rte. 5)
6
Long-meadow St. Extension
8
0
43
Williams St. (Rte. 192)
48
180
6
3
178
7
Williams St. (Rte. 192)
70
93
102
Long-meadow St. Extension
SPRINGFIELD / FOREST PARK
1
FOREST GLEN RD.
2
CONVERSE
9
ST.
5
LONGMEADOW ST.
3
BLISS ST.
8
4
5
6
WILLIAMS ST.
LAUREL STREET
7
7
Laurel St.
66
71
38
Williams St.
8
174
35
40
216
44
Williams St. (Rte. 192)
70
198
71
Laurel St. (Rte. 192)
8
Laurel St.
8
110
187
Bliss Rd.
16
250
9
26
148
240
Bliss Rd.
6
280
49
Laurel St.
9
Laurel St.
5
111
57
Converse St.
44
516
0
25
415
331
Converse St.
39
400
39
Laurel St.
Longmeadow, Massachusetts
Route 5
Signalization Study
Weekday AM
Peak Hour
Turning Movement
Counts
N
Pioneer Valley Planning Commission - August, 2004.

Figure II-2


1
Longmeadow St. (U.S. Rte. 5)
26
1,388
254
Forest Glen Rd.
601
1
2
18
3
1
Western Ave.
0
548
1
Long-meadow St. (U.S. Rte. 5)
2
Long-meadow St. (U.S. Rte. 5)
23
787
611
Converse St.
284
11
75
17
12
2
Englewood Rd.
0
339
89
Long-meadow St. (U.S. Rte. 5)
3
Long-meadow St. (U.S. Rte. 5)
24
451
152
Bliss Rd.
125
27
71
18
11
7
Emerson Rd.
10
370
38
Long-meadow St. (U.S. Rte. 5)
4
Longmeadow St. (U.S. Rte. 5)
384
70
Longmeadow St. Extension
41
0
291
1
5
Longmeadow St. (U.S. Rte. 5)
257
143
Williams St. (Rte. 192)
23
122
265
226
Long-meadow St. (U.S. Rte. 5)
6
Long-meadow St. Extension
1
18
49
Williams St. (Rte. 192)
62
148
37
4
363
22
Williams St. (Rte. 192)
2
22
32
Long-meadow St. Extension
SPRINGFIELD / FOREST PARK
FOREST GLEN RD.
CONVERSE ST.
BLISS ST.
LONGMEADOW ST.
LAUREL STREET
WILLIAMS ST.
5
7
Laurel St.
19
147
27
Williams St.
42
214
80
21
324
13
Williams St. (Rte. 192)
54
172
78
Laurel St. (Rte. 192)
8
Laurel St.
12
154
132
Bliss Rd.
146
168
49
16
267
30
Bliss Rd.
10
209
27
Laurel St.
9
Laurel St.
5
123
182
Converse St.
389
337
45
3
685
31
Converse St.
29
266
33
Laurel St.
Longmeadow, Massachusetts
Route 5
Signalization Study
Weekday PM
Peak Hour
Turning Movement
Counts
N
Pioneer Valley Planning Commission - August, 2004.

C. ANALYSIS PROCEDURES

1. Intersection Analysis

The Route 5 Longmeadow Street Signal study examined the operations at six signalized and two unsignalized intersections in the study area. The efficiency of traffic operations at a signalized location is based on the stopped delay per vehicle for a 15-minute analysis period. These conditions are measured using the nationally accepted standard methodology outlined in the *2000* Highway Capacity Manual (HCM). The HCM's measure of efficiency is quantified in terms of "Level Of Service" (LOS). The LOS refers to the quality of traffic flow along roadways and intersections. It is described in terms of A through F, where A represents the best possible conditions and F represents forced-flow of failing conditions. A basic assumption in assigning a value for LOS at an intersection is that vehicles stopped at a signalized intersection are willing to accept longer delays. Table II-3 describes the level of service designations for signalized intersections.

Table II-3- Level Of Service (LOS) Designations - Signalized Intersections

Category	Description	Delay (in seconds)
LOS A	Describes a condition of free flow, with low volumes and relatively high speeds. There is little or no reduction in maneuverability due to the presence of other vehicles, and drivers can maintain their desired speeds. Little or no delays result for side street motorists.	< 10.0
LOS B	Describes a condition of stable flow, with desired operating speeds relatively unaffected, but with a slight deterioration of maneuverability within the traffic stream. Side street motorists experience short delays.	>10.0 to 20.0
LOS C	Describes a condition still representing stable flow, but speeds and maneuverability begin to be restricted. Motorists entering from side streets experience average delays.	>20.0 to 35.0
LOS D	Describes a high-density traffic condition approaching unstable flow. Speeds and maneuverability become more restricted. Side street motorists may experience longer delays.	>35.0 to 55.0
LOS E	Represents conditions at or near the capacity of the facility. Flow is usually unstable, and freedom to maneuver within the traffic stream becomes extremely difficult. Very long delays may result for side street motorists.	>55.0 to 80.0
LOS F	Describes forced flow or breakdown conditions with significant queuing along critical approaches. Operating conditions are highly unstable as characterized by erratic vehicle movements along each approach.	> 80.0

At an unsignalized intersection, LOS is determined by the average total delay which is defined as the total elapsed time from when a vehicle stops at the end of a queue to when the same vehicle departs from the stop line. The basic assumption at an unsignalized

intersection is that through moving traffic on the major street is not hindered by other movements. In reality, as minor street delays increase, vehicles are more likely to accept smaller gaps in the traffic stream causing through moving vehicles to reduce speed and suffer some delay. The left turn movement off the minor street approach is the most heavily opposed movement and typically suffers the greatest delay. Therefore this movement is used as a gauge to determine the overall operations at an unsignalized intersection. Table II-4 lists the level of service criteria for unsignalized intersections.

Table II-4- Level Of Service (LOS) Designations - Unsignalized Intersections

Average Control Delay (s/veh)	LOS	Expected Delay To Minor Street
0.0 to 10.0	A	Little or no delay
>10.0 to 15.0	B	Short traffic delays
>15.0 to 25.0	C	Average traffic delays
>25.0 to 35.0	D	Long traffic delays
>35.0 to 50.0	E	Very long delays
>50.0	F	Extreme delays

2. Capacity Analysis Summary

Intersection capacity analyses were conducted for the key locations along the Route 5 Longmeadow Street corridor. Field observations were conducted to determine the signal timing phase sequence and length. The analysis presents information identifying the operational condition of intersections, both signalized and unsignalized. Acceptable conditions are those measured with Level Of Service (LOS) assignments of A through D, while unacceptable conditions are assigned E or F. The LOS for individual intersection approaches was calculated as well as for overall intersection operation.

Overall the LOS during the AM peak period at most intersections, operate at acceptable conditions with LOS “C” or above. The travel pattern throughout this area in the AM peak period indicates traffic moving in the direction of I-91 access and neighborhood schools. The most significant delays are experienced on the westbound approach of Forest Glen Road and along the southbound approach of Longmeadow Street – Route 5 to Converse Street and Bliss Road. The longest delays in the AM peak hour occur at the intersection of Laurel Street with Bliss Road. Southbound traffic operates at LOS “F”, decreasing the LOS for the entire intersection to a LOS “E”.

The reverse travel pattern is evident in the PM peak hour as traffic patterns shift to return from I-91. Long delays are experienced along Longmeadow Street- Route 5 at its intersection with Forest Glen Road, Converse Street and Bliss Road. Similar increases in the delay are evident in the southbound direction along Laurel Street. Due to the increase in traffic volume and congestion, the LOS in the PM peak decreases to LOS “E” for these locations along Longmeadow Street – Route 5, while Laurel Street and Converse decrease to a LOS “D”. Table II-5 presents a summary of the calculated Level of Service (LOS) for the signalized intersections during the weekday AM and PM peak hours.

Table II-5- Level of Service of Signalized Intersections

		Existing Condition			
		AM Peak		PM Peak	
		LOS*	Delay	LOS*	Delay
Longmeadow Street at Forest Park Entrance					
	Longmeadow Street NB Approach	B	12.5	A	3.6
	Longmeadow Street SB Approach	A	0.8	A	1.3
	Forest Park WB Approach	D	54.5	D	54.5
	King Phillips Stockade EB Approach	D	54.5	D	54.5
	Overall	A	8.1	A	2.5
Longmeadow Street at Forest Glen Road					
	Longmeadow Street NB Approach	C	24.7	C	33.7
	Longmeadow Street SB Approach	B	12.5	E	72.8
	Forest Glen Road WB Approach	D	42.7	D	53.8
	Western Avenue EB Approach	C	28.9	C	30.4
	Overall	C	23.6	E	61.6
Longmeadow Street at Converse Street					
	Longmeadow Street NB Approach	B	16.4	B	17.6
	Longmeadow Street SB Approach	D	36.0	E	78.2
	Converse Street WB Approach	B	14.8	B	15.7
	Englewood Road EB Approach	B	14.0	B	14.0
	Overall	C	26.1	E	55.6
Longmeadow Street at Bliss Road					
	Longmeadow Street NB Approach	B	15.2	B	15.7
	Longmeadow Street SB Approach	B	18.1	C	25.7
	Bliss Road WB Approach	B	13.4	B	14.0
	Ely Road EB Approach	B	11.8	B	11.6
	Overall	B	16.0	B	19.7
Longmeadow Street at Longmeadow Ext.					
	Longmeadow Street NB Approach	B	11.6	B	11.4
	Longmeadow Street SB Approach	B	16.8	B	18.7
	Longmeadow Street Extension WB Approach	A	8.1	A	77
	Overall	B	13.9	B	15.2
Laurel Street at Converse Street					
	Laurel Street NB Approach	D	43.8	C	25.4
	Laurel Street SB Approach	C	28.5	F	215.2
	Converse Street WB Approach	A	8.8	B	14.6
	Englewood Road EB Approach	B	13.0	B	11.0
	Overall	C	20.8	D	47.2
Laurel Street at Bliss Road					
	Laurel Street NB Approach	C	22.6	B	19.0
	Laurel Street SB Approach	F	215.0	E	56.5
	Bliss Street WB Approach	A	7.9	A	8.7
	Bliss Street EB Approach	A	8.7	A	8.2
	Overall	E	63.5	C	23.3
Laurel Street at Williams Street					
	Laurel Street NB Approach	B	11.0	B	13.8
	Laurel Street SB Approach	A	8.1	B	13.3
	Williams Street WB Approach	B	14.1	C	27.4
	Williams Street EB Approach	B	15.7	B	14.6
	Overall	B	12.7	B	18.0

* Level of Service

** In Seconds

III. FUTURE BUILD-OUT

It is important to consider the impact of future growth in employment, population and residential development on the existing transportation system. Zoning regulations may permit large developments with high trip generation rates in primarily residential areas. Site specific developments can be expected to impact the existing flow of traffic and add to delay throughout the study area. Growth in surrounding communities can also result in an increase in commuter traffic through the Route 5 Corridor neighborhood. Many potential future deficiencies and problem areas can be eliminated by identifying the problem before it happens.

A. Travel Demand Model

Travel demand models are developed to simulate actual travel patterns and existing transportation conditions. Roadway networks are constructed using current information for the higher classified roads. Most local streets are not included in the travel demand model. Traffic is generated using socioeconomic data such as household size, automobile availability and employment data. Once the existing conditions are evaluated and adjusted to satisfactorily replicate actual travel patterns and vehicle roadway volumes, the model is then altered to project future year conditions. The preparation of a future year socioeconomic database is the last step in the travel demand forecast process. Forecasts of population and socioeconomic data are used to determine the number of trips that will be made in the future

Travel demand forecasting is a major step in the transportation planning process. By simulating the current roadway conditions and the travel demand on those roadways, deficiencies in the system are identified. This is an important tool in planning future network enhancements and analyzing currently proposed projects. The Pioneer Valley Planning Commission (PVPC) uses the TransCAD software to perform transportation forecasts for the 2003, 2010, 2020, and 2025 analysis years. All 43 communities within the boundaries of Hampden and Hampshire Counties are included in the PVPC regional transportation model.

B. Future Volumes

Estimates of the 2010, 2020 and 2025 average weekday traffic volumes were obtained from the PVPC regional transportation model. The results are presented in Table III- 1.

Table III-1- 2010, 2020 and 2025 Average Weekday Traffic Volumes

Location	2001	2010	2020	2025
Route 5 Longmeadow Street South of Forest Glen Rd.	23,730	26,869	28,040	29,483
Route 5 Longmeadow Street South of Williams St.	11,302	14,358	14,094	13,932
Converse Street East of Route 5	13,405	12,589	14,747	17,411
Laurel Street South of Converse St.	6,711	6,342	7,931	9,067

As traffic volumes continue to increase on the major roadways more vehicles will begin to seek alternate routes.

Traffic growth is projected to be very modest and in some cases decreases between the 2010 Build-out and 2020 Build-out Scenarios due to projected decreases in employment throughout the Pioneer Valley region. The projected decrease in employment in the region has a negative impact on the number of vehicle trips generated by the model.

Traffic volumes increase along Longmeadow Street – Route 5 with Converse Street by 24%. While the southern intersection of Longmeadow Street – Route 5 with Williams Street increased 23%. Both Converse Street and Laurel Street south of Converse experienced the largest increase in forecasted traffic volumes, with increases of 30% and 35% respectively. These future forecasted traffic volume increases will significantly affect the LOS of the study area, given the current signal timing plans and street geometry.

C. Future Level of Service

The traffic volumes for 2008 were estimated using growth rates derived from the Regional Transportation Model and were used to estimate the AM and PM peak hour turning movement counts. The future Level of Service was calculated for the 2008 forecast year at each of the seven signalized intersections in the study area.

For the purpose of this analysis no changes were assumed for the existing traffic signal control equipment and lane geometry. No future estimates or calculations were conducted for the unsignalized intersections because these locations cannot be accurately replicated using the regional transportation model. In theory, the operating characteristics of the signalized intersections are an accurate gauge of how well a roadway as a whole operates in an urbanized area. A summary of the future Level of Service for the PM peak hour is shown on Table III-2.

Future forecasted increases in traffic volumes decrease the LOS for Longmeadow Street – Route 5 from “E” to “F” at its intersections with Converse Street and Bliss Road. Along Laurel Street the most significant decrease in LOS occurred at the intersection with Converse Street causing a shift in LOS from a “D” to an “E”. It is important to note that the delay for the southbound approach of Laurel Street at its intersection with Converse Street and Bliss Road dramatically increased as a result of the buildout. Clearly, a combination of changes in the existing traffic signal equipment and changes in the existing land geometry will be required to reduce delays in the study area.

Table III-2 - Future Level of Service Comparison

		Existing Condition		2008 LOS	
		PM Peak		PM Peak	
		LOS*	Delay	LOS*	Delay
Longmeadow Street at Forest Park Entrance					
	Longmeadow Street NB Approach	A	3.6	A	7.0
	Longmeadow Street SB Approach	A	1.3	A	1.8
	Forest Park WB Approach	D	54.5	D	52.5
	King Phillips Stockade EB Approach	D	54.5	D	52.5
	Overall	A	2.5	A	4.2
Longmeadow Street at Forest Glen Road					
	Longmeadow Street NB Approach	C	33.7	C	33.3
	Longmeadow Street SB Approach	E	72.8	F	157.9
	Forest Glen Road WB Approach	D	53.8	E	79.2
	Western Avenue EB Approach	C	30.4	C	28.8
	Overall	E	61.6	F	118.6
Longmeadow Street at Converse Street					
	Longmeadow Street NB Approach	B	17.6	C	21.2
	Longmeadow Street SB Approach	E	78.2	F	130.6
	Converse Street WB Approach	B	15.7	B	18.7
	Englewood Road EB Approach	B	14.0	B	15.4
	Overall	E	55.6	F	90.0
Longmeadow Street at Bliss Road					
	Longmeadow Street NB Approach	B	16.4	B	17.4
	Longmeadow Street SB Approach	F	112.1	E	64.8
	Bliss Road WB Approach	B	14.0	B	14.7
	Ely Road EB Approach	B	11.6	B	11.6
	Overall	E	58.2	D	37.8
Longmeadow Street at Longmeadow Ext.					
	Longmeadow Street NB Approach	B	11.4	B	12.4
	Longmeadow Street SB Approach	B	18.7	C	31.2
	Longmeadow Street Extension WB Approach	A	7.0	A	7.4
	Overall	B	15.2	C	22.4
Laurel Street at Converse Street					
	Laurel Street NB Approach	C	25.4	C	28.4
	Laurel Street SB Approach	F	215.2	F	374.1
	Converse Street WB Approach	B	14.6	C	22.8
	Englewood Road EB Approach	B	11.0	B	13.2
	Overall	D	47.2	E	76.7
Laurel Street at Bliss Road					
	Laurel Street NB Approach	B	19.0	C	20.2
	Laurel Street SB Approach	E	56.5	F	117.5
	Bliss Street WB Approach	A	8.7	A	9.3
	Bliss Street EB Approach	A	8.2	A	8.5
	Overall	C	23.3	D	39.9
Laurel Street at Williams Street					
	Laurel Street NB Approach	B	13.8	B	17.1
	Laurel Street SB Approach	B	13.3	B	13.2
	Williams Street WB Approach	C	27.4	D	37.7
	Williams Street EB Approach	B	14.6	B	14.8
	Overall	B	18.0	C	22.6

IV. IMPROVEMENT ALTERNATIVES

The following section presents an analysis of the different alternative scenarios that were considered as possible solutions for the Route 5 Longmeadow Street Signal Study. A variety of methods were used to analyze the alternatives including the TRANSCAD traffic simulation model for the region, "Synchro" traffic operation analysis software, and the Manual on Uniform Traffic Control Devices.

A. Alternative 1 – Updating the Existing Signal Timing Plans

All traffic signals are operated by a signal controller which controls the red, green and yellow time during a cycle. There are two types of controllers, pre-timed and actuated. A pre-timed controller dictates the length of time for each cycle but maintains a pre-determined cycle length regardless of traffic conditions. Virtually every signal located throughout the study area is operated by a pre-timed controller. These controllers are antiquated and cannot adjust the timing plan to compensate for changes travel flow.

The Longmeadow Street- Route 5 signal at Forest Park is an actuated signal. This type of signal allows shifts in the cycle length determined by traffic flow and demand. Turning movements are given adjustable time periods based on the amount of vehicles flowing through the intersection. A loop detector is placed a fixed length away from the intersection and is “tripped” by approaching vehicles. This type of controller also has the ability to run different timing plans over the course of the day.

Using the Synchro software, timing plan changes under the existing geometry, were studied and altered in order to see the benefits signal coordination and timing changes could have on the study area. Traffic coordination can improve traffic flow in areas with closely spaced signals. The problem with optimizing and coordinating the network along Longmeadow St-Route 5, is that side-street, or minor approach traffic, begin to experience increases in delay as green time is shifted to the major street.

As seen in Table IV-1 by optimizing the timing plans for the intersections that are signalized, the LOS was improved, except at the intersection of Longmeadow Street-Route 5 with Forest Glen Road. While updating the signals and controllers in order to alter timing plans may be a solution to allow traffic to flow through this area and decrease delay during peak hours, additional capacity is required to accommodate the traffic flow throughout this area.

Based on the results of Alternative 1, the timing and phasing plans for the PM peak hour analysis for each signalized intersection in the network were optimized allowing more time for right and left turning movements reflected in well traveled patterns along the intersections of Longmeadow Street- Route 5 and Forest Glen Road, Converse Street and Laurel Street. Vehicles heading southbound along Longmeadow Street – Route 5 during the PM peak hour, have significant delays turning left at Forest Glen, Converse and Bliss

Road. A longer cycle length for this movement while allowing a protected right turn from the intersecting side street would allow these non-opposing turns to occur simultaneously, reducing delays for these movements and for the intersection as a whole. Although this did reduce the delay experienced from this approach, the overall efficiency of the network did not improve significantly.

Installing new signals and controllers would also enable signal timing and phasing to be adjusted for AM and seasonal shifts in traffic patterns. These adjustments could be made to the intersections by the Town of Longmeadow.

B. Alternative 2 – Additional Lanes – Route 5 – Longmeadow Street

Updating traffic signal control equipment to allow alternating cycle lengths and timing plans could move traffic along with less delay, however the volume of traffic traveling through this area will continue to be problematic given the amount of capacity these signals and intersections were originally designed for. Updating the signals will alleve some delays experienced by travelers, but continued growth and demographic shifts will begin to affect the volume of vehicles, thereby affecting the LOS by increasing congestion.

In order to analyze the impacts of additional capacity on the study area, the Synchro software was used to estimate the effects of new travel lanes in the following areas:

- Longmeadow Street – Route 5 southbound from Forest Glen Rd. half way to Converse St.
- Forest Glen Road, additional dedicated right turning lane
- Converse Street, additional dedicated right turning lane

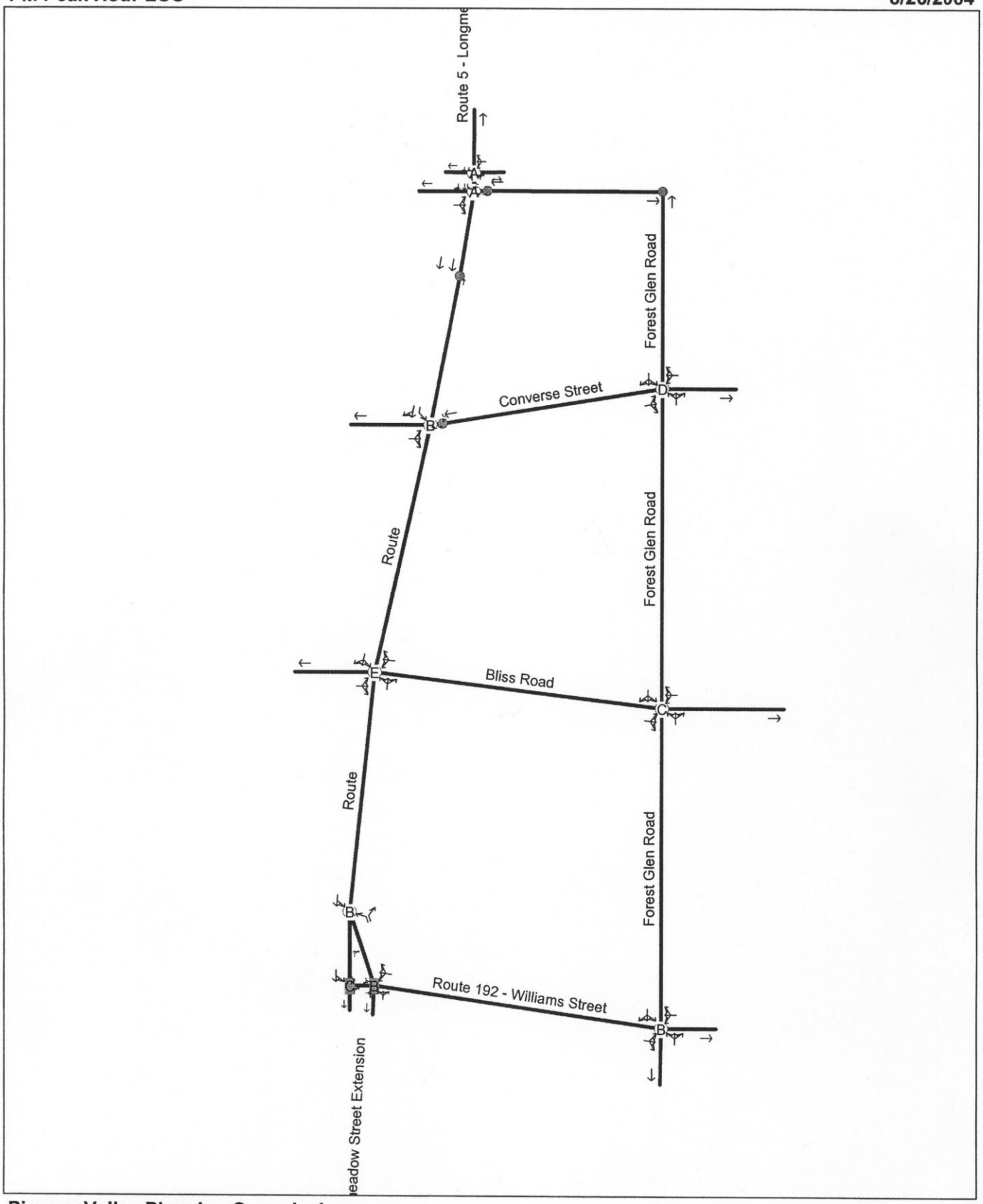
Additional lanes were added to points along Longmeadow Street – Route 5, Converse Street and Forest Glen Road, in order to increase capacity and analyze the affects of additional lanes on LOS. An additional lane was added in the southbound direction of Longmeadow Street- Route 5 from the intersection of Forest Glen Road through to Converse Street. An additional lane was added to Forest Glen Road and Converse Street in the westbound direction with a dedicated right turning lane and a shared left and through movement lane.

Both the AM and PM networks were analyzed under this geometry and the LOS was dramatically increased in the area of Longmeadow Street – Route 5, Converse Street and Laurel Street. Figure IV- 1 and Figure IV- 2 display the Synchro network and the LOS for both the AM and PM peak hour analysis. The addition of an extra through lane and dedicated turning lanes bring the LOS at the intersection of Longmeadow Street- Route 5 with Forest Glen Road from an “F” in the AM and PM peak analysis to a LOS “B” and “A” respectively. Also the intersection of Longmeadow Street – Route 5 with Converse Street increases from a LOS “D” to “B” in both the AM and PM analysis.

While intersection, roadway and signal improvements may improve the LOS and delay experienced by travelers, further along Longmeadow Street-Route 5 at the intersection of Bliss Road, LOS improved only slightly in the AM, improving from an “F” to a “E”. The traffic patterns throughout the study area will shift as delays decrease at key locations, however, the same volume or increasing volume will continue to travel through this area and will seek alternating paths possibly shifting the delay to intersections operating at poor

Longmeadow Route 5 Signal Study
PM Peak Hour LOS

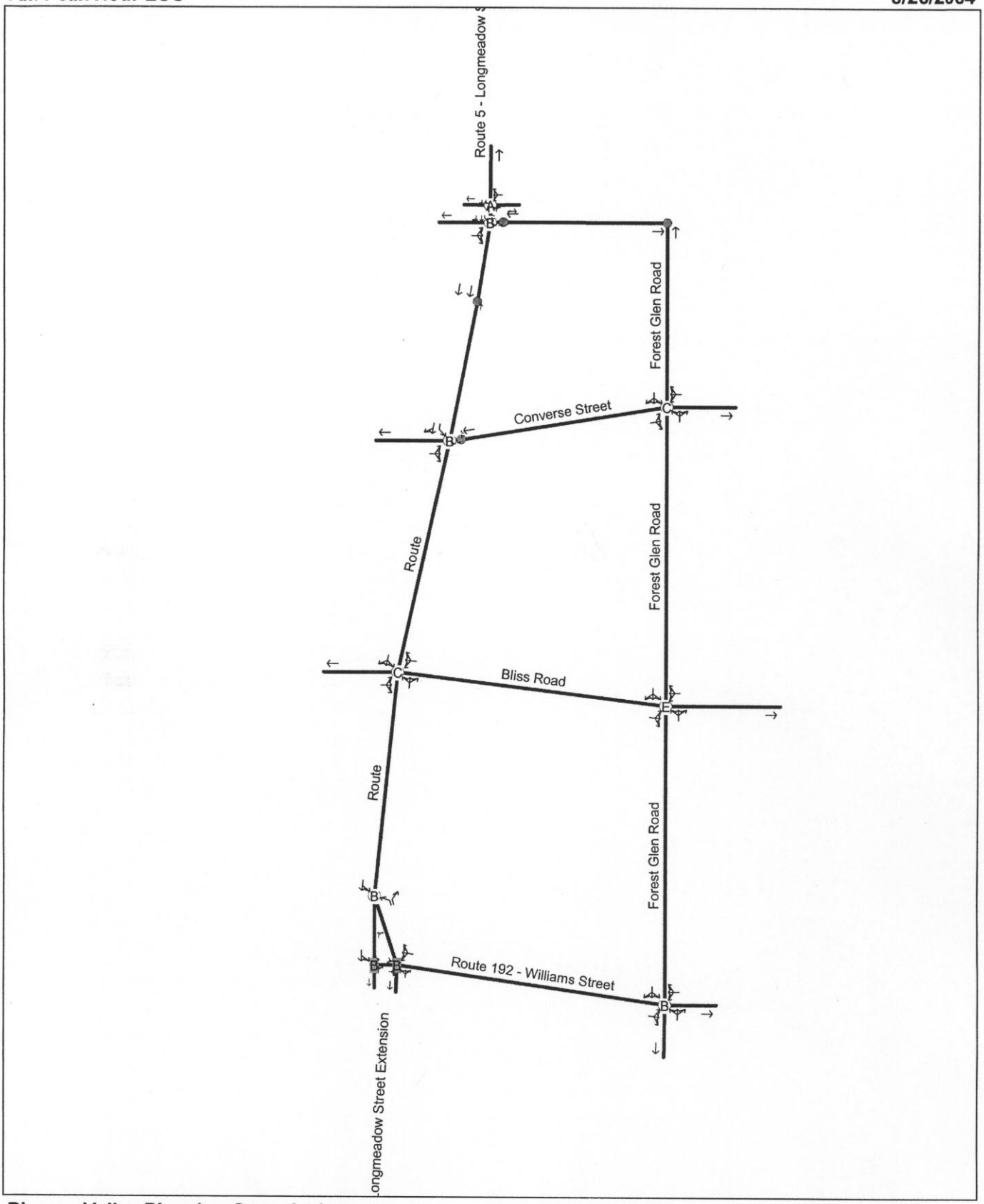
8/26/2004



Pioneer Valley Planning Commission
Two Lane Analysis

Longmeadow Route 5 Signal Study
AM Peak Hour LOS

8/26/2004



Pioneer Valley Planning Commission
Two Lane Analysis

or adequate LOS. While the capacity may be increased in certain key locations or intersections, these shifts in the traffic flow demand should be considered throughout the entire network. The connectivity of Longmeadow Street – Route 5 to I-91 will continue to be in demand and will continue to increase as demographics shift and traffic improvements to this area should be considered as whole.

Table IV-1 – Future PM Peak Hour Level of Service Comparison

		Existing Conditions		Optimized Network		Additional Lanes	
		LOS*	Delay	LOS*	Delay	LOS*	Delay
Longmeadow Street at Forest Park Entrance							
	Longmeadow Street NB Approach	A	3.6	B	10.6	A	3.6
	Longmeadow Street SB Approach	A	1.3	A	1.4	A	1.3
	Forest Park WB Approach	D	54.5	D	76.0	D	54.5
	King Phillips Stockade EB Approach	D	54.5	D	76.0	D	54.5
	Overall	A	2.5	A	5.5	A	2.5
Longmeadow Street at Forest Glen Road							
	Longmeadow Street NB Approach	C	33.7	F	84.5	B	18.4
	Longmeadow Street SB Approach	E	72.8	E	61.6	A	4.1
	Forest Glen Road WB Approach	D	53.8	F	131.3	B	16.5
	Western Avenue EB Approach	C	30.4	E	60.7	C	27.8
	Overall	E	61.6	E	79.9	A	9.4
Longmeadow Street at Converse Street							
	Longmeadow Street NB Approach	B	17.6	D	35.2	C	29.4
	Longmeadow Street SB Approach	E	78.2	C	21.1	B	11.5
	Converse Street WB Approach	B	15.7	D	43.9	B	14.4
	Englewood Road EB Approach	B	14.0	C	21.7	C	25.6
	Overall	E	55.6	C	27.5	B	15.6
Longmeadow Street at Bliss Road							
	Longmeadow Street NB Approach	B	16.4	B	12.4	B	15.7
	Longmeadow Street SB Approach	F	112.1	C	30.1	C	25.7
	Bliss Road WB Approach	B	14.0	C	22.8	B	14.0
	Ely Road EB Approach	B	11.6	B	18.3	B	11.6
	Overall	E	58.2	C	22.1	B	19.7
Longmeadow Street at Longmeadow Ext.							
	Longmeadow Street NB Approach	B	11.4	B	11.4	B	11.4
	Longmeadow Street SB Approach	B	18.7	B	11.8	B	18.7
	Longmeadow Street Extension WB Approach	A	7.0	A	8.4	A	7.0
	Overall	B	15.2	B	10.1	B	15.2
Laurel Street at Converse Street							
	Laurel Street NB Approach	C	25.4	C	20.7	C	25.4
	Laurel Street SB Approach	F	215.2	E	64.2	F	215.2
	Converse Street WB Approach	B	14.6	C	25.6	B	14.6
	Englewood Road EB Approach	B	11.0	B	17.0	B	11.0
	Overall	D	47.2	C	28.2	D	47.2
Laurel Street at Bliss Road							
	Laurel Street NB Approach	B	19.0	B	17.2	B	19.0
	Laurel Street SB Approach	E	56.5	C	33.5	E	56.5
	Bliss Street WB Approach	A	8.7	B	10.7	A	8.7
	Bliss Street EB Approach	A	8.2	B	10.1	A	8.2
	Overall	C	23.3	B	17.9	C	23.2
Laurel Street at Williams Street							
	Laurel Street NB Approach	B	13.8	B	14.7	B	13.3
	Laurel Street SB Approach	B	13.3	B	11.2	B	10.9
	Williams Street WB Approach	C	27.4	B	14.8	C	27.4
	Williams Street EB Approach	B	14.6	A	10.0	B	14.6
	Overall	B	18.0	B	12.8	B	18.0

V. SUMMARY OF RECOMMENDATIONS

As a result of the alternatives analysis, the following long range recommendations are proposed for the study area. Long range recommendations are typically higher-cost improvements that should be considered for the future as the characteristics of the study area continue to change. A summary of the long term transportation needs is shown in Figure V-1.

A. Short Term Recommendations

Based on the results of the existing transportation conditions analysis, a series of short term recommendations were developed to address existing traffic deficiencies. Short term recommendations are meant to be low-cost, "quick-fix" solutions that can be implemented over a 2 -3 year timeframe. No recommendations were developed for areas in which transportation improvements are currently planned, as these improvements can be expected to correct the existing deficiencies at these locations.

a.) Pavement markings should be installed in the westbound direction of Converse Street identifying the number of lanes at the approach. A dedicated right turn lane should be marked. The Right Turn Only sign, on the Converse Street approach could be made more visible if the approach was marked with the dedicated lane.

b.) Pavement markings should also be re-stripped along Longmeadow Street – Route 5 from the intersection of Forest Glen Road through to Williams Street. Shoulder demarcation has been worn away.

c.) Lane widths varied throughout the study area. The width of the roadway along Longmeadow Street – Route 5 ranges from 52 feet at the intersection of Forest Glen Road tapering to 31 feet at the intersection of Williams Street. Consideration should be given to including a dedicated, signed bike lane with any roadway improvements. A dedicated bike lane would require 4-5 feet, however a striped shoulder might provide the same benefit. PVPC can provide “Share the Road” signs upon request. By implementing these improvements while routine maintenance is being done on roadways, low cost improvements can be implemented encouraging alternative modes to be used in congested areas.

d.) The Town of Longmeadow should consider enhancing the pedestrian crossing areas at the intersections of Longmeadow Street – Route 5 with Converse Street and Bliss Road. The sidewalk is a considerable distance from the intersection and is not easily noticeable. Additional signs and alternative pavement markings such as a crosswalk with transverse markings or yellow painted interior, would alert motorists to pedestrian or bicycle crossing, from a greater distance.

e.) Removal of overgrown vegetation at the intersection of Longmeadow Street – Route 5 with Converse Street is recommended. The post style signal is not as

visible until you are approaching the intersection. Any obstructions or close overgrown vegetation cause confusion to motorists unfamiliar with the area.

f.) The Town of Longmeadow should consider re-striping the lane designations approaching the intersection of Longmeadow Street Route – 5 and Forest Glen Road. In addition a W4-2 sign should be installed on Longmeadow Street- Route 5 to indicate the merge to one lane of traffic and reduce driver confusion in this area.

g.) Traffic flow and congestion issues occur along Laurel Street. A safety study should be conducted along Laurel Street in order to analyze the high number of crashes, particularly angle type collisions at the intersection of Laurel Street with Bliss Road. Traffic calming solutions may be recommended to aid in reducing travel speeds and limiting passing zones along the roadway.

B. Long Term Recommendations

The following long range recommendations are proposed for the study area. Long range recommendations consist of higher-cost improvements that may be needed immediately but are not currently feasible, improvements that may be required as a result of future growth, and measures to assist in the management of future growth.

1. Traffic Signal Improvements

The existing traffic signals in the study area are displayed primarily on posts. This can result in the traffic signal being obscured by larger vehicles such as trucks or buses. An upgrade of the traffic signal equipment to mast arm or span wire mounted traffic signal head would increase the visibility of the traffic signals and reduce the possibility of the signals being obscured by larger vehicles. In addition, a variety of ornamental mastarms and poles are available that could be more aesthetically pleasing in the Town's Historic District.

An upgrade of existing traffic signal control equipment would also allow more flexibility in the development of signal timings and phasing plans. New traffic signal controllers could be programmed to run different timing plans based on the time of day and in response to peak travel demands. This would assist in reducing congestion and allow greater flexibility in making future timing changes in response to changes in the flow of traffic.

Additional benefits of updating the existing traffic signal control equipment include:

- The ability to provided exclusive pedestrian phases and timing plans to increase the safety of pedestrians attempting to cross Route 5.
- Incorporation of traffic signal pre-emption equipment to allow emergency vehicles to pre-empt the signal and receiving priority phasing to increase emergency response time.

- The development of a traffic signal coordination plan to minimize the need for through moving traffic on Longmeadow Street and Laurel Street to stop at every traffic signal.

2. Additional Capacity

The results of this study show the need for additional capacity at the intersections of Longmeadow Street with Converse Street and Longmeadow Street with Forest Glen Road. The addition of a second through travel lane is required at both intersections to assist in processing traffic safely and efficiently through both intersections. This would likely require land takings to provide sufficient right of way for the additional travel lanes. This widening could be restricted to the immediate vicinity of the intersection to reduce the impact on private property. It is recommended that the Town of Longmeadow work with a licensed professional engineer to develop conceptual plans to assess the amount of right of way that would be necessary to realize this improvement.

3. Engineering Study

Prior to the installation of new traffic signal control equipment, it is recommended that the Town of Longmeadow employ the services of a registered professional engineer. A functional design report must be prepared for the study area and conceptual design plans developed for the project. This study will develop a preliminary cost estimate to construct the project and assist the Town in developing an approach to fund and implement the traffic signal improvements.

4. Transportation Improvement Program

The Transportation Improvement Program (TIP) is the central program management tool for structuring transportation improvement projects. The current TIP identifies a five year listing of projects for implementation. The TIP must be fiscally constrained, and programmed according to a regional target (estimate of federal funds) which is provided by the Executive Office of Transportation (EOT).

Projects funded as part of the TIP are prioritized based on a set of evaluation criteria developed by EOT. The Pioneer Valley Metropolitan Planning Organization reviews and endorses the TIP annually.

A project can be considered for funding as part of the TIP at the written request of the chief locally elected official of the PVPC member community. This request should include a brief description of the project, its estimated construction cost and its current design status (i.e. 25%, 75%, 100%). Each community is strongly encouraged to meet with the Massachusetts Highway Department district office prior to the start of a transportation improvement project to determine the eligibility of the project for federal funds. It is typically the responsibility of the community to fund the cost to design the project.

Inclusion as part of the TIP is not a guarantee of future federal construction funds as each project is re-evaluated on an annual basis. It is very important to work closely with the

design engineering firm and the Massachusetts Highway Department to advance the project towards construction. Regular project updates will also need to be provided to the PVPC to assist in assigning project into the appropriate construction year.

VI. PUBLIC PARTICIPATION

The Pioneer Valley Planning Commission attended the Town of Longmeadow, Traffic Safety Committee meeting on July 21, 2004 at the Police Station Community meeting room to discuss the traffic findings in the draft version of this report. The Draft report was issued for a 30 day public comment period in September 2004. The following comments were received from The Massachusetts Highway Department:

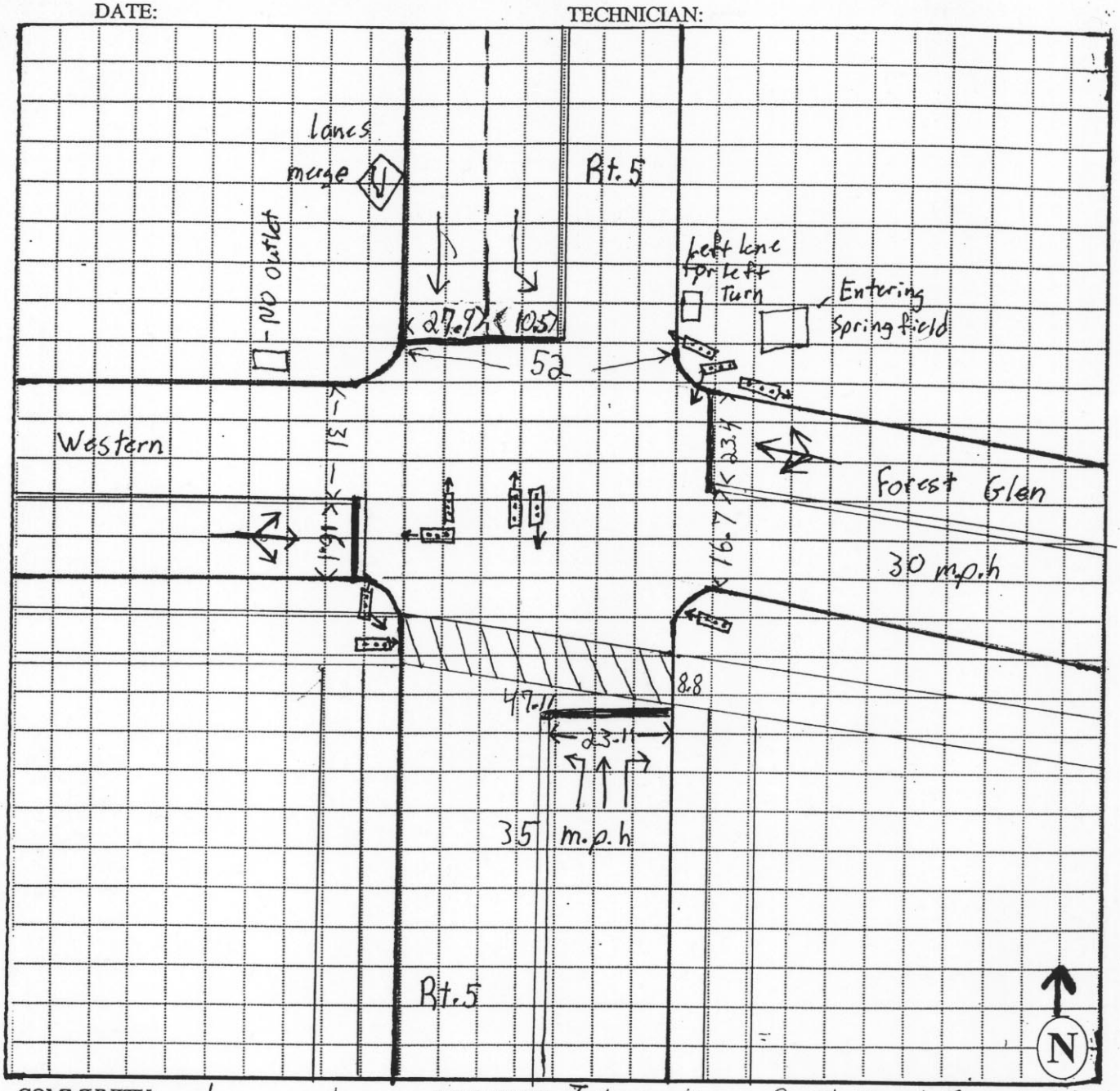
- The report should include additional description of the study area including roadway geometry, posted speed limits and roadway classification.
- Additional data should be included for pedestrian and bicycle traffic.
- MassHighway practice does not include transverse marking or yellow painted interior lines within crosswalks.
- The study should include heavy vehicle traffic through the corridor.

The Pioneer Valley Planning Commission has included all data collected throughout the study area, which includes truck traffic, pedestrian and bicycle counts, truck volume and intersection diagrams of the study area.

VII. APPENDIX

PVPC INTERSECTION SKETCH SHEET

DATE: TECHNICIAN:



COMMUNITY: Longmeadow LOCATION: Intersection of Rt. 5 and Forest Glen

TYPE OF CURBING: Granite TYPE OF SIDEWALKS: Cement

TYPE OF PAVEMENT: Asphalt PAVEMENT CONDITION: Fair

TRAFFIC CONTROL DEVICES: Stop lights

DEFICIENCIES:

	No Pavement Markings		No Traffic Control Devices		Geometry
✓	Pavement Markings Faded		Poor Sight Distance		Signing
	Other Rt. 5 South bound is two lanes, one for thru traffic				

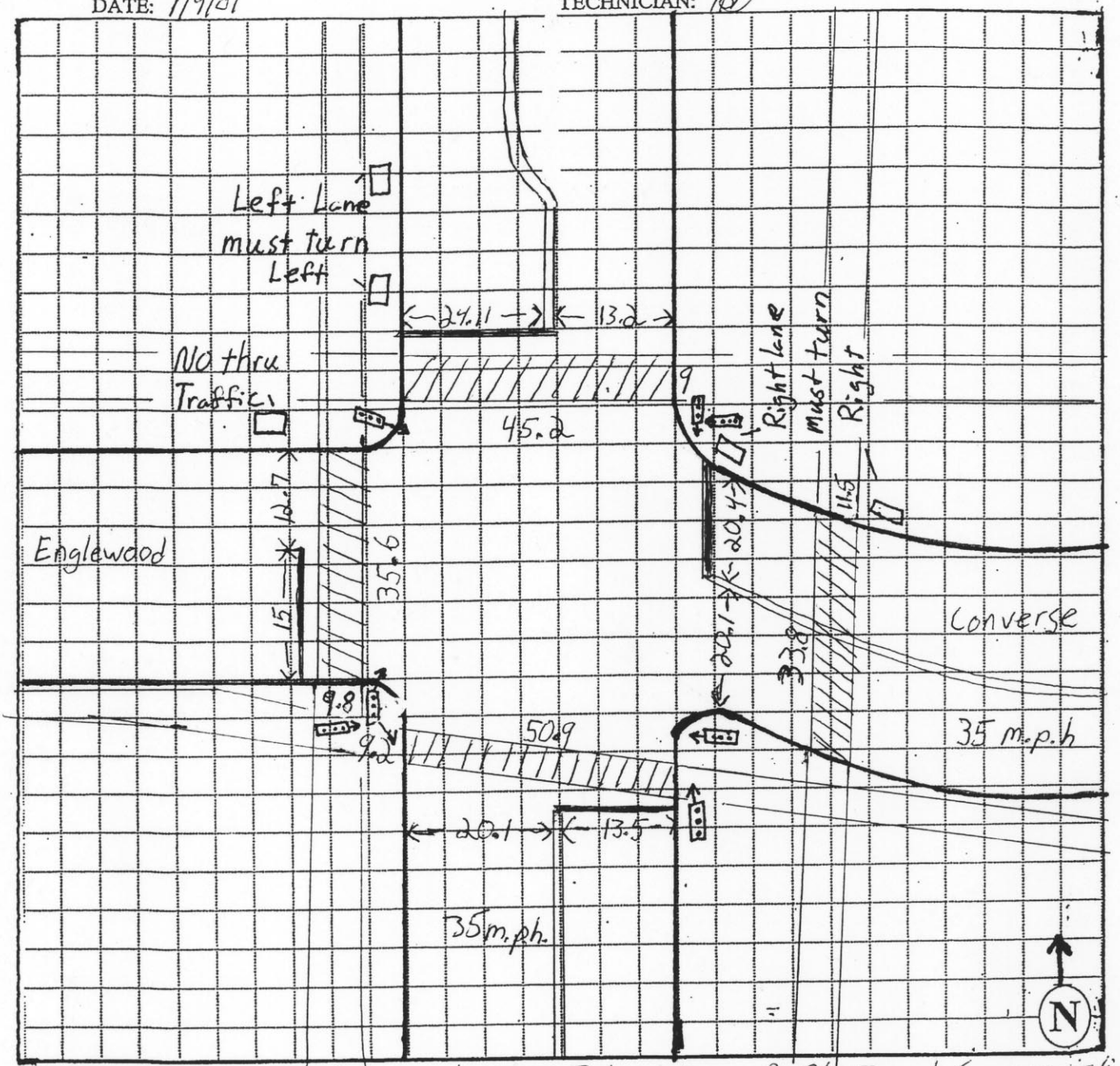
COMMENTS: and one for left turns, the line is so worn it looks like one large lane.

THINGS TO INCLUDE IN SKETCH:

___ Width	___ Signing	___ Pavement Markings	___ Lateral Obstructions	___ Illumination	___ Bus Stops
___ Curbing	___ Lane Use	___ Traffic Signals	___ Pavement Condition	___ Pedestrians	___ Offsets
___ Shoulders	___ Sidewalks	___ Approach Angles	___ Horizontal Alignment	___ Land Uses	___ Radii
___ Sight Distance	___ Parking	___ School Zones	___ Vertical Alignment	___ Catch Basins	___ Utilities

PVPC INTERSECTION SKETCH SHEET

DATE: 1/9/01 TECHNICIAN: BM



COMMUNITY: Longmeadow LOCATION: Intersection of Rt. 5 and Converse St.

TYPE OF CURBING: Granite TYPE OF SIDEWALKS: Cement

TYPE OF PAVEMENT: Asphalt PAVEMENT CONDITION: Fair

TRAFFIC CONTROL DEVICES: Stop lights

DEFICIENCIES:
- ✓ No Pavement Markings
- ___ Pavement Markings Faded
- ___ Other No lines on Englewood.
- ___ No Traffic Control Devices
- ___ Poor Sight Distance
- ✓ Geometry
- ___ Signing

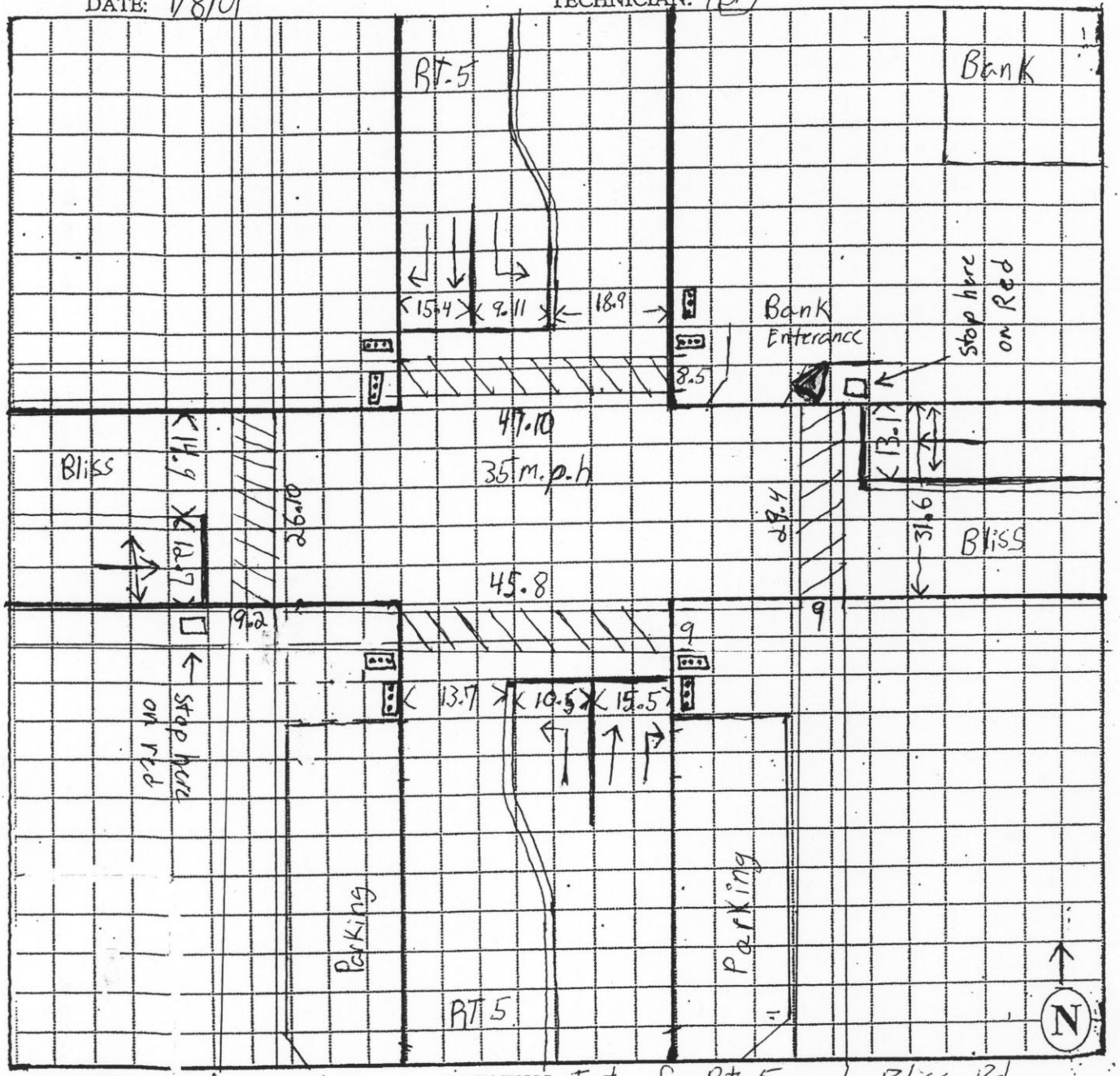
COMMENTS: Rt. 5 is marked as one lane in both directions, but is used as if there were two lanes. Yellow line shifts but the is not a white line to divide into two lanes

THINGS TO INCLUDE IN SKETCH:

___ Width	___ Signing	___ Pavement Markings	___ Lateral Obstructions	___ Illumination	___ Bus Stops
___ Curbing	___ Lane Use	___ Traffic Signals	___ Pavement Condition	___ Pedestrians	___ Offsets
___ Shoulders	___ Sidewalks	___ Approach Angles	___ Horizontal Alignment	___ Land Uses	___ Radii
___ Sight Distance	___ Parking	___ School Zones	___ Vertical Alignment	___ Catch Basins	___ Utilities

PVPC INTERSECTION SKETCH SHEET

DATE: 1/8/01 TECHNICIAN: BM



COMMUNITY: Longmeadow LOCATION: Int. of Rt. 5 and Bliss Rd.

TYPE OF CURBING: Asphalt TYPE OF SIDEWALKS: Cement.

TYPE OF PAVEMENT: Asphalt PAVEMENT CONDITION: Fair

TRAFFIC CONTROL DEVICES: Stop lights

DEFICIENCIES:
- ___ No Pavement Markings
- ___ Pavement Markings Faded
- ___ No Traffic Control Devices
- ___ Poor Sight Distance
- ___ Geometry
- ___ Signing
- ___ Other Asphalt starting to crack and up heave

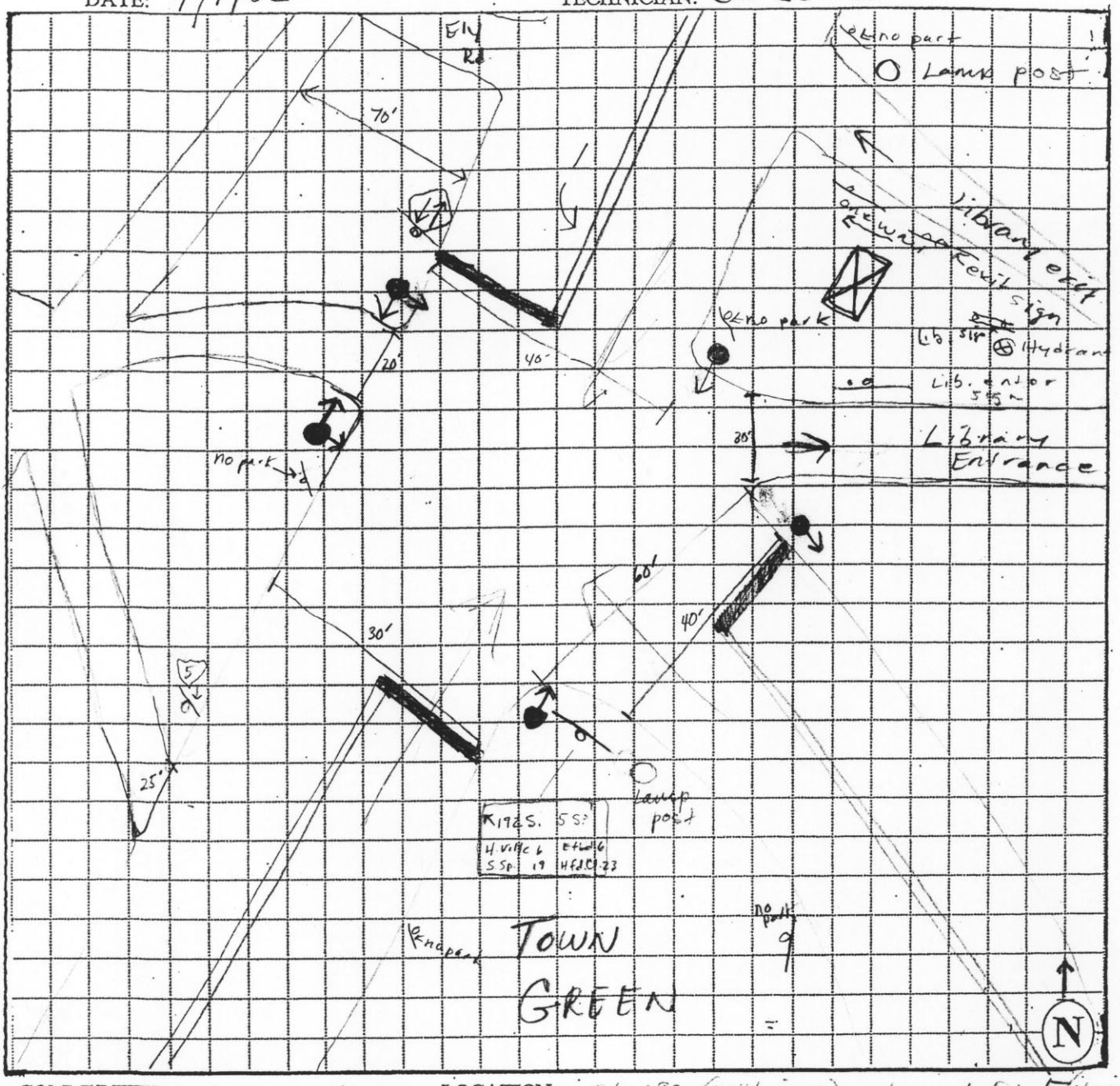
COMMENTS: 35 m.p.h speed limit not enforced

THINGS TO INCLUDE IN SKETCH:

___ Width	___ Signing	___ Pavement Markings	___ Lateral Obstructions	___ Illumination	___ Bus Stops
___ Curbing	___ Lane Use	___ Traffic Signals	___ Pavement Condition	___ Pedestrians	___ Offsets
___ Shoulders	___ Sidewalks	___ Approach Angles	___ Horizontal Alignment	___ Land Uses	___ Radii
___ Sight Distance	___ Parking	___ School Zones	___ Vertical Alignment	___ Catch Basins	___ Utilities

PVPC INTERSECTION SKETCH SHEET

DATE: 4/9/02 TECHNICIAN: B. Conz



COMMUNITY: Longmeadow LOCATION: Rt. 192 (Williams) ent. and Rt. 5 (Long

TYPE OF CURBING: Bit. Asphalt / Granite TYPE OF SIDEWALKS: concrete

TYPE OF PAVEMENT: Bit. Asphalt PAVEMENT CONDITION: good

TRAFFIC CONTROL DEVICES: Red, yellow, green lights (7)

DEFICIENCIES:

- ___ No Pavement Markings
- ___ No Traffic Control Devices
- ___ Geometry
- ✓ Pavement Markings Faded
- ___ Poor Sight Distance
- ___ Signing
- ___ Other

COMMENTS:

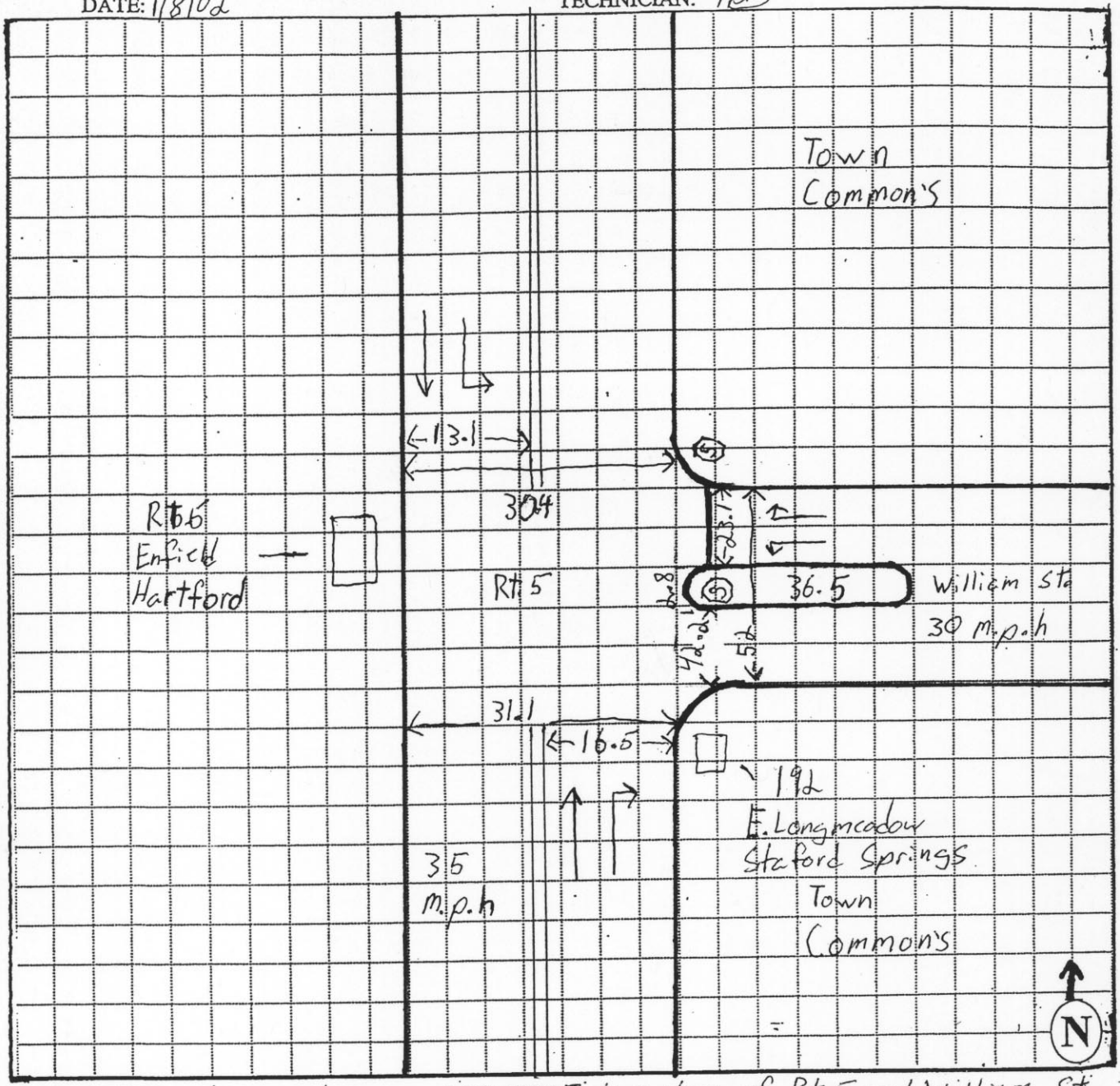
THINGS TO INCLUDE IN SKETCH:

___ Width	___ Signing	___ Pavement Markings	___ Lateral Obstructions	___ Illumination	___ Bus Stops
___ Curbing	___ Lane Use	___ Traffic Signals	___ Pavement Condition	___ Pedestrians	___ Offsets
___ Shoulders	___ Sidewalks	___ Approach Angles	___ Horizontal Alignment	___ Land Uses	___ Radii
___ Sight Distance	___ Parking	___ School Zones	___ Vertical Alignment	___ Catch Basins	___ Utilities

PVPC INTERSECTION SKETCH SHEET

B

DATE: 1/8/02 TECHNICIAN: [illegible]



COMMUNITY: Longmeadow LOCATION: Intersection of Rt. 5 and William St.

TYPE OF CURBING: Granite TYPE OF SIDEWALKS: Cement

TYPE OF PAVEMENT: Asphalt PAVEMENT CONDITION: Good

TRAFFIC CONTROL DEVICES: Stop Sign on Williams St.

DEFICIENCIES:
- ___ No Pavement Markings
- ___ Pavement Markings Faded
- ___ No Traffic Control Devices
- ___ Poor Sight Distance
- ___ Geometry
- ___ Signing
- ___ Other

COMMENTS: Speed limits not enforced

THINGS TO INCLUDE IN SKETCH:

___ Width	___ Signing	___ Pavement Markings	___ Lateral Obstructions	___ Illumination	___ Bus Stops
___ Curbing	___ Lane Use	___ Traffic Signals	___ Pavement Condition	___ Pedestrians	___ Offsets
___ Shoulders	___ Sidewalks	___ Approach Angles	___ Horizontal Alignment	___ Land Uses	___ Radii
___ Sight Distance	___ Parking	___ School Zones	___ Vertical Alignment	___ Catch Basins	___ Utilities

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PVPC INTERSECTION SKETCH SHEET

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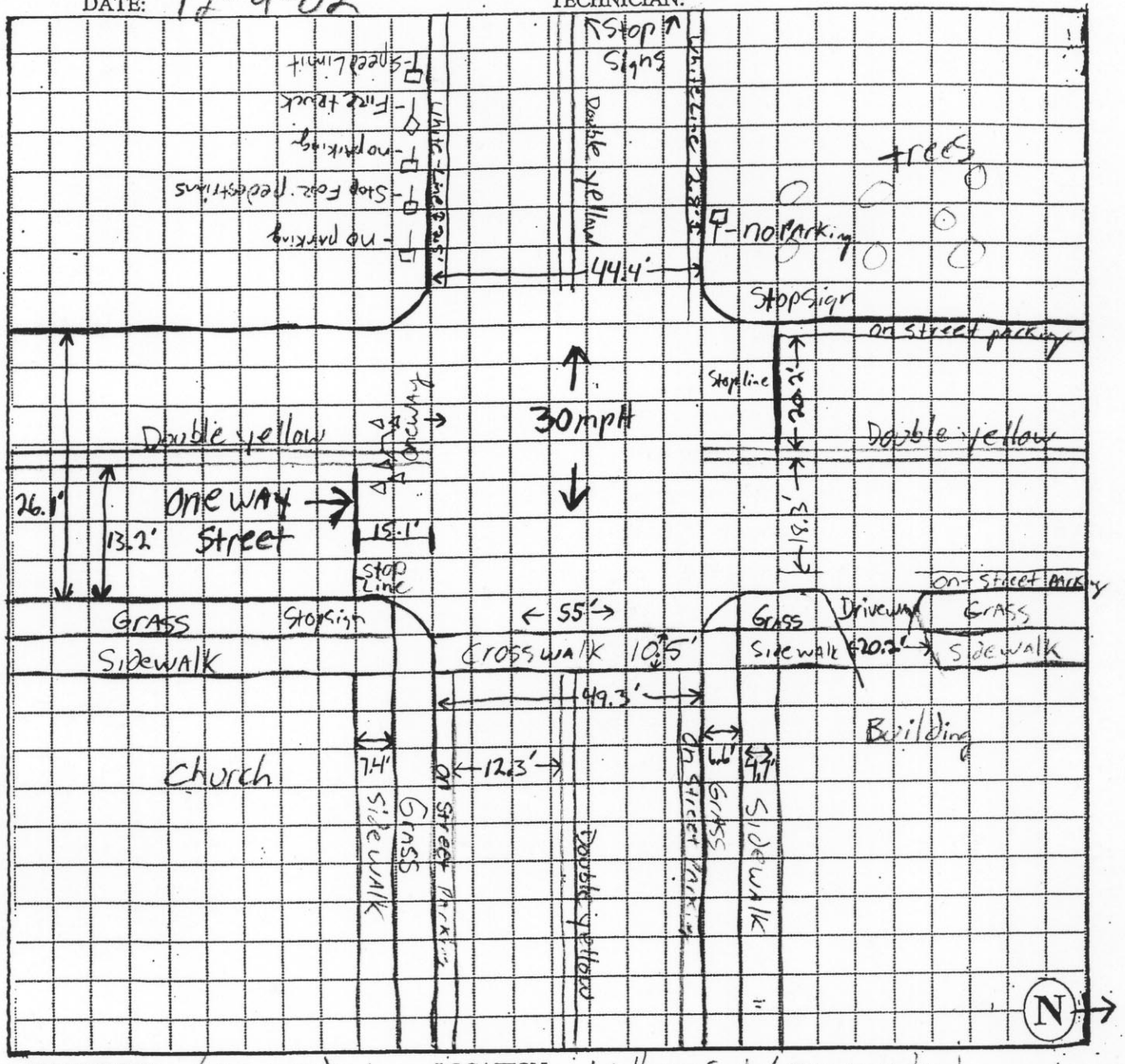


COMMUNITY: Longmeadow LOCATION: Williams t. Longmeadow

TYPE OF CURBING: Stone / Granite TYPE OF SIDEWALKS: Concrete

TYPE OF PAVEMENT: Asphalt PAVEMENT CONDITION: Good

TRAFFIC CONTROL DEVICES: Stop Signs on Longmeadow St. One WAY

DEFICIENCIES:
- ___ No Pavement Markings
- Short Pavement Markings Faded
- ___ Other Pedestrian Sign Xing
- ___ No Traffic Control Devices
- ___ Poor Sight Distance
- ___ Geometry
- X Signing

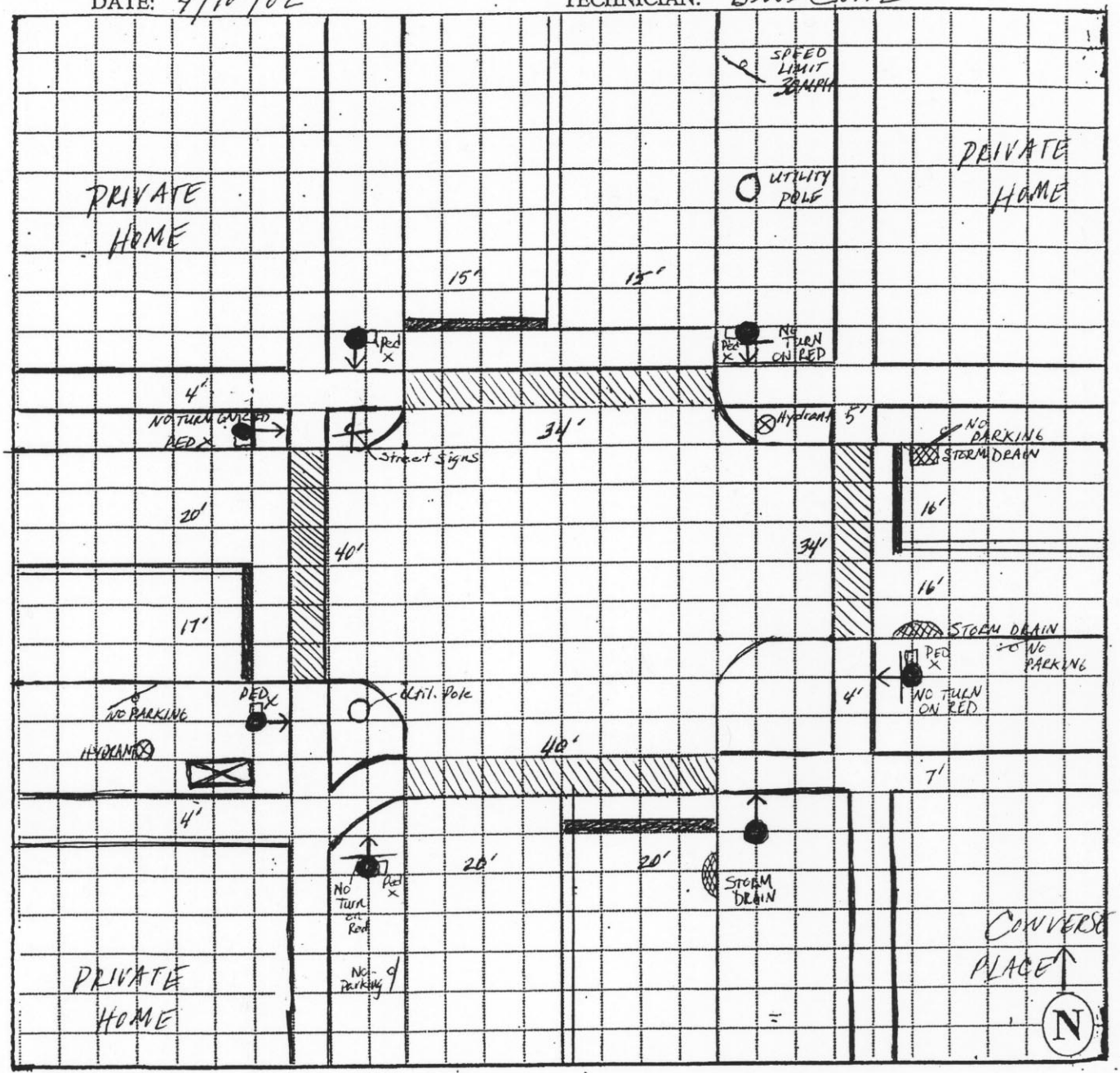
COMMENTS:

THINGS TO INCLUDE IN SKETCH:

___ Width	___ Signing	___ Pavement Markings	___ Lateral Obstructions	___ Illumination	___ Bus Stops
___ Curbing	___ Lane Use	___ Traffic Signals	___ Pavement Condition	___ Pedestrians	___ Offsets
___ Shoulders	___ Sidewalks	___ Approach Angles	___ Horizontal Alignment	___ Land Uses	___ Radii
___ Sight Distance	___ Parking	___ School Zones	___ Vertical Alignment	___ Catch Basins	___ Utilities

PVPC INTERSECTION SKETCH SHEET

DATE: 4/10/02 TECHNICIAN: B.W. Conz



COMMUNITY: Longmeadow LOCATION: Laurel and Converse

TYPE OF CURBING: Granite TYPE OF SIDEWALKS: Concrete

TYPE OF PAVEMENT: Bituminous Asphalt PAVEMENT CONDITION: Good

TRAFFIC CONTROL DEVICES:

DEFICIENCIES:

___ No Pavement Markings	___ No Traffic Control Devices	___ Geometry
___ Pavement Markings Faded	___ Poor Sight Distance	___ Signing
___ Other		

COMMENTS: Right, left and thru movements are legal from each approach. No turn on red from any approach.

THINGS TO INCLUDE IN SKETCH:

___ Width	___ Signing	___ Pavement Markings	___ Lateral Obstructions	___ Illumination	___ Bus Stops
___ Curbing	___ Lane Use	___ Traffic Signals	___ Pavement Condition	___ Pedestrians	___ Offsets
___ Shoulders	___ Sidewalks	___ Approach Angles	___ Horizontal Alignment	___ Land Uses	___ Radii
___ Sight Distance	___ Parking	___ School Zones	___ Vertical Alignment	___ Catch Basins	___ Utilities

Location :Longmeadow
Operator :DS,AM
Counter#:8849
Func. Class :U6
Street name :Forest Glen Cross street:E/O Route 5

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA, 01089
(413) 781-6045 www.pvpc.org

Site Code : 000000008849
Start Date: 11/05/2001
File I.D. : 8849

Begin Time	Mon. 11/05 EB	Mon. 11/05 WB	Tues. EB	Tues. WB	Wed. EB	Wed. WB	Thur. EB	Thur. WB	Fri. EB	Fri. WB	Weekday Avg. EB	Weekday Avg. WB	Sat. EB	Sat. WB	Sun. EB	Sun. WB
12:00 am	*	*	*	*	*	*	*	*	14	43	14	43	17	39	12	31
01:00	*	*	*	*	*	*	*	*	6	8	6	8	14	13	7	9
02:00	*	*	*	*	*	*	*	*	8	7	8	7	12	14	7	7
03:00	*	*	*	*	*	*	*	*	2	10	2	10	5	7	3	4
04:00	*	*	*	*	*	*	*	*	10	21	10	21	9	8	9	11
05:00	*	*	*	*	*	*	*	*	20	83	20	83	9	40	6	20
06:00	*	*	*	*	*	*	*	*	104	348	104	348	34	109	18	72
07:00	*	*	*	*	*	*	*	*	216	652	216	652	54	190	41	88
08:00	*	*	*	*	*	*	*	*	228	593	228	593	85	270	48	163
09:00	*	*	*	*	*	*	*	*	158	433	158	433	123	347	90	253
10:00	*	*	*	*	*	*	*	*	169	383	169	383	134	406	106	279
11:00	*	*	*	*	*	*	*	*	147	385	147	385	172	367	171	320
12:00 pm	*	*	*	*	*	*	128	452	159	417	144	434	157	376	126	368
01:00	*	*	*	*	*	*	143	424	159	417	151	420	171	358	165	349
02:00	*	*	*	*	*	*	260	537	263	582	262	560	168	331	139	304
03:00	*	*	*	*	*	*	497	550	315	643	406	596	161	373	141	320
04:00	*	*	*	*	*	*	357	600	335	565	346	582	169	337	116	301
05:00	*	*	*	*	*	*	424	581	327	504	376	542	119	304	106	222
06:00	*	*	*	*	*	*	163	470	122	425	142	448	108	344	86	226
07:00	*	*	*	*	*	*	95	223	85	262	90	242	76	213	62	156
08:00	*	*	*	*	*	*	85	124	65	116	75	120	61	109	37	111
09:00	*	*	*	*	*	*	63	119	55	111	59	115	47	85	29	67
10:00	*	*	*	*	*	*	44	74	37	92	40	83	50	93	28	56
11:00	*	*	*	*	*	*	37	57	29	76	33	66	42	64	21	44
Totals	0	0	0	0	0	0	2296	4211	3033	7176	3206	7174	1997	4797	1574	3781
	0		0		0		6507		10209		10380		6794		5355	
Avg. Day	.0%	.0%	.0%	.0%	.0%	.0%	71.6%	58.7%	94.6%	100.0%			62.2%	66.8%	49.1%	52.7%
AM Peaks									08:00	07:00	08:00	07:00	11:00	10:00	11:00	11:00
Volume									228	652	228	652	172	406	171	320
PM Peaks							03:00	04:00	04:00	03:00	03:00	03:00	01:00	12:00	01:00	12:00
Volume							497	600	335	643	406	596	171	376	165	368

Location :Longmeadow
Operator :DS,AM
Counter#:0997
Func. Class :U5
Street name :Converse Street Cross street:East of Route 5

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA. 01089-2787
(413) 781-6045 Email: www.PVPC.org

Site Code : 00000000884
Start Date: 11/05/2001
File I.D. : 8848

Begin	Mon. 11/05		Tues.		Wed.		Thur.		Fri.		Weekday Avg.		Sat.		Sun.	
Time	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 am	*	*	*	*	*	*	*	*	38	40	38	40	36	74	19	79
01:00	*	*	*	*	*	*	*	*	19	24	19	24	15	54	16	40
02:00	*	*	*	*	*	*	*	*	12	22	12	22	13	39	9	43
03:00	*	*	*	*	*	*	*	*	20	13	20	13	24	13	10	18
04:00	*	*	*	*	*	*	*	*	31	65	31	65	17	24	9	17
05:00	*	*	*	*	*	*	*	*	108	157	108	157	42	36	13	21
06:00	*	*	*	*	*	*	*	*	242	404	242	404	105	112	50	82
07:00	*	*	*	*	*	*	*	*	499	581	499	581	156	191	79	112
08:00	*	*	*	*	*	*	*	*	460	536	460	536	194	234	121	160
09:00	*	*	*	*	*	*	*	*	316	392	316	392	234	310	182	228
10:00	*	*	*	*	*	*	*	*	267	332	267	332	276	353	191	288
11:00	*	*	*	*	*	*	*	*	277	420	277	420	246	382	246	330
12:00 pm	*	*	*	*	*	*	*	*	261	461	261	461	252	404	226	402
01:00	*	*	*	*	*	*	245	477	313	498	279	488	217	385	242	398
02:00	*	*	*	*	*	*	286	597	339	619	312	608	212	420	221	431
03:00	*	*	*	*	*	*	461	638	436	668	448	653	256	374	207	441
04:00	*	*	*	*	*	*	369	688	354	686	362	687	219	403	227	450
05:00	*	*	*	*	*	*	371	666	345	642	358	654	200	389	186	354
06:00	*	*	*	*	*	*	244	505	220	411	232	458	210	304	137	256
07:00	*	*	*	*	*	*	163	413	177	308	170	360	148	257	128	247
08:00	*	*	*	*	*	*	150	343	136	269	142	306	115	217	77	185
09:00	*	*	*	*	*	*	105	315	105	256	105	286	79	226	65	142
10:00	*	*	*	*	*	*	87	172	100	232	94	202	91	229	48	118
11:00	*	*	*	*	*	*	91	84	88	144	90	114	75	180	53	90
Totals	0	0	0	0	0	0	2572	4898	5162	8180	5142	8263	3432	5610	2762	4932
	0		0		0		7470		13342		13405		9042		7694	
Avg. Day	.0%	.0%	.0%	.0%	.0%	.0%	50.0%	59.2%	100.3%	99.0%			66.7%	67.8%	53.7%	59.6%
AM Peaks									07:00	07:00	07:00	07:00	10:00	11:00	11:00	11:00
Volume									499	581	499	581	276	382	246	330
PM Peaks							03:00	04:00	03:00	04:00	03:00	04:00	03:00	02:00	01:00	04:00
Volume							461	688	436	686	448	687	256	420	242	450

Location :Longmeadow
Operator :DS,AM
Counter#:1220
Func. Class :U5
Street name :Bliss Rd Cross street:E/ORoute 5

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA. 01089-2787
(413) 781-6045 Email: www.PVPC.org

Site Code : 00000000884
Start Date: 11/05/2001
File I.D. : 8847

Begin Time	Mon. 11/05 EB	Mon. 11/05 WB	Tues. EB	Tues. WB	Wed. EB	Wed. WB	Thur. EB	Thur. WB	Fri. EB	Fri. WB	Weekday EB	Weekday WB	Avg. EB	Avg. WB	Sat. EB	Sat. WB	Sun. EB	Sun. WB
12:00 am	*	*	*	*	*	*	*	*	13	6	13	6	14	14	20	12		
01:00	*	*	*	*	*	*	*	*	3	6	3	6	18	7	4	7		
02:00	*	*	*	*	*	*	*	*	5	3	5	3	12	5	8	6		
03:00	*	*	*	*	*	*	*	*	0	2	0	2	3	2	1	0		
04:00	*	*	*	*	*	*	*	*	8	8	8	8	5	4	7	1		
05:00	*	*	*	*	*	*	*	*	20	16	20	16	15	6	8	2		
06:00	*	*	*	*	*	*	*	*	92	67	92	67	33	24	16	13		
07:00	*	*	*	*	*	*	*	*	210	151	210	151	45	77	44	67		
08:00	*	*	*	*	*	*	*	*	219	157	219	157	115	86	104	91		
09:00	*	*	*	*	*	*	*	*	127	133	127	133	154	156	143	95		
10:00	*	*	*	*	*	*	*	*	171	161	171	161	205	201	159	135		
11:00	*	*	*	*	*	*	*	*	209	191	209	191	200	228	205	207		
12:00 pm	*	*	*	*	*	*	*	*	217	199	217	199	214	202	186	179		
01:00	*	*	*	*	*	*	218	157	203	177	210	167	174	183	147	168		
02:00	*	*	*	*	*	*	285	222	294	206	290	214	200	157	158	133		
03:00	*	*	*	*	*	*	258	226	269	226	264	226	189	190	148	122		
04:00	*	*	*	*	*	*	243	181	238	176	240	178	208	158	152	121		
05:00	*	*	*	*	*	*	230	176	240	193	235	184	152	174	123	104		
06:00	*	*	*	*	*	*	187	115	148	126	168	120	186	116	109	106		
07:00	*	*	*	*	*	*	106	89	124	137	115	113	95	110	75	52		
08:00	*	*	*	*	*	*	110	62	133	88	122	75	77	54	75	53		
09:00	*	*	*	*	*	*	68	49	83	63	76	56	63	50	36	37		
10:00	*	*	*	*	*	*	49	25	80	45	64	35	62	42	26	24		
11:00	*	*	*	*	*	*	17	17	21	26	19	22	39	29	18	25		
Totals	0	0	0	0	0	0	1771	1319	3127	2563	3097	2490	2478	2275	1972	1760		
	0		0		0		3090		5690		5587		4753		3732			
Avg. Day	.0%	.0%	.0%	.0%	.0%	.0%	57.1%	52.9%	100.9%	102.9%			80.0%	91.3%	63.6%	70.6%		
AM Peaks									08:00	11:00	08:00	11:00	10:00	11:00	11:00	11:00		
Volume									219	191	219	191	205	228	205	207		
PM Peaks							02:00	03:00	02:00	03:00	02:00	03:00	12:00	12:00	12:00	12:00		
Volume							285	226	294	226	290	226	214	202	186	179		

Location :Longmeadow
Operator :DS,AM
Counter#:1221
Func. Class :U5
Street name :Williams Street Cross street:E/O Route 5

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA. 01089-2787
(413) 781-6045 Email: www.PVPC.org

Site Code : 000000088
Start Date: 11/05/2003
File I.D. : 8846
Page : 1

Begin	Mon. 11/05		Tues.		Wed.		Thur.		Fri.		Weekday Avg.		Sat.		Sun.	
Time	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 am	*	*	*	*	*	*	*	*	10	26	10	26	10	39	17	50
01:00	*	*	*	*	*	*	*	*	4	13	4	13	13	19	11	20
02:00	*	*	*	*	*	*	*	*	5	9	5	9	5	9	6	9
03:00	*	*	*	*	*	*	*	*	3	7	3	7	6	5	8	6
04:00	*	*	*	*	*	*	*	*	11	8	11	8	3	8	5	3
05:00	*	*	*	*	*	*	*	*	33	29	33	29	13	16	9	7
06:00	*	*	*	*	*	*	*	*	122	124	122	124	28	32	19	35
07:00	*	*	*	*	*	*	*	*	266	268	266	268	89	85	51	48
08:00	*	*	*	*	*	*	*	*	241	314	241	314	179	146	88	93
09:00	*	*	*	*	*	*	*	*	176	200	176	200	201	252	153	136
10:00	*	*	*	*	*	*	*	*	163	218	163	218	217	294	142	145
11:00	*	*	*	*	*	*	*	*	162	269	162	269	238	295	149	239
12:00 pm	*	*	*	*	*	*	*	*	218	290	218	290	226	311	194	232
01:00	*	*	*	*	*	*	156	272	153	259	154	266	194	308	171	213
02:00	*	*	*	*	*	*	225	370	264	440	244	405	156	251	125	206
03:00	*	*	*	*	*	*	263	423	257	415	260	419	201	276	168	230
04:00	*	*	*	*	*	*	208	417	226	412	217	414	140	278	123	258
05:00	*	*	*	*	*	*	212	484	176	409	194	446	155	243	129	203
06:00	*	*	*	*	*	*	171	309	137	294	154	302	113	213	104	154
07:00	*	*	*	*	*	*	122	218	124	190	123	204	91	108	71	138
08:00	*	*	*	*	*	*	80	171	71	142	76	156	55	99	46	109
09:00	*	*	*	*	*	*	62	141	67	163	64	152	60	131	46	83
10:00	*	*	*	*	*	*	27	77	51	112	39	94	46	152	29	69
11:00	*	*	*	*	*	*	22	43	29	59	26	51	33	93	23	36
Totals	0	0	0	0	0	0	1548	2925	2969	4670	2965	4684	2472	3663	1887	2722
	0		0		0		4473		7639		7649		6135		4609	
Avg. Day	.0%	.0%	.0%	.0%	.0%	.0%	52.2%	62.4%	100.1%	99.7%			83.3%	78.2%	63.6%	58.1%
AM Peaks									07:00	08:00	07:00	08:00	11:00	11:00	09:00	11:00
Volume									266	314	266	314	238	295	153	239
PM Peaks							03:00	05:00	02:00	02:00	03:00	05:00	12:00	12:00	12:00	04:00
Volume							263	484	264	440	260	446	226	311	194	258

Location :Longmeadow
Operator :DS,AM
Counter#:1223
Func. Class :U4
Street name :Route 5 Cross street:S/O Forest Glen Road

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA. 01089-2787
(413) 781-6045 Email: www.PVPC.org

Site Code : 000000008850
Start Date: 11/12/2001
File I.D. : 8850

Begin	Mon. 11/12		Tues.		Wed.		Thur.		Fri.		Weekday Avg.		Sat.		Sun.	
Time	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
12:00 am	*	*	*	*	*	*	*	*	67	39	67	39	142	52	220	49
01:00	*	*	*	*	*	*	*	*	45	25	45	25	92	32	109	35
02:00	*	*	*	*	*	*	*	*	49	18	49	18	74	33	72	15
03:00	*	*	*	*	*	*	*	*	31	21	31	21	30	19	36	11
04:00	*	*	*	*	*	*	*	*	97	39	97	39	54	25	37	16
05:00	*	*	*	*	*	*	*	*	205	139	205	139	74	78	50	37
06:00	*	*	*	*	*	*	*	*	771	400	771	400	271	160	113	87
07:00	*	*	*	*	*	*	*	*	1000	784	1000	784	433	261	176	126
08:00	*	*	*	*	*	*	*	*	892	782	892	782	457	343	283	206
09:00	*	*	*	*	*	*	*	*	713	498	713	498	643	422	397	256
10:00	*	*	*	*	*	*	*	*	760	486	760	486	751	502	458	325
11:00	*	*	*	*	*	*	*	*	843	518	843	518	793	501	620	391
12:00 pm	*	*	*	*	*	*	*	*	891	602	891	602	877	520	762	413
01:00	*	*	*	*	*	*	*	*	1010	475	1010	475	777	453	778	356
02:00	*	*	*	*	*	*	*	*	1272	603	1272	603	845	441	783	393
03:00	*	*	*	*	*	*	*	*	1258	755	1258	755	898	480	834	311
04:00	*	*	*	*	*	*	1271	611	1322	658	1296	634	880	448	823	389
05:00	*	*	*	*	*	*	1290	552	1343	582	1316	567	728	428	662	298
06:00	*	*	*	*	*	*	1032	425	925	422	978	424	634	439	546	214
07:00	*	*	*	*	*	*	751	279	720	287	736	283	554	242	440	153
08:00	*	*	*	*	*	*	616	232	524	194	570	213	383	158	321	123
09:00	*	*	*	*	*	*	441	185	499	175	470	180	436	141	228	87
10:00	*	*	*	*	*	*	346	168	437	254	392	211	468	179	194	71
11:00	*	*	*	*	*	*	184	114	220	135	202	124	332	123	106	67
Totals	0	0	0	0	0	0	5931	2566	15894	8891	15864	8820	11626	6480	9048	4429
	0		0		0		8497		24785		24684		18106		13477	
Avg. Day	.0%	.0%	.0%	.0%	.0%	.0%	37.3%	29.0%	100.1%	100.8%			73.2%	73.4%	57.0%	50.2%
AM Peaks									07:00	07:00	07:00	07:00	11:00	10:00	11:00	11:00
Volume									1000	784	1000	784	793	502	620	391
PM Peaks							05:00	04:00	05:00	03:00	05:00	03:00	03:00	12:00	03:00	12:00
Volume							1290	611	1343	755	1316	755	898	520	834	413

Location :Longmeadow
Operator :AM,DM
Counter#:1067
Func. Class :U4
Street name :Route 5 Cross street:S/O Converse St.

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA. 01089-2787
(413) 781-6045 Email: www.PVPC.org

Site Code : 000000008843
Start Date: 10/29/2001
File I.D. : 8843

Begin	Mon. 10/29		Tues.		Wed.		Thur.		Fri.		Weekday Avg.		Sat.		Sun.	
Time	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
12:00 am	*	*	*	*	*	*	*	*	32	30	32	30	53	59	63	77
01:00	*	*	*	*	*	*	*	*	22	29	22	29	35	39	27	34
02:00	*	*	*	*	*	*	*	*	20	34	20	34	29	25	28	33
03:00	*	*	*	*	*	*	*	*	11	9	11	9	16	13	15	15
04:00	*	*	*	*	*	*	*	*	9	33	9	33	13	14	14	12
05:00	*	*	*	*	*	*	*	*	59	65	59	65	29	31	19	22
06:00	*	*	*	*	*	*	*	*	260	260	260	260	123	121	48	42
07:00	*	*	*	*	*	*	*	*	484	552	484	552	247	240	93	95
08:00	*	*	*	*	*	*	*	*	562	640	562	640	274	290	207	123
09:00	*	*	*	*	*	*	*	*	464	443	464	443	426	329	340	238
10:00	*	*	*	*	*	*	*	*	419	420	419	420	486	433	343	243
11:00	*	*	*	*	*	*	420	476	455	515	438	496	551	488	451	367
12:00 pm	*	*	*	*	*	*	503	504	495	451	499	478	603	582	432	386
01:00	*	*	*	*	*	*	402	446	542	542	472	494	479	462	472	430
02:00	*	*	*	*	*	*	572	716	563	771	568	744	493	478	441	368
03:00	*	*	*	*	*	*	722	952	722	1026	722	989	436	539	418	418
04:00	*	*	*	*	*	*	547	772	573	770	560	771	529	576	415	447
05:00	*	*	*	*	*	*	602	867	653	902	628	884	473	446	300	402
06:00	*	*	*	*	*	*	410	522	566	592	488	557	494	410	246	285
07:00	*	*	*	*	*	*	272	333	302	315	287	324	268	255	204	222
08:00	*	*	*	*	*	*	225	247	203	224	214	236	193	205	128	147
09:00	*	*	*	*	*	*	174	219	198	279	186	249	191	221	92	98
10:00	*	*	*	*	*	*	118	125	174	160	146	142	160	264	67	66
11:00	*	*	*	*	*	*	58	66	111	99	84	82	126	108	59	62
Totals	0	0	0	0	0	0	5025	6245	7899	9161	7634	8961	6727	6628	4922	4632
	0		0		0		11270		17060		16595		13355		9554	
Avg. Day	.0%	.0%	.0%	.0%	.0%	.0%	65.8%	69.6%	103.4%	102.2%			88.1%	73.9%	64.4%	51.6%
AM Peaks							11:00	11:00	08:00	08:00	08:00	08:00	11:00	11:00	11:00	11:00
Volume							420	476	562	640	562	640	551	488	451	367
PM Peaks							03:00	03:00	03:00	03:00	03:00	03:00	12:00	12:00	01:00	04:00
Volume							722	952	722	1026	722	989	603	582	472	447

Location :Longmeadow
Operator :DM, AM
Counter#:0996
Func. Class : U4
Street name :Route 5 Cross street:S/O bliss RD

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA. 01089-2787
(413) 781-6045 Email: www.PVPC.org

Site Code : 000000008844
Start Date: 10/29/2001
File I.D. : 8844
Page : 1

Begin Time	Mon. 10/29 NB	Mon. 10/29 SB	Tues. NB	Tues. SB	Wed. NB	Wed. SB	Thur. NB	Thur. SB	Fri. NB	Fri. SB	Weekday Avg. NB	Weekday Avg. SB	Sat. NB	Sat. SB	Sun. NB	Sun. SB
12:00 am	*	*	*	*	*	*	*	*	23	22	23	22	56	42	62	56
01:00	*	*	*	*	*	*	*	*	15	17	15	17	22	39	30	32
02:00	*	*	*	*	*	*	*	*	12	21	12	21	18	21	19	32
03:00	*	*	*	*	*	*	*	*	11	9	11	9	14	10	12	8
04:00	*	*	*	*	*	*	*	*	15	26	15	26	15	16	9	12
05:00	*	*	*	*	*	*	*	*	38	49	38	49	22	21	11	15
06:00	*	*	*	*	*	*	*	*	133	191	133	191	83	103	33	30
07:00	*	*	*	*	*	*	*	*	291	362	291	362	140	255	94	82
08:00	*	*	*	*	*	*	*	*	477	503	477	503	220	234	156	146
09:00	*	*	*	*	*	*	*	*	323	357	323	357	311	291	272	207
10:00	*	*	*	*	*	*	*	*	315	314	315	314	347	333	298	260
11:00	*	*	*	*	*	*	*	*	380	387	380	387	422	411	358	354
12:00 pm	*	*	*	*	*	*	374	375	371	396	372	386	464	453	328	388
01:00	*	*	*	*	*	*	345	342	393	377	369	360	395	391	363	405
02:00	*	*	*	*	*	*	496	506	486	545	491	526	419	437	351	333
03:00	*	*	*	*	*	*	501	470	496	529	498	500	382	436	349	316
04:00	*	*	*	*	*	*	482	486	459	505	470	496	428	481	349	367
05:00	*	*	*	*	*	*	499	570	529	522	514	546	421	394	269	329
06:00	*	*	*	*	*	*	391	402	465	394	428	398	398	302	220	228
07:00	*	*	*	*	*	*	264	282	241	283	252	282	234	221	164	187
08:00	*	*	*	*	*	*	213	203	196	199	204	201	177	179	104	120
09:00	*	*	*	*	*	*	181	180	184	271	182	226	170	191	87	85
10:00	*	*	*	*	*	*	104	102	145	119	124	110	154	191	49	51
11:00	*	*	*	*	*	*	46	48	84	85	65	66	115	81	44	51
Totals	0	0	0	0	0	0	3896	3966	6082	6483	6002	6355	5427	5533	4031	4094
	0		0		0		7862		12565		12357		10960		8125	
Avg. Day	.0%	.0%	.0%	.0%	.0%	.0%	64.9%	62.4%	101.3%	102.0%			90.4%	87.0%	67.1%	64.4%
AM Peaks									08:00	08:00	08:00	08:00	11:00	11:00	11:00	11:00
Volume									477	503	477	503	422	411	358	354
PM Peaks							03:00	05:00	05:00	02:00	05:00	05:00	12:00	04:00	01:00	01:00
Volume							501	570	529	545	514	546	464	481	363	405

...on :Longmeadow
...tor :DS,AM
...ter#:1067
...c. Class :U4
Street name :Route 5 Cross street:S/OWilliams Street

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA. 01089-2787
(413) 781-6045 Email: www.PVPC.org

Site Code : 000000008845
Start Date: 11/05/2001
File I.D. : 8845
Page : 1

Begin	Mon. 11/05		Tues.		Wed.		Thur.		Fri.		Weekday		Avg.		Sat.		Sun.	
Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 am	*	*	*	*	*	*	*	*	35	33	35	33	59	25	44	29		
01:00	*	*	*	*	*	*	*	*	20	10	20	10	45	20	29	15		
02:00	*	*	*	*	*	*	*	*	15	11	15	11	18	8	19	13		
03:00	*	*	*	*	*	*	*	*	9	5	9	5	11	8	11	10		
04:00	*	*	*	*	*	*	*	*	18	15	18	15	10	7	7	7		
05:00	*	*	*	*	*	*	*	*	47	55	47	55	32	20	10	11		
06:00	*	*	*	*	*	*	*	*	179	165	179	165	93	43	46	29		
07:00	*	*	*	*	*	*	*	*	390	304	390	304	205	103	115	51		
08:00	*	*	*	*	*	*	*	*	365	451	365	451	324	149	223	133		
09:00	*	*	*	*	*	*	*	*	376	235	376	235	417	205	289	135		
10:00	*	*	*	*	*	*	*	*	333	246	333	246	444	282	344	157		
11:00	*	*	*	*	*	*	*	*	372	309	372	309	437	315	417	275		
12:00 pm	*	*	*	*	*	*	*	*	429	344	429	344	473	335	483	353		
01:00	*	*	*	*	*	*	*	*	403	263	403	263	504	287	461	285		
02:00	*	*	*	*	*	*	433	417	518	386	476	402	466	253	436	222		
03:00	*	*	*	*	*	*	519	320	602	308	560	314	505	274	499	254		
04:00	*	*	*	*	*	*	520	300	582	338	551	319	446	323	475	245		
05:00	*	*	*	*	*	*	657	334	617	295	637	314	447	274	364	230		
06:00	*	*	*	*	*	*	502	242	501	248	502	245	356	252	280	156		
07:00	*	*	*	*	*	*	328	162	353	163	340	162	258	154	236	95		
08:00	*	*	*	*	*	*	230	138	238	167	234	152	188	107	185	91		
09:00	*	*	*	*	*	*	199	113	237	130	218	122	211	120	155	81		
10:00	*	*	*	*	*	*	109	58	155	72	132	65	197	108	77	48		
11:00	*	*	*	*	*	*	73	33	90	43	82	38	137	54	62	37		
Totals	0	0	0	0	0	0	3570	2117	6884	4596	6723	4579	6283	3726	5267	2962		
	0		0		0		5687		11480		11302		10009		8229			
Avg. Day	.0%	.0%	.0%	.0%	.0%	.0%	53.1%	46.2%	102.3%	100.3%			93.4%	81.3%	78.3%	64.6%		
AM Peaks									07:00	08:00	07:00	08:00	10:00	11:00	11:00	11:00		
Volume									390	451	390	451	444	315	417	275		
PM Peaks							05:00	02:00	05:00	02:00	05:00	02:00	03:00	12:00	03:00	12:00		
Volume							657	417	617	386	637	402	505	335	499	353		

Location : Longmeadow
Operator : AM BC
Counter # : 1221
Fun. Class : U5
Street name :Laurel Street Cross street:S/O Converse A to B

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA 01089-2787
(413)781-6045 Email : www.pvpc.org

Site Code : 000000008864
Start Date: 04/22/2002
File I.D. : 8864V

Begin Time	Mon. 04/22 NB	SB	Tues. NB	SB	Wed. NB	SB	Thur. NB	SB	Fri. NB	SB	Weekday Avg. NB	SB	Sat. NB	SB	Sun. NB	SB
12:00 am	*	*	*	*	36	6	27	6	*	*	32	6	*	*	*	*
01:00	*	*	*	*	2	2	3	4	*	*	2	3	*	*	*	*
02:00	*	*	*	*	4	1	1	4	*	*	2	2	*	*	*	*
03:00	*	*	*	*	5	0	5	3	*	*	5	2	*	*	*	*
04:00	*	*	*	*	10	5	15	3	*	*	12	4	*	*	*	*
05:00	*	*	*	*	43	19	51	22	*	*	47	20	*	*	*	*
06:00	*	*	*	*	192	88	196	94	*	*	194	91	*	*	*	*
07:00	*	*	*	*	419	167	439	155	*	*	429	161	*	*	*	*
08:00	*	*	*	*	494	152	475	143	*	*	484	148	*	*	*	*
09:00	*	*	*	*	248	92	283	82	*	*	266	87	*	*	*	*
10:00	*	*	*	*	203	99	211	99	*	*	207	99	*	*	*	*
11:00	*	*	*	*	235	125	253	119	*	*	244	122	*	*	*	*
12:00 pm	*	*	*	*	260	95	223	104	*	*	242	100	*	*	*	*
01:00	*	*	*	*	243	91	263	122	*	*	253	106	*	*	*	*
02:00	*	*	*	*	346	169	374	171	*	*	360	170	*	*	*	*
03:00	*	*	*	*	363	165	*	*	*	*	363	165	*	*	*	*
04:00	*	*	385	164	354	182	*	*	*	*	370	173	*	*	*	*
05:00	*	*	358	222	330	228	*	*	*	*	344	225	*	*	*	*
06:00	*	*	247	120	289	130	*	*	*	*	268	125	*	*	*	*
07:00	*	*	195	92	205	114	*	*	*	*	200	103	*	*	*	*
08:00	*	*	103	75	118	66	*	*	*	*	110	70	*	*	*	*
09:00	*	*	89	41	118	65	*	*	*	*	104	53	*	*	*	*
10:00	*	*	56	34	52	29	*	*	*	*	54	32	*	*	*	*
11:00	*	*	34	13	47	12	*	*	*	*	40	12	*	*	*	*
Totals	0	0	1467	761	4616	2102	2819	1131	0	0	4632	2079	0	0	0	0
	0		2228		6718		3950		0		6711		0		0	
Avg. Day	.0%	.0%	31.6%	36.6%	99.6%	101.1%	60.8%	54.4%	.0%	.0%			.0%	.0%	.0%	.0%
AM Peaks					08:00	07:00	08:00	07:00			08:00	07:00				
Volume					494	167	475	155			484	161				
PM Peaks			04:00	05:00	03:00	05:00	02:00	02:00			04:00	05:00				
Volume			385	222	363	228	374	171			370	225				

ADTs

Location :Longmeadow
Operator :BC, AM
Counter # :1222
Fun. Class :U5
Street name :Laurel St. Cross street:S/O Bliss Road

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA 01089-2787
(413)781-6045 Email : www.pvpc.org

A to B

Site Code : 000000008865
Start Date: 04/22/2002
File I.D. : 8865V

Begin	Mon. 04/22		Tues.		Wed.		Thur.		Fri.		Weekday Avg.		Sat.		Sun.	
Time	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
12:00 am	*	*	*	*	6	28	4	20	*	*	5	24	*	*	*	*
01:00	*	*	*	*	1	2	4	1	*	*	2	2	*	*	*	*
02:00	*	*	*	*	2	3	5	2	*	*	4	2	*	*	*	*
03:00	*	*	*	*	2	3	4	3	*	*	3	3	*	*	*	*
04:00	*	*	*	*	4	9	5	14	*	*	4	12	*	*	*	*
05:00	*	*	*	*	20	35	23	40	*	*	22	38	*	*	*	*
06:00	*	*	*	*	97	152	92	143	*	*	94	148	*	*	*	*
07:00	*	*	*	*	142	309	150	318	*	*	146	314	*	*	*	*
08:00	*	*	*	*	139	346	156	308	*	*	148	327	*	*	*	*
09:00	*	*	*	*	90	158	104	181	*	*	97	170	*	*	*	*
10:00	*	*	*	*	107	142	104	173	*	*	106	158	*	*	*	*
11:00	*	*	*	*	189	157	157	189	*	*	173	173	*	*	*	*
12:00 pm	*	*	*	*	124	184	122	159	*	*	123	172	*	*	*	*
01:00	*	*	*	*	125	173	143	158	*	*	134	166	*	*	*	*
02:00	*	*	*	*	199	255	180	283	*	*	190	269	*	*	*	*
03:00	*	*	*	*	200	339	*	*	*	*	200	339	*	*	*	*
04:00	*	*	216	232	187	242	*	*	*	*	202	237	*	*	*	*
05:00	*	*	236	233	240	258	*	*	*	*	238	246	*	*	*	*
06:00	*	*	150	190	159	199	*	*	*	*	154	194	*	*	*	*
07:00	*	*	132	126	126	172	*	*	*	*	129	149	*	*	*	*
08:00	*	*	91	80	82	85	*	*	*	*	86	82	*	*	*	*
09:00	*	*	57	67	65	71	*	*	*	*	61	69	*	*	*	*
10:00	*	*	36	40	34	28	*	*	*	*	35	34	*	*	*	*
11:00	*	*	17	25	8	32	*	*	*	*	12	28	*	*	*	*
Totals	0	0	935	993	2348	3382	1253	1992	0	0	2368	3356	0	0	0	0
	0		1928		5730		3245		0		5724		0		0	
Avg. Day	.0%	.0%	39.4%	29.5%	99.1%	100.7%	52.9%	59.3%	.0%	.0%			.0%	.0%	.0%	.0%
AM Peaks					11:00	08:00	11:00	07:00			11:00	08:00				
Volume					189	346	157	318			173	327				
PM Peaks			05:00	05:00	05:00	03:00	02:00	02:00			05:00	03:00				
Volume			236	233	240	339	180	283			238	339				

ADTs

*PHF

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA 01089
(413) 781-6045 www.pvpc.org

Location : Longmeadow
Counter # : 0846
Operator : BWC
Fun. Class : U4

File Name : 5192am
Site Code : 00005192
Start Date : 02/21/2002
Page No : 1

Groups Printed- Unshifted

	Route 5 From North				Forest Glen From East				Route 5 From South				Western From West			
Start Time	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Right	Thru	Left	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	117	7	10	117	0	0	1	0	162	0	3	0	0	3	420
07:15 AM	0	147	6	10	136	0	1	0	0	174	4	5	0	0	5	488
07:30 AM	1	199	17	9	137	0	1	1	1	221	0	4	0	0	3	594
07:45 AM	5	221	24	10	143	0	0	3	0	223	0	3	0	0	6	638
Total	6	684	54	39	533	0	2	5	1	780	4	15	0	0	17	2140
08:00 AM	1	176	16	5	109	0	0	3	0	200	0	4	0	0	8	522
08:15 AM	2	158	15	7	133	1	0	2	0	216	2	4	0	0	9	549
08:30 AM	4	136	17	7	122	0	1	3	1	158	0	3	0	1	14	467
08:45 AM	0	157	20	16	154	0	0	1	0	169	0	10	1	0	9	537
Total	7	627	68	35	518	1	1	9	1	743	2	21	1	1	40	2075
Grand Total	13	1311	122	74	1051	1	3	14	2	1523	6	36	1	1	57	4215
Apprch %	0.9	86.3	8.0	4.9	98.3	0.1	0.3	1.3	0.1	97.2	0.4	2.3	1.7	1.7	96.6	
Total %	0.3	31.1	2.9	1.8	24.9	0.0	0.1	0.3	0.0	36.1	0.1	0.9	0.0	0.0	1.4	

	Route 5 From North					Forest Glen From East					Route 5 From South					Western From West				
Start Time	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																				
Intersection	07:30 AM																			
Volume	9	754	72	31	866	522	1	1	9	533	1	860	2	15	878	0	0	26	26	2303
Percent	1.0	87.1	8.3	3.6		97.9	0.2	0.2	1.7		0.1	97.9	0.2	1.7		0.0	0.0	100.0		
07:45 Volume	5	221	24	10	260	143	0	0	3	146	0	223	0	3	226	0	0	6	6	638
Peak Factor																				0.902
High Int.	07:45 AM					07:45 AM					07:30 AM					08:15 AM				
Volume	5	221	24	10	260	143	0	0	3	146	1	221	0	4	226	0	0	9	9	
Peak Factor					0.833					0.913					0.971				0.722	

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA 01089
(413) 781-6045 www.pvpc.org

Location : Longmeadow
Counter # : 0944
Operator : BWC
Fun. Class : U4

File Name : 5193am
Site Code : 00005193
Start Date : 02/27/2002
Page No : 1

Groups Printed- Unshifted

	Route 5 From North				Converse From East				Route 5 From South			Englewood From West				
Start Time	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Right	Thru	Truck	Right	Thru	Left	Truck	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	71	97	9	81	1	5	7	3	61	1	0	1	4	0	341
07:15 AM	0	106	107	5	105	2	8	7	4	105	1	2	3	4	0	459
07:30 AM	0	119	118	4	100	2	7	5	8	110	2	2	4	8	0	489
07:45 AM	0	110	149	11	83	1	12	2	4	89	2	2	2	7	0	474
Total	0	406	471	29	369	6	32	21	19	365	6	6	10	23	0	1763
08:00 AM	0	108	107	11	98	2	10	7	8	78	4	0	3	4	1	441
08:15 AM	2	115	95	9	92	1	16	5	12	87	2	2	3	6	0	447
08:30 AM	0	94	89	9	88	0	19	10	8	119	5	0	4	4	0	449
08:45 AM	1	93	77	11	82	0	16	7	6	102	4	0	0	5	1	405
Total	3	410	368	40	360	3	61	29	34	386	15	2	10	19	2	1742
Grand Total	3	816	839	69	729	9	93	50	53	751	21	8	20	42	2	3505
Apprch %	0.2	47.2	48.6	4.0	82.7	1.0	10.6	5.7	6.4	91.0	2.5	11.1	27.8	58.3	2.8	
Total %	0.1	23.3	23.9	2.0	20.8	0.3	2.7	1.4	1.5	21.4	0.6	0.2	0.6	1.2	0.1	

	Route 5 From North					Converse From East					Route 5 From South				Englewood From West					
Start Time	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Right	Thru	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																				
Intersection	07:15 AM																			
Volume	0	443	481	31	955	386	7	37	21	451	24	382	9	415	6	12	23	1	42	1863
Percent	0.0	46.4	50.4	3.2		85.6	1.6	8.2	4.7		5.8	92.0	2.2		14.3	28.6	54.8	2.4		
07:30 Volume	0	119	118	4	241	100	2	7	5	114	8	110	2	120	2	4	8	0	14	489
Peak Factor																				0.952
High Int.	07:45 AM					07:15 AM					07:30 AM				07:30 AM					
Volume	0	110	149	11	270	105	2	8	7	122	8	110	2	120	2	4	8	0	14	
Peak Factor					0.884					0.924				0.865					0.750	

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA 01089
(413) 781-6045 www.pvpc.org

Location : Longmeadow
Counter # : 0944
Operator : BWC
Fun. Class : U4

File Name : 5194am
Site Code : 00005194
Start Date : 02/28/2002
Page No : 1

Groups Printed- Unshifted

	Route 5 From North				Bliss From East				Route 5 From South				Emerson From West				
Start Time	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	5	52	24	4	16	3	16	0	6	36	1	0	4	4	4	0	175
07:15 AM	4	65	35	2	21	3	16	2	9	55	0	3	4	3	6	1	229
07:30 AM	1	86	44	0	28	7	19	2	11	76	2	1	2	5	3	0	287
07:45 AM	1	87	34	6	15	2	9	0	3	40	2	1	2	5	6	1	214
Total	11	290	137	12	80	15	60	4	29	207	5	5	12	17	19	2	905
08:00 AM	3	96	31	2	7	2	19	1	8	62	0	3	3	5	5	3	250
08:15 AM	0	115	40	6	24	3	24	1	11	76	2	6	7	6	5	2	328
08:30 AM	9	130	20	3	18	2	19	2	10	126	5	5	3	7	6	1	366
08:45 AM	4	62	33	3	25	2	17	1	6	84	3	2	6	3	4	0	255
Total	16	403	124	14	74	9	79	5	35	348	10	16	19	21	20	6	1199
Grand Total	27	693	261	26	154	24	139	9	64	555	15	21	31	38	39	8	2104
Apprch %	2.7	68.8	25.9	2.6	47.2	7.4	42.6	2.8	9.8	84.7	2.3	3.2	26.7	32.8	33.6	6.9	
Total %	1.3	32.9	12.4	1.2	7.3	1.1	6.6	0.4	3.0	26.4	0.7	1.0	1.5	1.8	1.9	0.4	

	Route 5 From North					Bliss From East					Route 5 From South					Emerson From West					
Start Time	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Intersection	08:00 AM																				
Volume	16	403	124	14	557	74	9	79	5	167	35	348	10	16	409	19	21	20	6	66	1199
Percent	2.9	72.4	22.3	2.5		44.3	5.4	47.3	3.0		8.6	85.1	2.4	3.9		28.8	31.8	30.3	9.1		
08:30 Volume	9	130	20	3	162	18	2	19	2	41	10	126	5	5	146	3	7	6	1	17	366
Peak Factor																					0.819
High Int.	08:30 AM					08:15 AM					08:30 AM					08:15 AM					
Volume	9	130	20	3	162	24	3	24	1	52	10	126	5	5	146	7	6	5	2	20	
Peak Factor					0.860					0.803					0.700					0.825	

Pioneer Valley Planning Commission
26 Central Street
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Location :Longmeadow
Counter # :0945
Operator :ABM
Fun. Class :U4

File Name : 5196ameast - /
Site Code : 00005196
Start Date : 03/14/2002
Page No : 1

Groups Printed- Unshifted

	Route 5 East From North				Williams From East				Route 5 East From South				Williams From West				
Start Time	Right	Thru	Left	Trucks	Right	Thru	Left	Trucks	Right	Thru	Left	Trucks	Right	Thru	Left	Trucks	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	0	8	0	7	42	3	2	6	8	0	0	2	42	0	3	123
07:15 AM	0	1	2	0	7	51	2	1	4	9	1	0	1	62	0	3	144
07:30 AM	0	0	6	1	14	65	9	2	9	6	0	0	5	58	1	2	178
07:45 AM	2	0	10	1	12	52	4	1	8	6	0	2	6	48	0	2	154
Total	2	1	26	2	40	210	18	6	27	29	1	2	14	210	1	10	599
08:00 AM	2	0	6	3	11	40	2	1	9	15	1	0	1	41	0	1	133
08:15 AM	2	0	11	0	7	51	0	0	34	27	23	2	0	42	3	0	202
08:30 AM	2	0	16	1	18	37	0	1	52	46	47	0	0	49	0	2	271
08:45 AM	3	0	16	2	11	34	0	1	16	16	2	2	0	38	0	1	142
Total	9	0	49	6	47	162	2	3	111	104	73	4	1	170	3	4	748
Grand Total	11	1	75	8	87	372	20	9	138	133	74	6	15	380	4	14	1347
Apprch %	11.6	1.1	78.9	8.4	17.8	76.2	4.1	1.8	39.3	37.9	21.1	1.7	3.6	92.0	1.0	3.4	
Total %	0.8	0.1	5.6	0.6	6.5	27.6	1.5	0.7	10.2	9.9	5.5	0.4	1.1	28.2	0.3	1.0	

	Route 5 East From North					Williams From East					Route 5 East From South					Williams From West					
Start Time	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Intersection	07:45 AM																				
Volume	8	0	43	5	56	48	180	6	3	237	103	94	71	4	272	7	180	3	5	195	760
Percent	14.3	0.0	76.8	8.9		20.3	75.9	2.5	1.3		37.9	34.6	26.1	1.5		3.6	92.3	1.5	2.6		
08:30 Volume	2	0	16	1	19	18	37	0	1	56	52	46	47	0	145	0	49	0	2	51	271
Peak Factor																					0.701
High Int.	08:30 AM					07:45 AM					08:30 AM					07:45 AM					
Volume	2	0	16	1	19	12	52	4	1	69	52	46	47	0	145	6	48	0	2	56	
Peak Factor					0.737					0.859					0.469					0.875	

Pioneer Valley Planning Commission
26 Central Street
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Location :Longmeadow
Counter # :0846
Operator :Conz
Fun. Class :U4

File Name : 5196amwest
Site Code : 00005196
Start Date : 03/14/2002
Page No : 1

Groups Printed- Unshifted

	Route 5 West From North			Williams From East			Route 5 west From South			
Start Time	Thru	Left	Trucks	Right	Left	Trucks	Right	Thru	Trucks	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	38	20	4	3	38	2	21	29	4	159
07:15 AM	47	30	0	6	46	1	35	41	6	212
07:30 AM	51	36	4	7	57	3	28	34	3	223
07:45 AM	48	29	5	2	50	2	19	26	2	183
Total	184	115	13	18	191	8	103	130	15	777
08:00 AM	56	20	2	2	37	2	21	27	1	168
08:15 AM	94	26	3	16	64	1	18	34	0	256
08:30 AM	88	20	2	22	54	2	24	45	2	259
08:45 AM	47	18	2	4	32	3	19	47	3	175
Total	285	84	9	44	187	8	82	153	6	858
Grand Total	469	199	22	62	378	16	185	283	21	1635
Apprch %	68.0	28.8	3.2	13.6	82.9	3.5	37.8	57.9	4.3	
Total %	28.7	12.2	1.3	3.8	23.1	1.0	11.3	17.3	1.3	

	Route 5 West From North				Williams From East				Route 5 west From South				
Start Time	Thru	Left	Trucks	App. Total	Right	Left	Trucks	App. Total	Right	Thru	Trucks	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1													
Intersection	07:45 AM												
Volume	286	95	12	393	42	205	7	254	82	132	5	219	866
Percent	72.8	24.2	3.1		16.5	80.7	2.8		37.4	60.3	2.3		
08:30 Volume	88	20	2	110	22	54	2	78	24	45	2	71	259
Peak Factor													0.836
High Int.	08:15 AM				08:15 AM				08:30 AM				
Volume	94	26	3	123	16	64	1	81	24	45	2	71	
Peak Factor				0.799				0.784				0.771	

Pioneer Valley Planning Commission
26 Central Street
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Location : Longmeadow
Counter # : 1009
Operator : NB
Fun. Class : U4

File Name : 5200PM (REDO)
Site Code : 00005200
Start Date : 12/09/2002
Page No : 1

Groups Printed- Unshifted

	Longmeadow Street From North				Longmeadow Street Extension From East				Longmeadow Street From South				
Start Time	Right	Thru	Left	Trucks	Right	Thru	Left	Trucks	Right	Thru	Left	Trucks	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	0	86	16	2	21	0	0	0	1	62	0	2	190
04:15 PM	0	95	20	0	24	0	1	1	2	67	0	0	210
04:30 PM	0	91	10	1	20	0	1	0	1	90	0	1	215
04:45 PM	0	109	17	0	13	0	0	0	0	84	0	0	223
Total	0	381	63	3	78	0	2	1	4	303	0	3	838
05:00 PM	0	74	19	1	8	0	0	0	1	52	0	0	155
05:15 PM	0	105	20	2	13	0	1	0	1	76	0	2	220
05:30 PM	0	82	18	0	10	0	0	0	0	80	0	0	190
05:45 PM	0	72	16	1	9	0	0	0	0	78	0	0	176
Total	0	333	73	4	40	0	1	0	2	286	0	2	741
Grand Total	0	714	136	7	118	0	3	1	6	589	0	5	1579
Apprch %	0.0	83.3	15.9	0.8	96.7	0.0	2.5	0.8	1.0	98.2	0.0	0.8	
Total %	0.0	45.2	8.6	0.4	7.5	0.0	0.2	0.1	0.4	37.3	0.0	0.3	

	Longmeadow Street From North					Longmeadow Street Extension From East					Longmeadow Street From South					
Start Time	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																
Intersection	04:00 PM															
Volume	0	381	63	3	447	78	0	2	1	81	4	303	0	3	310	838
Percent	0.0	85.2	14.1	0.7		96.3	0.0	2.5	1.2		1.3	97.7	0.0	1.0		
04:45 Volume	0	109	17	0	126	13	0	0	0	13	0	84	0	0	84	223
Peak Factor																0.939
High Int.	04:45 PM					04:15 PM					04:30 PM					
Volume	0	109	17	0	126	24	0	1	1	26	1	90	0	1	92	
Peak Factor					0.887					0.779					0.842	

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA 01089
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Location : Longmeadow
Counter # : 0945
Operator : Conz
Fun. Class : U5

File Name : 5191am
Site Code : 00005191
Start Date : 03/06/2002
Page No : 1

Groups Printed- Unshifted

	Laurel Street From North				Converse Street From East				Laurel Street From South				Converse Street From West				
Start Time	Right	Thru	Left	Trucks	Right	Thru	Left	Trucks	Right	Thru	Left	Trucks	Right	Thru	Left	Trucks	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	4	13	10	1	70	100	6	0	3	73	4	0	6	86	0	5	381
07:15 AM	3	20	15	0	75	114	5	5	8	98	6	0	9	111	1	6	476
07:30 AM	0	33	10	0	107	114	2	10	10	110	12	0	8	148	0	4	568
07:45 AM	1	15	20	0	79	101	5	5	13	91	8	0	6	156	0	5	505
Total	8	81	55	1	331	429	18	20	34	372	30	0	29	501	1	20	1930
08:00 AM	2	28	10	0	79	114	11	8	4	84	9	0	11	125	0	6	491
08:15 AM	2	36	18	0	69	90	7	5	12	119	10	0	19	92	0	6	485
08:30 AM	0	19	10	2	78	98	9	8	17	120	11	0	13	113	0	8	506
08:45 AM	0	9	18	0	72	74	11	8	17	80	13	2	9	80	0	4	397
Total	4	92	56	2	298	376	38	29	50	403	43	2	52	410	0	24	1879
Grand Total	12	173	111	3	629	805	56	49	84	775	73	2	81	911	1	44	3809
Apprch %	4.0	57.9	37.1	1.0	40.9	52.3	3.6	3.2	9.0	83.0	7.8	0.2	7.8	87.8	0.1	4.2	
Total %	0.3	4.5	2.9	0.1	16.5	21.1	1.5	1.3	2.2	20.3	1.9	0.1	2.1	23.9	0.0	1.2	

	Laurel Street From North					Converse Street From East					Laurel Street From South					Converse Street From West					
Start Time	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	5	112	58	0	175	334	419	25	28	806	39	404	39	0	482	44	521	0	21	586	2049
Percent	2.9	64.0	33.1	0.0		41.4	52.0	3.1	3.5		8.1	83.8	8.1	0.0		7.5	88.9	0.0	3.6		
07:30 Volume	0	33	10	0	43	107	114	2	10	233	10	110	12	0	132	8	148	0	4	160	568
Peak Factor																					0.902
High Int.	08:15 AM					07:30 AM					08:15 AM					07:45 AM					
Volume	2	36	18	0	56	107	114	2	10	233	12	119	10	0	141	6	156	0	5	167	
Peak Factor					0.781					0.865					0.855					0.877	

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Location :Longmeadow
Counter # :0846
Operator :Conz
Fun. Class :U5

File Name : 5195am
Site Code : 00005195
Start Date : 03/12/2002
Page No : 1

Groups Printed- Unshifted

	Laurel St. From North				Bliss From East				Laurel St. From South				Bliss From West				
Start Time	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	2	12	27	0	35	23	1	1	2	45	1	0	2	24	1	0	176
07:15 AM	1	19	47	1	47	30	5	1	20	50	1	0	2	49	2	1	276
07:30 AM	0	36	64	0	82	45	9	2	24	76	2	0	7	85	5	3	440
07:45 AM	2	22	21	1	46	37	6	2	4	65	0	1	4	40	0	1	252
Total	5	89	159	2	210	135	21	6	50	236	4	1	15	198	8	5	1144
08:00 AM	3	26	38	2	37	23	4	2	7	75	1	3	3	57	2	1	284
08:15 AM	3	27	66	0	77	44	7	1	14	67	3	1	2	69	2	4	387
08:30 AM	2	39	27	0	52	64	13	5	13	94	7	1	1	50	3	3	374
08:45 AM	1	18	20	0	39	52	8	4	12	66	2	1	5	36	0	1	265
Total	9	110	151	2	205	183	32	12	46	302	13	6	11	212	7	9	1310
Grand Total	14	199	310	4	415	318	53	18	96	538	17	7	26	410	15	14	2454
Apprch %	2.7	37.8	58.8	0.8	51.6	39.6	6.6	2.2	14.6	81.8	2.6	1.1	5.6	88.2	3.2	3.0	
Total %	0.6	8.1	12.6	0.2	16.9	13.0	2.2	0.7	3.9	21.9	0.7	0.3	1.1	16.7	0.6	0.6	

	Laurel St. From North					Bliss From East					Laurel St. From South					Bliss From West					
Start Time	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	8	111	189	3	311	242	149	26	7	424	49	283	6	5	343	16	251	9	9	285	1363
Percent	2.6	35.7	60.8	1.0		57.1	35.1	6.1	1.7		14.3	82.5	1.7	1.5		5.6	88.1	3.2	3.2		
07:30 Volume	0	36	64	0	100	82	45	9	2	138	24	76	2	0	102	7	85	5	3	100	440
Peak Factor																					0.774
High Int.	07:30 AM					07:30 AM					07:30 AM					07:30 AM					
Volume	0	36	64	0	100	82	45	9	2	138	24	76	2	0	102	7	85	5	3	100	
Peak Factor					0.778					0.768					0.841					0.713	

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Location :Longmeadow
Counter # :0944
Operator :Conz
Fun. Class :U5

File Name : 5197am
Site Code : 00005197
Start Date : 03/20/2002
Page No : 1

Groups Printed- Unshifted

	Laurel Street From North				Williams Street From East				Laurel Street From South				Williams Street From West				
Start Time	Right	Thru	Left	Trucks	Right	Thru	Left	Trucks	Right	Thru	Left	Trucks	Right	Thru	Left	Trucks	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	3	13	7	0	7	37	8	0	11	38	8	1	1	35	1	2	172
07:15 AM	7	20	13	0	11	48	7	4	29	49	8	4	1	48	3	3	255
07:30 AM	7	29	13	1	21	85	24	2	25	61	12	1	0	36	12	1	330
07:45 AM	9	22	3	0	8	53	4	1	9	49	6	2	0	33	3	2	204
Total	26	84	36	1	47	223	43	7	74	197	34	8	2	152	19	8	961
08:00 AM	12	20	10	1	10	40	4	0	13	42	13	3	1	36	2	1	208
08:15 AM	19	21	11	3	17	85	16	0	13	61	22	3	0	43	9	1	324
08:30 AM	24	16	9	1	10	42	6	2	29	52	22	5	5	52	15	1	291
08:45 AM	12	15	8	2	7	51	14	4	17	45	14	1	2	45	9	0	246
Total	67	72	38	7	44	218	40	6	72	200	71	12	8	176	35	3	1069
Grand Total	93	156	74	8	91	441	83	13	146	397	105	20	10	328	54	11	2030
Apprch %	28.1	47.1	22.4	2.4	14.5	70.2	13.2	2.1	21.9	59.4	15.7	3.0	2.5	81.4	13.4	2.7	
Total %	4.6	7.7	3.6	0.4	4.5	21.7	4.1	0.6	7.2	19.6	5.2	1.0	0.5	16.2	2.7	0.5	

	Laurel Street From North					Williams Street From East					Laurel Street From South					Williams Street From West					
Start Time	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Int. Total
Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Intersection	08:00 AM																				
Volume	67	72	38	7	184	44	218	40	6	308	72	200	71	12	355	8	176	35	3	222	1069
Percent	36.4	39.1	20.7	3.8		14.3	70.8	13.0	1.9		20.3	56.3	20.0	3.4		3.6	79.3	15.8	1.4		
08:15 Volume	19	21	11	3	54	17	85	16	0	118	13	61	22	3	99	0	43	9	1	53	324
Peak Factor																					0.825
High Int.	08:15 AM					08:15 AM					08:30 AM					08:30 AM					
Volume	19	21	11	3	54	17	85	16	0	118	29	52	22	5	108	5	52	15	1	73	
Peak Factor					0.852					0.653					0.822					0.760	

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA 01089
(413) 781-6045 www.pvpc.org

Location : Longmeadow
Counter # : 0944
Operator :ABM
Fun. Class : U4

File Name : 5192pm
Site Code : 00005192
Start Date : 02/21/2002
Page No : 1

Groups Printed- Unshifted

	Route 5 From North				Forest Glen From East				Route 5 From South				Western From West			
Start Time	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Right	Thru	Left	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	5	245	28	4	140	0	0	4	0	141	2	5	1	0	2	577
04:15 PM	3	297	31	6	137	0	2	0	2	146	0	5	0	0	3	632
04:30 PM	5	292	51	6	108	1	2	0	1	124	0	4	2	0	1	597
04:45 PM	6	358	64	6	165	0	0	1	0	137	0	3	0	1	7	748
Total	19	1192	174	22	550	1	4	5	3	548	2	17	3	1	13	2554
05:00 PM	3	308	45	2	119	0	1	1	1	119	0	3	0	1	4	607
05:15 PM	5	350	62	1	171	0	0	0	0	151	0	3	1	0	3	747
05:30 PM	11	345	78	4	134	1	1	0	0	130	0	6	0	1	4	715
05:45 PM	4	301	46	3	135	2	1	2	0	119	0	5	1	0	5	624
Total	23	1304	231	10	559	3	3	3	1	519	0	17	2	2	16	2693
Grand Total	42	2496	405	32	1109	4	7	8	4	1067	2	34	5	3	29	5247
Apprch %	1.4	83.9	13.6	1.1	98.3	0.4	0.6	0.7	0.4	96.4	0.2	3.1	13.5	8.1	78.4	
Total %	0.8	47.6	7.7	0.6	21.1	0.1	0.1	0.2	0.1	20.3	0.0	0.6	0.1	0.1	0.6	

	Route 5 From North					Forest Glen From East					Route 5 From South					Western From West				
Start Time	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																				
Intersection	04:45 PM																			
Volume	25	1361	249	13	1648	589	1	2	2	594	1	537	0	15	553	1	3	18	22	2817
Percent	1.5	82.6	15.1	0.8		99.2	0.2	0.3	0.3		0.2	97.1	0.0	2.7		4.5	13.6	81.8		
04:45 Volume	6	358	64	6	434	165	0	0	1	166	0	137	0	3	140	0	1	7	8	748
Peak Factor																				0.942
High Int.	05:30 PM					05:15 PM					05:15 PM					04:45 PM				
Volume	11	345	78	4	438	171	0	0	0	171	0	151	0	3	154	0	1	7	8	
Peak Factor					0.941					0.868					0.898				0.688	

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA 01089
(413) 781-6045 www.pvpc.org

Location : Longmeadow
Counter # : 0945
Operator : ABM
Fun. Class : U4

File Name : 5193pm
Site Code : 00005193
Start Date : 02/28/2002
Page No : 1

Groups Printed- Unshifted

	Route 5 From North				Converse From East				Route 5 From South				Englewood From West			
Start Time	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Right	Thru	Left	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	2	158	131	4	56	4	19	2	14	97	0	0	0	1	2	490
04:15 PM	4	146	150	9	78	5	14	3	18	95	2	1	2	3	3	533
04:30 PM	10	173	163	6	76	0	12	1	11	95	0	2	1	2	1	553
04:45 PM	7	162	181	4	77	0	19	3	20	78	0	5	1	4	7	568
Total	23	639	625	23	287	9	64	9	63	365	2	8	4	10	13	2144
05:00 PM	3	189	157	1	60	4	12	4	21	79	0	0	0	4	6	540
05:15 PM	7	220	119	3	73	3	18	1	25	96	0	3	0	1	2	571
05:30 PM	6	201	142	3	68	4	24	3	21	79	0	0	1	3	2	557
05:45 PM	8	183	137	5	64	2	19	3	17	97	1	0	0	0	3	539
Total	24	793	555	12	265	13	73	11	84	351	1	3	1	8	13	2207
Grand Total	47	1432	1180	35	552	22	137	20	147	716	3	11	5	18	26	4351
Apprch %	1.7	53.2	43.8	1.3	75.5	3.0	18.7	2.7	16.8	81.6	0.3	1.3	10.2	36.7	53.1	
Total %	1.1	32.9	27.1	0.8	12.7	0.5	3.1	0.5	3.4	16.5	0.1	0.3	0.1	0.4	0.6	

	Route 5 From North					Converse From East					Route 5 From South					Englewood From West				
Start Time	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																				
Intersection	04:45 PM																			
Volume	23	772	599	11	1405	278	11	73	11	373	87	332	0	8	427	2	12	17	31	2236
Percent	1.6	54.9	42.6	0.8		74.5	2.9	19.6	2.9		20.4	77.8	0.0	1.9		6.5	38.7	54.8		
05:15 Volume	7	220	119	3	349	73	3	18	1	95	25	96	0	3	124	0	1	2	3	571
Peak Factor																				0.979
High Int.	04:45 PM					04:45 PM					05:15 PM					04:45 PM				
Volume	7	162	181	4	354	77	0	19	3	99	25	96	0	3	124	1	4	7	12	
Peak Factor					0.992					0.942					0.861				0.646	

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA 01089
(413) 781-6045 www.pvpc.org

Location :Longmeadow
Counter # :0945
Operator :ABM
Fun. Class :U4

File Name : 5194pm
Site Code : 00005194
Start Date : 03/07/2002
Page No : 1

Groups Printed- Unshifted

	Route 5 From North				Bliss From East				Route 5 From South				Emerson From West				
Start Time	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	7	94	41	1	26	7	14	1	12	89	1	0	5	11	13	1	323
04:15 PM	7	107	39	2	31	4	10	1	7	97	0	1	2	11	4	0	323
04:30 PM	1	102	42	0	26	1	14	0	7	78	1	2	3	2	7	0	286
04:45 PM	9	107	34	2	21	8	23	0	6	94	2	3	3	3	3	0	318
Total	24	410	156	5	104	20	61	2	32	358	4	6	13	27	27	1	1250
05:00 PM	8	126	37	1	33	5	13	0	14	100	5	1	2	0	10	1	356
05:15 PM	5	121	48	0	43	7	17	3	8	96	2	1	1	3	4	0	359
05:30 PM	2	102	35	2	29	7	19	0	10	84	1	3	1	5	1	0	301
05:45 PM	4	110	33	1	17	6	17	0	8	107	2	0	5	3	3	0	316
Total	19	459	153	4	122	25	66	3	40	387	10	5	9	11	18	1	1332
Grand Total	43	869	309	9	226	45	127	5	72	745	14	11	22	38	45	2	2582
Apprch %	3.5	70.7	25.1	0.7	56.1	11.2	31.5	1.2	8.6	88.5	1.7	1.3	20.6	35.5	42.1	1.9	
Total %	1.7	33.7	12.0	0.3	8.8	1.7	4.9	0.2	2.8	28.9	0.5	0.4	0.9	1.5	1.7	0.1	

	Route 5 From North					Bliss From East					Route 5 From South					Emerson From West					
Start Time	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	24	456	154	5	639	126	27	72	3	228	38	374	10	8	430	7	11	18	1	37	1334
Percent	3.8	71.4	24.1	0.8		55.3	11.8	31.6	1.3		8.8	87.0	2.3	1.9		18.9	29.7	48.6	2.7		
05:15 Volume	5	121	48	0	174	43	7	17	3	70	8	96	2	1	107	1	3	4	0	8	359
Peak Factor																					0.929
High Int.	05:15 PM					05:15 PM					05:00 PM					05:00 PM					
Volume	5	121	48	0	174	43	7	17	3	70	14	100	5	1	120	2	0	10	1	13	
Peak Factor					0.918					0.814					0.896					0.712	

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA 01089
(413) 781-6045

Location :Longmeadow
Counter # :0945
Operator :ABM
Fun. Class :U5

File Name : 5196pmeast - A
Site Code : 00005196
Start Date : 04/11/2002
Page No : 1

Groups Printed- Unshifted

	Route 5 east From North				Williams From East				Route 5 East From South				Williams From West				
Start Time	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	0	2	27	0	19	28	6	1	12	10	1	1	6	74	1	2	190
04:15 PM	0	3	19	1	13	33	6	0	6	5	0	1	2	75	4	0	168
04:30 PM	0	1	15	0	10	29	7	0	6	6	0	0	3	81	0	2	160
04:45 PM	0	2	10	0	16	43	6	2	10	2	0	0	8	102	0	2	203
Total	0	8	71	1	58	133	25	3	34	23	1	2	19	332	5	6	721
05:00 PM	0	2	11	0	16	44	8	1	8	4	0	0	6	113	0	3	216
05:15 PM	1	13	15	0	16	45	17	0	11	14	2	1	4	75	3	0	217
05:30 PM	0	2	16	0	18	25	8	0	5	3	0	0	5	96	1	0	179
05:45 PM	0	4	20	0	11	36	9	0	8	7	0	0	4	70	0	0	169
Total	1	21	62	0	61	150	42	1	32	28	2	1	19	354	4	3	781
Grand Total	1	29	133	1	119	283	67	4	66	51	3	3	38	686	9	9	1502
Apprch %	0.6	17.7	81.1	0.6	25.2	59.8	14.2	0.8	53.7	41.5	2.4	2.4	5.1	92.5	1.2	1.2	
Total %	0.1	1.9	8.9	0.1	7.9	18.8	4.5	0.3	4.4	3.4	0.2	0.2	2.5	45.7	0.6	0.6	

	Route 5 east From North					Williams From East					Route 5 East From South					Williams From West					
Start Time	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	1	19	52	0	72	66	157	39	3	265	34	23	2	1	60	23	386	4	5	418	815
Percent	1.4	26.4	72.2	0.0		24.9	59.2	14.7	1.1		56.7	38.3	3.3	1.7		5.5	92.3	1.0	1.2		
05:15 Volume	1	13	15	0	29	16	45	17	0	78	11	14	2	1	28	4	75	3	0	82	217
Peak Factor																					0.939
High Int.	05:15 PM					05:15 PM					05:15 PM					05:00 PM					
Volume	1	13	15	0	29	16	45	17	0	78	11	14	2	1	28	6	113	0	3	122	
Peak Factor					0.621					0.849					0.536					0.857	

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA 01089
(413) 781-6045

Location : Longmeadow
Counter # : 0846
Operator : BC
Fun. Class : U4

File Name : 5196pmwest
Site Code : 00005196
Start Date : 04/11/2002
Page No : 1

Groups Printed- Unshifted

	Longmeadow Street From North				Williams Street From East				Longmeadow Street From South				From West				
Start Time	Right	Thru	Left	Trucks	Right	Thru	Left	Trucks	Right	Thru	Left	Trucks	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	0	61	31	1	2	0	25	0	50	60	0	4	0	0	0	0	234
04:15 PM	0	63	35	1	7	0	23	0	46	54	0	0	0	0	0	0	229
04:30 PM	0	72	28	2	4	0	24	0	54	76	0	1	0	0	0	0	261
04:45 PM	0	67	48	1	4	0	33	4	60	51	0	3	0	0	0	0	271
Total	0	263	142	5	17	0	105	4	210	241	0	8	0	0	0	0	995
05:00 PM	0	68	37	1	9	0	36	1	73	71	0	7	0	0	0	0	303
05:15 PM	0	75	29	0	9	0	38	0	48	74	0	0	0	0	0	0	273
05:30 PM	0	63	38	0	2	0	23	0	59	86	0	0	0	0	0	0	271
05:45 PM	0	66	26	2	4	0	30	0	46	85	0	0	0	0	0	0	259
Total	0	272	130	3	24	0	127	1	226	316	0	7	0	0	0	0	1106
Grand Total	0	535	272	8	41	0	232	5	436	557	0	15	0	0	0	0	2101
Apprch %	0.0	66.6	33.4	1.0	14.7	0.0	83.5	1.8	43.3	55.3	0.0	1.5	0.0	0.0	0.0	0.0	
Total %	0.0	25.5	12.9	0.4	2.0	0.0	11.0	0.2	20.8	26.5	0.0	0.7	0.0	0.0	0.0	0.0	

	Longmeadow Street From North					Williams Street From East					Longmeadow Street From South					From West					
Start Time	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	0	273	152	2	427	24	0	130	5	159	240	282	0	10	532	0	0	0	0	0	1118
Percent	0.0	63.9	35.6	0.5		15.1	0.0	81.8	3.1		45.1	53.0	0.0	1.9		0.0	0.0	0.0	0.0		
05:00 Volume	0	68	37	1	106	9	0	36	1	46	73	71	0	7	151	0	0	0	0	0	303
Peak Factor																					0.922
High Int.	04:45 PM					05:15 PM					05:00 PM					3:45:00 PM					
Volume	0	67	48	1	116	9	0	38	0	47	73	71	0	7	151						
Peak Factor					0.920					0.846					0.881						
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
By Approach	04:30 PM					04:30 PM					05:00 PM					04:00 PM					
Volume	0	282	142	4	428	26	0	131	5	162	226	316	0	7	549	0	0	0	0	0	
Percent	0.0	65.9	33.2	0.9		16.0	0.0	80.9	3.1		41.2	57.6	0.0	1.3		-	-	-	-		
High Int.	04:45 PM					05:15 PM					05:00 PM					-					
Volume	0	67	48	1	116	9	0	38	0	47	73	71	0	7	151	-	-	-	-	-	
Peak Factor					0.922					0.862					0.909					-	

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA 01089
(413) 781-6045

Location : Longmeadow
Counter # : 0944
Operator : BC
Fun. Class : U4

File Name : 5200pm -C
Site Code : 00005200
Start Date : 04/18/2002
Page No : 1

Groups Printed- Unshifted

	Longmeadow Street (rt. 5) From North				Longmeadow Street (ext.) From East				Longmeadow Street (rt. 5) From South				From West				
Start Time	Right	Thru	Left	Trucks	Right	Thru	Left	Trucks	Right	Thru	Left	Trucks	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	0	77	21	4	27	0	0	0	0	80	0	2	0	0	0	0	211
04:15 PM	0	75	25	6	11	0	0	0	0	74	0	2	0	0	0	0	193
04:30 PM	0	102	10	4	16	0	0	0	0	76	0	2	0	0	0	0	210
04:45 PM	0	86	14	0	14	0	0	0	1	81	0	2	0	0	0	0	198
Total	0	340	70	14	68	0	0	0	1	311	0	8	0	0	0	0	812
05:00 PM	0	113	21	1	7	0	0	0	0	64	0	0	0	0	0	0	206
05:15 PM	0	90	16	3	14	0	0	0	0	67	0	2	0	0	0	0	192
05:30 PM	0	108	17	1	10	0	0	0	1	107	0	1	0	0	0	0	245
05:45 PM	0	97	20	3	13	0	0	0	0	71	0	0	0	0	0	0	204
Total	0	408	74	8	44	0	0	0	1	309	0	3	0	0	0	0	847
Grand Total	0	748	144	22	112	0	0	0	2	620	0	11	0	0	0	0	1659
Apprch %	0.0	81.8	15.8	2.4	100.0	0.0	0.0	0.0	0.3	97.9	0.0	1.7	0.0	0.0	0.0	0.0	
Total %	0.0	45.1	8.7	1.3	6.8	0.0	0.0	0.0	0.1	37.4	0.0	0.7	0.0	0.0	0.0	0.0	

	Longmeadow Street (rt. 5) From North					Longmeadow Street (ext.) From East					Longmeadow Street (rt. 5) From South					From West					
Start Time	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	05:00 PM																				
Volume	0	408	74	8	490	44	0	0	0	44	1	309	0	3	313	0	0	0	0	0	847
Percent	0.0	83.3	15.1	1.6		100.0	0.0	0.0	0.0		0.3	98.7	0.0	1.0		0.0	0.0	0.0	0.0		
05:30 Volume	0	108	17	1	126	10	0	0	0	10	1	107	0	1	109	0	0	0	0	0	245
Peak Factor																					0.864
High Int.	05:00 PM					05:15 PM					05:30 PM					3:45:00 PM					
Volume	0	113	21	1	135	14	0	0	0	14	1	107	0	1	109						
Peak Factor					0.907					0.786					0.718						
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
By Approach	05:00 PM					04:00 PM					04:45 PM					04:00 PM					
Volume	0	408	74	8	490	68	0	0	0	68	2	319	0	5	326	0	0	0	0	0	
Percent	0.0	83.3	15.1	1.6		100.0	0.0	0.0	0.0		0.6	97.9	0.0	1.5		-	-	-	-		
High Int.	05:00 PM					04:00 PM					05:30 PM					-					
Volume	0	113	21	1	135	27	0	0	0	27	1	107	0	1	109	-	-	-	-	-	
Peak Factor					0.907					0.630					0.748					-	

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA 01089
(413) 781-6045 www.pvpc.org

Location :Longmeadow
Counter # :0945
Operator :ABM
Fun. Class :U5

File Name : 5191pm
Site Code : 00005191
Start Date : 03/12/2002
Page No : 1

Groups Printed- Unshifted

	Laurel From North				Converse From East				Laurel From South				Converse From West				
Start Time	Right	Thru	Left	Trucks	Right	Thru	Left	Trucks	Right	Thru	Left	Trucks	Right	Thru	Left	Trucks	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	0	17	23	0	73	69	8	4	10	70	10	0	7	147	0	6	444
04:15 PM	1	20	28	1	82	93	7	2	9	82	13	1	11	161	0	3	514
04:30 PM	1	13	18	0	79	81	7	5	7	53	9	1	13	151	1	5	444
04:45 PM	1	28	47	1	93	67	10	8	5	86	5	1	6	192	2	1	553
Total	3	78	116	2	327	310	32	19	31	291	37	3	37	651	3	15	1955
05:00 PM	0	30	48	0	96	89	11	2	9	57	7	1	13	192	0	6	561
05:15 PM	0	29	50	0	123	105	14	1	12	72	12	3	3	164	1	3	592
05:30 PM	4	37	39	1	81	79	10	6	7	54	5	0	9	144	0	3	479
05:45 PM	0	20	29	0	58	57	8	1	10	71	8	0	11	153	0	1	427
Total	4	116	166	1	358	330	43	10	38	254	32	4	36	653	1	13	2059
Grand Total	7	194	282	3	685	640	75	29	69	545	69	7	73	1304	4	28	4014
Apprch %	1.4	39.9	58.0	0.6	47.9	44.8	5.2	2.0	10.0	79.0	10.0	1.0	5.2	92.5	0.3	2.0	
Total %	0.2	4.8	7.0	0.1	17.1	15.9	1.9	0.7	1.7	13.6	1.7	0.2	1.8	32.5	0.1	0.7	

	Laurel From North					Converse From East					Laurel From South					Converse From West					
Start Time	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	5	124	184	2	315	393	340	45	17	795	33	269	29	5	336	31	692	3	13	739	2185
Percent	1.6	39.4	58.4	0.6		49.4	42.8	5.7	2.1		9.8	80.1	8.6	1.5		4.2	93.6	0.4	1.8		
05:15 Volume	0	29	50	0	79	123	105	14	1	243	12	72	12	3	99	3	164	1	3	171	592
Peak Factor																					0.923
High Int.	05:30 PM					05:15 PM					05:15 PM					05:00 PM					
Volume	4	37	39	1	81	123	105	14	1	243	12	72	12	3	99	13	192	0	6	211	
Peak Factor					0.972					0.818					0.848					0.876	

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA 01089
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Location :Longmeadow
Counter # :0945
Operator :ABM
Fun. Class :U5

File Name : 5195pm
Site Code : 00005195
Start Date : 03/21/2002
Page No : 1

Groups Printed- Unshifted

	Laurel From North				Bliss From East			Laurel From South				Bliss From West				
Start Time	Right	Thru	Left	Trucks	Right	Thru	Left	Right	Thru	Left	Trucks	Right	Thru	Left	Trucks	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	6	31	40	1	44	46	13	7	60	2	0	7	71	9	1	338
04:15 PM	3	44	30	1	32	40	12	6	47	2	0	13	73	4	1	308
04:30 PM	3	40	32	0	33	47	14	7	53	2	0	4	64	3	1	303
04:45 PM	0	41	31	0	38	37	10	7	51	4	0	6	62	0	0	287
Total	12	156	133	2	147	170	49	27	211	10	0	30	270	16	3	1236
05:00 PM	2	39	33	0	43	31	15	3	66	4	1	4	48	0	0	289
05:15 PM	1	53	33	0	37	50	7	10	55	2	1	2	64	2	1	318
05:30 PM	2	32	34	0	52	50	17	8	38	0	0	5	64	3	0	305
05:45 PM	0	34	32	0	33	52	10	9	45	1	0	7	44	0	0	267
Total	5	158	132	0	165	183	49	30	204	7	2	18	220	5	1	1179
Grand Total	17	314	265	2	312	353	98	57	415	17	2	48	490	21	4	2415
Apprch %	2.8	52.5	44.3	0.3	40.9	46.3	12.8	11.6	84.5	3.5	0.4	8.5	87.0	3.7	0.7	
Total %	0.7	13.0	11.0	0.1	12.9	14.6	4.1	2.4	17.2	0.7	0.1	2.0	20.3	0.9	0.2	

	Laurel From North					Bliss From East				Laurel From South					Bliss From West					
Start Time	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	Trucks	App. Total	Right	Thru	Left	Trucks	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																				
Intersection	04:00 PM																			
Volume	12	156	133	2	303	147	170	49	366	27	211	10	0	248	30	270	16	3	319	1236
Percent	4.0	51.5	43.9	0.7		40.2	46.4	13.4		10.9	85.1	4.0	0.0		9.4	84.6	5.0	0.9		
04:00 Volume	6	31	40	1	78	44	46	13	103	7	60	2	0	69	7	71	9	1	88	338
Peak Factor																				0.914
High Int.	04:00 PM					04:00 PM				04:00 PM					04:15 PM					
Volume	6	31	40	1	78	44	46	13	103	7	60	2	0	69	13	73	4	1	91	
Peak Factor					0.971				0.888					0.899					0.876	

Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA 01089
(413) 781-6045

Location :Longmeadow
Counter # :0846
Operator :ABM
Fun. Class :U5

File Name : 5198pm
Site Code : 00005198
Start Date : 04/04/2002
Page No : 1

Groups Printed- Unshifted

	Laurel St. From North				Williams St. From East				Shaker Rd From South				Williams St. From West				
Start Time	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Right	Thru	Left	Truck	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:00 PM	6	36	6	0	4	39	13	0	24	61	14	1	2	69	6	0	281
04:15 PM	11	37	9	0	7	41	22	2	24	41	11	2	1	81	3	0	292
04:30 PM	4	32	8	0	5	63	20	1	15	55	17	1	3	79	5	1	309
04:45 PM	3	42	12	0	12	52	14	2	22	41	19	1	3	72	2	1	298
Total	24	147	35	0	28	195	69	5	85	198	61	5	9	301	16	2	1180
05:00 PM	6	42	5	0	13	56	27	0	25	45	8	3	3	82	8	1	324
05:15 PM	7	40	4	0	15	57	24	2	21	42	13	0	4	94	7	3	333
05:30 PM	6	37	5	0	9	41	18	1	19	59	14	0	2	76	11	1	299
05:45 PM	5	38	14	1	4	49	18	0	21	26	11	0	0	65	4	0	256
Total	24	157	28	1	41	203	87	3	86	172	46	3	9	317	30	5	1212
Grand Total	48	304	63	1	69	398	156	8	171	370	107	8	18	618	46	7	2392
Apprch %	11.5	73.1	15.1	0.2	10.9	63.1	24.7	1.3	26.1	56.4	16.3	1.2	2.6	89.7	6.7	1.0	
Total %	2.0	12.7	2.6	0.0	2.9	16.6	6.5	0.3	7.1	15.5	4.5	0.3	0.8	25.8	1.9	0.3	

	Laurel St. From North					Williams St. From East					Shaker Rd From South					Williams St. From West					
Start Time	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Right	Thru	Left	Truck	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	20	156	29	0	205	45	228	85	5	363	83	183	57	5	328	13	327	22	6	368	1264
Percent	9.8	76.1	14.1	0.0		12.4	62.8	23.4	1.4		25.3	55.8	17.4	1.5		3.5	88.9	6.0	1.6		
05:15 Volume	7	40	4	0	51	15	57	24	2	98	21	42	13	0	76	4	94	7	3	108	333
Peak Factor																					0.949
High Int.	04:45 PM					05:15 PM					04:30 PM					05:15 PM					
Volume	3	42	12	0	57	15	57	24	2	98	15	55	17	1	88	4	94	7	3	108	
Peak Factor					0.899					0.926					0.932					0.852	