Town of Belmont Townwide Traffic Study

Traffic Advisory Committee Meeting

November 08, 2018

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Purpose of Study

- Analyze current travel patterns,

- Determine the extent of cut-through traffic,

- Identify strategies to eliminate, reduce, or mitigate cut-through traffic volumes.

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Study Objectives

- Improve safety for all users

- Eliminate, reduce, or mitigate cut-through traffic

- Reduce congestion/improve or maintain access
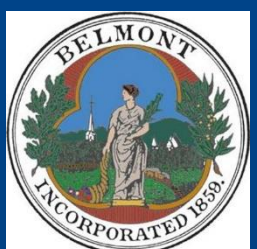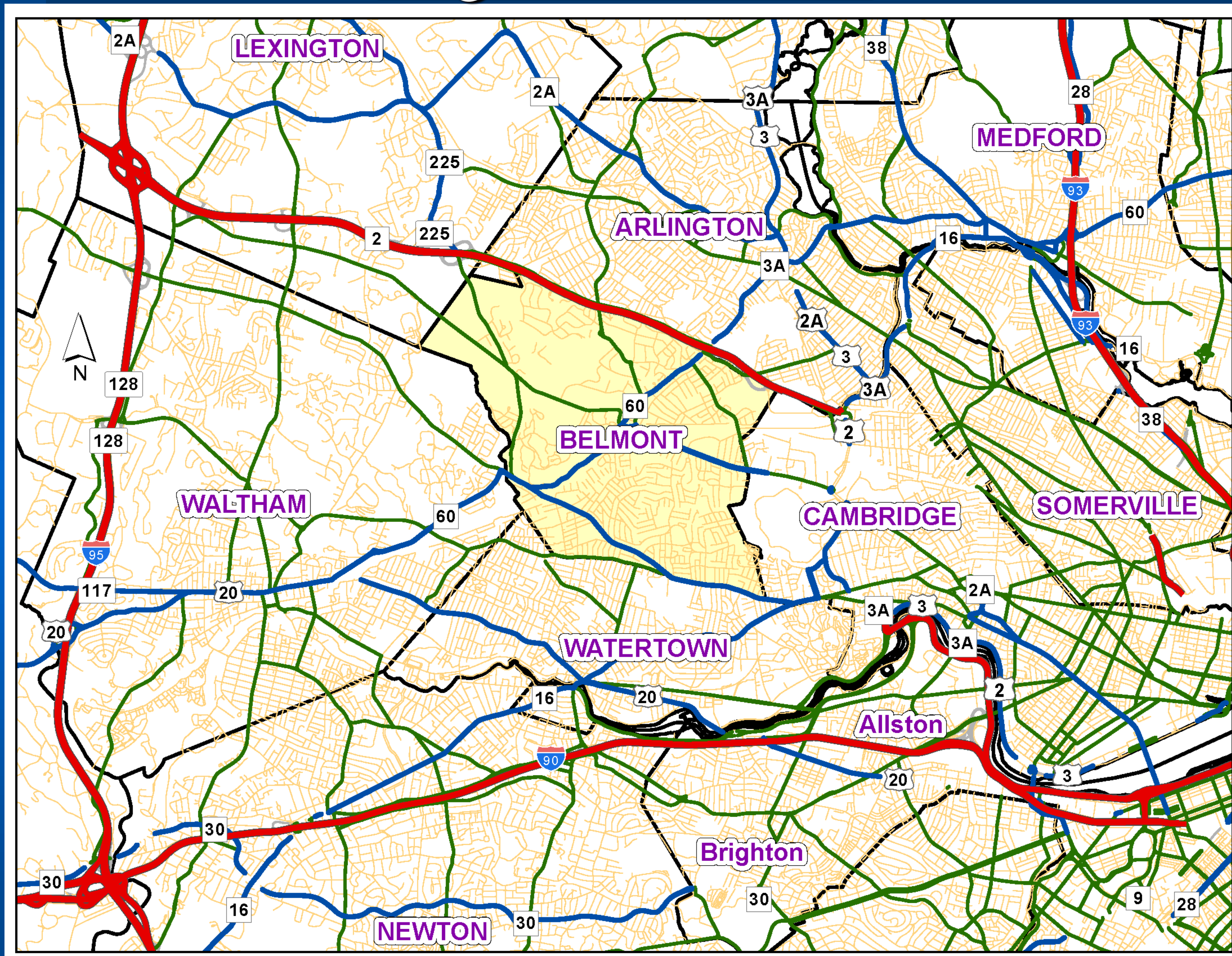
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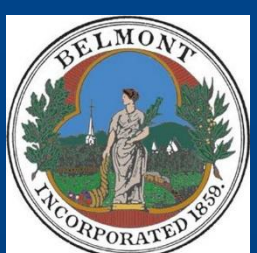
Key Findings

- Regional congestion contributes to cut-through traffic in Belmont

- High percentage of cut-through traffic is from immediate adjacent towns

- Peak traffic flow is generally directional based on time of day

- Neighborhoods near congested main roads experience high cut-through traffic volumes

Regional Context

Roadway Functional Classification

Legend

MassDOT Roads

Road Type

- Limited Access Highway
- Principal arterial
- Minor arterial
- Collector
- Local street
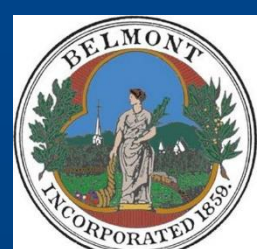- Ramp

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Summary of TAC and Community Concerns

- Heavy congestion on Belmont streets
- Cut-through traffic worsened by navigational apps
- Speeding through neighborhood streets
- Pedestrian and bicycle safety
- School traffic contributing to AM congestion
- Lack of enforcement of existing traffic regulations

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Resident Concerns Map

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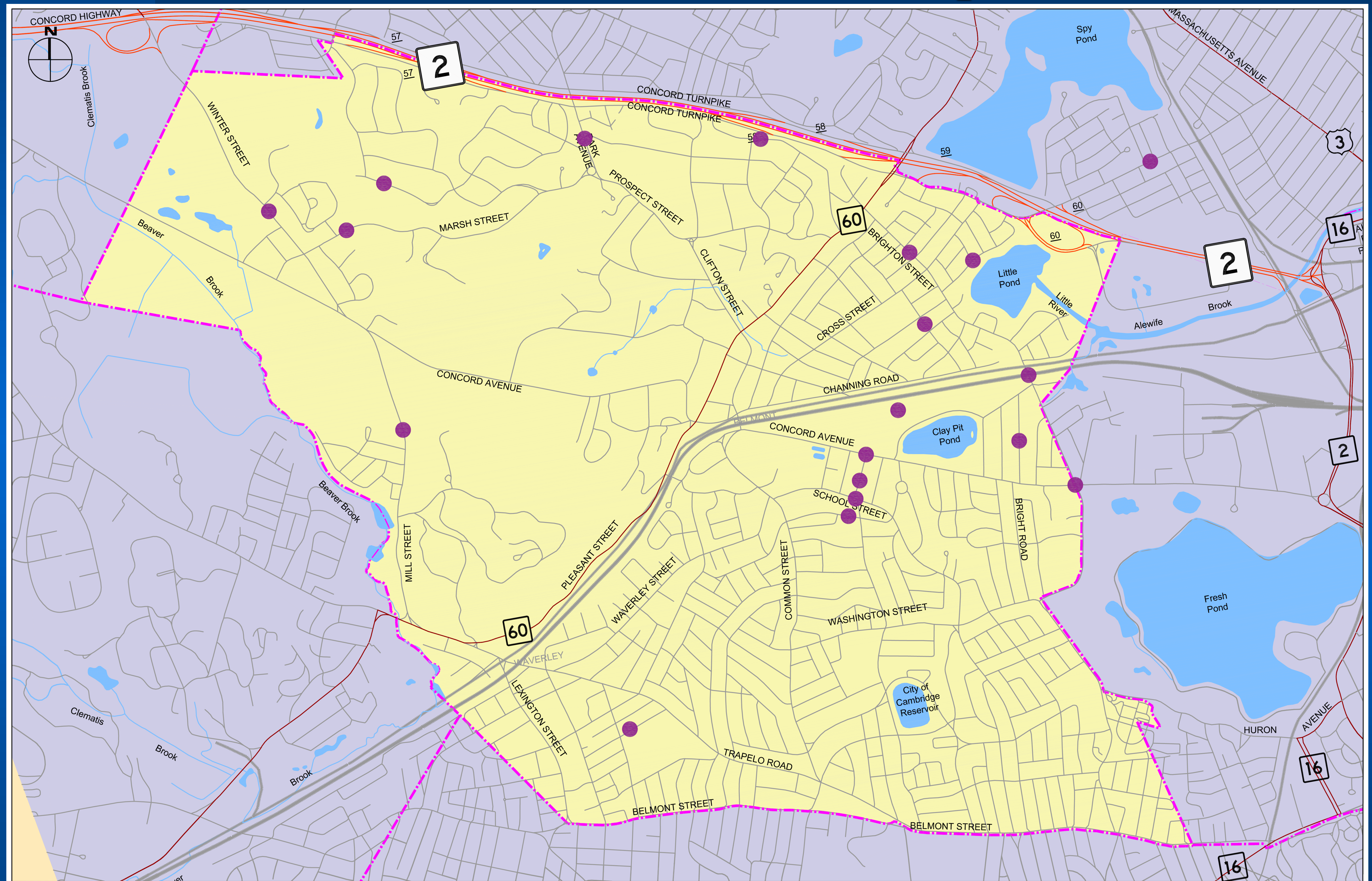
Data Collection

- 12-Hour Turning Movement counts at 22 locations:
  - **Pedestrians; Bicycles; Vehicles**
- Recording of media access control (MAC) address of Wi-Fi enabled devices at 11 locations to determine:
  - **Travel times; Cut-through traffic**
- 48-hour automated traffic recording (ATR) counts at 3 locations
- License Plate surveys by Belmont Police at 7 locations

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Study Area

LOCATION	TMC	ATR	LICENSE	MAC
Winter/Concord	X			X
Concord/Mill	X			
Trapelo/Mill	X			X
Lexington/Belmont	X			X
Park/Rt 2	X		X	X
Common/Concord	X			X
Common/School	X			
Common/Trapelo	X			X
Concord/Goden	X		X	
Goden/Washington	X		X	
Pleasant/Lake	X		X	X
Brighton/Cross	X			
Washington/School	X			
Lake/Cross	X			X
Blanchard/Concord	X			X
Washington/Bright	X			
Grove/Huron	X			X
Belmont/Grove	X			X
Brighton/Statler	X		X	
Brighton/Eliot	X			
Lexington/Sycamore	X			
White/Walnut		X		
Walnut/Trapelo		X		
Maple/Chestnut		X		
Waterhouse/Eliot			X	
School/Stone			X	
Concord/Leonard	X			

Legend

Count types

Type

- TMC
- ATR
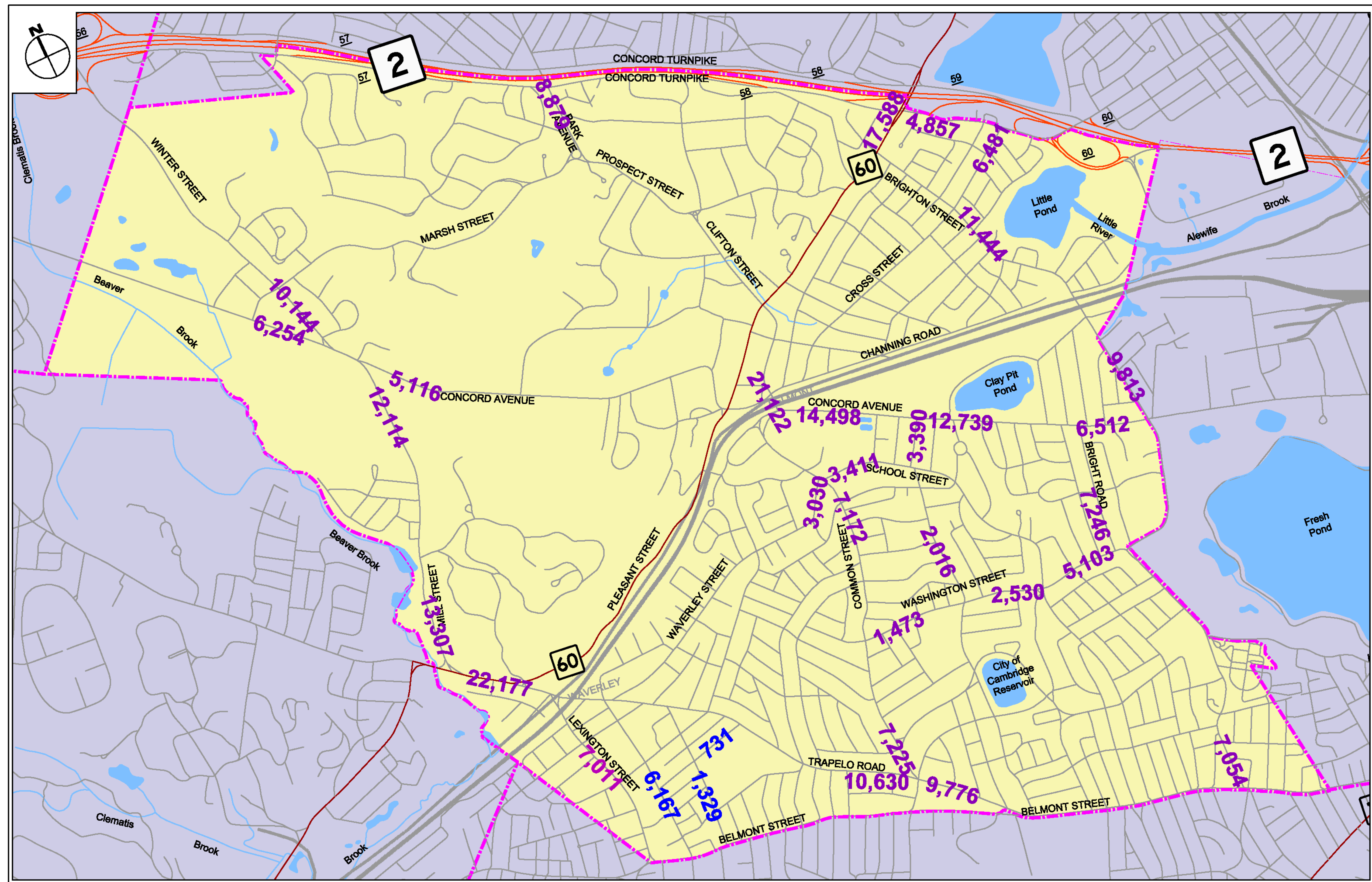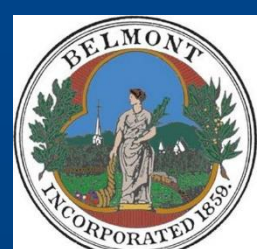- LICENSE PLATE
- MAC

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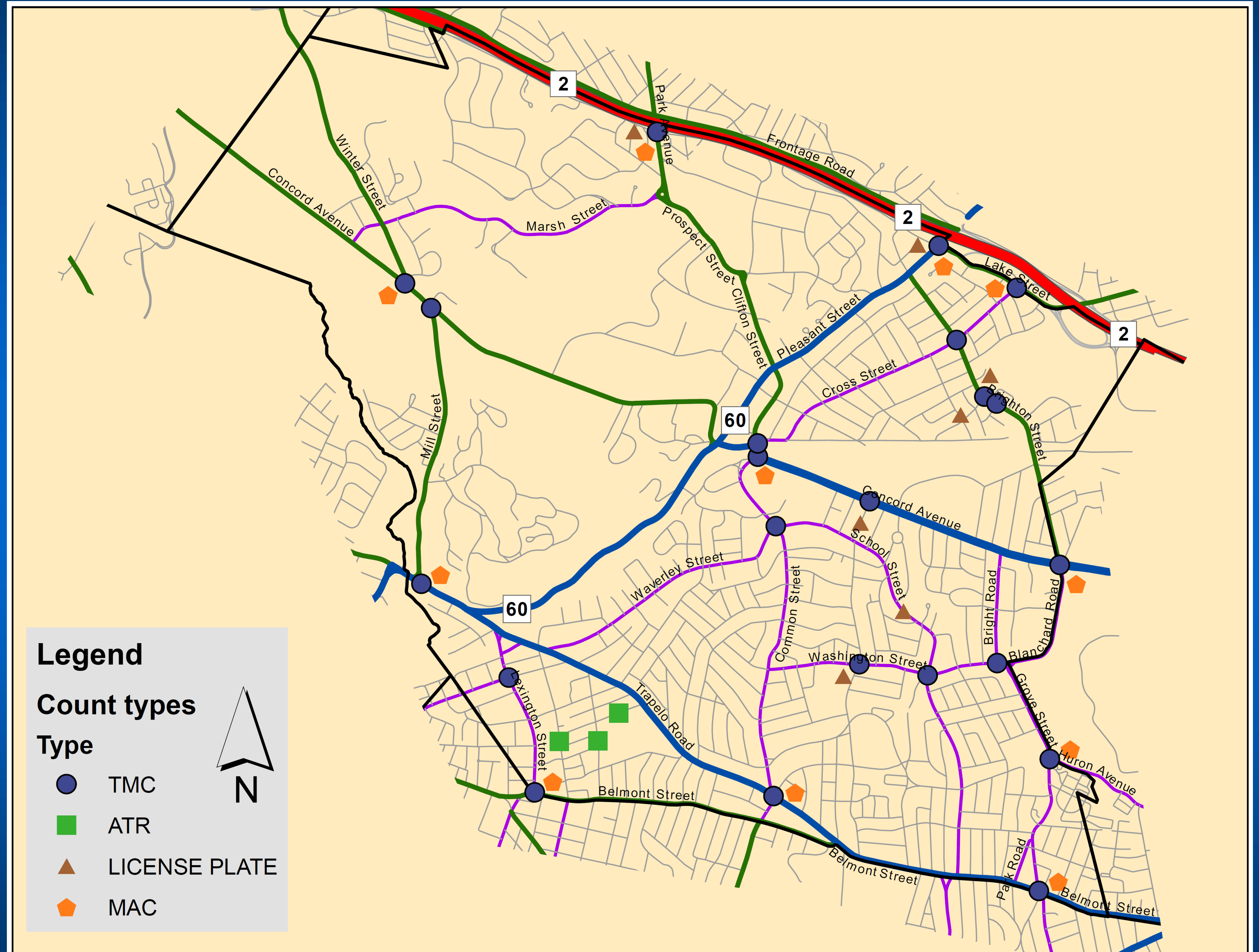
Existing 12-Hour Traffic Volumes

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Existing 12-Hour Pedestrian Crossing Volumes

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Travel Patterns AM

Morning, 7-9 AM
Yellow - North/West direction
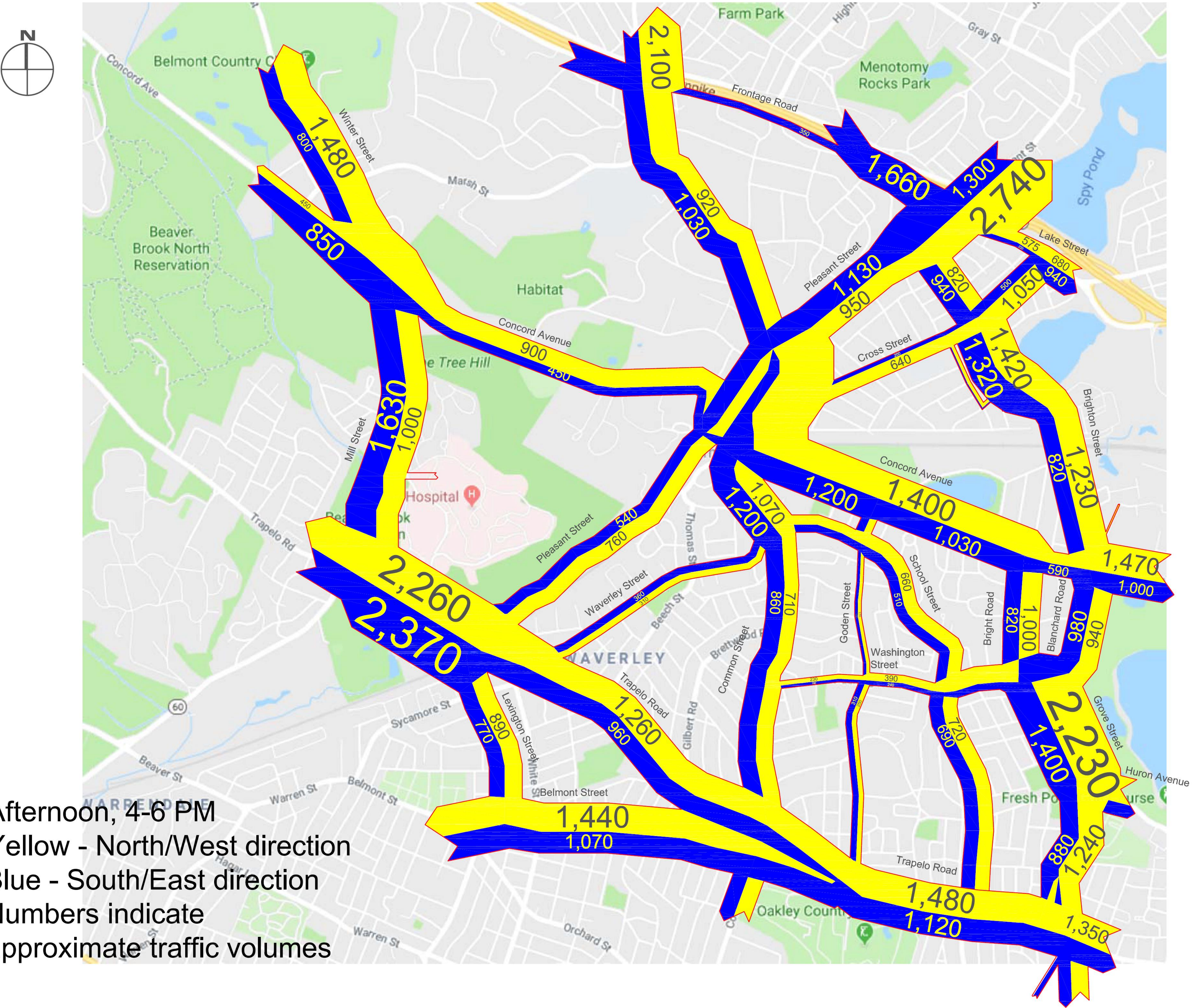Blue - South/East direction
Numbers indicate
approximate traffic volumes
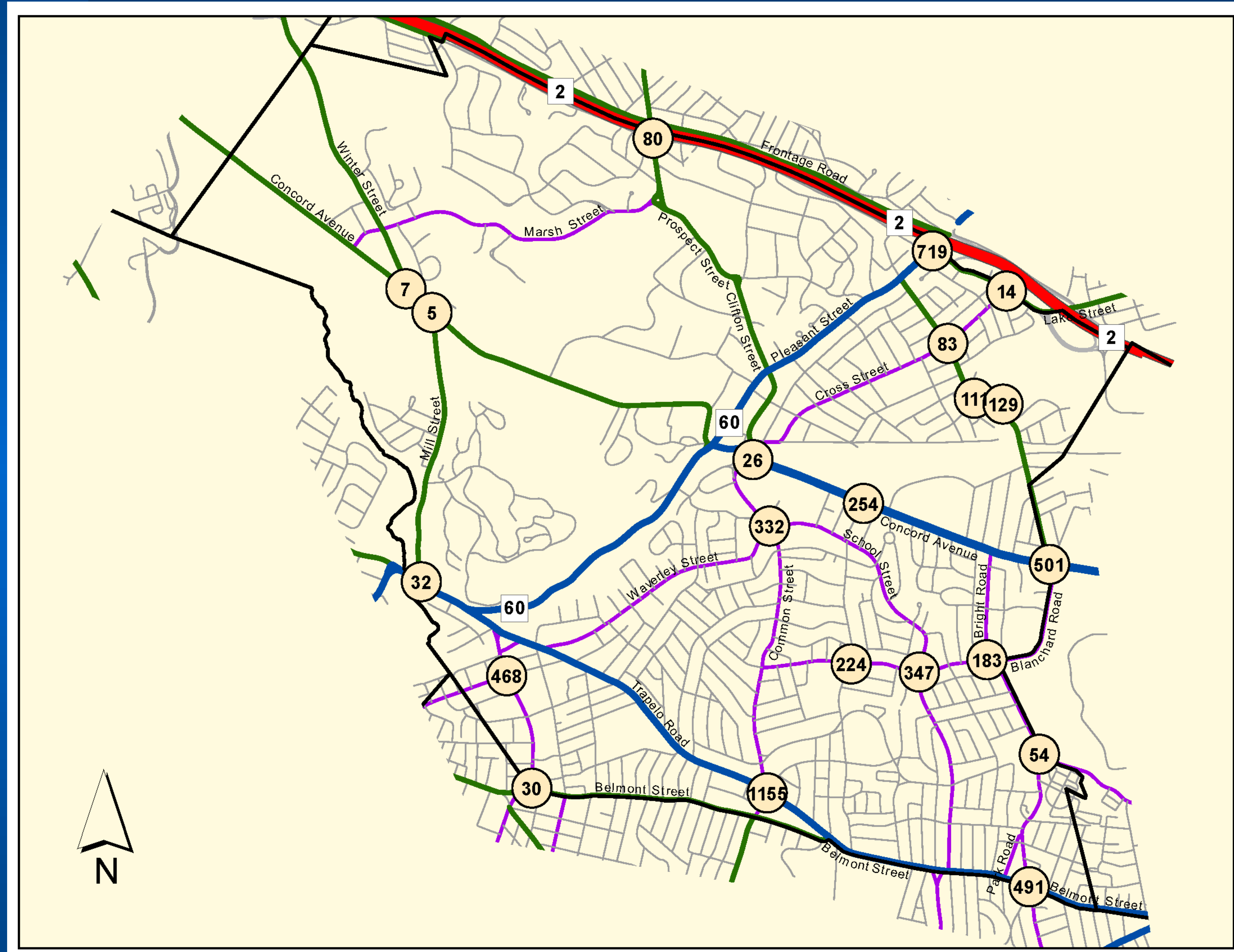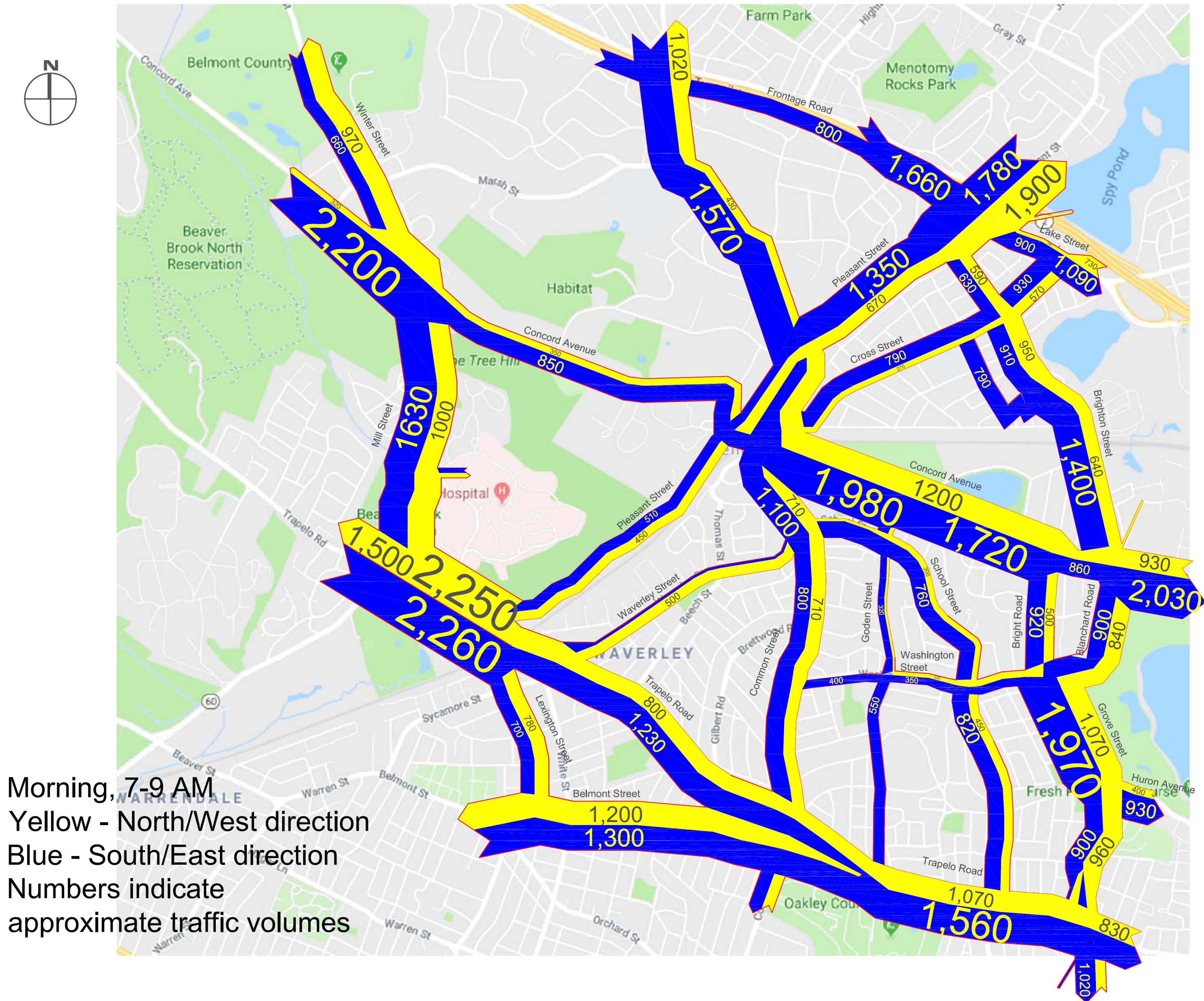
Travel Patterns PM

Afternoon, 4-6 PM
Yellow - North/West direction
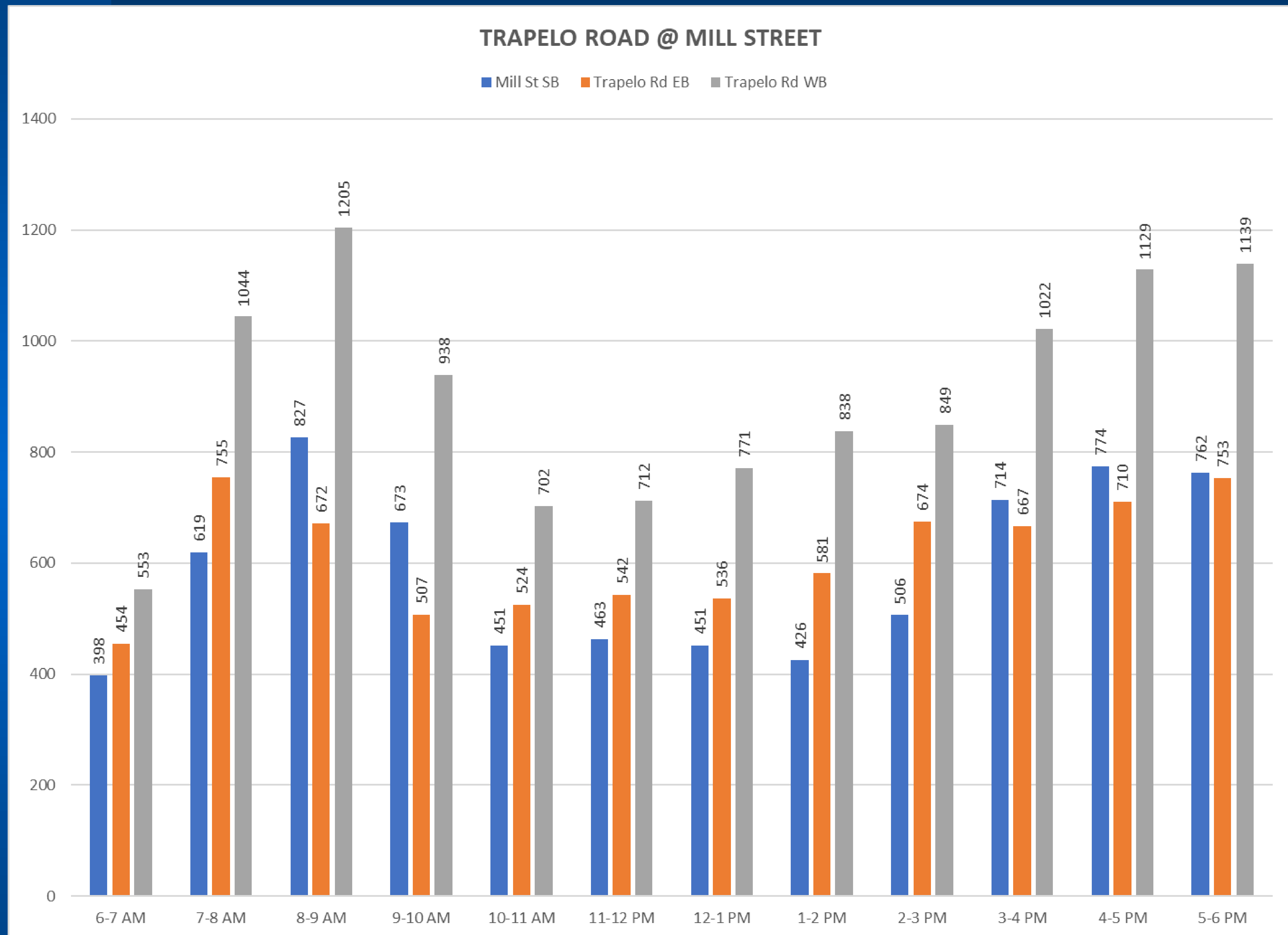Blue - South/East direction
Numbers indicate
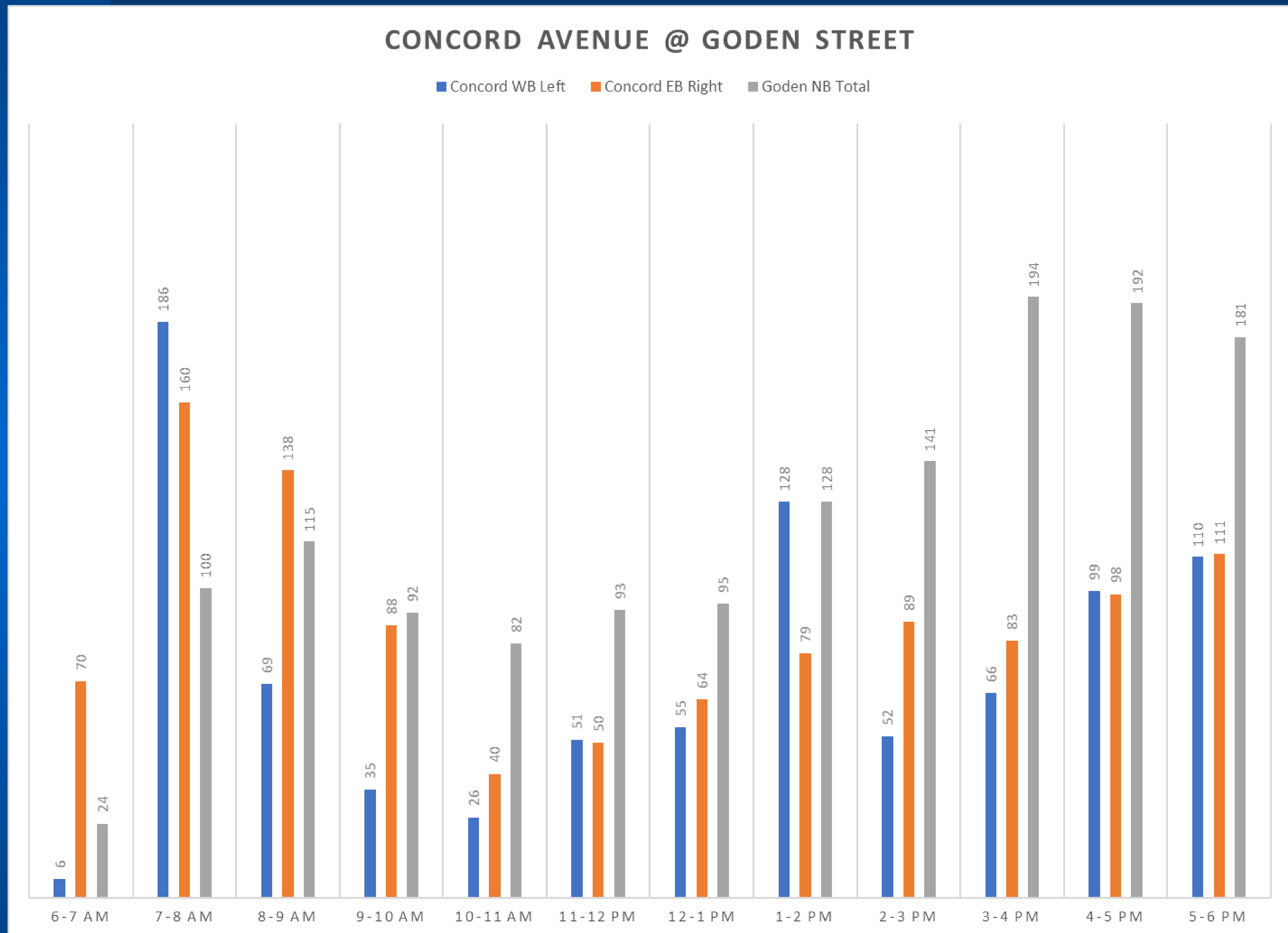approximate traffic volumes

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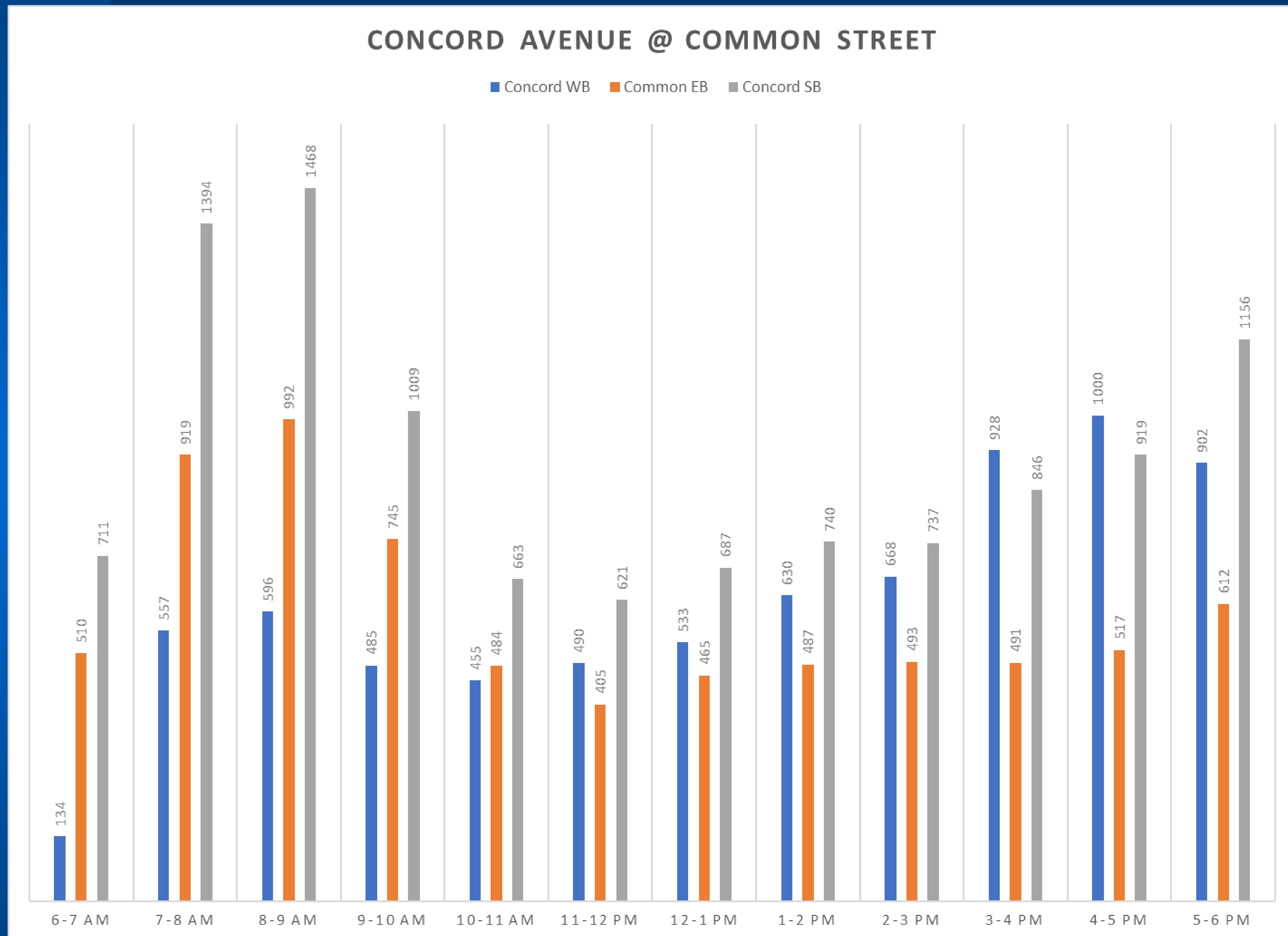BSC GROUP

Hourly Traffic Volume Variation

TRAPELO ROAD @ MILL STREET

■ Mill St SB ■ Trapelo Rd EB ■ Trapelo Rd WB

Time	Mill St SB	Trapelo Rd EB	Trapelo Rd WB
6-7 AM	398	454	553
7-8 AM	619	755	1044
8-9 AM	827	672	1205
9-10 AM	673	507	938
10-11 AM	451	524	702
11-12 PM	463	542	712
12-1 PM	451	536	771
1-2 PM	426	581	838
2-3 PM	506	674	849
3-4 PM	714	667	1022
4-5 PM	774	710	1129
5-6 PM	762	753	1139

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Hourly Traffic Volume Variation

CONCORD AVENUE @ GODEN STREET

Hourly Traffic Volume Variation

CONCORD AVENUE @ COMMON STREET

■ Concord WB　■ Common EB　■ Concord SB

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Trip Pattern – Node Map

| NODE	LOCATION
1	Concord Avenue/Marsh Street
2	Park Avenue/Route 2
3	Mill Street/Trapelo Road
4	Concord Avenue/Common Street
5	Lexington Street/Belmont Street
6	Pleasant Street/Lake Street
7	Cross Street/Lake Street
8	Cushing Square
9	Concord Avenue/Blanchard Road
10	Huron Avenue/Grove Street
11	Belmont Street/Grove Street

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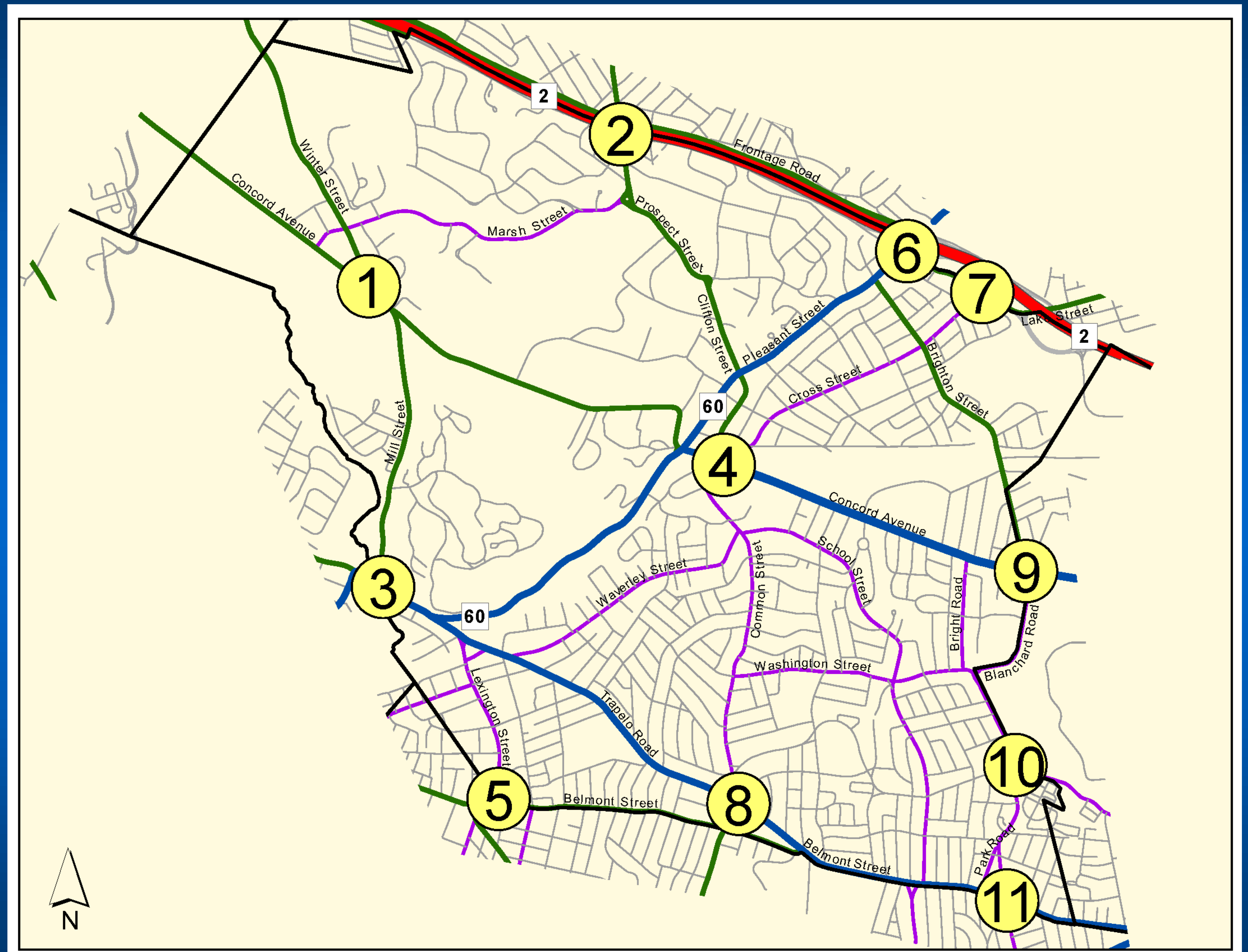
AM Trip Pattern – From Park Ave

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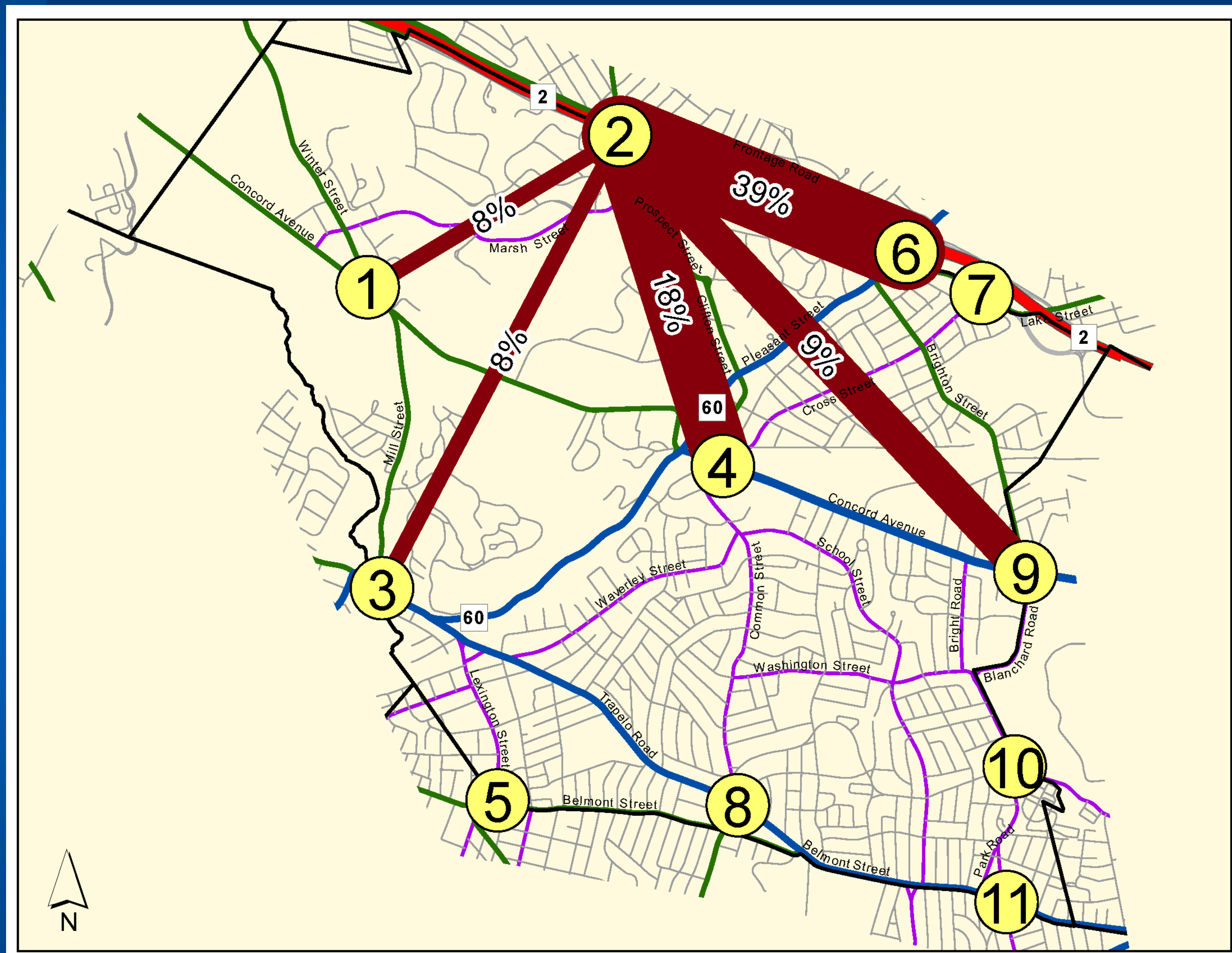
AM Trip Pattern – From Pleasant St

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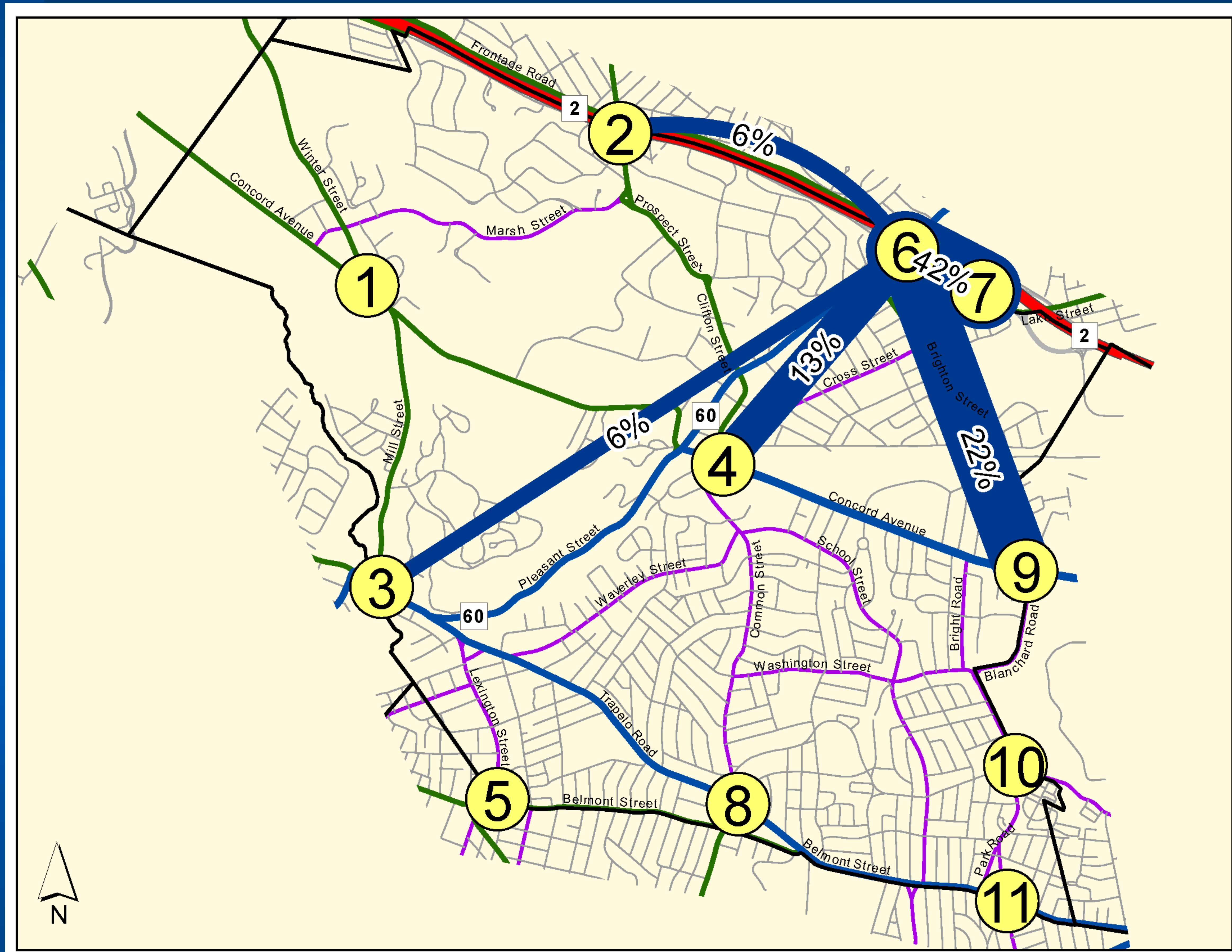
PM Trip Pattern – From Cushing Sq

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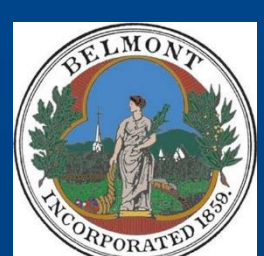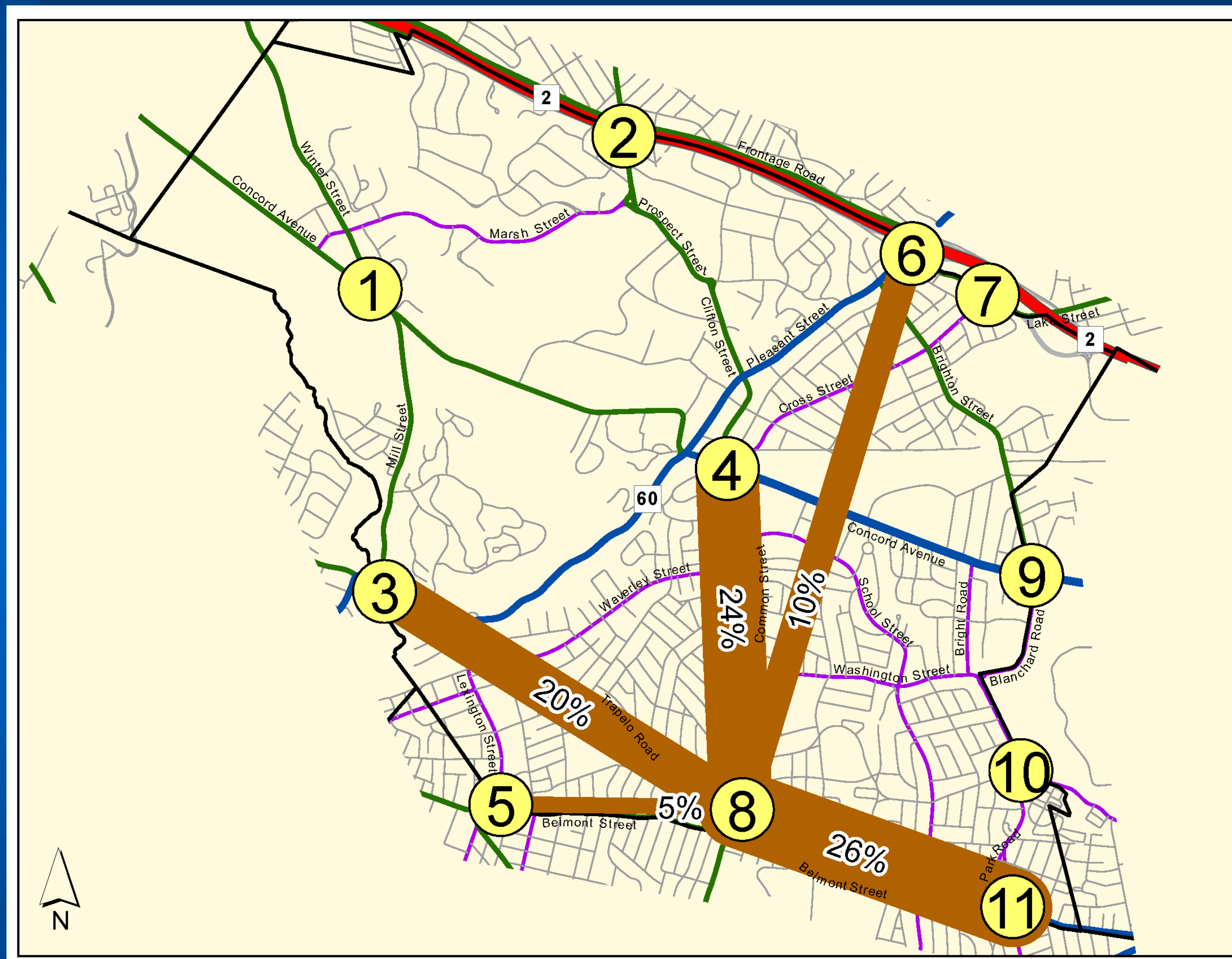
PM Trip Pattern – From Concord/Blanchard

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