



South Lexington Transportation Study Lexington, Massachusetts

Preliminary Findings and Options for Consideration

Public Information Meeting – 10/21/13



With RKG Associates, Inc.



Town of Lexington
Engineering and Planning
Departments

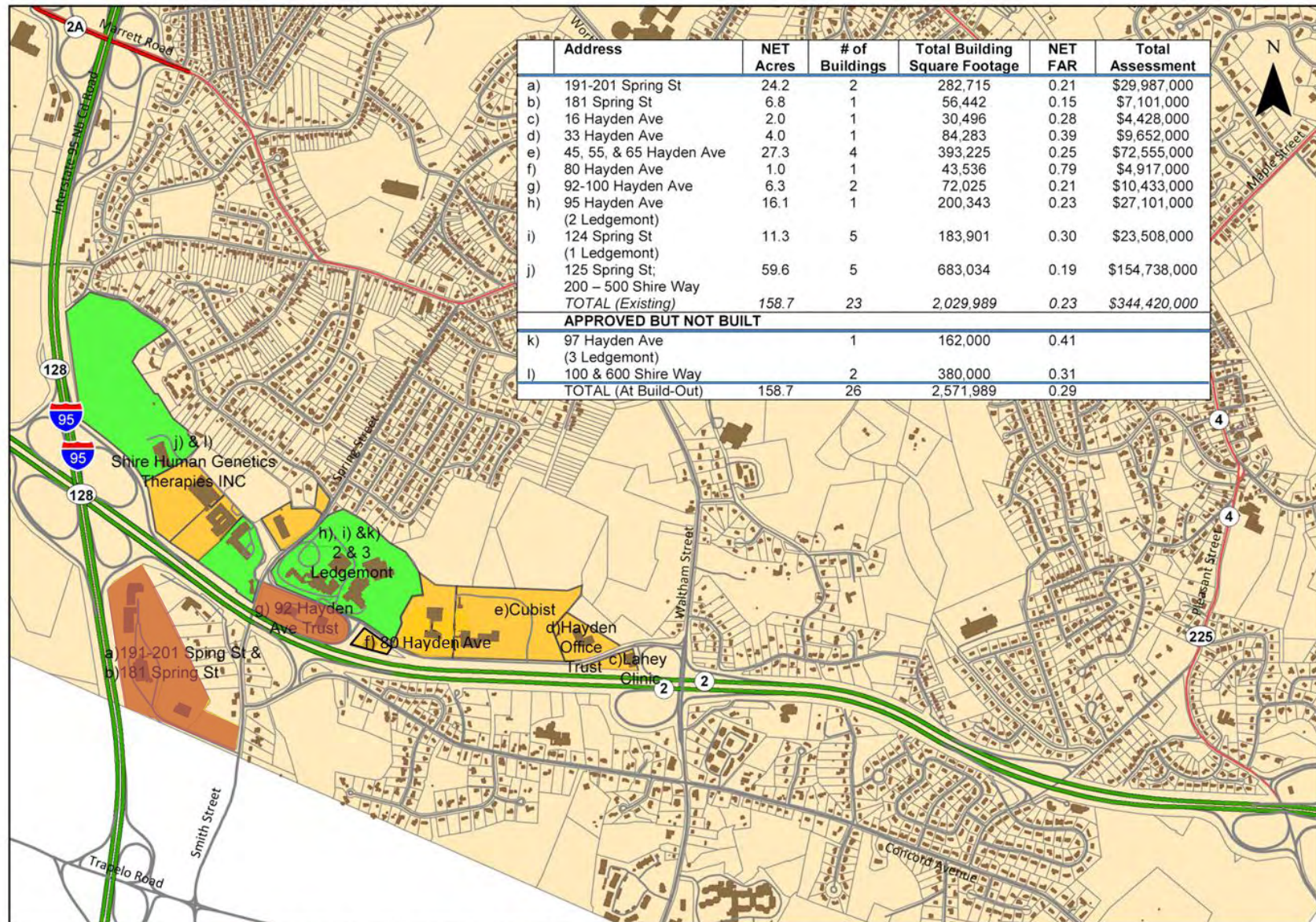
Meeting Purpose

- **Study Overview**
- **Existing Conditions Findings**
- **Summary of Projection Findings**
- **Discussion of Options**
- **Receive Feedback Prior to Recommendations**

Study Objectives

- **Examine cumulative impacts of Hayden/Spring Developments**
- **Project traffic conditions out to a 10-year horizon from 2013 to 2023 under moderate & high growth**
- **Identify multi-modal traffic issues/opportunities**
- **Review potential improvement options**
- **Recommendations based on feedback, analysis findings, and evaluation of options**

Hayden/Spring Developments

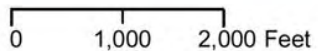


Address	NET Acres	# of Buildings	Total Building Square Footage	NET FAR	Total Assessment
a) 191-201 Spring St	24.2	2	282,715	0.21	\$29,987,000
b) 181 Spring St	6.8	1	56,442	0.15	\$7,101,000
c) 16 Hayden Ave	2.0	1	30,496	0.28	\$4,428,000
d) 33 Hayden Ave	4.0	1	84,283	0.39	\$9,652,000
e) 45, 55, & 65 Hayden Ave	27.3	4	393,225	0.25	\$72,555,000
f) 80 Hayden Ave	1.0	1	43,536	0.79	\$4,917,000
g) 92-100 Hayden Ave	6.3	2	72,025	0.21	\$10,433,000
h) 95 Hayden Ave (2 Ledgemont)	16.1	1	200,343	0.23	\$27,101,000
i) 124 Spring St (1 Ledgemont)	11.3	5	183,901	0.30	\$23,508,000
j) 125 Spring St; 200 - 500 Shire Way	59.6	5	683,034	0.19	\$154,738,000
TOTAL (Existing)	158.7	23	2,029,989	0.23	\$344,420,000
APPROVED BUT NOT BUILT					
k) 97 Hayden Ave (3 Ledgemont)		1	162,000	0.41	
l) 100 & 600 Shire Way		2	380,000	0.31	
TOTAL (At Build-Out)	158.7	26	2,571,989	0.29	

Individual parcels evaluated in the Hayden Avenue/Spring Street corridors

Potential density increase only with redevelopment

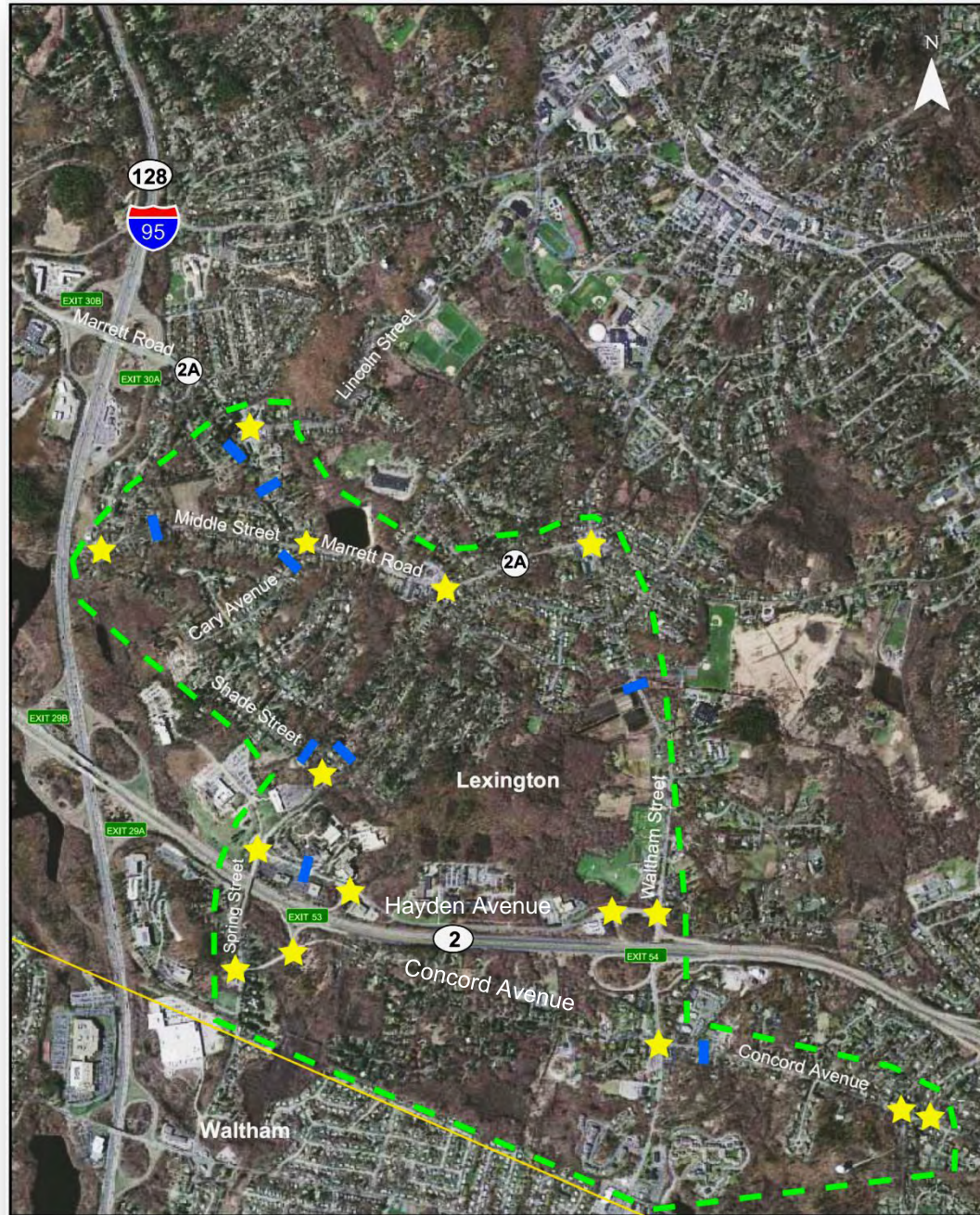
Parcels where additional development has been approved, but not yet fully built out



**South Lexington
Transportation Study
Development Sites**



Study Area Aerial Base



ENGINEERS
FST
Since 1914

- ★ Turning Movement Count (TMC) Location
7 - 9AM; 4 - 6 PM
- Automatic Traffic Recorder (ATR) Location
48 Hour Count
- Lexington/Waltham Townline
- - - Project Area

0 1,000 Feet

**South Lexington
 Transportation Study Area**

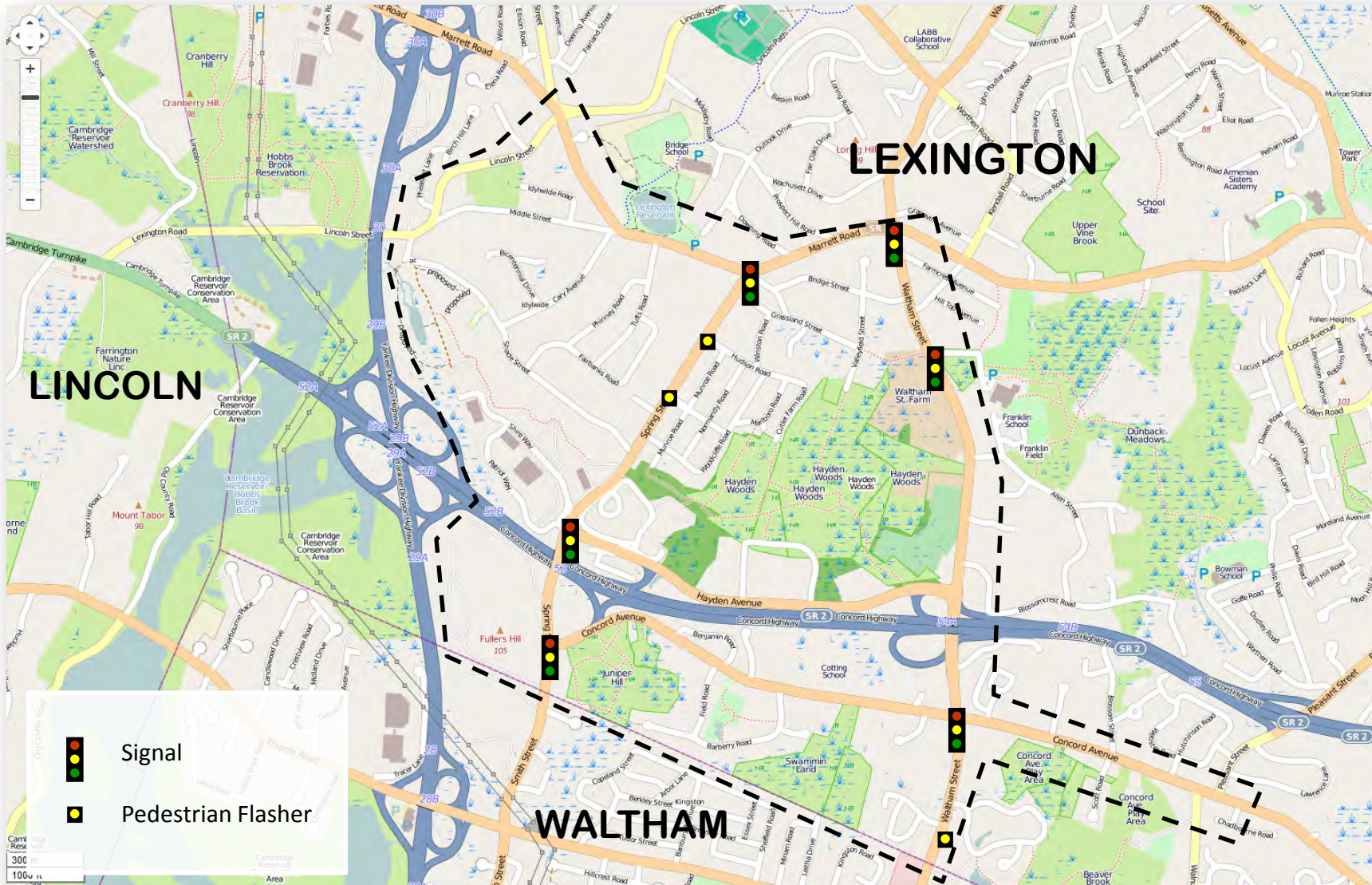


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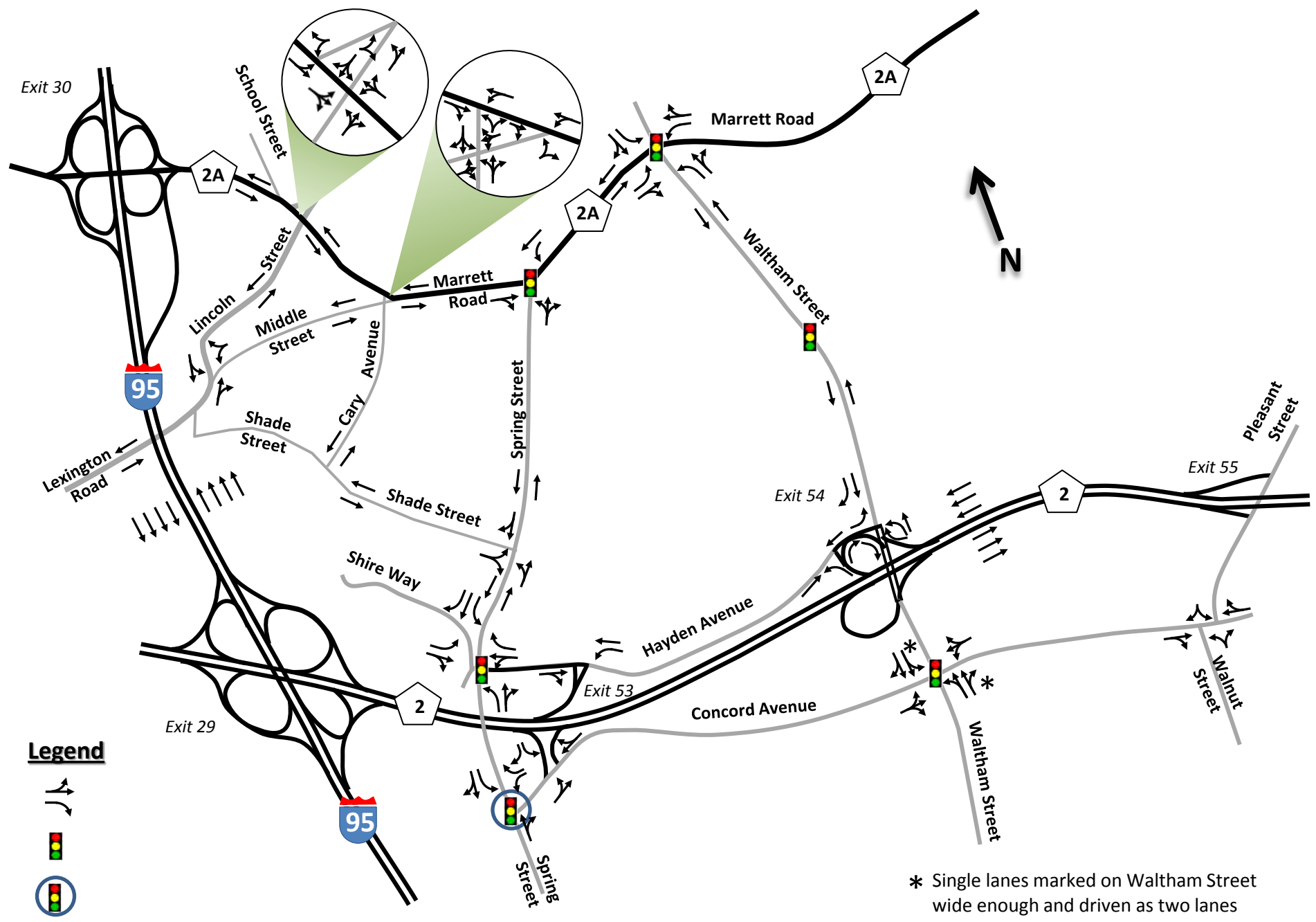


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Study Area – Street base



Road Network Lanes



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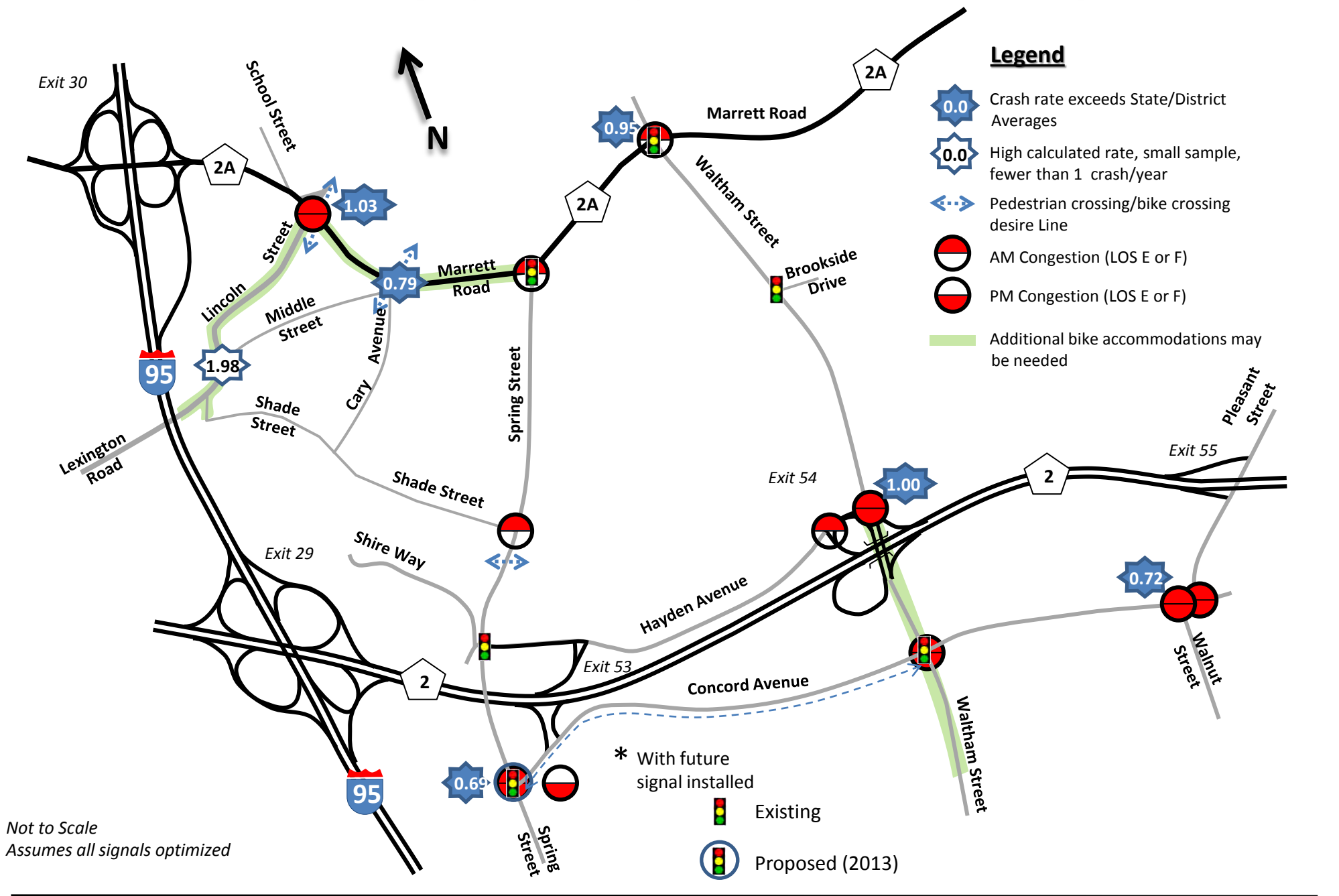


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Basis of Existing Conditions Findings

- **New 2013 counts included pedestrians, bikes, cars, trucks, buses**
- **Analysis of historic crash rates**
- **Observations & local knowledge**
- **Discussions with and data from Lexington Engineering and Planning Departments**

Existing (2013) issues findings



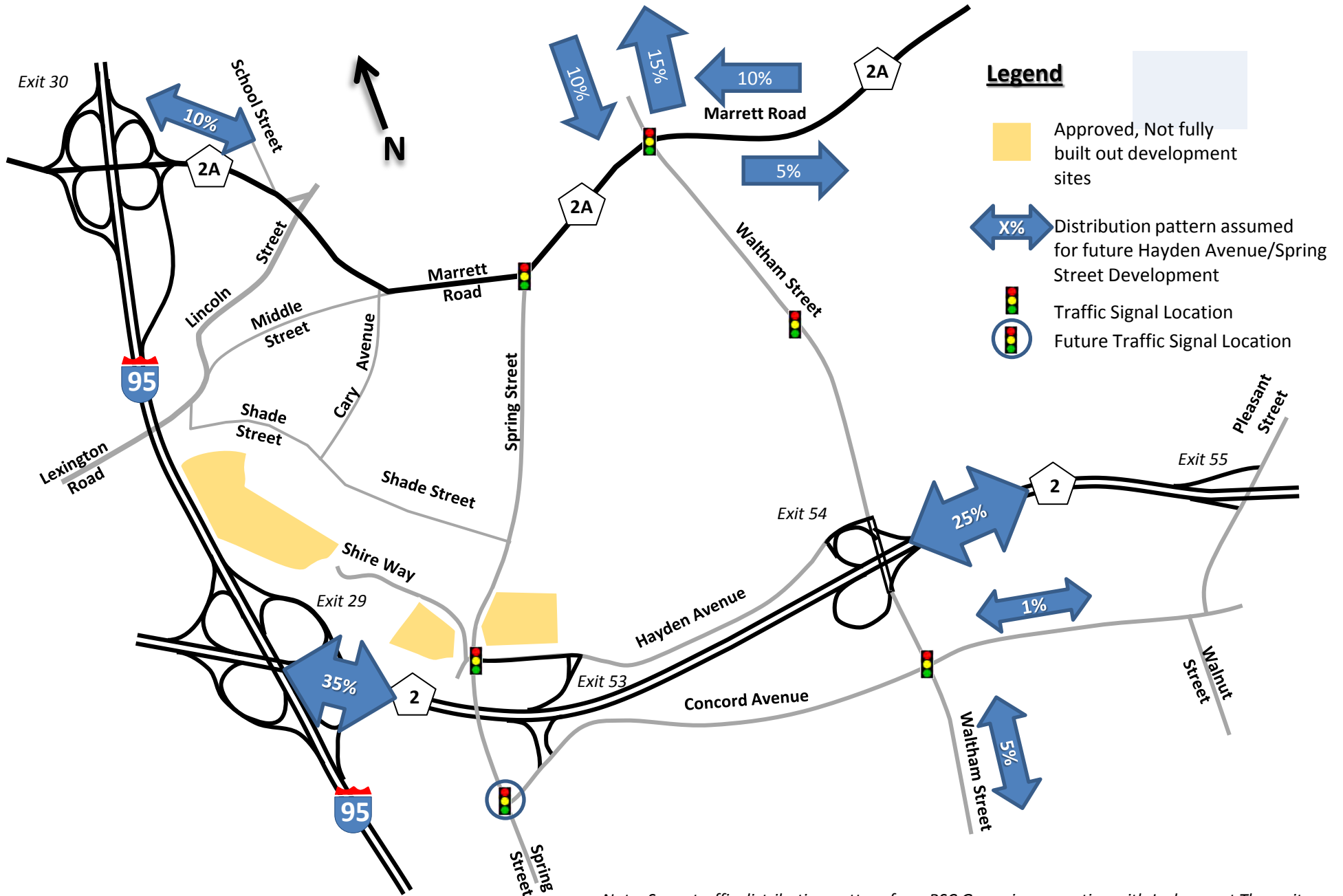
Network: AM peak volumes 18% higher than PM

2023 Projections

2023 Traffic Growth Assumptions

- **Background: 0.2% annually; 2% over next ten years – Source CTPS**
- ***Additional approved* 542 ksf office growth along Spring/Hayden corridor over the next 10 years**
- **Generated as General Office using ITE Trip Generation report (9th Edition, 2012)**
- **Total Projected Network Growth by 2023**
 - **AM Peak 12%**
 - **PM peak 10 %**
- **Lexington Town standard for maximum traffic accommodation – level of service D (alternatively - no worse than No-Build)**

Future Development Trip Distribution Pattern



Note: Same traffic distribution pattern from BSC Group in connection with Ledgemont Three site.

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Assumed Enhancements by 2023



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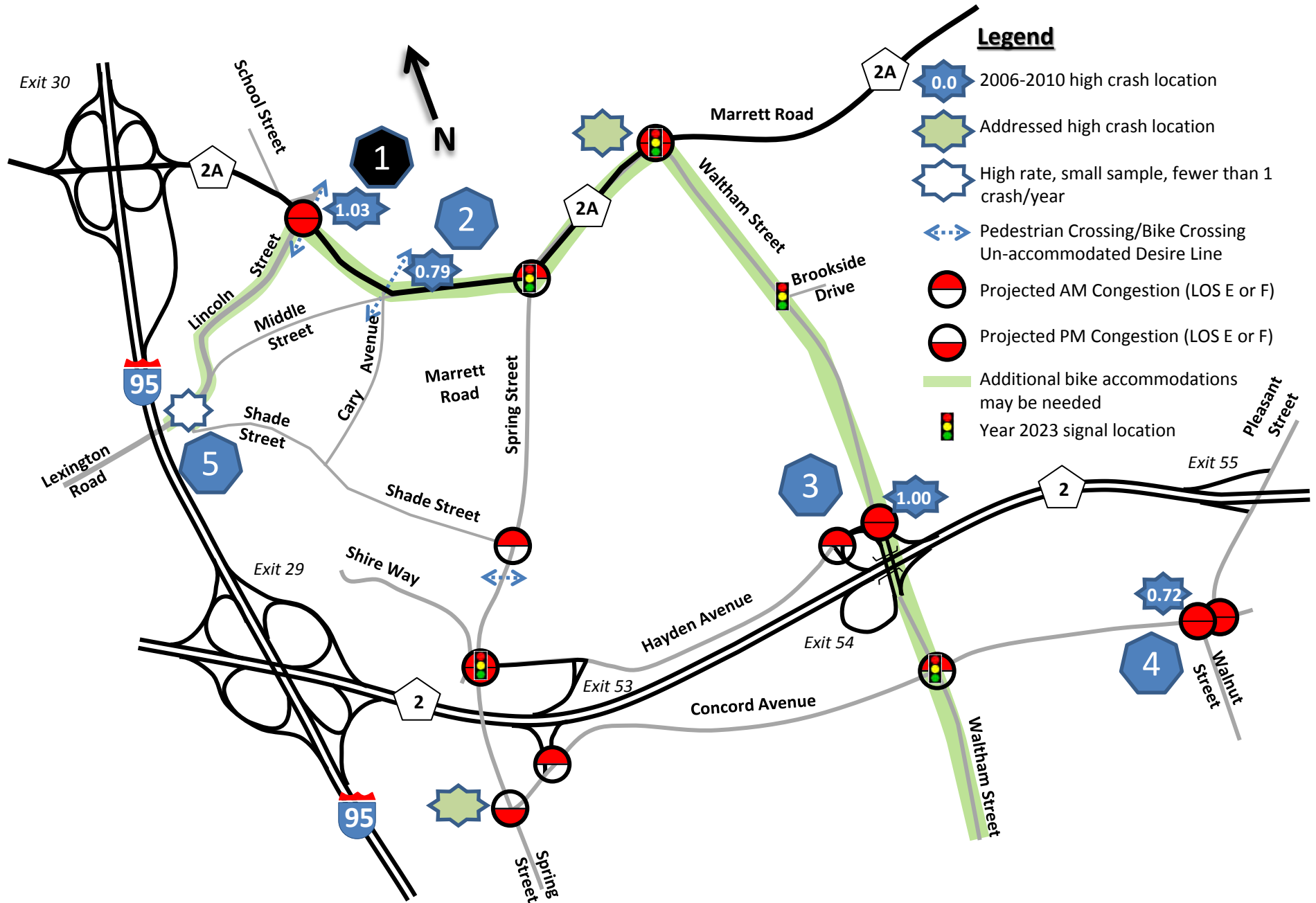


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Year 2023 Focus Issues



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**Northwest on Marrett Rd (Rte. 2A)
to Lincoln Street**



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**South on Lincoln (North)
to Marrett Rd (Rte. 2A)**



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**South on School Street to Marrett Rd. (Rte. 2A)
Just north of Lincoln Street (North)**



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West on Lincoln Street to Marrett Road (Rte. 2A)



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1

Concept: Not to Scale

South Lexington Transportation Study
Marrett Road (Rte. 2A) at Lincoln Streets – Option 1 – Signalized w/One-Way Segment





Concept: Not to Scale

South Lexington Transportation Study

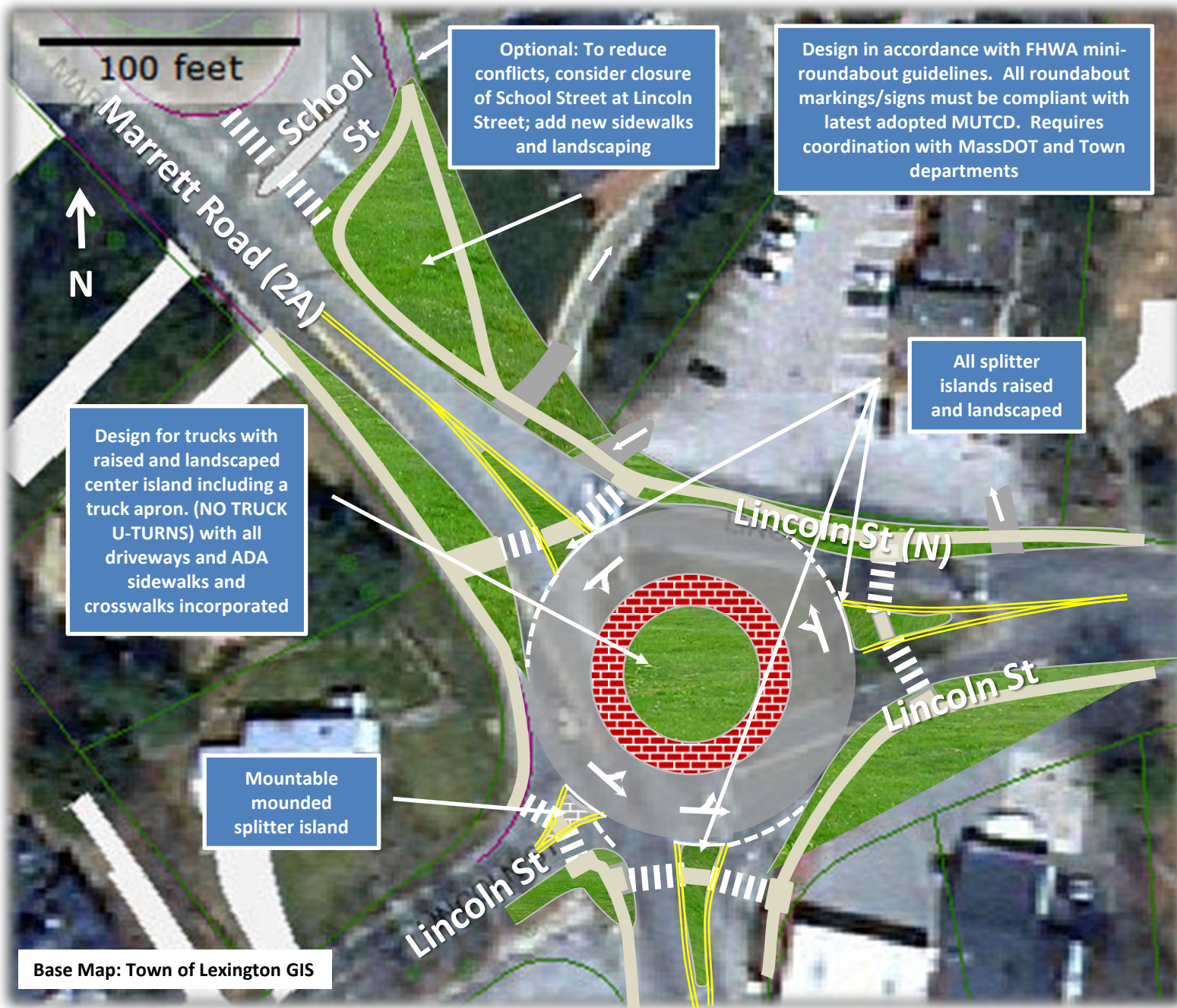
Marrett Road (Rte. 2A) at Lincoln Streets – Option 2 – Signalized w/Enlarged Green Spaces



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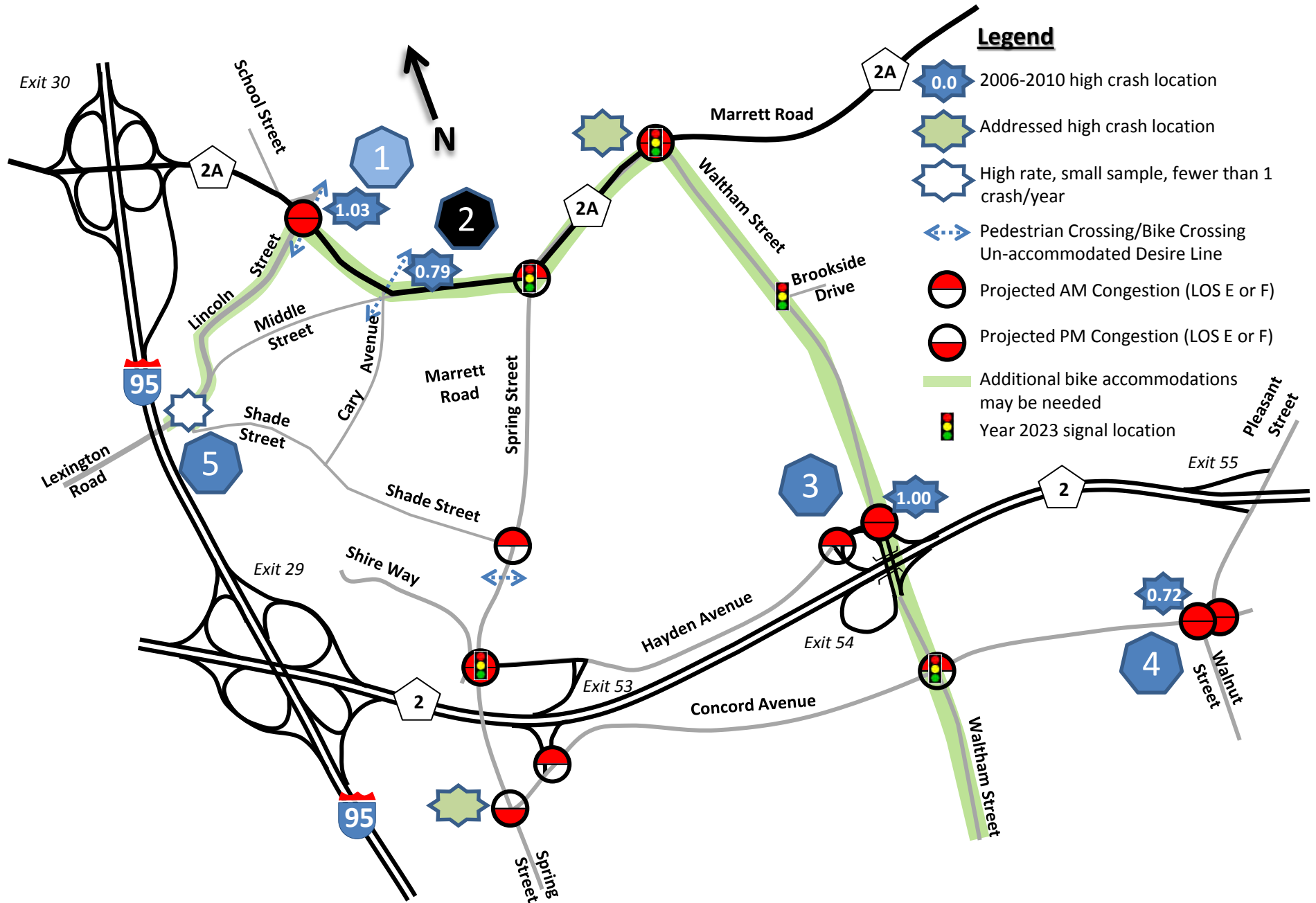
Concept Not to Scale

South Lexington Transportation Study

Option 3 – Marrett Road (Rte. 2A) at Lincoln Streets – Roundabout w/Enlarged Greenspace



Year 2023 Focus Issues



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**North on Cary Street to
Middle Street and Marrett Road (Rte. 2A)**



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Northeast on Middle Street to Marrett Road (Rte. 2A)



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CARY AVE

**North on Marrett Road (Rte. 2A)
to Cary Avenue**



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2



MIDDLE ST

CONCORD LITTLETON
HANSCOM FIELD

PEDESTRIAN CROSSING

ROAD WORK AHEAD



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West on Marrett Rd. (Rte. 2A) to Middle Street at Crosswalk



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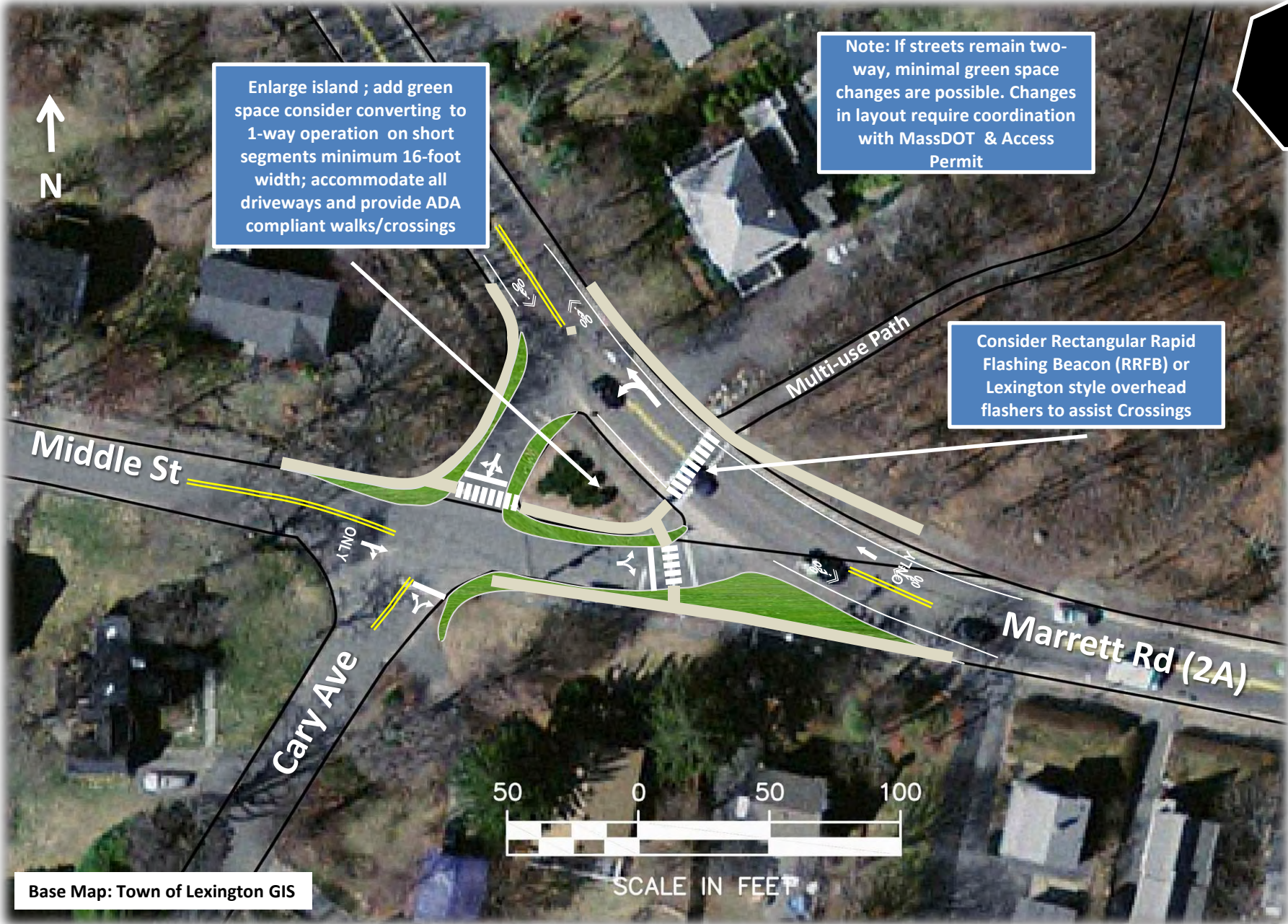
**North on Middle Street (Rte. 2A)
to Cary Avenue**



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Concept: Not to Scale

South Lexington Transportation Study

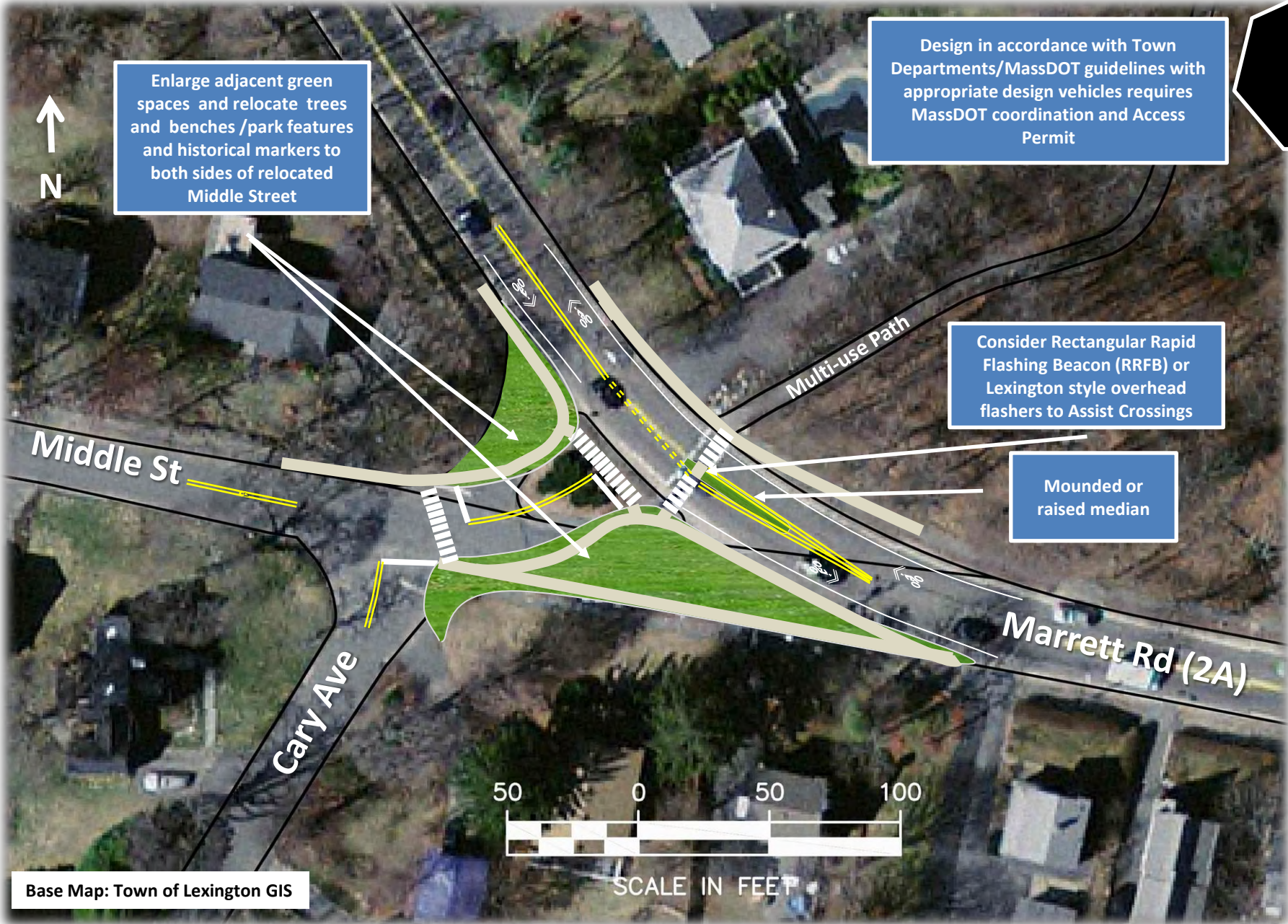
Option 1 - Marrett Road (Route 2A) at Cary and Middle Streets –Enlarge Island and Modify Circulation



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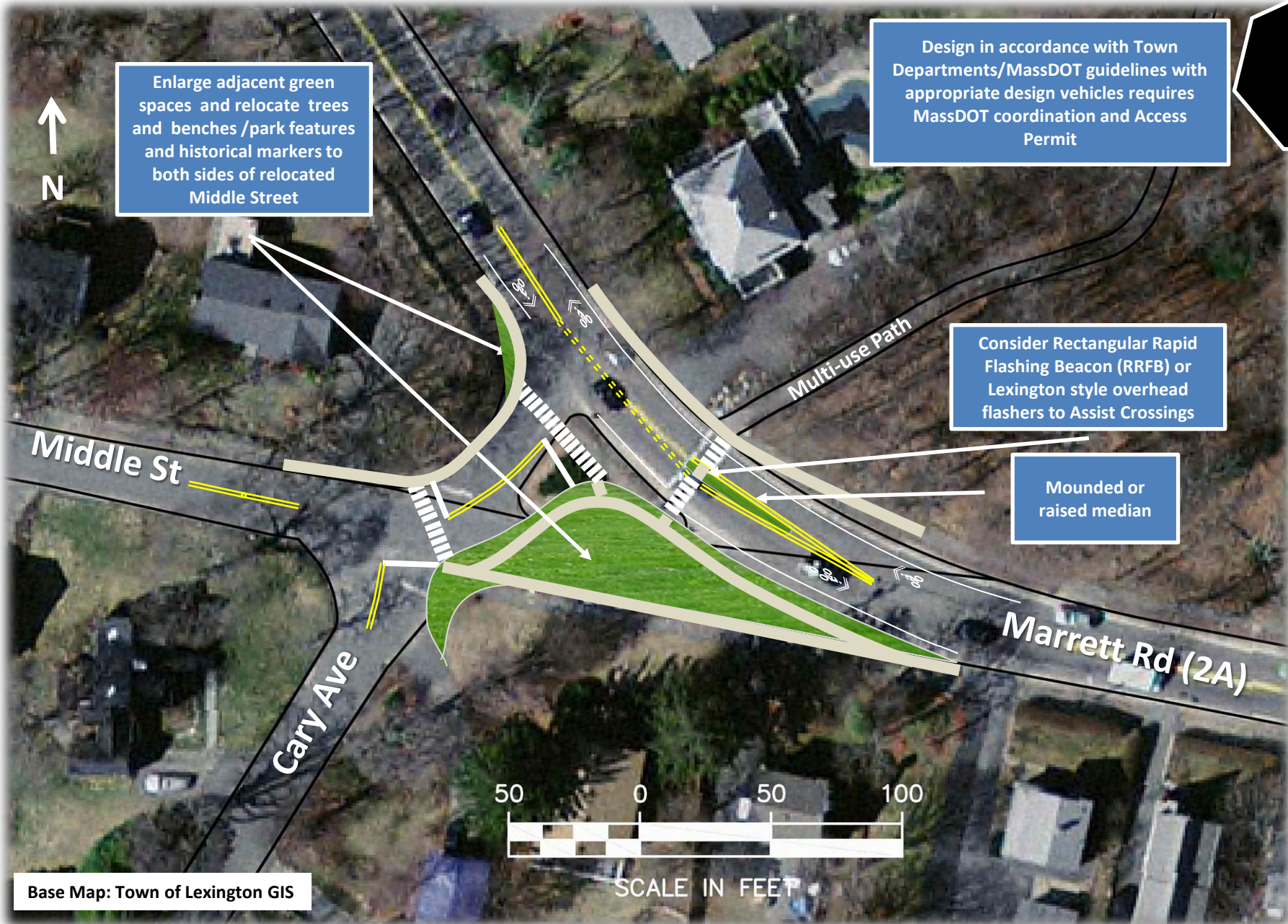


Concept: Not to Scale

South Lexington Transportation Study

Option 2 - Marrett Road (Route 2A) at Cary and Middle Streets –Simplified Circulation with Median





Concept: Not to Scale

Option 2A - Marrett Road (Route 2A) at Cary and Middle Streets –Simplified Circulation with Median

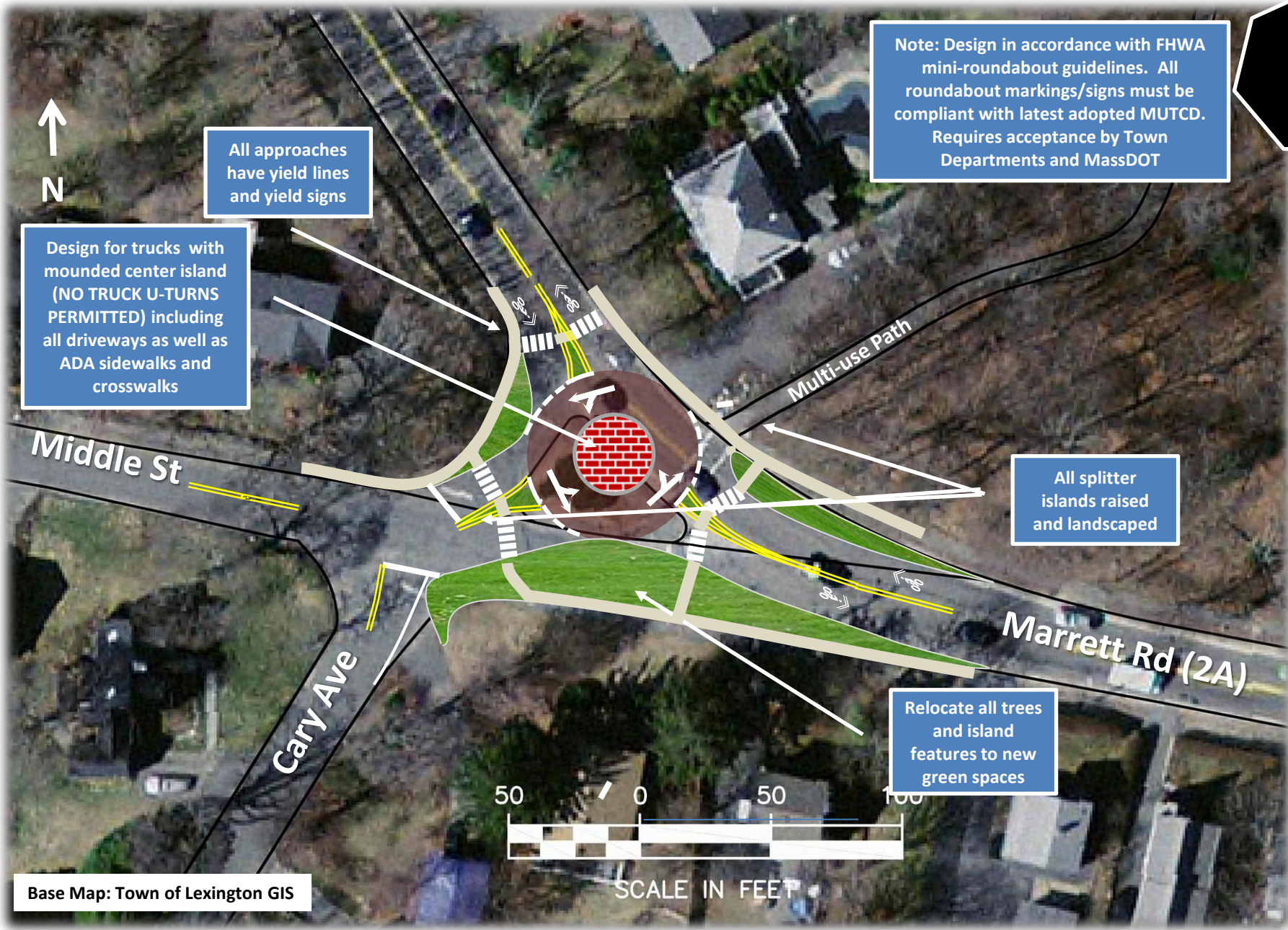
South Lexington Transportation Study



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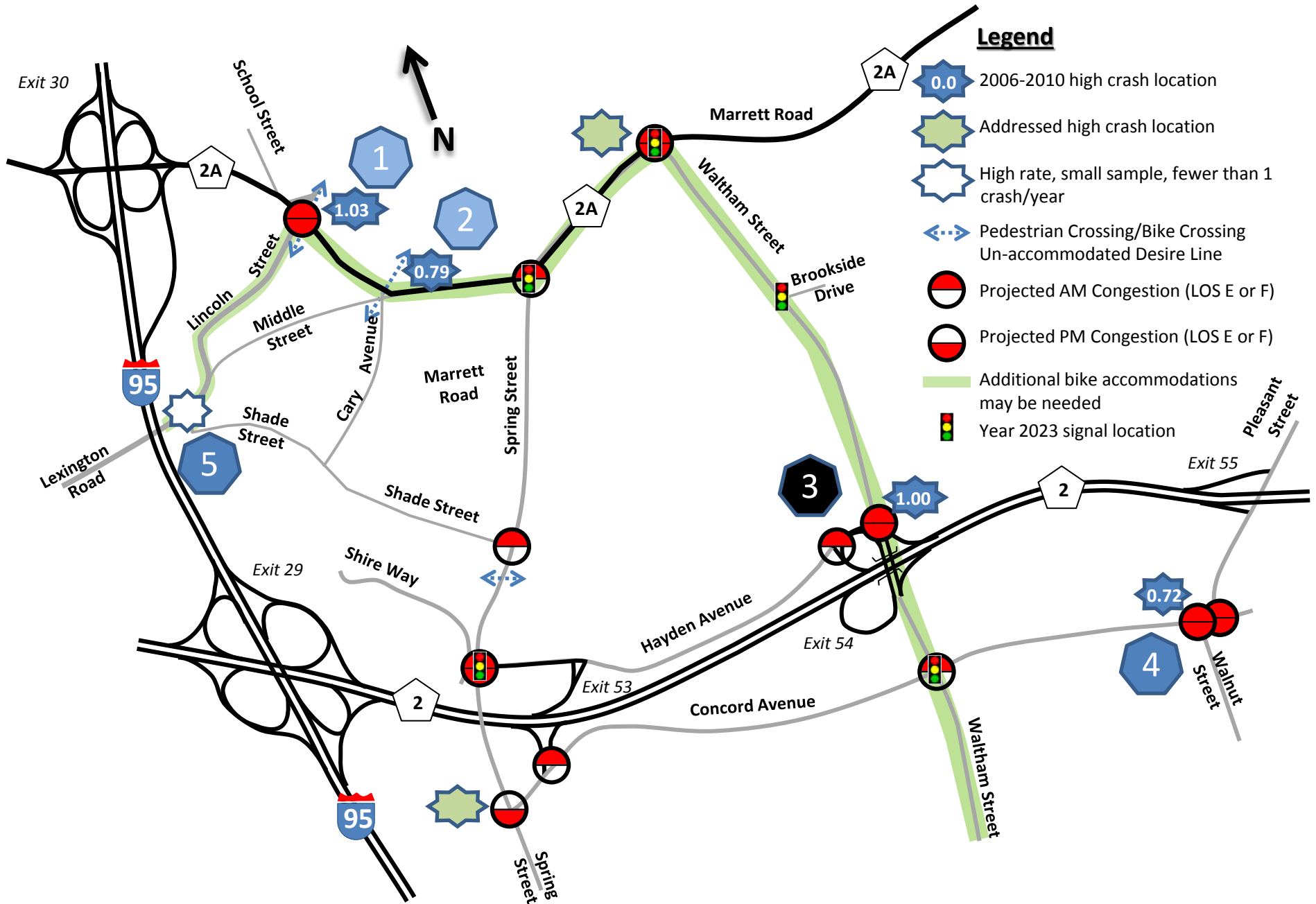
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Concept: Not to Scale

South Lexington Transportation Study
Option 3 – Marrett Road (Route 2A) at Cary and Middle Streets Mini-roundabout

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**South on Waltham Street
at Hayden Avenue**



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**West on Route 2 off-ramp
to Waltham Street**



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West on Hayden Avenue to Route 2 WB off ramps



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**Northeast on Route 2 WB
off ramp right to Hayden Avenue**



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3



**North on Route 2 WB off-ramp
left to Hayden Avenue**



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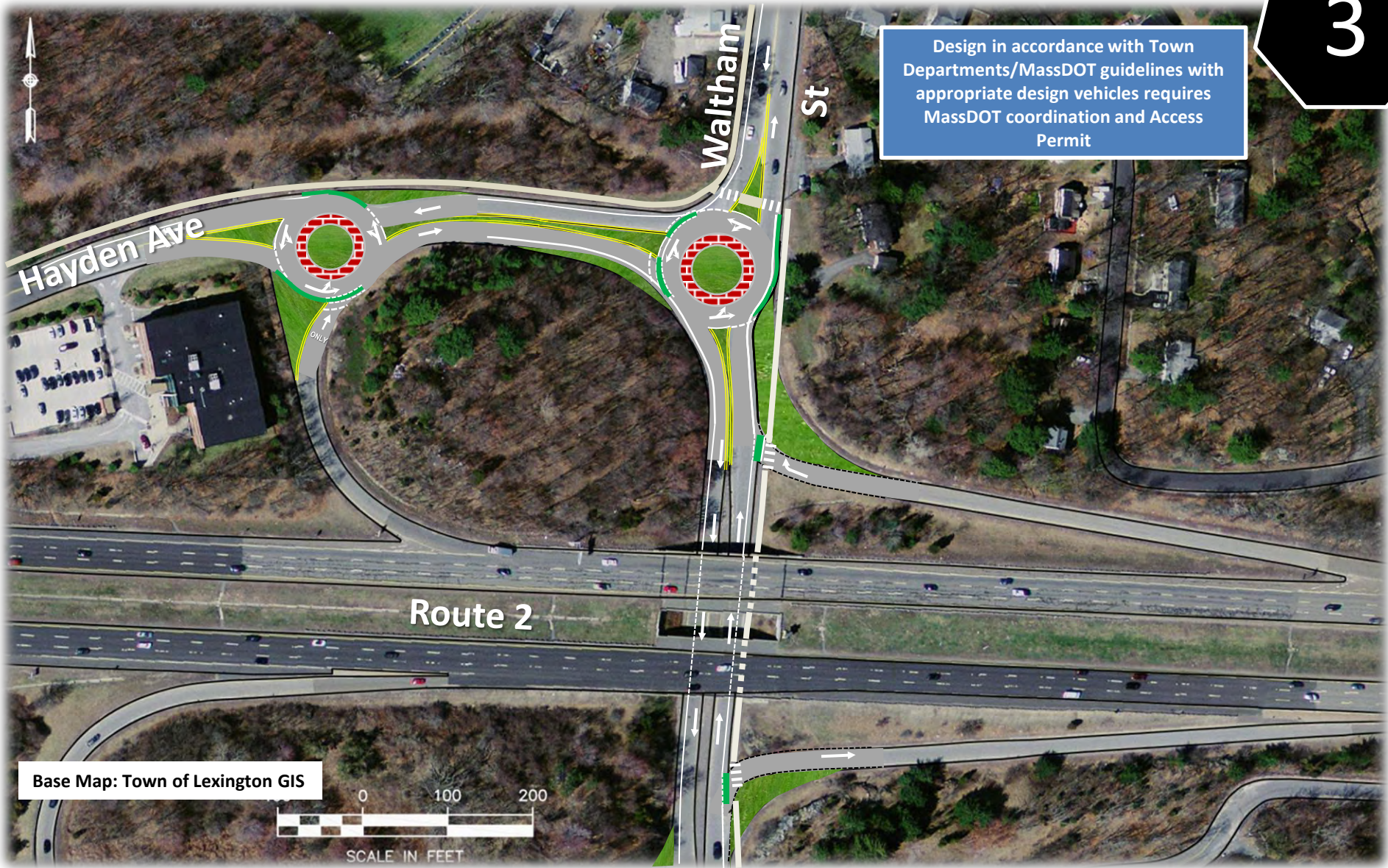


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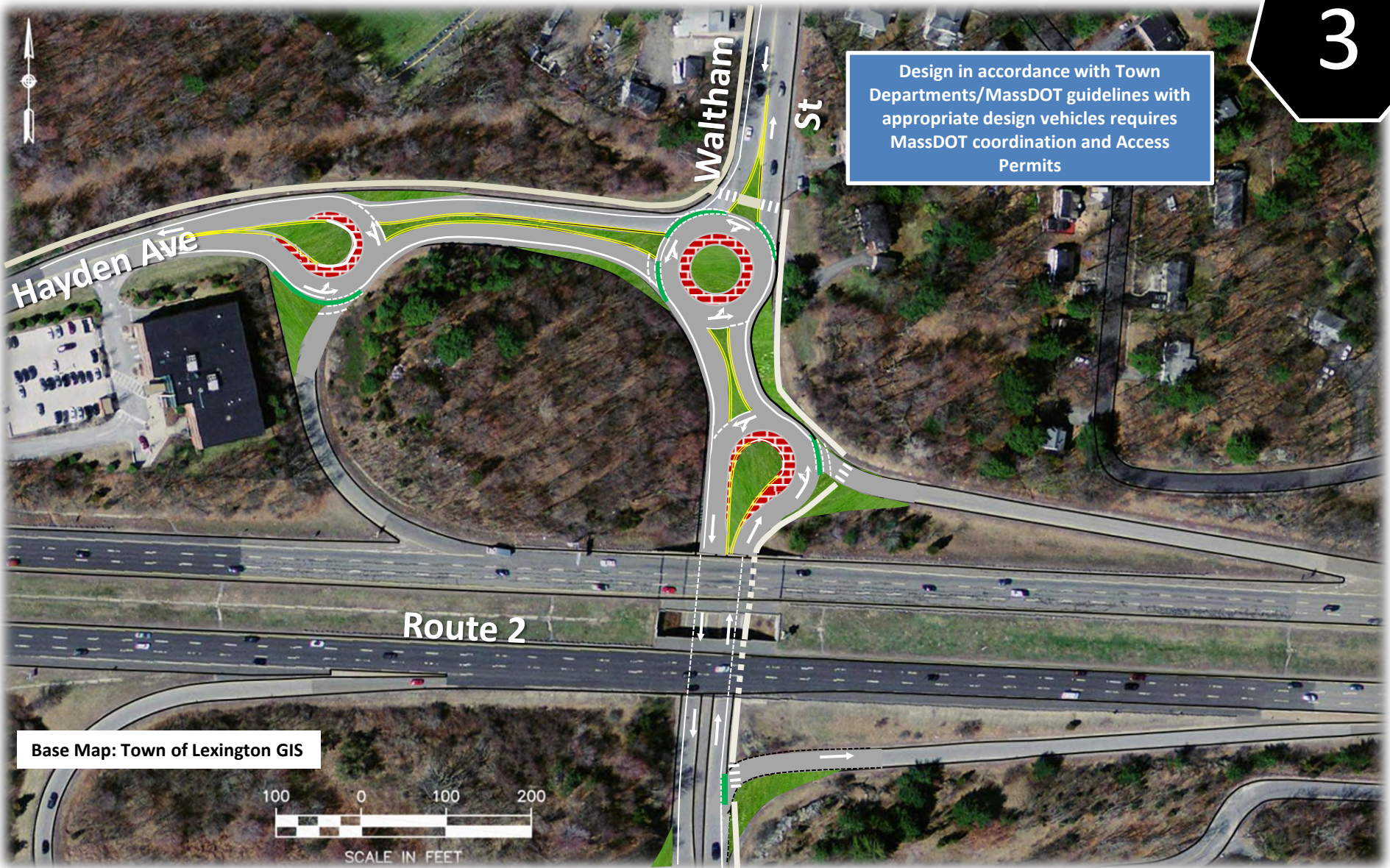
Concept: Not to Scale

**South Lexington Transportation Study
Option 1 – Provide Bike Enhancements
Signalize & Modify Route 2 WB Ramps at Waltham Street with Single Controller**



Concept: Not to Scale

**South Lexington Transportation Study
Option 2 – Provide Bike Enhancements
Create Dual Roundabouts of 2 WB Ramps at Waltham Street**



Design in accordance with Town Departments/MassDOT guidelines with appropriate design vehicles requires MassDOT coordination and Access Permits

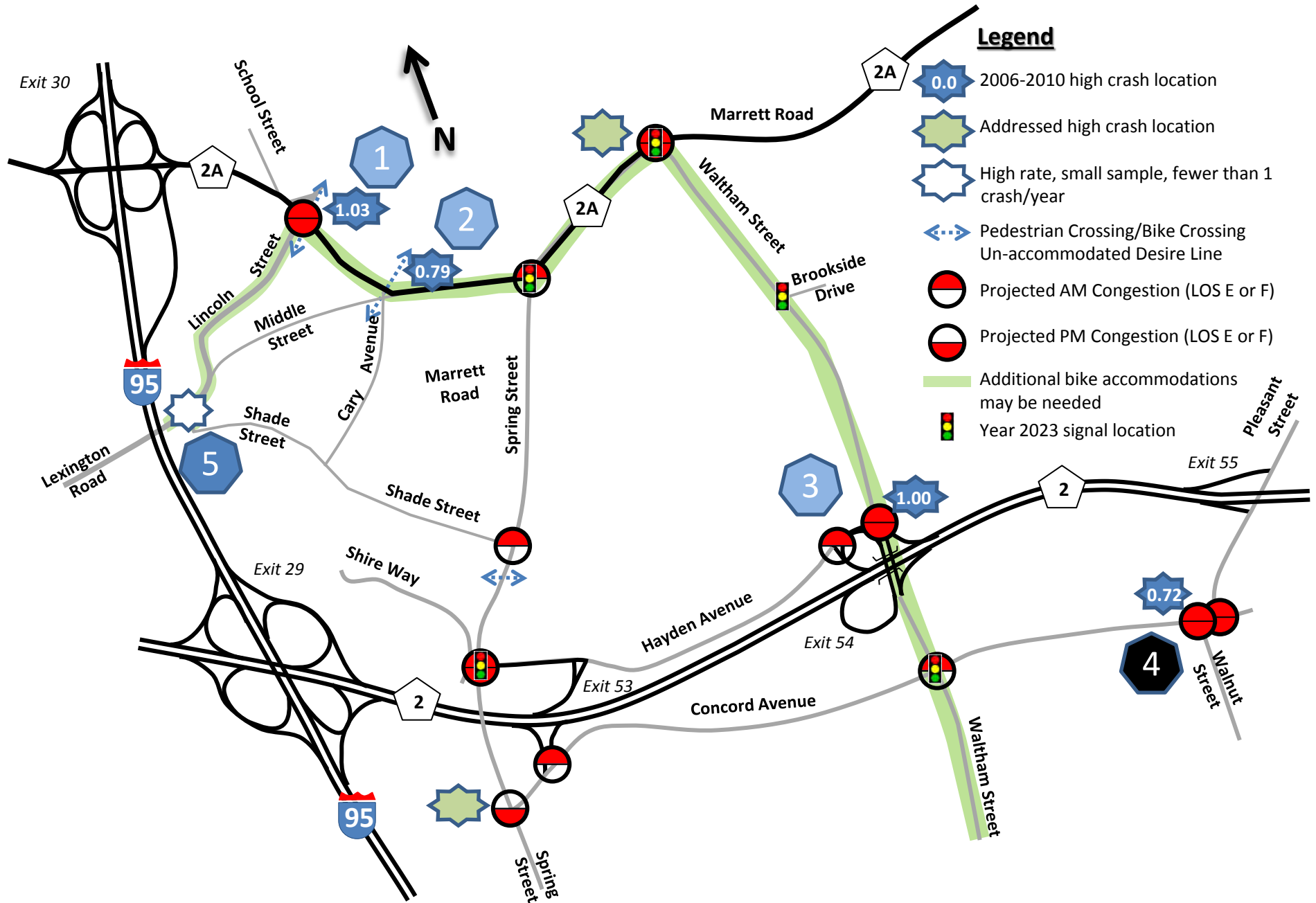
Base Map: Town of Lexington GIS

100 0 100 200
SCALE IN FEET

Concept: Not to Scale

*South Lexington Transportation Study
Option 3 – Provide Bike Enhancements
Create Deflections and Roundabout Route 2 WB Ramps at Waltham Street*

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4



**North on Walnut Street
to Concord Avenue**



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WALNUT

**Southeast on Concord Avenue
to Walnut Street**



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**East on Concord Avenue
to Pleasant Street approach**



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South on Pleasant Street to Concord Avenue



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Concord Avenue at Walnut and Pleasant Streets

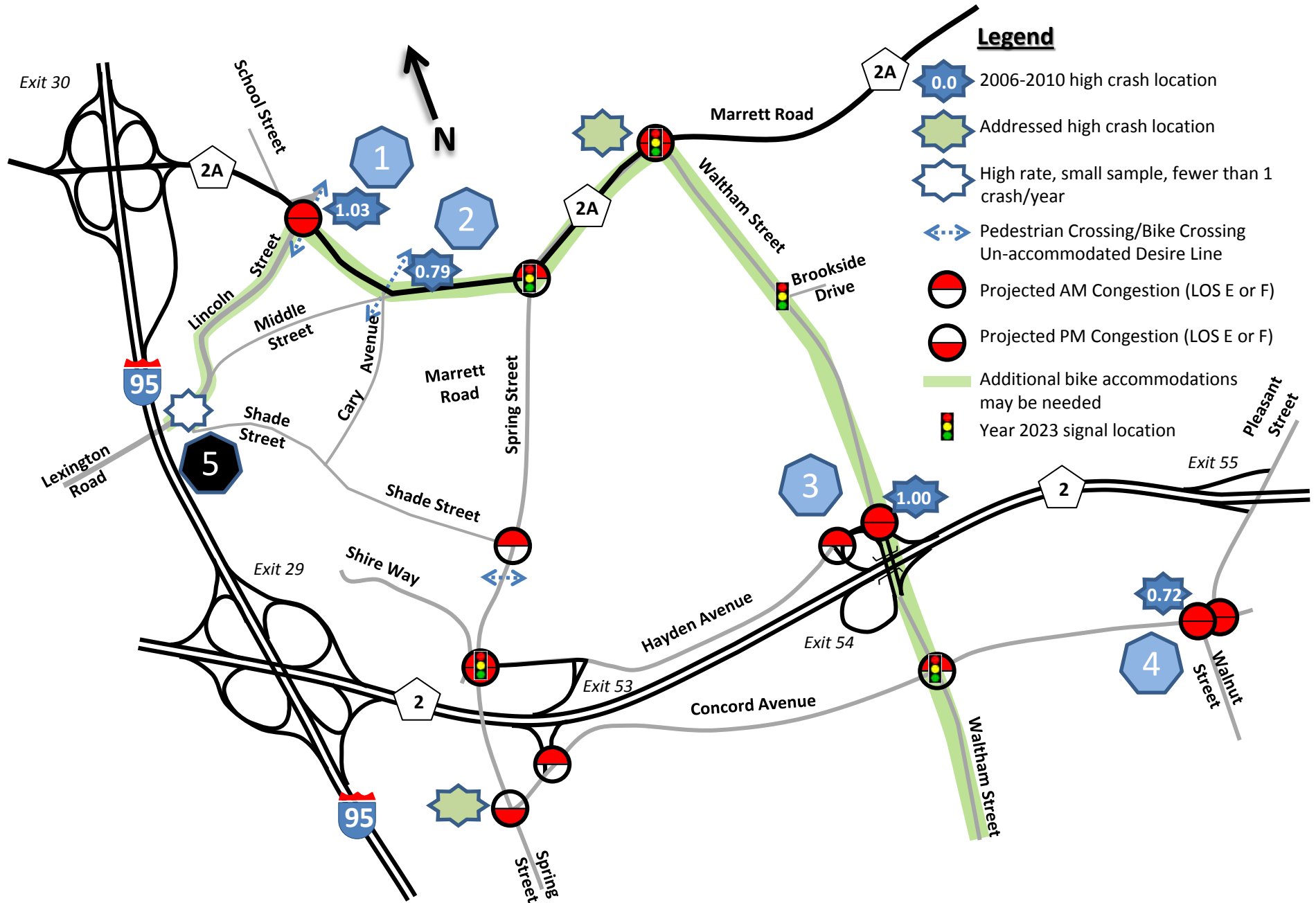
Consider 'popcorn' pavement.
median grounding, seasonal
heating pavement w/temperature
sensor; hedge trimming

Meets peak hour
warrant; low impact
post mounted signals
possible; aesthetic
compatibility an issue



Base Map: Town of Lexington GIS

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**Southeast on Middle Street
at Lincoln Street**



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**East on Middle Street
to Lincoln Street**



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Northeast on Lincoln Street to Middle Street



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Lincoln at Middle Streets – T to Middle Street

5



Base Map: Town of Lexington GIS



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Lincoln at Middle Streets – T to Lincoln Street



Base Map: Town of Lexington GIS



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Other Strategies

- **Emphasize/maximize site TDM measures**
- **New pedestrian or bike crossings --address ADA compliance; sight lines; use FHWA guidelines for crosswalk placement**
- **Marrett Road – 3 to 4-foot shoulders with sharrows in travel lanes for bicyclists throughout & 11-foot travel lanes**
- **Add sharrows 11-foot travel lanes with shoulders to Waltham Street between Marrett and Waltham Line except at interchange where bike lanes are needed**
- **Optimize/maintain all signals regularly**



Thank you

Comments- Questions

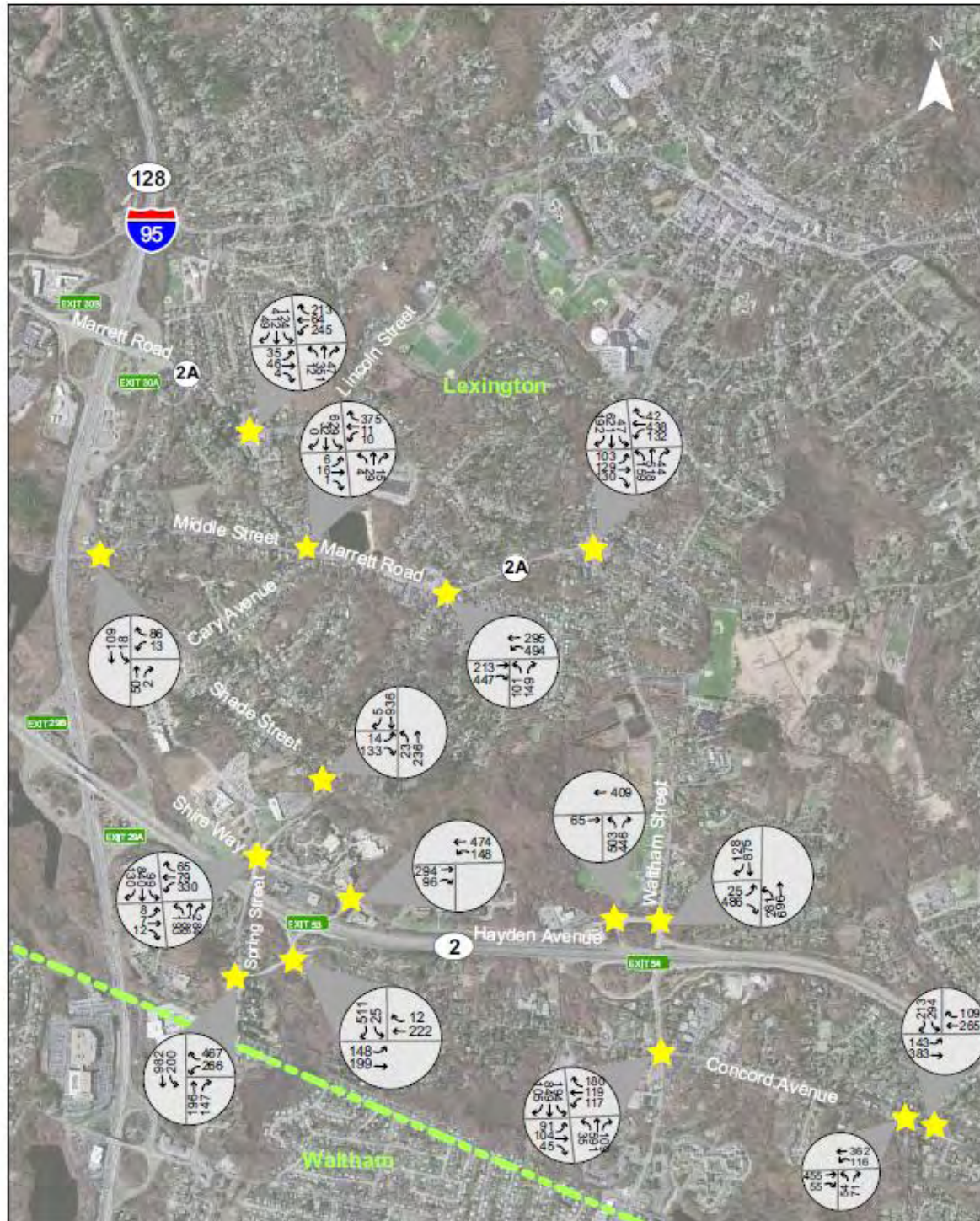
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EST
SINCE 1974
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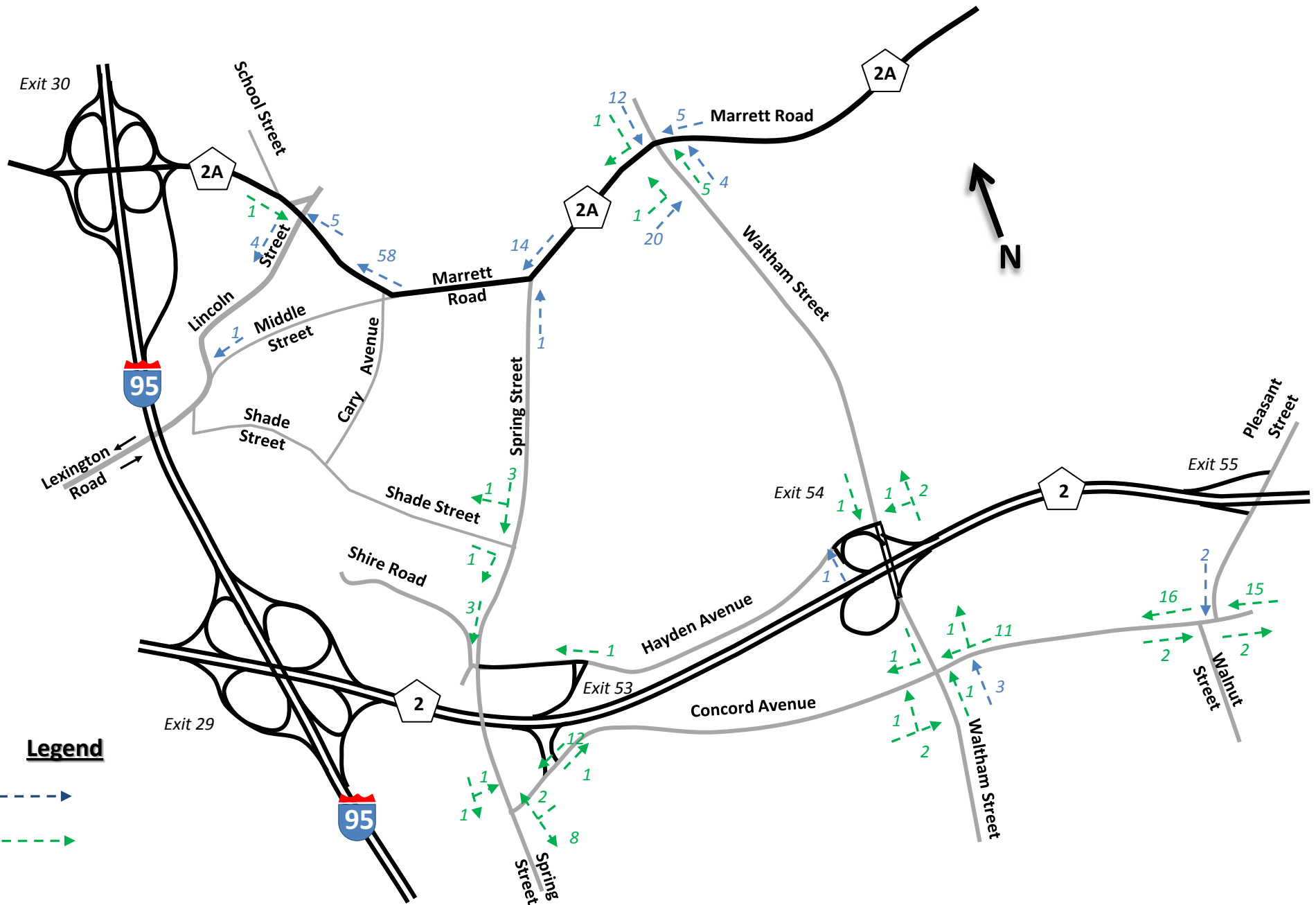
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EXTRA SLIDES

2013 AM Peak Hour – Vehicle Counts



2013 AM Peak Hour – Bike/Ped Counts



Not to Scale

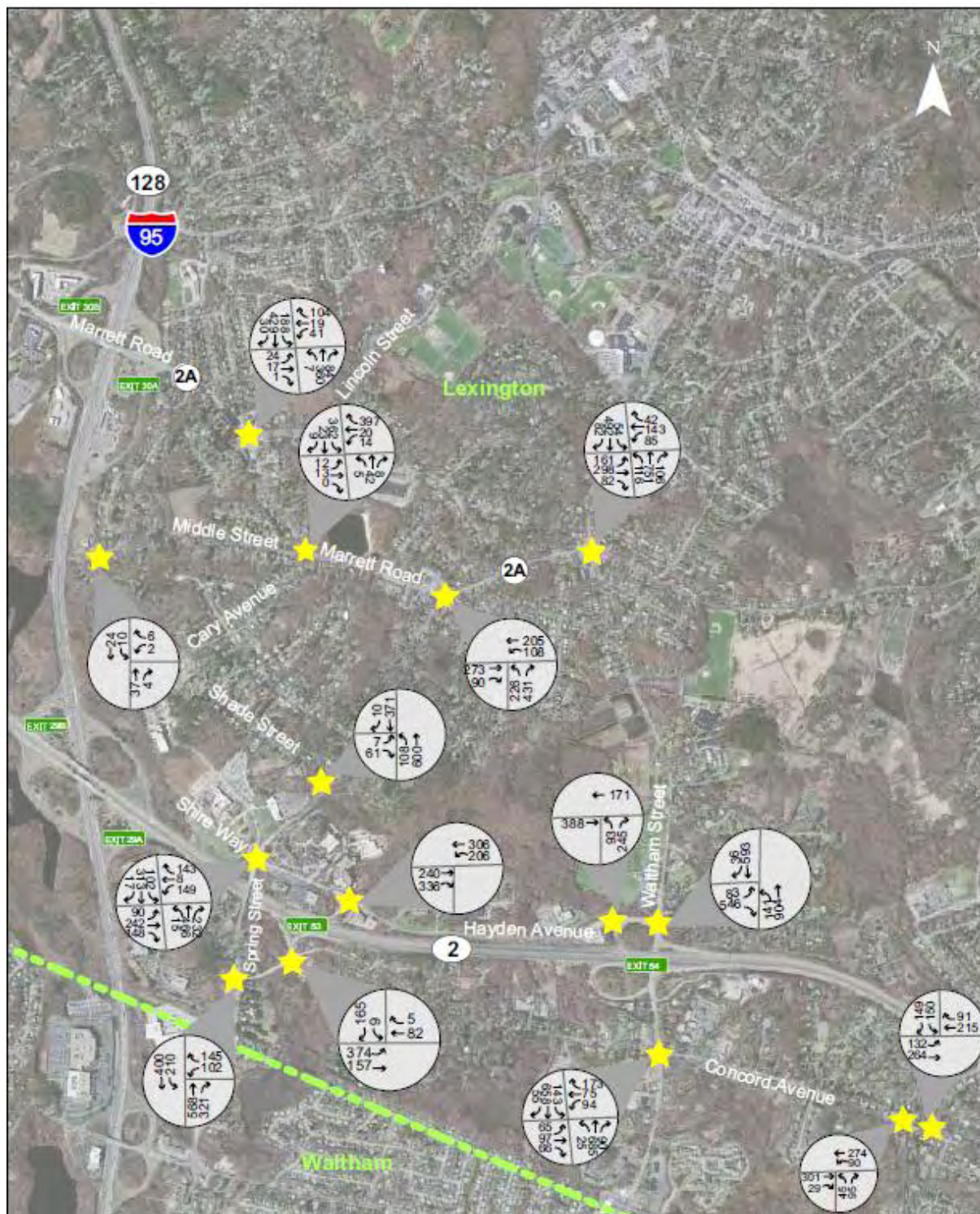


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2013 PM Peak Hour – Vehicle Counts

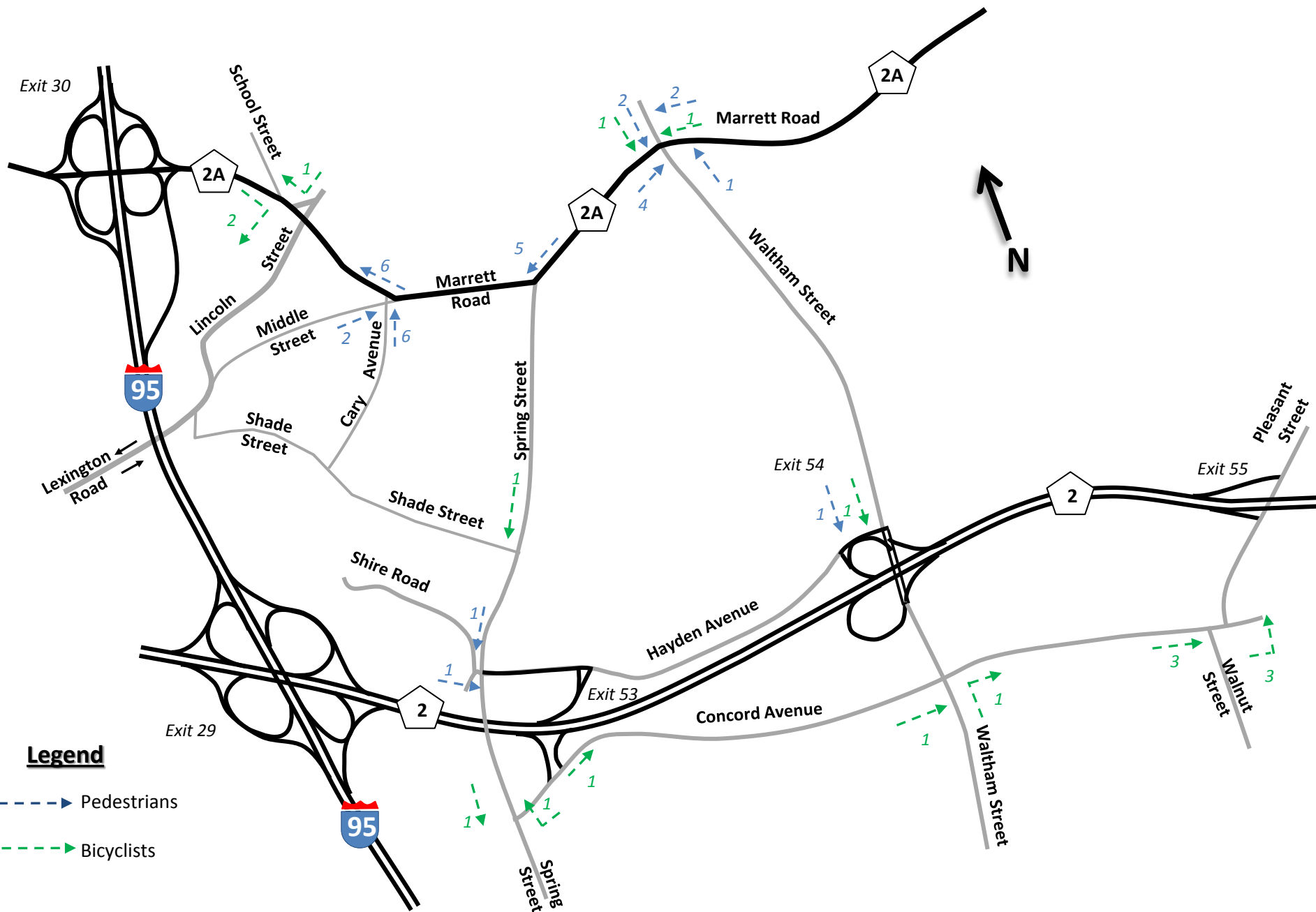


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2013 PM Peak Hour – Bike/Ped Counts



Not to Scale

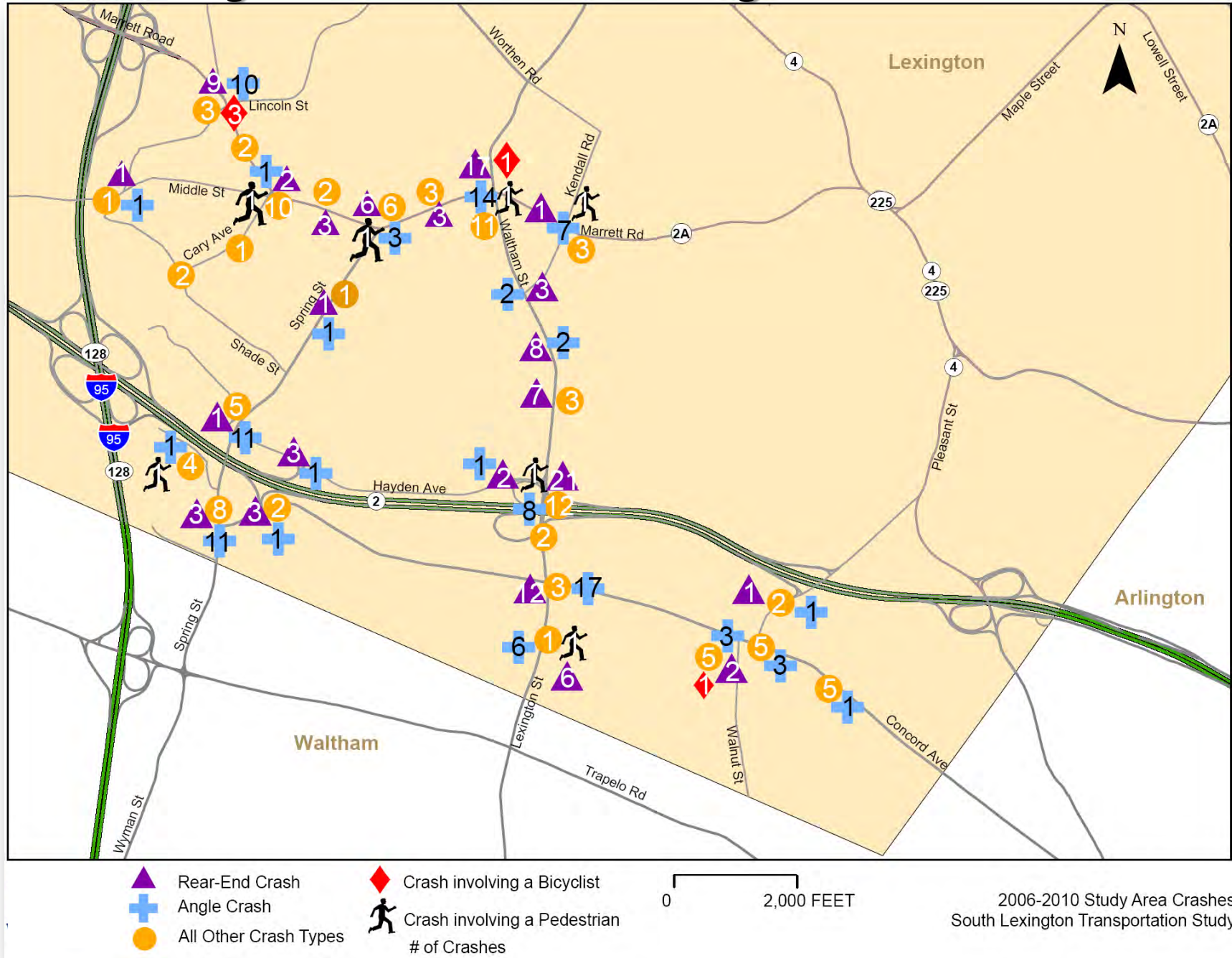


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5-year Crash history 2006-2010



2006-2010 Study Area Crashes
South Lexington Transportation Study



Sidewalks and trails - 2013



0 1,000 2,000 Feet

- one side Sidewalks
- both sides Sidewalks
- Bicycle Trails
- Other Trail
- Conservation Trails
- Sidewalks to be Built

South Lexington Transportation Study
Sidewalks and Trails



Drawing Source: Conceptual Design Plan, Town of Lexington Engineering Department - implemented fall 2013

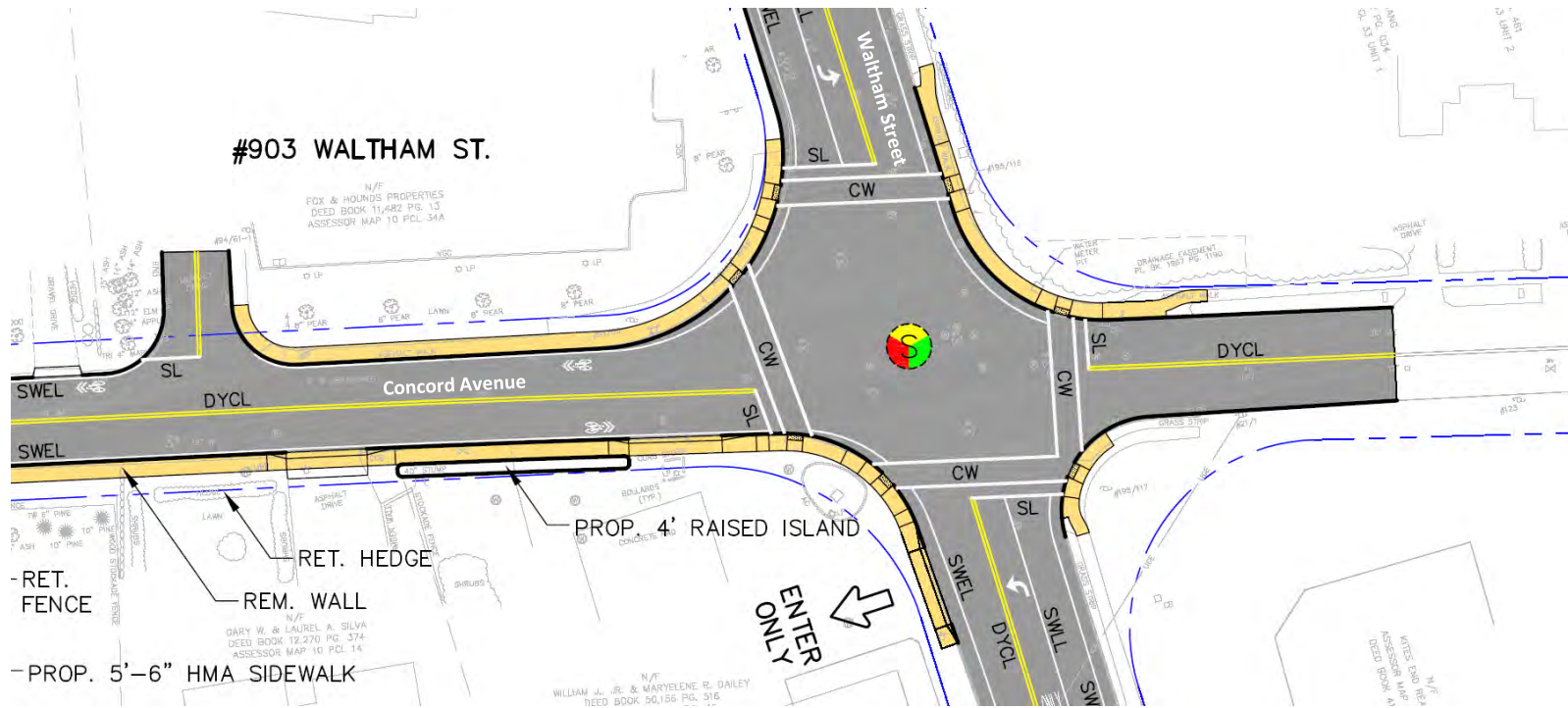
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*South Lexington Transportation Study
Excerpt from Shade Street Traffic Calming Plan*



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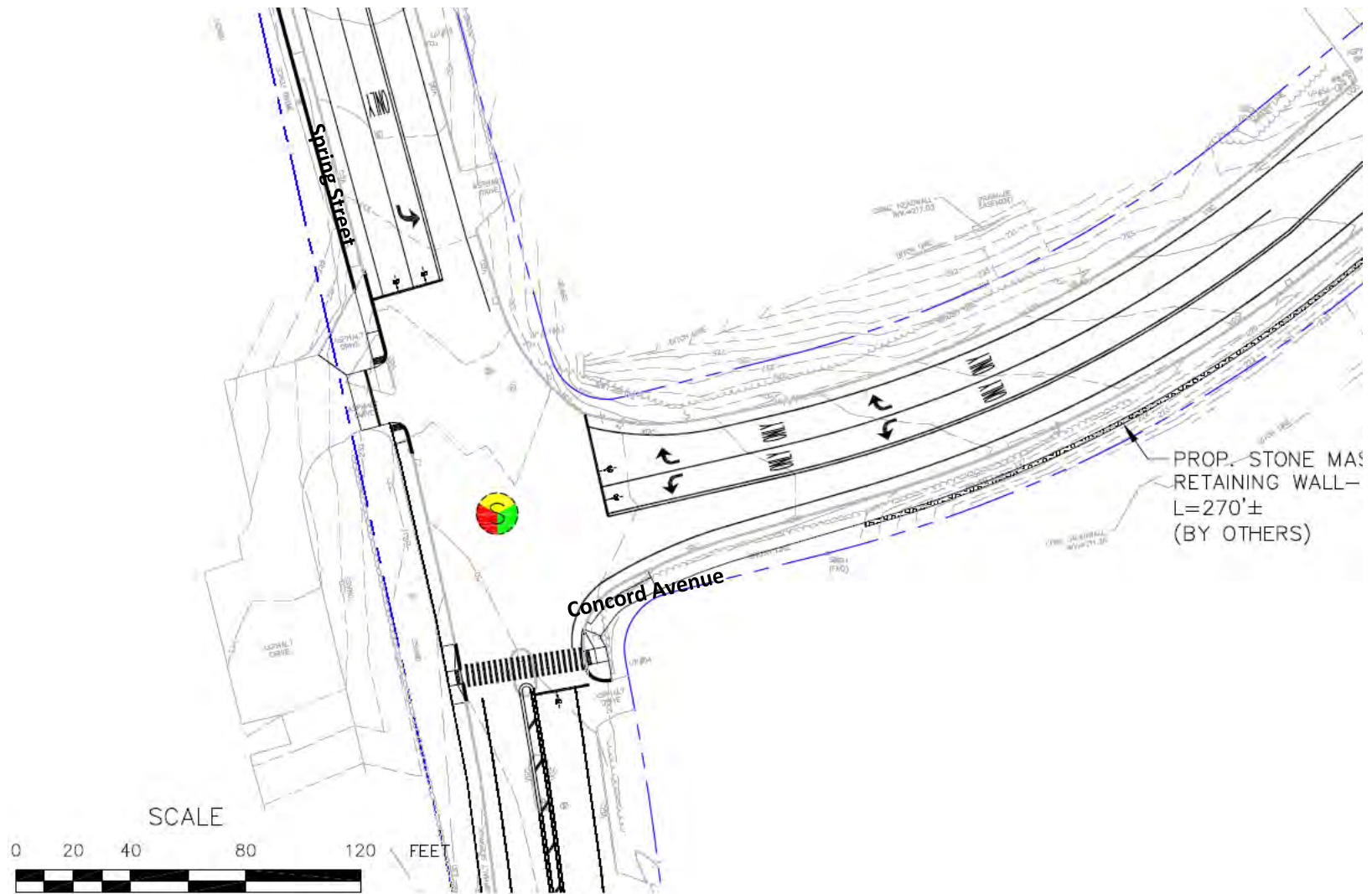
Drawing Source: Conceptual Design Plan, MDM Associates, July 3, 2013 Presentation



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**South Lexington Transportation Study
Concord Avenue at Waltham Street Planned Signal Improvements**

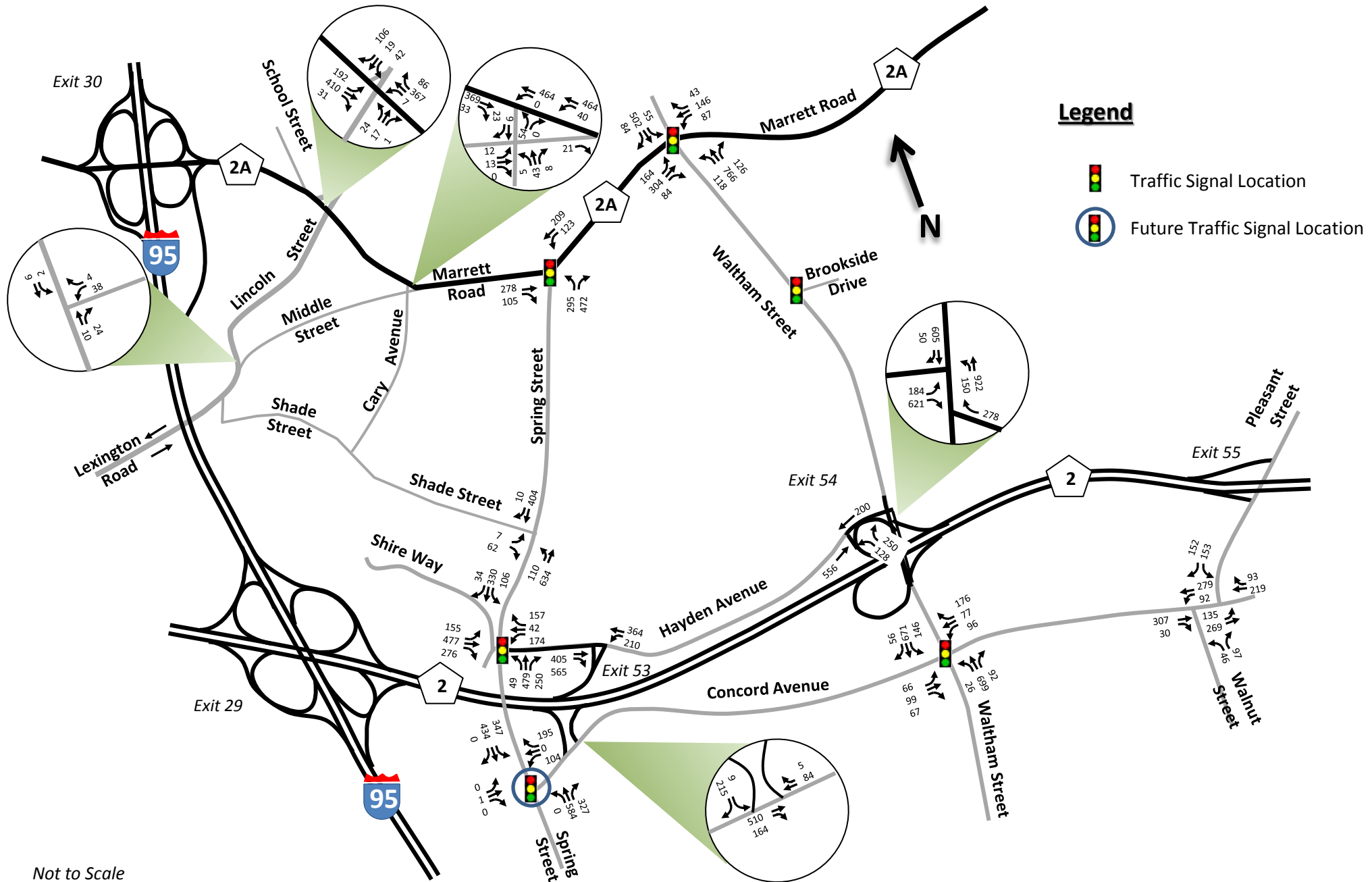




Drawing Source: Conceptual Design Plan, MDM Associates, July 3, 2013 Presentation

South Lexington Transportation Study
Concord Avenue at Spring Street Programmed Signal Improvements

Year 2023 PM 'moderate' projections



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