



Elm Square Safety Improvements



**Select Board
Presentation**

July 28, 2025





Introduction & Agenda

- Summary of completed safety action items
- Summary of recent planning and design tasks
- Review of updated intersection alternatives
- Questions & comments
- Looking Ahead to Next Steps

Email Questions & Comments To:
Elmsquaresafety@andoverma.us



Where We Have Been



May 2023

Initial TEC Field Work & Data Collection

June 8, 2023

Elm Square Safety Forum #1

June 26, 2023

TEC-led Road Safety Audit

August 7, 2023

Elm Square Safety Forum #2

Fall 2023

Short-Term Improvements Implemented

Spring 2024

Topographic Survey & Existing Conditions Plan

Summer 2024

Mid-to-Long Term Conceptual Design Development

October 9, 2024

Elm Square Safety Forum #3 with Public Feedback on Alternatives

Winter '24-'25

Narrowing-in on Conceptual Designs Alternatives & Truck Data Collection

March 12, 2025

Collaboration with MassDOT on Updated Intersection Alternatives

April 10, 2025

Elm Square Safety Forum #4

July 28, 2025

Select Board Meeting



Implemented Short-Term Improvements

- Received MassDOT approval and implemented immediate action items in Fall 2023:
 - Converted to exclusive pedestrian phase
 - Converted N. Main Street southbound to a single through lane entering downtown with an exclusive left-turn lane to turn onto Elm Street
 - Adjusted stop line locations on Elm Street
 - Added 'No Turn on Red' signs on Main Street / N. Main Street
 - Optimized traffic signal timings
 - Improved sight lines from the High Street stop line
 - Relocated the Central Street crosswalk from Essex Street further west

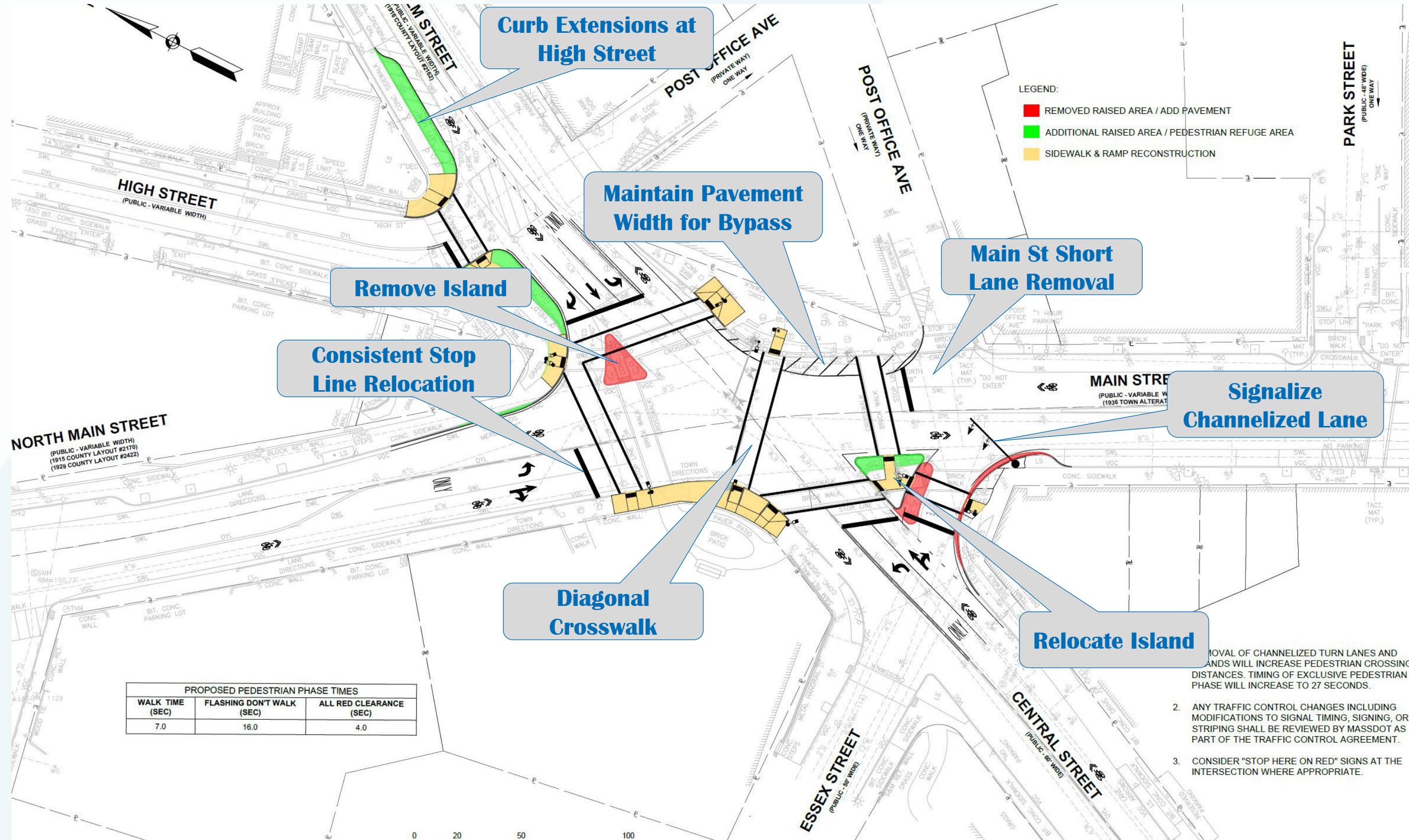
Long-Term Planning & Design Goals



Design goals:

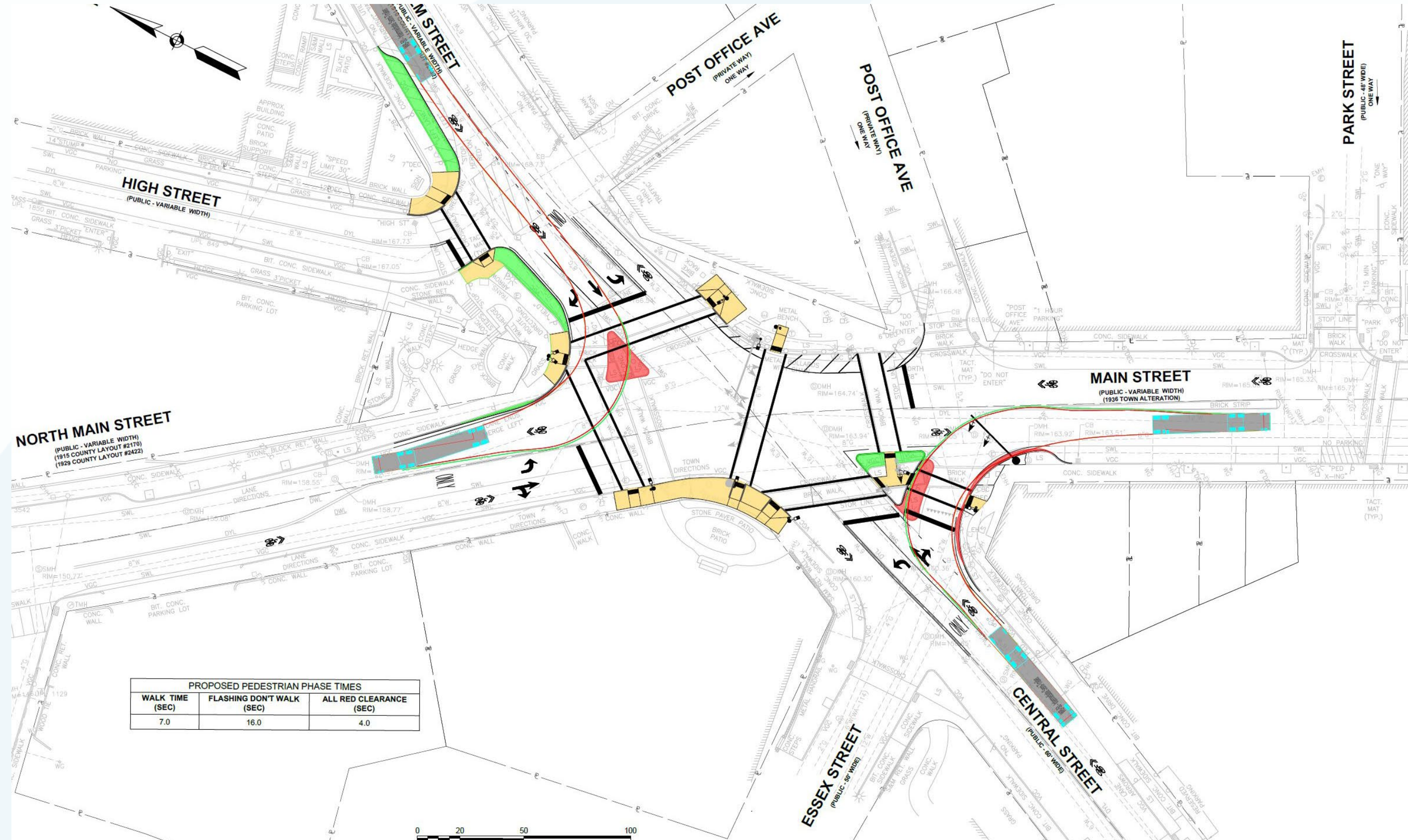
- Improve pedestrian access and safety. All alternatives will:
 - Maintain exclusive pedestrian phasing
 - Introduce a new diagonal crosswalk
 - Seek to minimize pedestrian exposure within the intersection
- Maintain or improve accommodations for safe truck movements
- Maximize/expand sidewalk areas where possible
- Alert drivers to the presence of bicyclists
- Minimize vehicle conflict areas and backups over crosswalk areas
- Maintain a reasonable level of vehicular traffic delays on each approach

Alternative #1 (as presented at Forum #4)

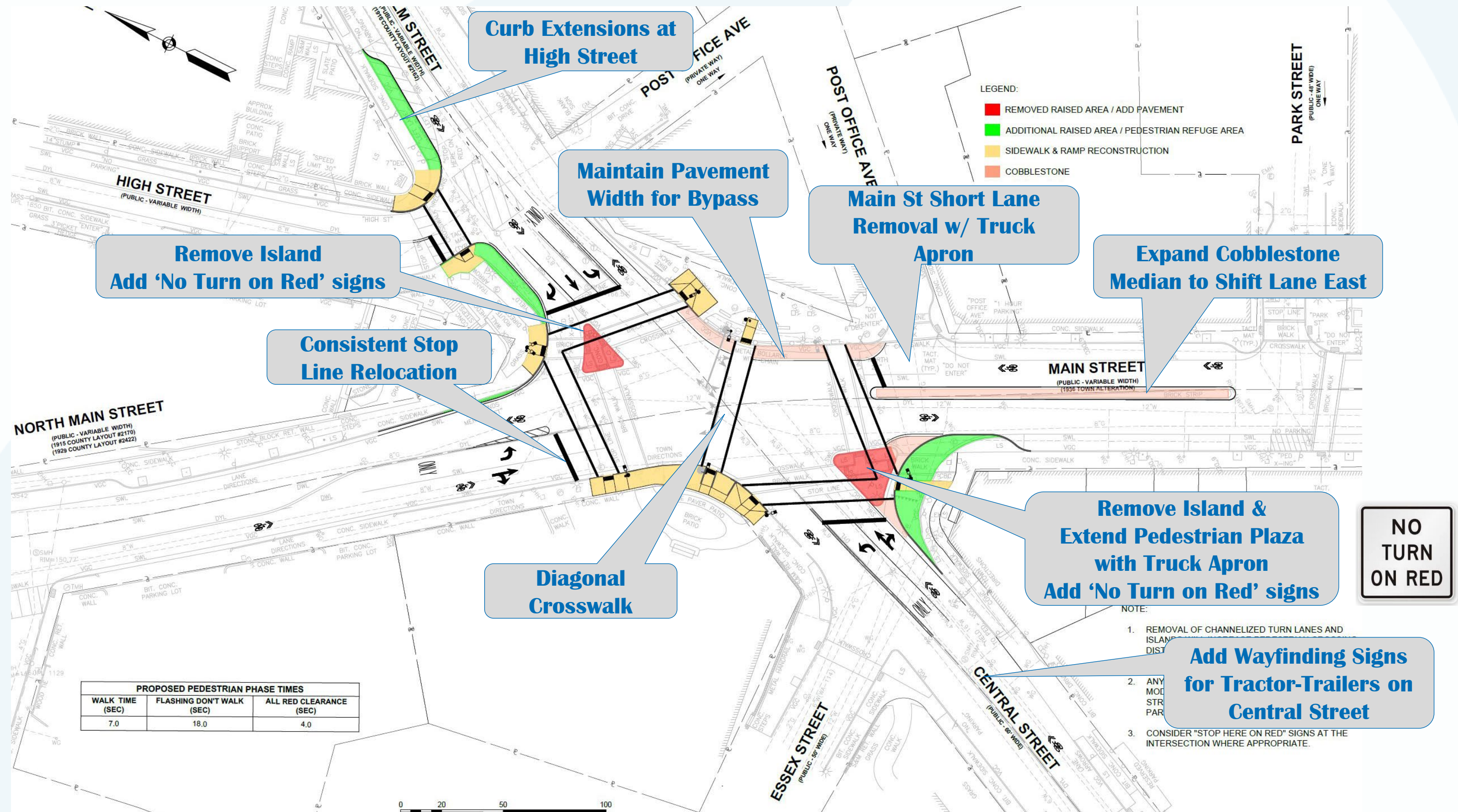


1. REMOVAL OF CHANNELIZED TURN LANES AND ISLANDS WILL INCREASE PEDESTRIAN CROSSING DISTANCES. TIMING OF EXCLUSIVE PEDESTRIAN PHASE WILL INCREASE TO 27 SECONDS.
2. ANY TRAFFIC CONTROL CHANGES INCLUDING MODIFICATIONS TO SIGNAL TIMING, SIGNING, OR STRIPING SHALL BE REVIEWED BY MASSDOT AS PART OF THE TRAFFIC CONTROL AGREEMENT.
3. CONSIDER "STOP HERE ON RED" SIGNS AT THE INTERSECTION WHERE APPROPRIATE.

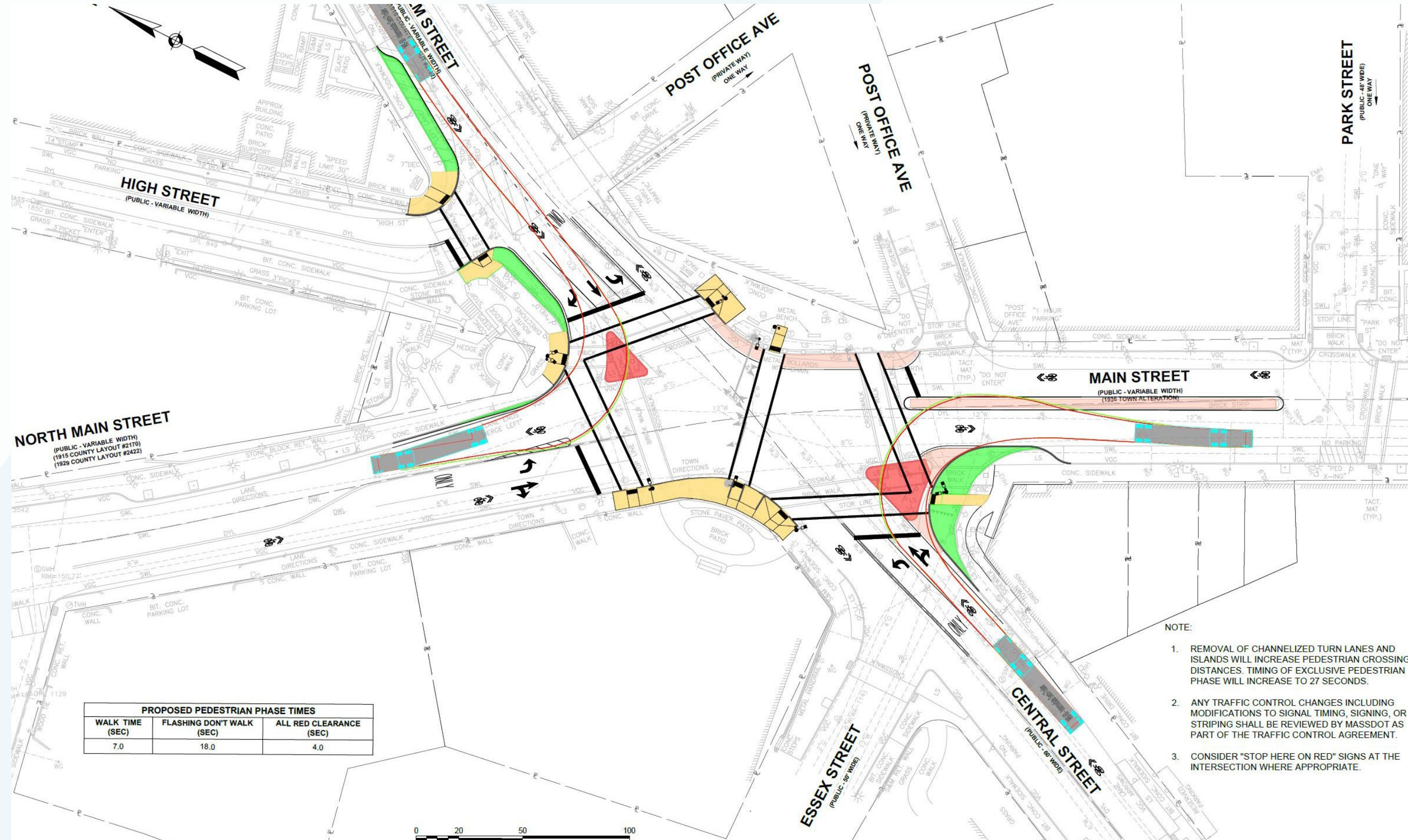
Alternative #1 (as presented at Forum #4)



Alternative #2 (as presented at Forum #4)



Alternative #2 (as presented at Forum #4)



PROPOSED PEDESTRIAN PHASE TIMES		
WALK TIME (SEC)	FLASHING DON'T WALK (SEC)	ALL RED CLEARANCE (SEC)
7.0	18.0	4.0

NOTE:

1. REMOVAL OF CHANNELIZED TURN LANES AND ISLANDS WILL INCREASE PEDESTRIAN CROSSING DISTANCES. TIMING OF EXCLUSIVE PEDESTRIAN PHASE WILL INCREASE TO 27 SECONDS.
2. ANY TRAFFIC CONTROL CHANGES INCLUDING MODIFICATIONS TO SIGNAL TIMING, SIGNING, OR STRIPING SHALL BE REVIEWED BY MASSDOT AS PART OF THE TRAFFIC CONTROL AGREEMENT.
3. CONSIDER "STOP HERE ON RED" SIGNS AT THE INTERSECTION WHERE APPROPRIATE.

Heavy Vehicle / Truck Breakdown



Date	#	Time	Type	Company	From
Tuesday, February 4, 2025	1	5:05:01 AM	Front End Loader	DPW	Behind Church Lot
Tuesday, February 4, 2025	2	5:08:51 AM	Front End Loader	DPW	Behind Church Lot
Tuesday, February 4, 2025	3	5:08:56 AM	Dump Truck	DPW	Brook Street
Tuesday, February 4, 2025	4	5:12:56 AM	Front End Loader	DPW	Behind Church Lot
Tuesday, February 4, 2025	5	5:18:44 AM	Front End Loader	DPW	Behind Church Lot
Tuesday, February 4, 2025	6	5:28:43 AM	Front End Loader	DPW	Behind Church Lot
Tuesday, February 4, 2025	7	6:44:47 AM	18 Wheeler Semi	CVS Health	Brook Street
Tuesday, February 4, 2025	8	6:46:38 AM	Front End Loader	DPW	Behind Church Lot
Tuesday, February 4, 2025	9	6:52:45 AM	Front End Loader	DPW	Behind Church Lot
Tuesday, February 4, 2025	10	6:57:33 AM	Front End Loader	DPW	Behind Church Lot
Tuesday, February 4, 2025	11	7:03:19 AM	Front End Loader	DPW	Behind Church Lot
Tuesday, February 4, 2025	12	7:22:44 AM	Front End Loader	DPW	Behind Church Lot
Tuesday, February 4, 2025	13	7:28:08 AM	Front End Loader	DPW	Behind Church Lot
Tuesday, February 4, 2025	14	7:33:59 AM	Front End Loader	DPW	Behind Church Lot
Tuesday, February 4, 2025	15	9:24:35 AM	Large Van	Crown Uniform and Linen	Central Street NB
Tuesday, February 4, 2025	16	9:28:17 AM	Large Box Truck	Manoney Enviromental	Central Street NB
Tuesday, February 4, 2025	17	10:05:31 AM	Shuttle Bus	MEVA Transit	Brook Street
Tuesday, February 4, 2025	18	11:18:31 AM	Shuttle Bus	MEVA Transit	Brook Street
Tuesday, February 4, 2025	19	11:19:26 AM	18 Wheeler Semi	A. DuiePyle	Brook Street
Tuesday, February 4, 2025	20	11:45:00 AM	Box Truck	Kinnearey Quality Meats	27 Main Street Rear Lot
Tuesday, February 4, 2025	21	12:32:25 PM	Shuttle Bus	MEVA Transit	Brook Street
Tuesday, February 4, 2025	22	1:43:44 PM	Shuttle Bus	MEVA Transit	Brook Street
Tuesday, February 4, 2025	23	2:50:56 PM	Shuttle Bus	MEVA Transit	Brook Street
Tuesday, February 4, 2025	24	4:05:16 PM	Shuttle Bus	MEVA Transit	Brook Street
Wednesday, February 5, 2025	25	8:00:29 AM	Sewage Tanker Truck	Waynes Drains	Central Street NB
Wednesday, February 5, 2025	26	8:45:38 AM	Large Box Truck	Baldor	27 Main Street Rear Lot
Wednesday, February 5, 2025	27	9:08:35 AM	Dump Truck	Masonry	Central Street NB
Wednesday, February 5, 2025	28	10:06:45 AM	Mail Truck	USPS	27 Main Street Rear Lot
Wednesday, February 5, 2025	29	10:17:41 AM	Shuttle Bus	MEVA Transit	Central Street NB
Wednesday, February 5, 2025	30	11:17:11 AM	Plow Dump Truck	DPW	Brook Street
Wednesday, February 5, 2025	31	11:25:32 AM	Shuttle Bus	MEVA Transit	Central Street NB
Wednesday, February 5, 2025	32	12:34:02 PM	Shuttle Bus	MEVA Transit	Brook Street
Wednesday, February 5, 2025	33	1:35:08 PM	Large Box Truck	WB Mason	27 Main Street Rear Lot
Wednesday, February 5, 2025	34	1:46:58 PM	Shuttle Bus	MEVA Transit	Brook Street
Wednesday, February 5, 2025	35	3:00:14 PM	Shuttle Bus	MEVA Transit	Brook Street
Wednesday, February 5, 2025	36	3:21:27 PM	Garbage Truck	Republic Services	Brook Street
Wednesday, February 5, 2025	37	4:10:16 PM	Shuttle Bus	MEVA Transit	Central Street NB



Alternative #3 (in response to Forum #4)



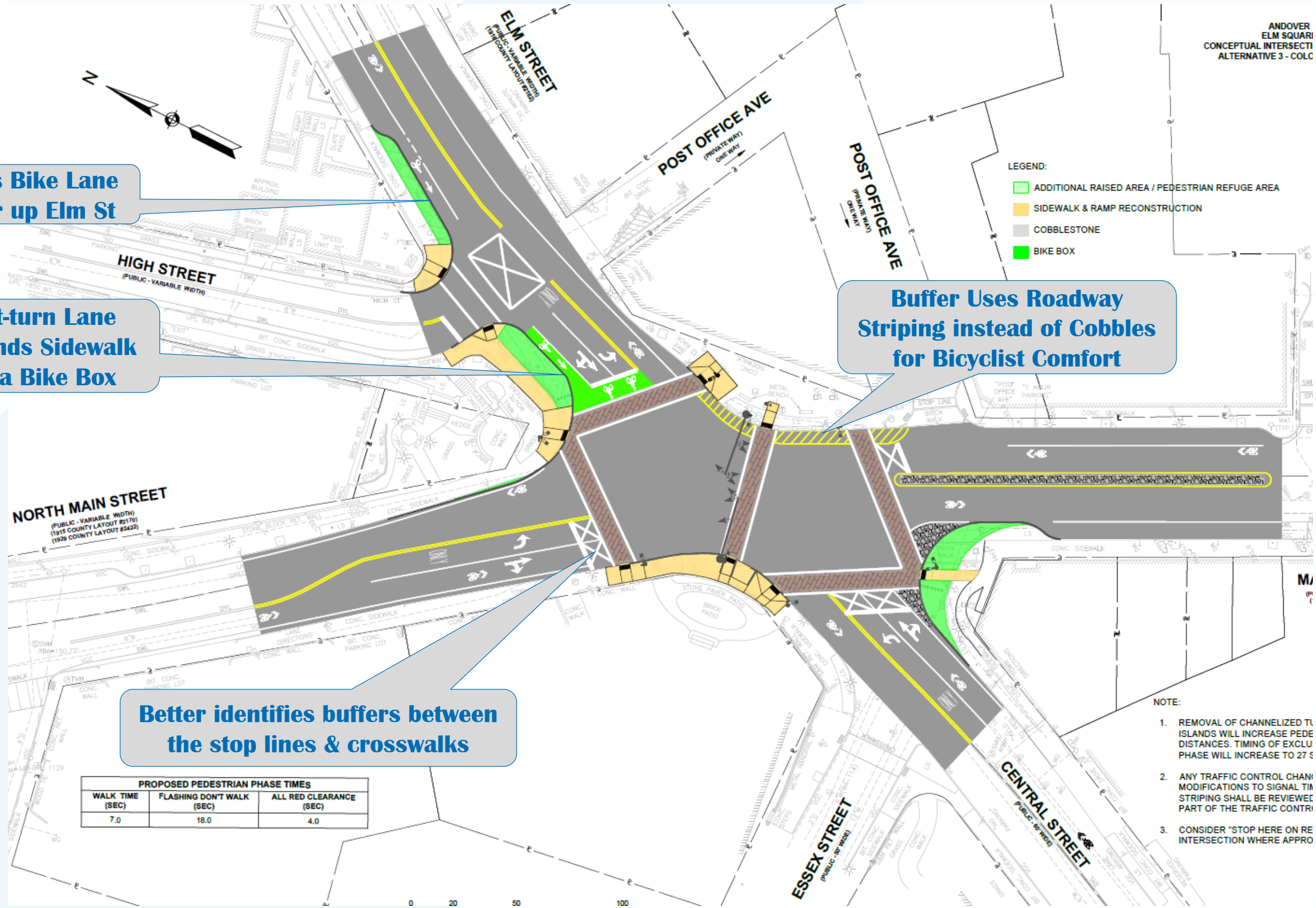
ANDOVER
ELM SQUARE
CONCEPTUAL INTERSECTION
ALTERNATIVE 3 - COLC

**Extends Bike Lane
Further up Elm St**

**Removes Right-turn Lane
On Elm St, Expands Sidewalk
Buffer & Adds a Bike Box**

**Buffer Uses Roadway
Striping instead of Cobbles
for Bicyclist Comfort**

**Better identifies buffers between
the stop lines & crosswalks**



NEW Alt #3 – Advantages & Disadvantages



Advantages

- Alt #3 has similar vehicular traffic operations.
- Creates a one-stage pedestrian crossing for **ALL** crossing locations.
- Improved “buffer” areas between the stop line / crosswalk & extends Elm St bike lane
- Introduces diagonal crosswalk at key desire line from Oyster Co. ↔ Library
- Improves or maintains truck turning right from Elm St to North Main St
 - SU-30 | SU-40 | Fire – **No encroachment**
 - WB-50 - **minimal encroachment**
- Exclusive Pedestrian Time increases only **8 secs** [Elm Street 70' crosswalk controls]
29 sec total pedestrian phase needed

Disadvantages

- Constricts ability for WB-50 to navigate Central St to Main St – **Purposefully**
- Traffic Level of Service (LOS) degrades slightly to LOS E [*just above D/E now*]
 - AM - Main St northbound lane reduction increases Main St delay
 - AM - Main St southbound delay increase due to increase ped time per cycle
 - PM – Central St delay increase due to increase ped time per cycle [not slip lane related]

Where Are We Going





Thank you!

TheEngineeringCorp.com

Email Questions & Comments To:
Elmsquaresafety@andoverma.us