

APPENDIX A

Public Survey

**Online Survey
English**

Route 107 Corridor Study: Online Survey Results

Introduction

The Massachusetts Department of Transportation (MassDOT), in coordination with the Cities of Salem and Lynn, is conducting a study of the Route 107 corridor. This study will propose improvements to address existing transportation issues for motorists, transit users, pedestrians, and bicyclists along Route 107 from Chestnut Street in Lynn to Boston Street in Salem.

Online Questionnaire

MassDOT developed an online survey to ask users to help identify issues and to recommend ideas related to improvements for transit users, motorists, pedestrians, and bicyclists. The survey was available in English and Spanish. It was made available through links publicized by email to the project database and Working Group, which includes representatives of employers, chambers of commerce, community groups, elected officials and more. The study team asked Working Group members to help distribute flyers to members of their organizations and others who may be interested.

On October 20, 2015 members of the study team distributed bilingual flyers to all residences, businesses, schools, and hospitals immediately abutting the Route 107 corridor. A media advisory was sent to local newspapers, including *The Daily Item*, *Salem Gazette*, *Salem News* and *Boston Globe North*. *The Patch* and *Boston Globe* featured articles describing the study and linking to the survey.

At the January 27, 2016 public meeting, the study team reminded participants to take the survey before it closed. The notifications and advertisements related to the public meeting also included a reminder about the survey.

The survey was available from October 14, 2015 to February 1, 2016. 1,672 people accessed the questionnaire, including two in Spanish. The top referrer sites¹ were a direct link to the survey (521), the MassDOT website (335), Facebook (237), a direct email from MassDOT (141), and links from media sources such as *Lynn Matters*, *The Patch*, *Salem News* and the *Boston Globe* (333).

While not all questions were completed in full by each respondent, the project team is confident that the results provide a helpful snapshot of travel habits, feedback on current conditions and suggestions to improve the corridor for multiple modes.

While the advantages of online surveys are that they save time and can provide access to a diverse group of individuals, sample issues can result. Demographic information provided by the respondent is self-reported, and the non-response rate is difficult to estimate. For example, the project team does not know how many people learned about the survey and chose not to complete








¹ A referrer is the webpage a respondent visited immediately before beginning the survey.

it. There is a self-selection bias in terms of who responds to the questionnaire; it is primarily people who already know about the project, those who regularly have contact with one of the referring sources, and those who have the time and inclination to participate. It is unlikely that a user of Route 107 without these project or community connections may even learn about the survey effort. Therefore, the results of the survey are not intended to be statistically significant, using scientific sampling methods. They do, on the other hand, provide insight into opinions of some of the users.

Who Are the Respondents?

The age of survey respondents is slightly older than the age group profile of the adult population of Essex County, based on the 2010 U.S. Census (see Table 1). Over 45% of respondents are between the ages of 45 and 64. 12% of respondents chose not to self-identify by race for the study. Among those who did self-identify, there were very few Asian (1%) or Black or African American (1%) respondents, compared to Essex County census population (Asian: 3%; Black or African American: 5%). According to the 2010 Census, 16.5% of people who live in Essex County identify as Hispanic. Only 3% of survey respondents identified as Hispanic. The median household income in Essex County is \$67,311. While 26% of respondents chose not to disclose household income, only 34% had household incomes of \$69,999 or less among those who responded.

Table 1: Respondent Age

Response	Chart	Percentage	Count
Under 18		0.4%	4
18 to 21		0.5%	5
22 to 34		15.2%	158
35 to 44		18.9%	196
45 to 64		46.8%	486
65 or over		16.0%	166
Prefer not to say		2.3%	24

Respondents were asked if they lived, worked and/or went to school in the Route 107 corridor. They were allowed to select more than one response. Almost half the respondents (47%) live in the corridor and 20% work in the corridor. Very few respondents (4%) go to school in the corridor.

Only 2% of the respondents (39) said they own a business in the Route 107 corridor.

Few respondents are transit-dependent; over 98% have a valid driver's license, and over 90% have a private automobile available to them.

When asked when they are most likely to use the corridor, the two most popular choices were weekday rush hours (41%) and "varies" (38%).² The most popular area destinations were Hawthorne Square Mall Shopping Center, North Shore Medical Center and Walmart.

74% of respondents use *both* the Swampscott Rd, Route 107 and Marlborough Road route and the Swampscott Rd., First Street, Traders Way and Marlborough Road route to travel between Swampscott Road and Marlborough Road (see Figure 1).

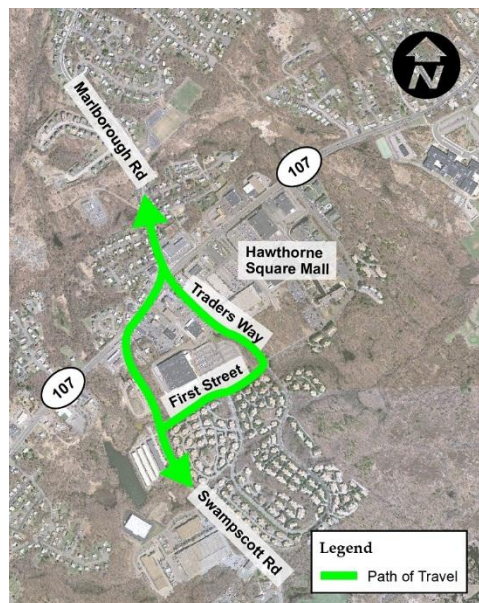


Figure 1: Path of Travel between Swampscott and Marlborough Roads

Driving

The majority of respondents drive personal vehicles in the corridor for recreation (events, shopping, dining and errands) at least occasionally (60%). About one-third of respondents (38%) use the corridor to commute to work daily, but another third (33%) report "never" using the corridor to commute to work.

Respondents were asked about how frequently they experienced congestion in the Route 107 corridor in a number of segments: from Chestnut Street to Eastern Avenue; from Eastern Avenue to the Walmart; from the Walmart to Hawthorne Square Mall (First Street area); and from First Street

² Respondents were able to select more than one response to this question.

to Boston Street. While a majority of respondents reported experiencing traffic congestion either “frequently” or “usually” for the segments from Eastern Avenue in Lynn all the way to Boston Street in Salem, these rates were generally higher for the Walmart to Hawthorne Square Mall (76%) and First Street to Boston Street segments (69%). Even the segment from Chestnut Street to Eastern Avenue in Lynn saw 41% of respondents experiencing congestion “frequently” or “usually.”

Respondents were then asked about the extent to which safety improvements are needed in these segments of the corridor. A majority of respondents saw the need as a “great” or “very great” extent for the Walmart to Hawthorne Square Mall (66%) and First Street to Boston Street (60%) segments.

Respondents were also asked to share the type of roadway improvements that they would like to see in the Route 107 corridor (see Table 2). Of the listed potential improvements, a majority of respondents saw left-turn lanes (75%) and median separation with U-turn provisions (57%) as “desirable” or “very desirable.”

Table 2: Desired Types of Roadway Improvements

	Very undesirable	Undesirable	Neutral	Desirable	Very desirable
More roundabouts	39.8%	21.6%	24.5%	7.7%	6.5%
Addition of median islands	16.9%	15.2%	38.1%	22.6%	7.2%
Speed bumps (to slow down motorists)	42.1%	26.5%	18.0%	7.9%	5.5%
Right-in, right-out driveway access (no left turns in and out)	12.9%	13.4%	29.0%	30.1%	14.6%
Sidewalk bump-outs (for traffic calming)	16.8%	16.0%	31.9%	24.0%	11.3%
Left-turn lanes	5.4%	3.8%	16.1%	39.6%	35.1%
Median separation with U-turn provisions	9.6%	8.4%	24.6%	35.2%	22.1%

Respondents were also given the opportunity in an open-ended question to share additional improvements they would make to the. Suggestions included:

- Improvements in traffic signal timing at a variety of intersections, including Eastern and Western Avenues
- Increasing the number of lanes/widening the roadway
- Repaving/repairing the roadway
- Reductions in development
- Enforcement of speed limits

Walking

Few respondents walk in the Route 107 area, and if they do, it is rarely to get to public transit, commute to school or commute to work. In fact, over 70% of all respondents “never” walk in the Route 107 area for these purposes, despite the fact that a majority report being comfortable walking for transportation purposes for up to ½ mile. While 43% of respondents “never” walk in the corridor for recreation purposes, some walk in the area regularly (20%) or daily (11%) for these purposes. Of all the segments of the corridor, respondents were most likely to walk between First Street and Boston Street, though 39% still say it was “extremely unlikely” that they walk there.

A majority of respondents report that the major barriers to walking short trips in the area are that the walking areas are too close to heavy traffic (68%), the sidewalks/paths/crossings are in poor condition (62%), and there is a concern about personal safety or security (53%).

Respondents were also encouraged to share other barriers to walking in the corridor as part of an open-ended question. Barriers included:

- Crossings are too few and inconvenient
- Not enough sidewalks
- Sidewalks are not maintained/cleared of snow
- Failure to enforce laws to protect pedestrians from traffic

To overcome the barriers, respondents favored a number of improvements including more pedestrian crossings, pedestrian refuge islands at intersections, improvements to curb ramps and accessibility for people with disabilities, more buffer between the sidewalk and vehicle traffic, better lighting or security measures, wider sidewalks and better sidewalk maintenance (see Table 3).

Table 3: Improvements to Promote Walking

	Not at all Important	Somewhat Important	Important	Very Important
Longer WALK signals at crossings	24.6%	32.8%	25.3%	17.3%
More pedestrian crossings	16.8%	30.1%	30.5%	22.6%
Raised crosswalks	31.9%	26.6%	24.5%	17.1%
Pedestrian refuge islands at intersections	14.6%	28.3%	36.2%	20.8%
Better signs	13.3%	22.4%	35.9%	28.4%
Sidewalk bump-outs (to reduce pedestrian crossing widths)	30.7%	31.1%	24.7%	13.5%
Improved curb ramps and accessibility for people with disabilities	12.6%	20.9%	34.0%	32.6%
Slower traffic	23.6%	25.7%	24.5%	26.2%
More buffer between the sidewalk and vehicle traffic	14.3%	22.7%	30.2%	32.7%
Better lighting or security measures	10.7%	17.2%	32.8%	39.3%
Wider sidewalks	16.9%	23.6%	30.5%	29.0%
Better sidewalk maintenance (repair of infrastructure or removal of snow/debris)	7.2%	10.3%	29.7%	52.8%
Increased education and enforcement of pedestrian traffic laws	15.2%	24.5%	28.0%	32.4%
Shorter pedestrian crossing distances	21.7%	31.3%	28.8%	18.2%

Public Transportation

Very few respondents are regular users of public transportation in the Route 107 corridor, regardless of trip purpose. If respondents did take public transportation, even “rarely,” it tended to be for recreation. Even for that trip purpose, 76% of respondents reported “never” using public transportation in the corridor.

A majority of respondents reported that the major barrier to using public transportation in the corridor is that it is not as convenient as using the personal vehicle. As noted earlier, the respondents to this survey are generally not transit-dependent and appear to want to use personal vehicles as a matter of choice. Issues of schedule and routing do not seem to have an effect on the reasons respondents choose to use personal vehicles.

Respondents were also encouraged to share other barriers to using public transportation in the corridor as part of an open-ended question. Barriers included:

- Lack of information (location of stops, schedule, fares)
- Unreliability of service
- Infrequent service/no service to Boston on weekends
- Lack of amenities (benches, shelters) at bus stops

Bicycling

Over 90% of respondents report “never” using a bicycle to get to public transit, commute to school or commute to work. About three-quarters of respondents (77%) report “never” using a bicycle for recreation either. This is true for users in all segments of the corridor, though users are less likely to bike in the segments from Chestnut Street in Lynn to the Walmart in Salem. While half the respondents (50%) report that they do not ride bikes and have no plans to start, about 30% report that they are “casual” or “experienced” bicycle users.

Respondents were asked about what improvements would be needed to bike in the Route 107 corridor (see Table 4). Of the listed improvements, off-road bike paths, improved buffers between bicyclists and vehicles, increased maintenance, and less traffic were seen as the most important.

Respondents were also encouraged to share other improvements that could be made as part of an open-ended question. Many respondents in this section said that bikes should not be allowed on the roadway in general. Suggestions for improvements included:

- Protected lanes
- Protected intersections (including bike boxes)
- Reduction in traffic speed

Table 4: Improvements Needed for Biking

	Not at all Important	Somewhat Important	Important	Very Important
More bike lanes	36.5%	17.6%	17.9%	28.0%
Off-road bike paths	31.0%	14.3%	18.1%	36.6%
Wider outside lanes (easier to share lane with cars)	37.2%	17.8%	20.5%	24.5%
Improved buffers between bicyclists and vehicles	31.1%	13.0%	20.5%	35.4%
Better bicycle parking and storage	40.7%	19.4%	19.3%	20.6%
More on-road bike signage (share the road signs/bike may use full lane signs)	36.3%	20.4%	19.2%	24.1%
Better bike accommodation through intersections (bike boxes)	35.9%	18.1%	21.8%	24.1%
Slower traffic	39.0%	19.0%	19.9%	22.0%
More and better bike route wayfinding signs and bike maps	36.7%	21.1%	20.5%	21.7%
Increased maintenance (street sweeping/repair of roads)	27.9%	13.5%	21.4%	37.2%
Increased enforcement of and education about traffic laws	30.9%	15.3%	22.0%	31.8%
Colored asphalt for bike lanes	35.3%	18.3%	22.2%	24.1%
Less traffic	33.1%	17.7%	19.0%	30.2%

Other Comments

Respondents were also asked to name the number one improvement they would make to the Route 107 Corridor. Improvements included the following:

- Reducing traffic
- Improving left-hand turns
- Retiming light signals
- Repaving the roadway/fixing potholes
- Restriping the roadway for better lane/turning movements
- Adding sidewalks
- Adding bike lanes
- Better roadway maintenance

The word cloud below (see Figure 2) is comprised of the open-ended responses to this question. The word cloud demonstrates that traffic is the issue that overwhelmingly dominant in all of the open-ended responses.

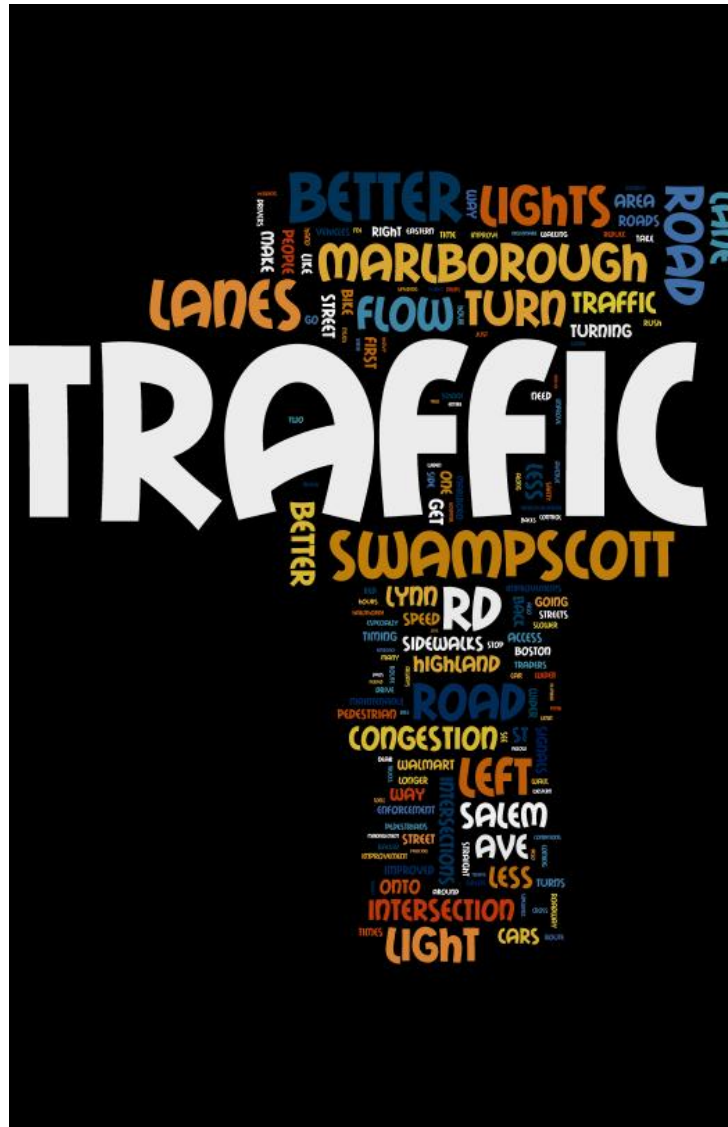


Figure 2: Word Cloud of Suggested Improvements

Conclusion

The results of the online survey are consistent with the data gathered during the study's existing conditions analysis. The answers to multiple choice questions and extensive written responses to open ended questions provide illumination and detail that support the technical analysis completed to date. MassDOT will consider the responses regarding preferred improvements as the project progresses to the alternatives development phase.

Route 107 Corridor Study

About this Survey

Massachusetts Department of Transportation (MassDOT), in coordination with the Cities of Salem and Lynn, is conducting a study of the Route 107 corridor. This study is designed to address existing transportation issues and mitigate potential future impacts from new retail development along Route 107 from Chestnut Street in Lynn to Boston Street in Salem. Your input will help MassDOT evaluate proposed improvements.

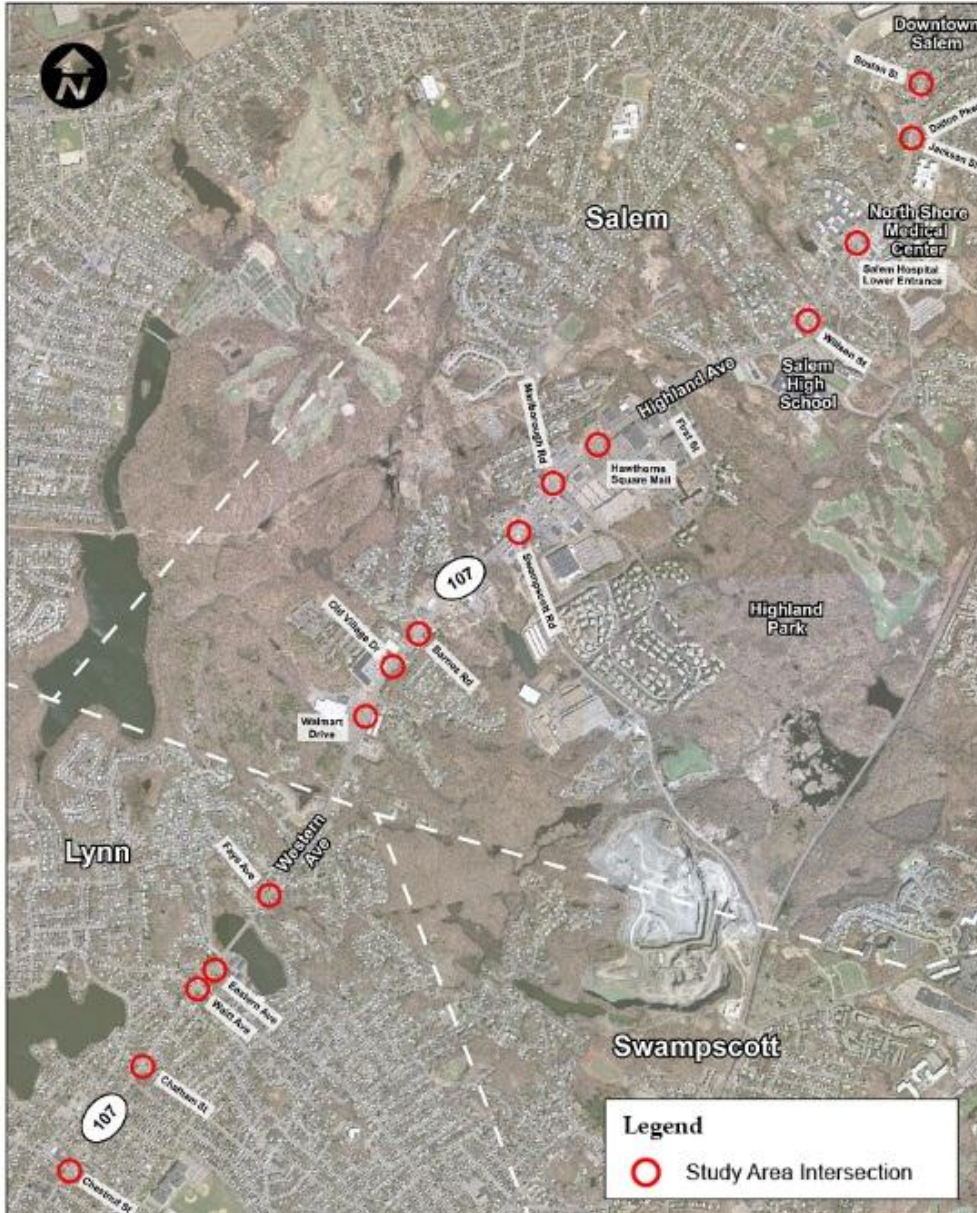
Please mail this print survey back to the study team:

Route 107 Corridor Study Survey
Regina Villa Associates
51 Franklin St., Suite 400
Boston, MA 02110-1301

If you prefer, you can take the survey online: fluidsurveys.com/s/route107

Thank you for taking the time to complete this survey. For more information about the Route 107 Corridor Study, please visit the project website: mass.gov/massdot/route107





Do you live, work, or go to school in the Route 107 corridor (between Chestnut Street in Lynn and Boston Street in Salem)? (You may select more than one response.)

- I live in the corridor
- I work in the corridor
- I go to school in the corridor.
- I don't live, work, or go to school in the corridor

Do you own a business in the corridor?

- Yes
- No

When are you most likely to use Route 107 (from Chestnut Street in Lynn to Boston Street in Salem)? (Please only select one response.)

- Weekday rush hours (between 7 AM - 9:30 AM or 4 PM - 7:30 PM)
- Weekday non-rush hour
- Weekends
- Varies

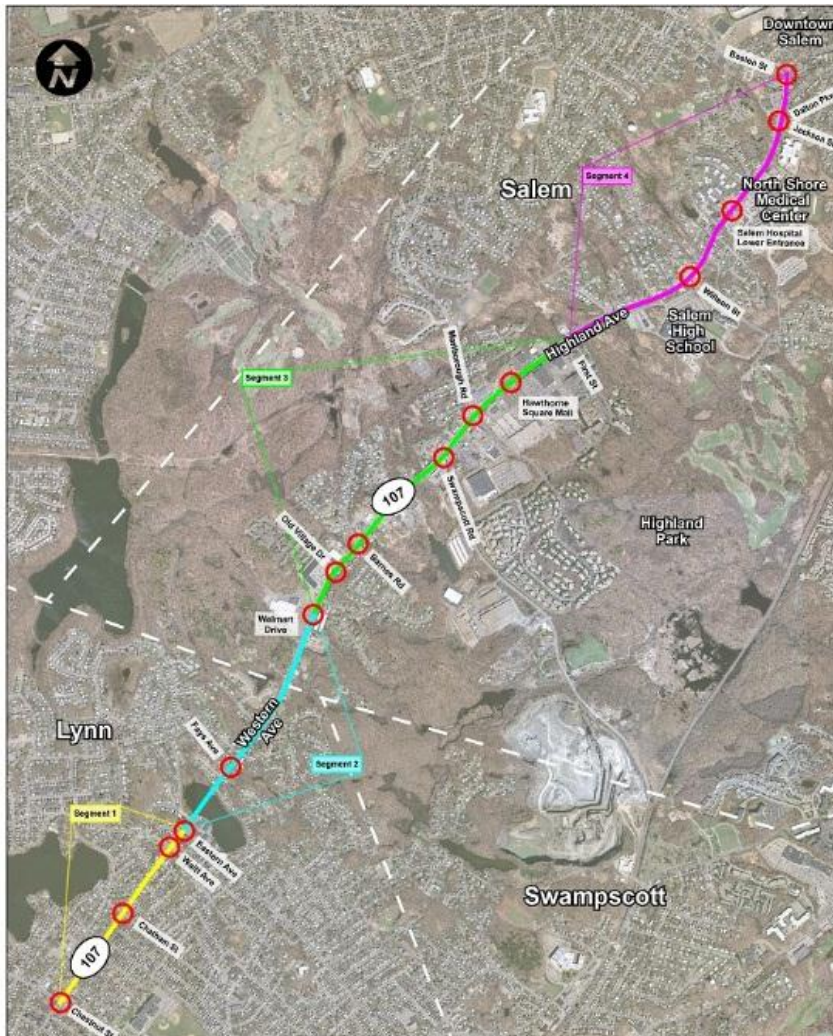
What are some of your typical area destinations? (You may select more than one response.)

- Collins Middle School
- North Shore Medical Center
- Salem High School/Nathaniel Bowditch School
- Hawthorne Square Mall Shopping Center
- Walmart
- Other, please specify... _____

How often do you drive a personal vehicle in the Route 107 area?

	Daily	Weekdays	Occasionally	Never
Commute to school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Commute to work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For recreation (community events, shopping, dining, errands)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How frequently do you experience traffic congestion in this area?



	Never	Rarely	Occasionally	Frequently	Usually
From Chestnut Street to Eastern Avenue (in Lynn)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
From Eastern Avenue (in Lynn) to the Walmart (in Salem)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
From the Walmart (in Salem) to Hawthorne Square Mall (First Street area)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
From First Street to Boston Street (in Salem)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

To what extent do you think safety improvements are needed in these parts of the corridor?

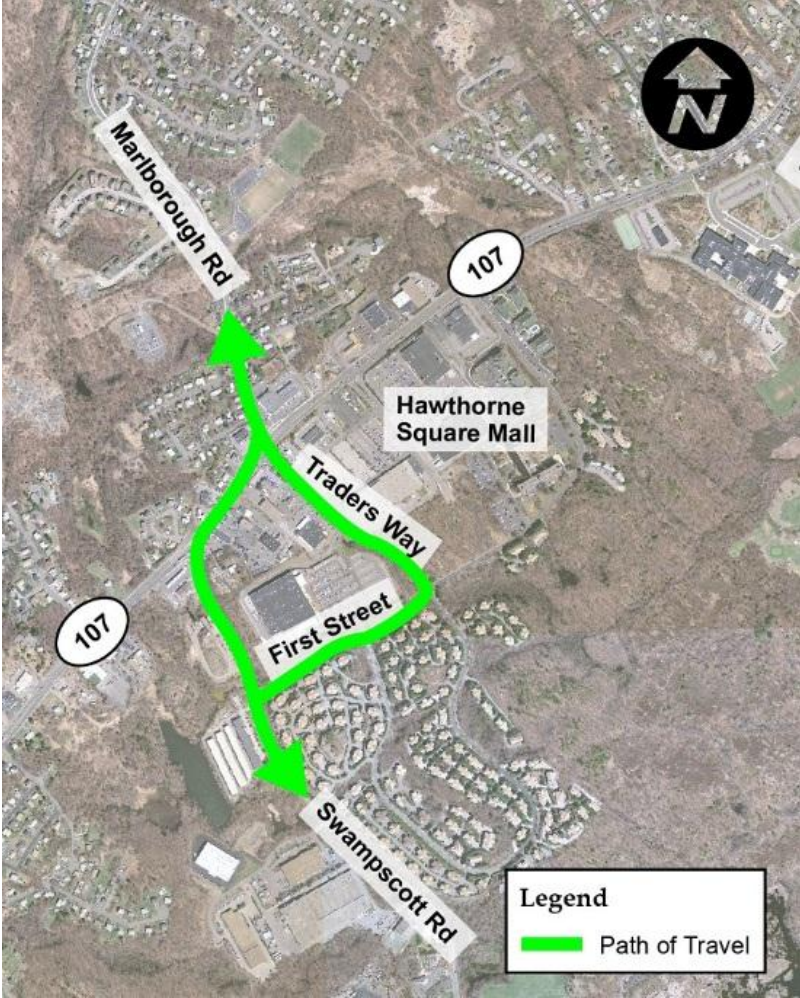
	Very little extent	Little extent	Some extent	Great extent	Very great extent
From Chestnut Street to Eastern Avenue (in Lynn)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
From Eastern Avenue (in Lynn) to the Walmart (in Salem)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
From the Walmart (in Salem) to Hawthorne Square Mall (First Street area)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
First Street to Boston Street (in Salem)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What types of roadway improvements would you like to see in the Route 107 area?

	Very undesirable	Undesirable	Neutral	Desirable	Very desirable
More roundabouts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Addition of median islands	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Speed bumps (to slow down motorists)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Right-in, right-out driveway access (no left turns in and out)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sidewalk bump-outs (for traffic calming)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Left-turn lanes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Median separation with U-turn provisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Are there other roadway improvements you would like to see?

Do you travel between Swampscott Road and Marlborough Road?



- Yes, I travel on Swampscott Rd, Route 107 and Marlborough Rd. only.
- Yes, I travel on Swampscott Rd., First Street, Traders Way and Marlborough Rd. only.
- Yes, I use both routes.
- No, I do not travel between these roads.

How often do you walk in the Route 107 area?

	Daily	Weekdays	Regularly	Rarely	Never
To get to public transit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Commute to school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Commute to work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For recreation (community events, shopping, dining, errands)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What distance are you comfortable walking for transportation purposes (not including fitness/leisure)?

- Up to 1/4 mile (about 5 minutes)
- Up to 1/2 mile (about 10 minutes)
- Up to 1 mile (about 20 minutes)
- More than 1 mile

What barriers keep you from walking short trips in the Route 107 area?

	Major obstacle	Minor obstacle	No obstacle
Walking areas too close to heavy traffic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sidewalks/paths/crossing are in poor condition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Weather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Too dark when I travel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concern about personal safety or security	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Need to transport other people and things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What other barriers (if any) keep you from walking short trips in the corridor?

What improvements are needed to promote walking in the Route 107 area?

	Not at all Important	Somewhat Important	Important	Very Important
Longer WALK signals at crossings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More pedestrian crossings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Raised crosswalks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pedestrian refuge islands at intersections	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better signs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sidewalk bump-outs (to reduce pedestrian crossing widths)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improved curb ramps and accessibility for people with disabilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Slower traffic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More buffer between the sidewalk and vehicle traffic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better lighting or security measures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wider sidewalks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better sidewalk maintenance (repair of infrastructure or removal of snow/debris)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased education and enforcement of pedestrian traffic laws	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shorter pedestrian crossing distances	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How likely are you to walk in these segments of the corridor?

	Extremely unlikely	Unlikely	Neutral	Likely	Extremely likely
From Chestnut Street to Eastern Avenue (in Lynn)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
From Eastern Avenue (in Lynn) to the Walmart (in Salem)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
From the Walmart (in Salem) to Hawthorne Square Mall (First Street area)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
First Street to Boston Street (in Salem)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How often do you take public transportation (buses) in the Route 107 corridor?

	Daily	Weekdays	Regularly	Rarely	Never
Commute to school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Commute to work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For recreation (community events, shopping, dining, errands)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What barriers keep you from using public transportation in this area?

	Major obstacle	Minor obstacle	No obstacle
Fare costs too much	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It does not run often enough	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It does not go where I want to go	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is too slow	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nearest stop is too far away	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not feel safe walking to or waiting for it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am uncomfortable in the vehicles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is not as convenient as my personal vehicle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I make many stops during my trips	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The service hours do not work with my schedule	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What other barriers (if any) keep you from using public transportation in the corridor?

What is your level of comfort or confidence as a bicyclist?

- I don't ride and have no plans to start.
- Less confident - I only feel safe on separated paths (with few traffic crossings) and local streets.
- Casual - I prefer separated paths but will ride on roads where space is available and traffic is manageable.
- Experienced - I am confident and comfortable riding with traffic on the road in most situations.

How often do you ride a bike in the Route 107 area?

	Daily	Weekdays	Regularly	Rarely	Never
To get to public transit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Commute to school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Commute to work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For recreation (shopping, community events, dining)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What improvements are needed for you to bike in the Route 107 area?

	Not at all Important	Somewhat Important	Important	Very Important
More bike lanes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Off-road bike paths	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wider outside lanes (easier to share lane with cars)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improved buffers between bicyclists and vehicles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better bicycle parking and storage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More on-road bike signage (share the road signs/bike may use full lane signs)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Better bike accommodation through intersections (bike boxes)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Slower traffic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More and better bike route wayfinding signs and bike maps	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased maintenance (street sweeping/repair of roads)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased enforcement of and education about traffic laws	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Colored asphalt for bike lanes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less traffic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What other improvements (if any) are needed for you to bike in the corridor?

How likely are you to bicycle these segments of the corridor?

	Extremely unlikely	Unlikely	Neutral	Likely	Extremely likely
From Chestnut Street to Eastern Avenue (in Lynn)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
From Eastern Avenue (in Lynn) to the Walmart (in Salem)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
From the Walmart (in Salem) to Hawthorne Square Mall (First Street area)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
From First Street to Boston Street (in Salem)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What is the number one improvement you would like to see to in the Route 107 corridor?

The following demographic questions will allow MassDOT to better understand the makeup of residents, business owners, and other users of the corridor. It is optional to respond to these questions.

What is your age?

- Under 18
- 18 to 21
- 22 to 34
- 35 to 44
- 45 to 64
- 65 or over
- Prefer not to say

Do you currently have a valid driver's license?

- Yes
- No

Do you have a private automobile (including light trucks) available for your use?

- Yes, always
- Sometimes (shared with household members)
- Never

How do you self-identify by race? (Check all that apply.)

- American Indian or Alaska Native
- Asian
- Black or African American
- Native Hawaiian or other Pacific Islander
- White
- Other (please specify) _____
- Prefer not to say

Are you Hispanic or Latino/Latina?

- Yes
- No
- Prefer not to say

What is your current household income?

- Less than \$14,000
- \$14,000 to \$27,999
- \$28,000 to \$41,999
- \$42,000 to \$69,999
- \$70,000 to \$99,999
- \$100,000 to \$139,999
- \$140,000 or more
- Prefer not to say

In what language do you prefer to receive information about travel conditions or roadway projects?

- English
- Other, please specify... _____

Are you generally able to understand basic directions spoken or written in English?

- Always
- Often
- Sometimes
- Never
- Prefer not to say

Online Survey
Spanish

Estudio del Corredor Route 107

Acerca de esta encuesta

El Departamento de Transporte de Massachusetts (MassDOT), en coordinación con las ciudades de Salem y Lynn, está realizando un estudio del corredor Route 107. Este estudio se diseñó para resolver problemas de transporte actuales y mitigar posibles impactos futuros del desarrollo de espacios comerciales a lo largo de Route 107 desde Chestnut Street en Lynn hasta Boston Street en Salem. Su aporte ayudará a MassDOT a evaluar las propuestas para mejoras.

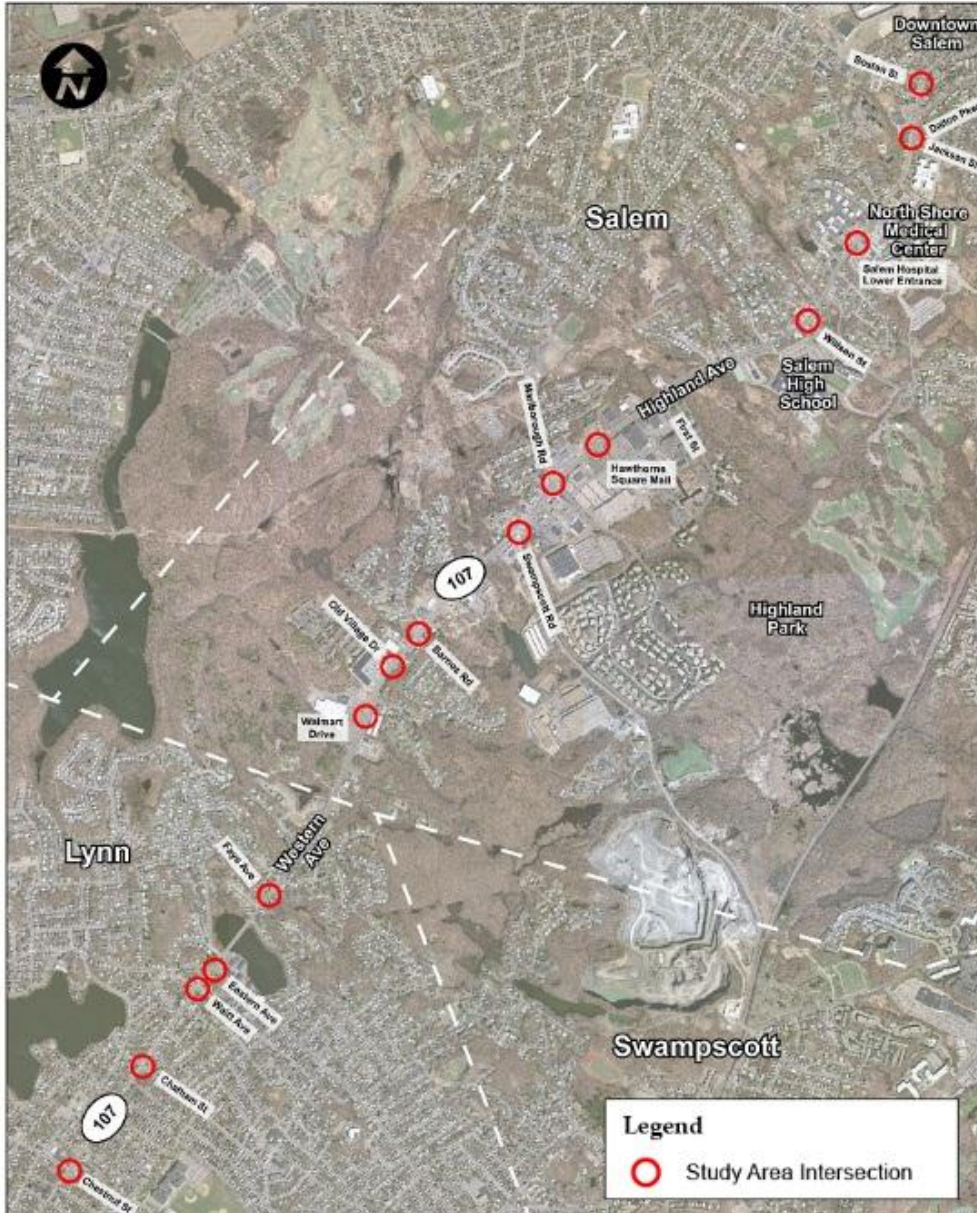
Puede enviarla esta encuesta de impresión por correo a:

Route 107 Corridor Study Survey
Regina Villa Associates
51 Franklin St., Suite 400
Boston, MA 02110-1301

Si lo prefiere, también puede realizar la encuesta en línea: fluidsurveys.com/s/route107

Gracias por usar de su tiempo para llenar esta encuesta. Para más información sobre el Estudio del Corredor de Route 107, por favor visite el sitio web del proyecto: mass.gov/massdot/route107





¿Vive, trabaja o va a la escuela en el corredor Ruta 107 (entre Chestnut Street en Lynn y Boston Street en Salem)? (Puede seleccionar más de una respuesta.)

- Vivo en el corredor
- Trabajo en el corredor
- Voy a la escuela en el corredor
- Ni vivo, trabajo o voy a la escuela en el corredor

¿Es dueño de algún negocio en el corredor?

- Sí
- No

Generalmente, ¿cuándo es que usa Route 107 (de Chestnut Street en Lynn a Boston Street en Salem)? (Por favor seleccione sólo una respuesta.)

- Días entre semana, en hora pico (rush, de 7 AM a 9:30 AM o de 4 PM a 7:30 PM)
- Días entre semana, pero no en hora pico (no en hora rush)
- Fines de semana
- Varía

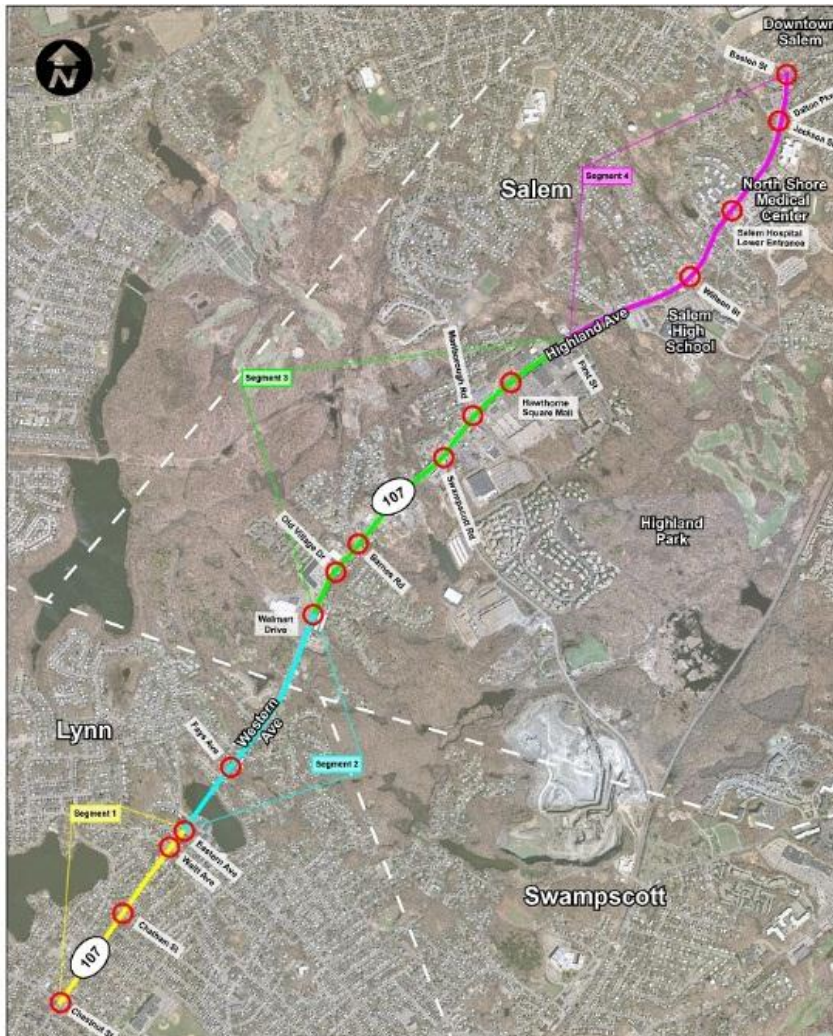
¿Cuáles son algunas de sus zonas de destino usuales? (Puede seleccionar más de una respuesta.)

- Collins Middle School
- North Shore Medical Center
- Salem High School/Nathaniel Bowditch School
- Hawthorne Square Mall Shopping Center
- Walmart
- Otra, por favor especifique... _____

¿Cuán frecuentemente guía un vehículo personal en la zona de Route 107?

	A diario	Entre semana	Ocasionalmente	Nunca
Ir y venir de la escuela	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ir y venir del trabajo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fines recreativos (eventos comunitarios, compras, comidas, quehaceres)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

¿Cuán frecuentemente encuentra congestión del tráfico en esta zona?



	Nunca	Rara vez	Ocasionalmente	Frecuentemente	Usualmente
De Chestnut Street a Eastern Avenue (en Lynn)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De Eastern Avenue (en Lynn) al Walmart (en Salem)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Del Walmart (en Salem) a Hawthorne Square Mall (zona First Street)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De First Street a Boston Street (en Salem)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

¿En qué medida piensa que se necesitan mejoras a la seguridad en estas áreas del corredor?

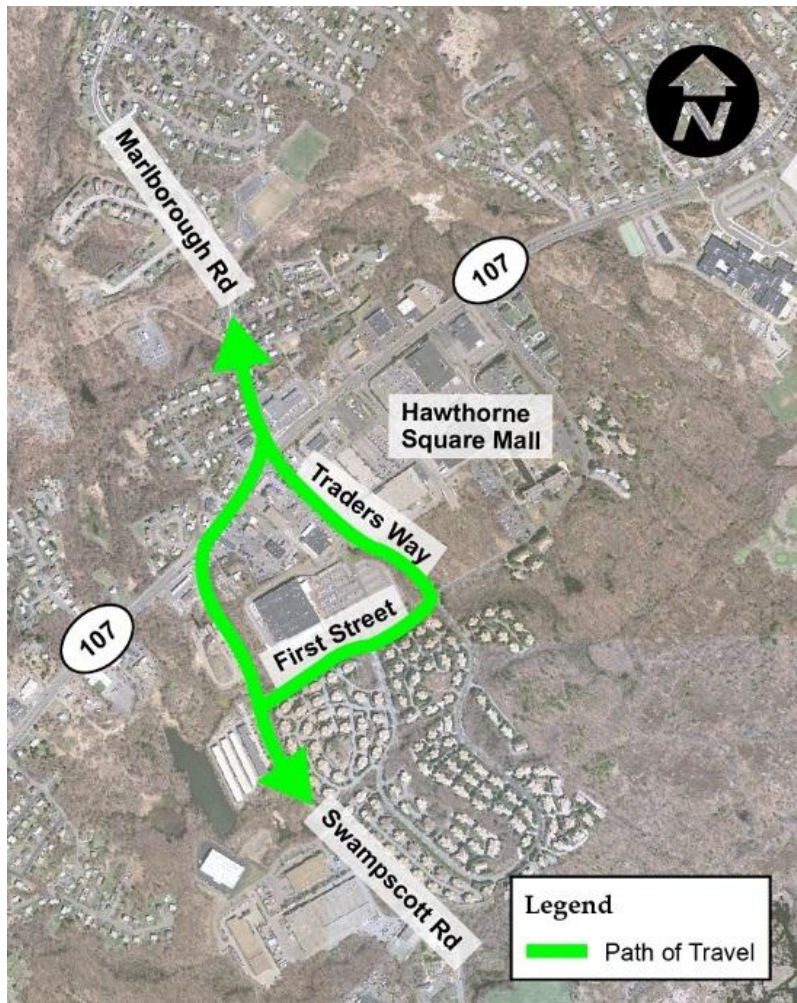
	Muy poca medida	Poca medida	Alguna medida	Gran medida	Muy gran medida
De Chestnut Street a Eastern Avenue (en Lynn)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De Eastern Avenue (en Lynn) al Walmart (en Salem)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Del Walmart (en Salem) a Hawthorne Square Mall (zona First Street)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De First Street a Boston Street (en Salem)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

¿Qué tipos de mejoras a las carreteras le gustaría ver en la zona de Route 107?

	Muy indeseable	Indeseable	Neutral	Deseable	Muy deseable
Más rotondas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adición de islas o medianas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Topes o muertos (para reducir la velocidad de los conductores)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acceso por la derecha a calzada (sin giros a la izquierda)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extensiones de aceras (para calmar el tráfico)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carriles de giro a la izquierda	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Separación de mediana con disposiciones para vueltas en U	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

¿Hay otras mejoras a las carreteras que le gustaría ver?

¿Viaja entre Swampscott Road y Marlborough Road?



- Sí, viaje por Swampscott Rd, Route 107 y Marlborough Rd. solamente.
- Sí, viaje por Swampscott Rd., First Street, Traders Way y Marlborough Rd. solamente.
- Sí, uso ambas rutas.
- No, no viaje entre esas carreteras.

¿Cuán frecuentemente camina en la zona de Route 107?

	A diario	Entre semana	Con regularidad	Rara vez	Nunca
Llegar hasta el transporte público	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ir y venir de la escuela	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ir y venir del trabajo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fines recreativos (eventos comunitarios, compras, comidas, quehaceres)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

¿Hasta qué distancia se sentiría cómodo/a caminando para fines de transporte (sin incluir gimnasio/recreación)?

- Hasta 1/4 milla (alrededor de 5 minutos)
- Hasta 1/2 milla (alrededor de 10 minutos)
- Hasta 1 milla (alrededor de 20 minutos)
- Más de 1 milla

¿Qué obstáculos le impiden hacer viajes cortos a pie en la zona de Route 107?

	Obstáculo grande	Obstáculo pequeño	No es obstáculo
Zonas para caminar muy cercanas al tráfico pesado	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aceras/senderos/cruces están en malas condiciones	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clima	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Muy oscuro cuando viajo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Preocupación sobre la seguridad personal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Necesidad de transportar otras personas o cosas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

¿Qué otros obstáculos (si los hay) le impiden hacer viajes cortos en el corredor?

¿Qué mejoras se necesitan para promover caminatas en la zona de Route 107?

	No tiene importancia	Tiene alguna importancia	Importante	Muy importante
Señales de WALK (camine) de más duración en los cruces	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Más cruces peatonales	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cruces peatonales elevados	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Islas de refugio para peatones en las intersecciones	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mejores señales	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extensiones de aceras (para reducir la distancia de cruces peatones)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rampas de bordes mejoradas y accesibilidad para personas con discapacidades	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tráfico más lento	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Más espacio de protección entre la acera y el tráfico vehicular	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mejor iluminación o medidas de seguridad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aceras más anchas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mejor mantenimiento de aceras (reparación de infraestructura o remoción de nieve/escombros)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Más educación y aplicación de las leyes de tráfico peatonal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Distancias más cortas para cruces peatonales	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

¿Cuán probable es que camine en estos segmentos del corredor?

	Sumamente improbable	Improbable	Neutral	Probable	Sumamente probable
De Chestnut Street a Eastern Avenue (en Lynn)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De Eastern Avenue (en Lynn) al Walmart (en Salem)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Del Walmart (en Salem) a Hawthorne Square Mall (zona First Street)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De First Street a Boston Street (en Salem)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

¿Cuán frecuentemente usa transporte público (autobuses) en el corredor Route 107?

	A diario	Entre semana	Con regularidad	Rara vez	Nunca
Ir y venir de la escuela	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ir y venir del trabajo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fines recreativos (eventos comunitarios, compras, comidas, quehaceres)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

¿Qué obstáculos le impiden usar transporte público en esta zona?

	Obstáculo grande	Obstáculo pequeño	No es obstáculo
La tarifa o ticket cuesta demasiado	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No corre con suficiente frecuencia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No va adonde yo quiero ir	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Es demasiado lento	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
La parada más cercana queda demasiado lejos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No me siento seguro/a caminando o esperando	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No siento comodidad en los vehículos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No me es tan conveniente como mi vehículo personal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hago muchas paradas durante mis viajes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Las horas de servicio no cuadran con mi itinerario	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

¿Qué otros obstáculos (si los hay) le impiden usar transporte público en el corredor?

¿Qué nivel de comodidad o confianza tiene usando bicicletas?

- No las uso y no tengo planes de comenzar a usarlas.
- Menos confianza – Sólo me siento seguro/a en senderos aparte (con pocos cruces de tráfico) y calles locales.
- Casual – Prefiero senderos aparte pero las usaré en carreteras con espacio disponible y donde el tráfico es manejable.
- Más experiencia – Confío y me siento cómodo/a usándolas junto al tráfico en la carretera en la mayoría de las situaciones.

¿Cuán frecuentemente usa una bicicleta en la zona de Route 107?

	A diario	Entre semana	Con regularidad	Rara vez	Nunca
Llegar hasta el transporte público	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ir y venir de la escuela	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ir y venir del trabajo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fines recreativos (eventos comunitarios, compras, comidas, quehaceres)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

¿Qué mejoras se necesitan para que use bicicletas en la zona de Route 107?

	No tiene importancia	Tiene alguna importancia	Importante	Muy importante
Más carriles para bicicletas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Más senderos para bicicletas saliendo de las carreteras	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carriles exteriores más anchos (más fácil compartir carril con autos)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Espacios de protección mejorados entre ciclistas y vehículos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mejor estacionamiento y almacenamiento para bicicletas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Más señalización para bicicletas en la carretera (señales de compartir la carretera / señales de la bicicleta puede usar todo el carril)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mejores arreglos para bicicletas en intersecciones (puntos de bicicletas)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tráfico más lento	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Más y mejores señales de orientación y mapas para ciclistas en la ruta de bicicletas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Aumento al mantenimiento (barrido de calles/reparación de carreteras)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Más educación y aplicación de las leyes de tráfico	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asfalto con colores para carriles de bicicletas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Menos tráfico	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

¿Qué otras mejoras (si las hay) se necesitan para que use bicicletas en el corredor?

¿Cuán probable es que use bicicletas en estos segmentos del corredor?

	Sumamente improbable	Improbable	Neutral	Probable	Sumamente probable
De Chestnut Street a Eastern Avenue (en Lynn)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De Eastern Avenue (en Lynn) al Walmart (en Salem)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Del Walmart (en Salem) a Hawthorne Square Mall (zona First Street)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De First Street a Boston Street (en Salem)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

¿Cuál es la mejora número uno que le gustaría ver en el corredor de Route 107?

Las siguientes preguntas demográficas permitirán a MassDOT entender mejor la composición de los residentes, dueños de negocios y otros usuarios del corredor. Contestar estas preguntas es opcional.

¿Cuántos años tiene?

- Menos de 18
- 18 a 21
- 22 a 34
- 35 a 44
- 45 a 64
- 65 o más
- Prefiero no decir

¿Tiene una licencia de conducir vigente en la actualidad?

- Sí
- No

¿Tiene un auto privado (incluyendo camiones ligeros) disponible para su uso?

- Sí, siempre
- A veces (compartido con miembros de la familia)
- Nunca

¿Cómo se autoidentifica en términos de raza? (Marque todas las que apliquen.)

- India americana o nativa de Alaska
- Asiática
- Negra o afroamericana
- Nativa de Hawái o de otra isla del Pacífico
- Blanca
- Otra (por favor especifique) _____
- Prefiero no decir

¿Es hispano/hispana o latino/latina?

- Sí
- No
- Prefiero no decir

¿Cuál es su ingreso familiar anual?

- Menos de \$14,000
- \$14,000 a \$27,999
- \$28,000 a \$41,999
- \$42,000 a \$69,999
- \$70,000 a \$99,999
- \$100,000 a \$139,999
- \$140,000 o más
- Prefiero no decir

¿En cuál idioma prefiere recibir información sobre las condiciones de viaje o proyectos de carreteras?

- Inglés
- Otro, por favor especifique... _____

Por lo general, ¿es capaz de entender instrucciones básicas habladas o escritas en inglés?

- Siempre
- Con frecuencia
- A veces
- Nunca
- Prefiero no decir

Survey Results

Route 107 Corridor Study: Online Survey Results

Introduction

The Massachusetts Department of Transportation (MassDOT), in coordination with the Cities of Salem and Lynn, is conducting a study of the Route 107 corridor. This study will propose improvements to address existing transportation issues for motorists, transit users, pedestrians, and bicyclists along Route 107 from Chestnut Street in Lynn to Boston Street in Salem.

Online Questionnaire

MassDOT developed an online survey to ask users to help identify issues and to recommend ideas related to improvements for transit users, motorists, pedestrians, and bicyclists. The survey was available in English and Spanish. It was made available through links publicized by email to the project database and Working Group, which includes representatives of employers, chambers of commerce, community groups, elected officials and more. The study team asked Working Group members to help distribute flyers to members of their organizations and others who may be interested.

On October 20, 2015 members of the study team distributed bilingual flyers to all residences, businesses, schools, and hospitals immediately abutting the Route 107 corridor. A media advisory was sent to local newspapers, including *The Daily Item*, *Salem Gazette*, *Salem News* and *Boston Globe North*. *The Patch* and *Boston Globe* featured articles describing the study and linking to the survey.

At the January 27, 2016 public meeting, the study team reminded participants to take the survey before it closed. The notifications and advertisements related to the public meeting also included a reminder about the survey.

The survey was available from October 14, 2015 to February 1, 2016. 1,672 people accessed the questionnaire, including two in Spanish. The top referrer sites¹ were a direct link to the survey (521), the MassDOT website (335), Facebook (237), a direct email from MassDOT (141), and links from media sources such as *Lynn Matters*, *The Patch*, *Salem News* and the *Boston Globe* (333).

While not all questions were completed in full by each respondent, the project team is confident that the results provide a helpful snapshot of travel habits, feedback on current conditions and suggestions to improve the corridor for multiple modes.

While the advantages of online surveys are that they save time and can provide access to a diverse group of individuals, sample issues can result. Demographic information provided by the respondent is self-reported, and the non-response rate is difficult to estimate. For example, the project team does not know how many people learned about the survey and chose not to complete








¹ A referrer is the webpage a respondent visited immediately before beginning the survey.

it. There is a self-selection bias in terms of who responds to the questionnaire; it is primarily people who already know about the project, those who regularly have contact with one of the referring sources, and those who have the time and inclination to participate. It is unlikely that a user of Route 107 without these project or community connections may even learn about the survey effort. Therefore, the results of the survey are not intended to be statistically significant, using scientific sampling methods. They do, on the other hand, provide insight into opinions of some of the users.

Who Are the Respondents?

The age of survey respondents is slightly older than the age group profile of the adult population of Essex County, based on the 2010 U.S. Census (see Table 1). Over 45% of respondents are between the ages of 45 and 64. 12% of respondents chose not to self-identify by race for the study. Among those who did self-identify, there were very few Asian (1%) or Black or African American (1%) respondents, compared to Essex County census population (Asian: 3%; Black or African American: 5%). According to the 2010 Census, 16.5% of people who live in Essex County identify as Hispanic. Only 3% of survey respondents identified as Hispanic. The median household income in Essex County is \$67,311. While 26% of respondents chose not to disclose household income, only 34% had household incomes of \$69,999 or less among those who responded.

Table 1: Respondent Age

Response	Chart	Percentage	Count
Under 18		0.4%	4
18 to 21		0.5%	5
22 to 34		15.2%	158
35 to 44		18.9%	196
45 to 64		46.8%	486
65 or over		16.0%	166
Prefer not to say		2.3%	24

Respondents were asked if they lived, worked and/or went to school in the Route 107 corridor. They were allowed to select more than one response. Almost half the respondents (47%) live in the corridor and 20% work in the corridor. Very few respondents (4%) go to school in the corridor.

Only 2% of the respondents (39) said they own a business in the Route 107 corridor.

Few respondents are transit-dependent; over 98% have a valid driver's license, and over 90% have a private automobile available to them.

When asked when they are most likely to use the corridor, the two most popular choices were weekday rush hours (41%) and "varies" (38%).² The most popular area destinations were Hawthorne Square Mall Shopping Center, North Shore Medical Center and Walmart.

74% of respondents use *both* the Swampscott Rd, Route 107 and Marlborough Road route and the Swampscott Rd., First Street, Traders Way and Marlborough Road route to travel between Swampscott Road and Marlborough Road (see Figure 1).

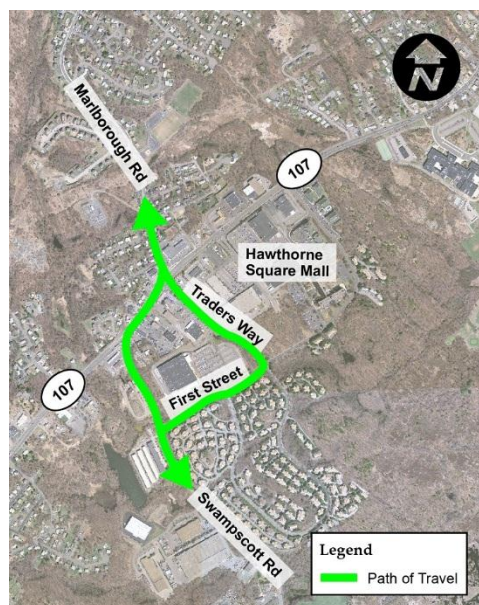


Figure 1: Path of Travel between Swampscott and Marlborough Roads

Driving

The majority of respondents drive personal vehicles in the corridor for recreation (events, shopping, dining and errands) at least occasionally (60%). About one-third of respondents (38%) use the corridor to commute to work daily, but another third (33%) report "never" using the corridor to commute to work.

Respondents were asked about how frequently they experienced congestion in the Route 107 corridor in a number of segments: from Chestnut Street to Eastern Avenue; from Eastern Avenue to the Walmart; from the Walmart to Hawthorne Square Mall (First Street area); and from First Street

² Respondents were able to select more than one response to this question.

to Boston Street. While a majority of respondents reported experiencing traffic congestion either “frequently” or “usually” for the segments from Eastern Avenue in Lynn all the way to Boston Street in Salem, these rates were generally higher for the Walmart to Hawthorne Square Mall (76%) and First Street to Boston Street segments (69%). Even the segment from Chestnut Street to Eastern Avenue in Lynn saw 41% of respondents experiencing congestion “frequently” or “usually.”

Respondents were then asked about the extent to which safety improvements are needed in these segments of the corridor. A majority of respondents saw the need as a “great” or “very great” extent for the Walmart to Hawthorne Square Mall (66%) and First Street to Boston Street (60%) segments.

Respondents were also asked to share the type of roadway improvements that they would like to see in the Route 107 corridor (see Table 2). Of the listed potential improvements, a majority of respondents saw left-turn lanes (75%) and median separation with U-turn provisions (57%) as “desirable” or “very desirable.”

Table 2: Desired Types of Roadway Improvements

	Very undesirable	Undesirable	Neutral	Desirable	Very desirable
More roundabouts	39.8%	21.6%	24.5%	7.7%	6.5%
Addition of median islands	16.9%	15.2%	38.1%	22.6%	7.2%
Speed bumps (to slow down motorists)	42.1%	26.5%	18.0%	7.9%	5.5%
Right-in, right-out driveway access (no left turns in and out)	12.9%	13.4%	29.0%	30.1%	14.6%
Sidewalk bump-outs (for traffic calming)	16.8%	16.0%	31.9%	24.0%	11.3%
Left-turn lanes	5.4%	3.8%	16.1%	39.6%	35.1%
Median separation with U-turn provisions	9.6%	8.4%	24.6%	35.2%	22.1%

Respondents were also given the opportunity in an open-ended question to share additional improvements they would make to the. Suggestions included:

- Improvements in traffic signal timing at a variety of intersections, including Eastern and Western Avenues
- Increasing the number of lanes/widening the roadway
- Repaving/repairing the roadway
- Reductions in development
- Enforcement of speed limits

Walking

Few respondents walk in the Route 107 area, and if they do, it is rarely to get to public transit, commute to school or commute to work. In fact, over 70% of all respondents “never” walk in the Route 107 area for these purposes, despite the fact that a majority report being comfortable walking for transportation purposes for up to ½ mile. While 43% of respondents “never” walk in the corridor for recreation purposes, some walk in the area regularly (20%) or daily (11%) for these purposes. Of all the segments of the corridor, respondents were most likely to walk between First Street and Boston Street, though 39% still say it was “extremely unlikely” that they walk there.

A majority of respondents report that the major barriers to walking short trips in the area are that the walking areas are too close to heavy traffic (68%), the sidewalks/paths/crossings are in poor condition (62%), and there is a concern about personal safety or security (53%).

Respondents were also encouraged to share other barriers to walking in the corridor as part of an open-ended question. Barriers included:

- Crossings are too few and inconvenient
- Not enough sidewalks
- Sidewalks are not maintained/cleared of snow
- Failure to enforce laws to protect pedestrians from traffic

To overcome the barriers, respondents favored a number of improvements including more pedestrian crossings, pedestrian refuge islands at intersections, improvements to curb ramps and accessibility for people with disabilities, more buffer between the sidewalk and vehicle traffic, better lighting or security measures, wider sidewalks and better sidewalk maintenance (see Table 3).

Table 3: Improvements to Promote Walking

	Not at all Important	Somewhat Important	Important	Very Important
Longer WALK signals at crossings	24.6%	32.8%	25.3%	17.3%
More pedestrian crossings	16.8%	30.1%	30.5%	22.6%
Raised crosswalks	31.9%	26.6%	24.5%	17.1%
Pedestrian refuge islands at intersections	14.6%	28.3%	36.2%	20.8%
Better signs	13.3%	22.4%	35.9%	28.4%
Sidewalk bump-outs (to reduce pedestrian crossing widths)	30.7%	31.1%	24.7%	13.5%
Improved curb ramps and accessibility for people with disabilities	12.6%	20.9%	34.0%	32.6%
Slower traffic	23.6%	25.7%	24.5%	26.2%
More buffer between the sidewalk and vehicle traffic	14.3%	22.7%	30.2%	32.7%
Better lighting or security measures	10.7%	17.2%	32.8%	39.3%
Wider sidewalks	16.9%	23.6%	30.5%	29.0%
Better sidewalk maintenance (repair of infrastructure or removal of snow/debris)	7.2%	10.3%	29.7%	52.8%
Increased education and enforcement of pedestrian traffic laws	15.2%	24.5%	28.0%	32.4%
Shorter pedestrian crossing distances	21.7%	31.3%	28.8%	18.2%

Public Transportation

Very few respondents are regular users of public transportation in the Route 107 corridor, regardless of trip purpose. If respondents did take public transportation, even “rarely,” it tended to be for recreation. Even for that trip purpose, 76% of respondents reported “never” using public transportation in the corridor.

A majority of respondents reported that the major barrier to using public transportation in the corridor is that it is not as convenient as using the personal vehicle. As noted earlier, the respondents to this survey are generally not transit-dependent and appear to want to use personal vehicles as a matter of choice. Issues of schedule and routing do not seem to have an effect on the reasons respondents choose to use personal vehicles.

Respondents were also encouraged to share other barriers to using public transportation in the corridor as part of an open-ended question. Barriers included:

- Lack of information (location of stops, schedule, fares)
- Unreliability of service
- Infrequent service/no service to Boston on weekends
- Lack of amenities (benches, shelters) at bus stops

Bicycling

Over 90% of respondents report “never” using a bicycle to get to public transit, commute to school or commute to work. About three-quarters of respondents (77%) report “never” using a bicycle for recreation either. This is true for users in all segments of the corridor, though users are less likely to bike in the segments from Chestnut Street in Lynn to the Walmart in Salem. While half the respondents (50%) report that they do not ride bikes and have no plans to start, about 30% report that they are “casual” or “experienced” bicycle users.

Respondents were asked about what improvements would be needed to bike in the Route 107 corridor (see Table 4). Of the listed improvements, off-road bike paths, improved buffers between bicyclists and vehicles, increased maintenance, and less traffic were seen as the most important.

Respondents were also encouraged to share other improvements that could be made as part of an open-ended question. Many respondents in this section said that bikes should not be allowed on the roadway in general. Suggestions for improvements included:

- Protected lanes
- Protected intersections (including bike boxes)
- Reduction in traffic speed

Table 4: Improvements Needed for Biking

	Not at all Important	Somewhat Important	Important	Very Important
More bike lanes	36.5%	17.6%	17.9%	28.0%
Off-road bike paths	31.0%	14.3%	18.1%	36.6%
Wider outside lanes (easier to share lane with cars)	37.2%	17.8%	20.5%	24.5%
Improved buffers between bicyclists and vehicles	31.1%	13.0%	20.5%	35.4%
Better bicycle parking and storage	40.7%	19.4%	19.3%	20.6%
More on-road bike signage (share the road signs/bike may use full lane signs)	36.3%	20.4%	19.2%	24.1%
Better bike accommodation through intersections (bike boxes)	35.9%	18.1%	21.8%	24.1%
Slower traffic	39.0%	19.0%	19.9%	22.0%
More and better bike route wayfinding signs and bike maps	36.7%	21.1%	20.5%	21.7%
Increased maintenance (street sweeping/repair of roads)	27.9%	13.5%	21.4%	37.2%
Increased enforcement of and education about traffic laws	30.9%	15.3%	22.0%	31.8%
Colored asphalt for bike lanes	35.3%	18.3%	22.2%	24.1%
Less traffic	33.1%	17.7%	19.0%	30.2%

Other Comments

Respondents were also asked to name the number one improvement they would make to the Route 107 Corridor. Improvements included the following:

- Reducing traffic
- Improving left-hand turns
- Retiming light signals
- Repaving the roadway/fixing potholes
- Restriping the roadway for better lane/turning movements
- Adding sidewalks
- Adding bike lanes
- Better roadway maintenance

The word cloud below (see Figure 2) is comprised of the open-ended responses to this question. The word cloud demonstrates that traffic is the issue that overwhelmingly dominant in all of the open-ended responses.

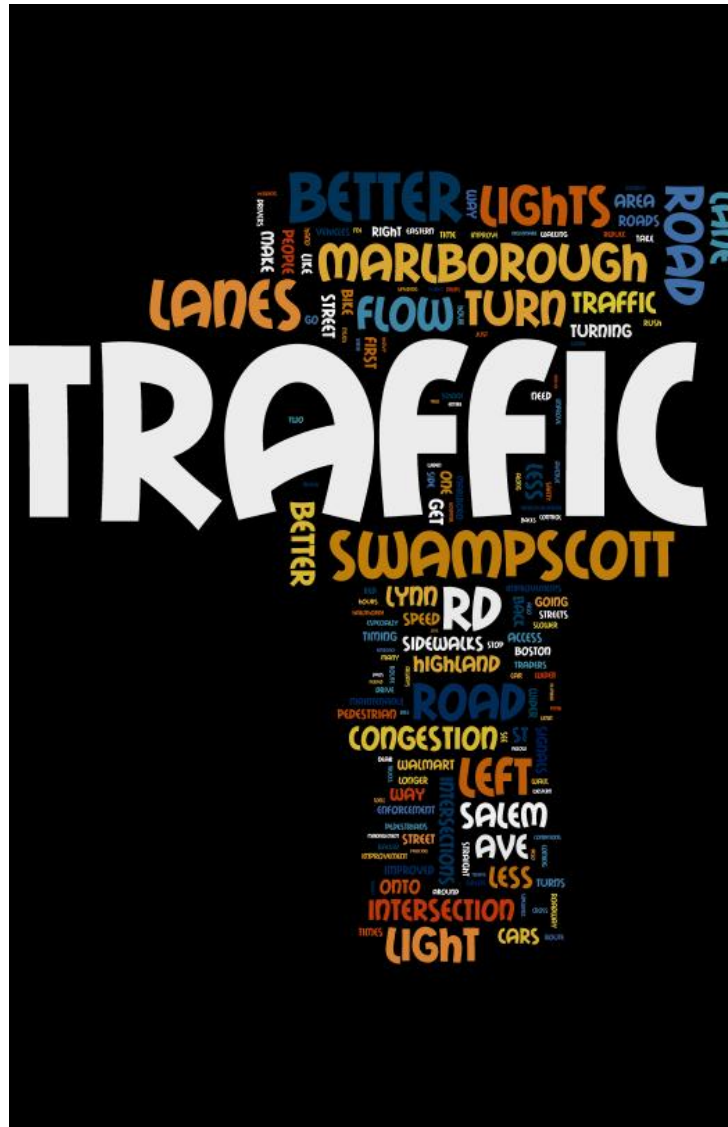


Figure 2: Word Cloud of Suggested Improvements

Conclusion

The results of the online survey are consistent with the data gathered during the study's existing conditions analysis. The answers to multiple choice questions and extensive written responses to open ended questions provide illumination and detail that support the technical analysis completed to date. MassDOT will consider the responses regarding preferred improvements as the project progresses to the alternatives development phase.

APPENDIX B

Working Group

Working Group Meeting #1 Summary



Route 107 Corridor Study Working Group Meeting #1: Summary

June 10, 2015, 10:00 AM, Salem City Hall Annex, 120 Washington Street, Salem, MA

Purpose

The kickoff meeting for the Route 107 Corridor Study Working Group will provide an opportunity for working group members to meet one another, for MassDOT to provide an introduction to the study, and for the design team to present data from field reconnaissance and data collection efforts.

Handouts

Meeting agenda with contact information and website

Present

Michael Clark and Ethan Britland, Massachusetts Department of Transportation (MassDOT) Office of Transportation Planning (OTP); Maureen Chlebek, Jason Adams, and Joanne Haracz, McMahon Associates; Sarah Paritsky, Regina Villa Associates; and the following members of the Working Group:

Shelly Bisegna, North Shore Medical Center
Bill Bochnak, Economic Development & Industrial Corporation (EDIC) Lynn
Beth Debski, The Salem Partnership
Patrick Delulis, Salem and Lynn Area Chamber of Commerce
Lynn Duncan, City of Salem, Department of Planning and Community Development
Jeff Elie, Salem Bicycling Advisory Committee
David Eppley, Salem City Council
Leslie Gould, Lynn Area Chamber of Commerce
Andrew Hall, City of Lynn, Department of Public Works
Meaghan Hamill, Office of Senator McGee
Chris Kuschel, Metropolitan Area Planning Council (MAPC)
Senator Joan Lovely, State of Massachusetts

Senator Thomas McGee, State of Massachusetts
John Olson, Lynn Area Chamber of Commerce
Rinus Oosthoek, Salem Chamber of Commerce
John Pelletier, Salem Mass in Motion Program Coalition
Lt. Robert Preczewski, Salem Police Department
Sgt. Ned Shinnick, Lynn Police Department
Jonathan Thibault, Lynn Housing Authority & Neighborhood Development
Representative Paul Tucker, State of Massachusetts
Jeff Weeden, Lynn Housing Authority & Neighborhood Development
Dale Yale, Salem Planning Board
Giovanna Zabaleta, City of Salem

Meeting Summary

MassDOT Project Manager Michael Clark opened the meeting, reviewed the agenda, and led a round of introductions. Mr. Clark introduced the study consultant team of McMahon Associates and Regina Villa

Associates (RVA). Mr. Clark reviewed the corridor map and pointed out the ten intersections that will be highlighted during the study, two of which are within the Top 200 Crash Locations in the state.

Mr. Clark described the purpose of the study, which will include an evaluation of multimodal improvements to accommodate new retail and other future impacts possible along the corridor. The study aims to resolve traffic delays, queuing, signal design, and other issues and will recommend short, medium, and long term improvements based on an alternatives analysis.

The study consists of six tasks and the project team is currently in Task 2: Perform Field Reconnaissance and Collect/Gather Information. Feedback collected at this meeting will be incorporated into subsequent tasks. Mr. Clark provided an overview of the Public Involvement Plan, which will consist of four Working Group meetings and two public meetings. The study is expected to wrap up by spring 2016.

Mr. Clark explained the roles of the Working Group and encouraged members to let him know if anything is missing and whether the data presented at this meeting is consistent with members' experiences and observations. Mr. Clark described the draft goals, objectives and evaluation criteria before handing the presentation over to Maureen Chlebek, McMahan Project Manager.

Ms. Chlebek shared the data collection efforts completed and transportation conditions identified to date. Several public transportation options are offered in the region, and the roadway is mostly owned by MassDOT with a portion owned by the City of Lynn. Field reviews were conducted throughout the entire corridor during peak periods (weekday mornings and afternoons, and Saturday afternoons). Traffic counts were taken at the end of March and in early April 2015. McMahan conducted an origin/destination study to better understand the area where Route 107 meets Swampscott Road and Marlborough Road.

Ms. Chlebek explained that Route 107 is a vehicle-dominant roadway and therefore has relatively low counts of pedestrians and bicyclists. At best, bicycles can ride on a four foot wide shoulder without obstructions, and at worst a five foot wide shoulder with obstructions. The study will seek to improve bicycle accommodations for the corridor. Sidewalks line most of the corridor, but there are missing pieces, particularly on the west side of the street, and much of the existing sidewalks are in poor condition and lack compliance with the Americans with Disabilities Act (ADA).

Jason Adams provided an overview of existing traffic conditions and automatic traffic recorder (ATR) counts along the corridor. Approximately 30,000 to 35,000 vehicles drive on Route 107 on a daily basis. The speed limit is generally 35 miles per hour (MPH), increasing to 45 MPH between Walmart and Swampscott Road. Turning movement counts were taken at the ten primary intersections on weekdays and Saturdays. The results largely indicate that Route 107 is both a destination and commuter corridor.

Mr. Adams described bicycle and pedestrian count results in the corridor. There was very little bicycle activity, which does not necessarily indicate a lack of desire; rather the condition of bicycle accommodations may discourage bicycle activity. The highest pedestrian counts were taken near the schools on weekday mornings, and near Marlborough Road and the Hawthorne Square Mall on weekday and Saturday afternoons near the busiest bus stops.

Mr. Adams presented the results of the origin/destination data for traffic taking a right onto Route 107 from Swampscott Road and then taking a left onto Marlborough Road. Traffic making this movement makes up about 14% of the total northbound Route 107 traffic in this location. Traffic making the

reverse movement (turning right on Route 107 from Marlborough Road then turning left on Swampscott Road) makes up about 12% of the total southbound Route 107 traffic.

Mr. Adams shared the crash analysis results. He focused on two of the top crash intersections: Eastern Avenue in Lynn (well above the state signalized crash rate) and Marlborough Road in Salem (slightly above the state signalized crash rate).

Joanne Haracz reviewed transit conditions throughout the Route 107 corridor. Almost 1600 riders take the MBTA Bus Route 450 per day on weekdays, while only 275 riders take the MBTA Bus Route 456 daily since it offers less frequent service. There are 18 pairs of inbound/outbound bus stops throughout the corridor, with five of these bus stops serving the bulk of the ridership in the area.

Ms. Haracz described existing land use in Lynn (primarily residential) and Salem (a mix of commercial/retail, industrial, and residential). Zoning is consistent in each city. Salem has an Entrance Corridor Overlay District within 150 feet from the roadway centerlines for much of the corridor.

Ms. Haracz noted there are some social equity issues with regards to Environmental Justice populations, as defined by the Boston Region Metropolitan Planning Organization. There are also environmental and historic resources, including protected lands and several historic properties, within the study area.

Ms. Chlebek said the next steps are for the project team to finish Task 2 and move into Task 3. Mr. Clark noted the presentation will be posted to the project website.

Question & Answer Session

Mr. Clark welcomed questions from the Working Group.

Question: Is there an opportunity to expand the study area to include Boston Street and North Shore Medical Center in Salem, and Chestnut Street in Lynn? Mr. Clark said he will look into this possibility, and at the very least incorporate qualitative feedback into the study and consider regional traffic impacts. Representative Paul Tucker later agreed that it is critical to encompass Boston Street.

Question from Representative Tucker: Will the study consider the proposed Cinema World complex that could have dramatic traffic effects? Mr. Clark said the study will examine special generators for future growth rates, and coordination with the cities will ensure major projects like the Cinema World complex are considered.

Comments from Senator Joan Lovely: North Shore Medical Center is considering a new route for emergency vehicles. She receives many phone calls from constituents about traffic on Route 107 from the south to the northern ends. Many drivers need to turn around on residential streets in order to access businesses on the other side of the road and median. This corridor impacts residents' quality of life and the community really cares about these issues. Mr. Clark thanked Senator Lovely for her comments and took note of them.

Question from Senator Thomas McGee: Does the study include an analysis of the entire Route 107 corridor for commuters? There are broader bike and transit issues that could have long-term possibilities. Ms. Chlebek said the study does consider the broader regional context. Mr. Clark added that MassDOT District 4 and the highway team are involved to ensure the study is considering the regional perspective.

Question from Shelly Bisegna, North Shore Medical Center: Did the study team collect information on the wait times at the Willson Street/Cherry Hill Avenue intersection? This intersection gets backed up during hospital shift changes and when the middle and high schools end for the day. Ms. Chlebek said her team will look at the wait time at intersections.

Comments from John Olson, Lynn Area Chamber of Commerce: The intersection of Eastern Avenue and Stanwood is an unsignalized intersection that keeps the traffic moving. A signal would only cause further traffic issues. Ms. Chlebek made a note of this suggestion.

Comments from Sgt. Ned Shinnick, Lynn Police Department: There are east/west traffic issues at Eastern Avenue as well. Ms. Chlebek noted this issue.

Comments and Questions from David Epley, Salem City Council: There are two small communities near Barnes Road and Ravenna that are very quiet. The community is concerned with the proposed Cinema World complex, and some people think any development on Highland Avenue is bad. When will outreach be done to smaller communities and condo associations? There is concern about takings if there is not sufficient room to expand. Mr. Clark noted these concerns. Ms. Chlebek added that the project team is looking at land use, economic development, and solutions for all stakeholders. Residents and business owners have similar goals – to reduce congestion and improve the corridor. Lynn Duncan, City of Salem, added that the City will work with McMahan and RVA to partner on public outreach. Sarah Paritsky, RVA, added that interested members of the public can sign up for email updates on the Route 107 Corridor Study website. The project team will send emails to announce project updates and upcoming public meetings.

Comments from Beth Debski, The Salem Partnership: The study should analyze the intersection of High Street and First Street, as well as the signal at Traders Way. Ms. Chlebek agreed that motorists zig-zag in several locations, and consideration of these intersections has been observed.

Comments from Patrick Delulis, Salem and Lynn Area Chamber of Commerce: The study should explore opportunities for trial implementations, such as striping or signal modifications. Ms. Chlebek said the study will make short, medium, and long term recommendations and we can consider pilot programs to test out ideas. Mr. Clark added that tactical improvements and any pressing issues could be handled in a timely manner.

Comments: The MBTA data may include errors due to monthly pass users and others who enter through the back door of the bus. Ms. Haracz explained the ridership data is less important than identifying which bus stops are the most utilized within the corridor.

Comments from Chris Kuschel, MAPC: Zoning can change over time, so please keep that in mind. Ms. Haracz said the next step is for the project team to talk to the cities about any developments or zoning changes that are planned.

Comments: A new signal is needed between Sunset Road and Barnes Road for left turns. Ms. Chlebek noted this suggestion.

Comments from Senator Lovely: Will the study track the application process for the Cinema World complex with the Planning Board and consider traffic mitigation? Mr. Clark and Ms. Chlebek confirmed the team will track the process. Ms. Duncan said the Salem Planning Board will look at the traffic

mitigation study and hire a third party traffic engineer to review the proposed traffic mitigation study. She will refer that traffic engineer to McMahon for coordination. Ethan Britland, MassDOT OTP, noted that all public/private developments like the Cinema World complex will need to submit a Massachusetts Environmental Policy Act (MEPA) document if it's expected to be a significant trip generator. This will be included in the study as a future no-build alternative.

Comments: When Columbia Road is backed up it can lock people in their neighborhoods. Congestion relief is needed here. In order to encourage flow, perhaps a roundabout could be considered in certain locations. Ms. Chlebek took note of these suggestions.

Comments from Sgt. Shinnick: There are several other intersections in the vicinity that are in the top 200 for crashes. The police departments are adding enforcement to improve safety but there is a need for additional safety improvements. Ms. Chlebek took note of this concern.

Question: Will ATR counts be taken in October, as that is the busiest time, particularly on the weekends, for tourism in Salem? Ms. Chlebek said the ATRs were taken in the spring but they will consider seasonal weekend traffic.

Comment: Is the center guard rail needed? It is an impediment to traffic flow and transit users who are accessing the food pantry need to walk far to cross the street. Ms. Chlebek took note of this concern and said cross connections are important.

Comments from Jeff Elie, Salem Bicycling Advisory Committee: Salem State University is transitioning from a commuter campus to a more residential campus. Consider students who may want to access the businesses along Route 107 via bike, walking and transit. Also, a comprehensive bike update is in progress with the City of Salem. Ms. Chlebek thanked Mr. Elie for the suggestion.

Question: From the Floating Bridge to Walmart, the roadway is one lane each way (formerly 2 lanes each way). Can the study consider changes at Buchanan Circle and Belleaire? Ms. Chlebek said her team will look at the number of lanes, volumes, and other changes.

Question from Ms. Duncan: After the study, can MassDOT commit to the design and construction? Mr. Clark explained that transportation projects follow a certain funding process that can be lengthy, which is why some recommendations will be short-term and can be implemented more quickly and easily. He noted that the intention of the study is to produce action items which MassDOT hopes to be able to act upon.

Question from Ms. Duncan: When is the next Working Group Meeting? Mr. Clark said the next Working Group meeting will be scheduled in late summer after Task 3 is completed. When asked about involving the public sooner, Ms. Chlebek said the public will have an opportunity to react to the data collection and analysis, before the team develops alternatives.

Mr. Clark thanked the Working Group for attending the meeting.

Working Group Meeting #2 Summary



Route 107 Corridor Study Working Group Meeting #2: Summary

October 20, 2015, 10:00 AM, Salem City Hall Annex, 120 Washington Street, Salem, MA

Purpose

At the second Working Group meeting for Route 107 Corridor Study, MassDOT and its consultant team provided an update on Task 2, field reconnaissance and data collection, given the recent expansion of the study area. The team also presented its findings under Task 3, evaluation of existing conditions and identification of transportation issues.

Present

Ethan Britland and Michael Clark, Massachusetts Department of Transportation (MassDOT) Office of Transportation Planning (OTP); Maureen Chlebek and Jason Adams, McMahon Associates; Sarah Paritsky and Emily Christin, Regina Villa Associates (RVA); and the following members of the Working Group:

Shelly Bisegna, North Shore Medical Center
Beth Debski, The Salem Partnership
Patrick Delulis, Salem and Lynn Area Chamber of Commerce
Lynn Duncan, City of Salem, Department of Planning and Community Development
David Eppley, Salem City Council
Brian Francis, MBTA
Leslie Gould, Lynn Area Chamber of Commerce
Andrew Hall, City of Lynn, Department of Public Works
Meaghan Hamill, Office of Senator McGee
David Knowlton, City of Salem
Chris Kuschel, Metropolitan Area Planning Council (MAPC)
Andrea Leary, North Shore TMA

Senator Joan Lovely, State of Massachusetts
Stephen Lovely, Lovely Law Group LLP
Adi Nochur, Walk Boston
Rinus Oosthoek, Salem Chamber of Commerce
John Pelletier, Salem Mass in Motion Program Coalition
Lt. Robert Preczewski, Salem Police Department
Connie Raphael, MassDOT
Sgt. Ned Shinnick, Lynn Police Department
Jason Silva, City of Salem
Sara Timoner, MassDOT
Representative Paul Tucker, State of Massachusetts
Dale Yale, Salem Planning Board
Giovanna Zabaleta, City of Salem

Meeting Summary

Welcome, Introductions, and Study Process

MassDOT Project Manager Michael Clark opened the meeting, reviewed the agenda, and led a round of introductions. Mr. Clark introduced the study consultant team of McMahon Associates and RVA.

Mr. Clark noted that Tasks 2 and 3 will be discussed at this meeting, and Task 4 will be covered at the next Working Group meeting in two to three months. There will be a final report at the end of the study that summarizes all of the tasks.

Mr. Clark reviewed the study schedule, and noted that the study has progressed to the end of Task 3.

Mr. Clark announced that the online survey is now live and was sent out to the Working Group last week. The team hopes to get a lot of feedback from the Working Group and the public at large. Mr. Clark encouraged the members of the Working Group to share the survey with their organizations' members, constituents, and anyone else who may be interested. The survey will be live for a few months, through the first public meeting. Mr. Clark introduced Maureen Chlebek, McMahon Associates Project Manager, to discuss the study area.

Expanded Study Area

Ms. Chlebek thanked the Working Group for providing feedback at the first meeting in June, which later resulted in a decision by MassDOT to expand the study area. She showed a map of the original project limits from Willson Street in Salem to Maple Street in Lynn. She then showed a map of the new project limits, which includes the following five new intersections:

- Route 107 at Chestnut Street, Lynn
- Route 107 at Chatham Street, Lynn
- Route 107 at the lower entrance to Salem Hospital, Salem
- Route 107 at Jackson Street/Dalton Parkway, Salem, and
- Route 107 at Boston Street, Salem.

The team has gathered data on these new intersections as part of Task 2. Ms. Chlebek explained that the new intersections fall under city jurisdiction, whereas the original study area intersections are under MassDOT jurisdiction.

Ms. Chlebek reviewed the results of the Existing Traffic Conditions data collection:

- The team collected automatic traffic recorder (ATR) counts at five new locations and collected manual turning movement counts (MTMCs) during the weekday AM and PM peak hours and Saturday peak hours at the new intersections within the study area. Turning movement counts at the five new intersections showed relatively similar traffic volumes, except for a drop in volumes at the extremities of the corridor.
- Bicycle counts were recorded at the new intersections and found to be very low, similar to the original study area's intersections. This is likely due to lack of amenities for bicyclists.
- The new intersections had higher pedestrian peak hour volumes than the original study area's intersections. This is likely due to the fact that the new northern intersections are close to downtown Salem.
- Intersection crash rates were compared to the MassDOT average crash rates. Five out of the 15 intersections have a crash rate higher than the MassDOT average. Ms. Chlebek shared maps with crash analysis data, including the number of crashes and those that resulted in personal injury. Three of the new intersections are on the list of the top 200 crash rate intersections in the state. Crash diagrams were also composed to look at patterns of crashes.

Ms. Chlebek shared results of the Existing Transit Conditions data collection:

- The expanded study area includes a new MBTA bus route, Route 424, in addition to the two bus routes observed in the original study area (Routes 450 and 456). Ms. Chlebek showed a map of the bus stops along the study corridor, and pointed out the top five stop pairs that have the highest ridership. A stop pair includes a bus stop on each side of the street near the same location.

Ms. Chlebek shared a map of the land use and zoning in and around the study area. She noted that it is important to not just study the land use adjacent to the study corridor but also around it. Ms. Chlebek also shared maps of environmental resources and environmental justice areas that must be treated fairly and not overlooked. Ms. Chlebek showed a map of the cultural and historic resources in the study area. The project team must be sensitive to historic resources in the area, many of which are near downtown Salem.

Traffic Operations

Ms. Chlebek shared a map of the Level of Service (LOS) for each intersection along the corridor. The LOS provides an indication of delay at the intersection and varies from a grade of A (good) through F (poor). It is typical to design for a LOS of D and avoid E or F. Many intersections experience a LOS of E or F and require improvements to their operations. Ms. Chlebek stressed that the LOS is only one tool for observing the area and does not tell the whole story.

Transportation Issues/Deficiencies

Ms. Chlebek presented the team's findings on transportation deficiencies throughout the study area. She noted that while the team has walked along the corridor and collected data, the Working Group's input on issues and deficiencies is important given that they use and experience the corridor on a more frequent basis. Ms. Chlebek presented findings on transit deficiencies:

- There is low bus ridership along the corridor and many stops with insufficient spacing. There are four bus stops that do not have a stop pair, which makes it difficult for riders who want to take the bus in both directions near the same location.
- The connections and access to the bus stops are lacking throughout the corridor. The median guardrails pose a significant barrier for pedestrians to connect between stops. In other locations, there are insufficient sidewalks and/or crosswalks.
- There are several stops that do not have adequate space for the bus to safely pull up without blocking traffic.

Jason Adams, McMahon Associates, presented findings on pedestrian deficiencies throughout the corridor:

- There are many sections of sidewalk with inadequate width and no clear definition between the sidewalk and the roadway.
- Other issues include the median barriers (obstructing crossing activity or missing entirely to not serve as a refuge), missing curb ramps, faded or missing crosswalks, and poor signage.

Mr. Adams reviewed the existing pedestrian conditions that the project team catalogued along the corridor. The southern section of the corridor in Lynn has the best sidewalk conditions along the corridor with few obstructions. Moving north along the corridor, the conditions worsen in front of the commercial districts in Salem, where there is a higher potential for pedestrian activity. There is no

sidewalk in front of the Walmart, and the poorly defined driveways make conditions uncomfortable for pedestrians.

Comment from Lynn Duncan: Perhaps there is low bus ridership because of the poor pedestrian access and accommodations. The project team should look at improving pedestrian accommodations before removing any bus stops. Ms. Chlebek thanked Ms. Duncan for the comment and said the team will consider improvements to pedestrian amenities at the bus stops.

Ms. Chlebek presented the findings on bicycle deficiencies along the corridor. She reviewed different types of cyclists. Each type of user is looking for different experiences, and the project team takes this into consideration when proposing bicycle improvements. Bicycle deficiencies were measured in terms of Level of Traffic Stress (LTS) that bicyclists encounter. Certain types of users are more comfortable with higher LTS than others. LTS 1 is typically an off-street, grade-separated path. A cycle track (an on-street bicycle lane separated from traffic by postings or other objects) on the roadway is an example of LTS 2. LTS 3 typically includes a bike lane for bicyclists. The entire study area, which at best includes a wide shoulder alongside high-speed vehicular lanes with on-road debris and poor pavement, is categorized as LTS 4.

Question from Shelly Bisegna: What percentage of confident bicyclists would be considered a success?

Mr. Clark and Ms. Chlebek explained that the percentages are not meant to be used as a target but rather serve as a barometer for the level of bicyclist activity that can be expected along a facility given its environment. The study team will carefully consider the potential demand for future bicyclist activity when making bicycle improvement recommendations.

Mr. Adams presented the findings on vehicular deficiencies throughout the corridor. The corridor was divided into four segments.

Segment A -Chestnut Street to Eastern Avenue in Lynn.

In Segment A there is a lack of turn lanes that causes long queues. Two of the state's top 200 intersection crash rates are in Segment A.

Question from Rep. Paul Tucker: Do we know what causes these crashes? Mr. Adams said the project team will examine the causes of crashes as it looks at collision diagrams provided by the communities.

Mr. Adams reviewed the intersection deficiencies along Segment A. The intersections were observed at peak hours on weekdays while school was in session:

- Chestnut Street showed queueing all the way to Maple Street. The team will be making a collision diagram of this intersection, which will look at the types and causes of collisions. The intersection lacks signal coordination, has old signal equipment, and has curb cuts and parking located in close proximity to the intersection.
- Chatham Street also showed significant queueing. Mr. Adams presented the collision diagram for this intersection. At Chatham Street, the majority of collisions were "turning collisions" caused by low visibility. The intersection lacks turn lanes, and has pedestrian pushbuttons that do not work.
- The Maple Street/Waitt Avenue intersection also showed significant queueing. This section of the corridor has a LOS F and does not have enough capacity. Hazardous conditions are caused by vehicles attempting to access Route 107 at the unsignalized intersection.

- Eastern Avenue is unsignalized but meets criteria to warrant a traffic signal. There is a long queue from vehicles waiting to make a turn. There is a high number of “courtesy crashes,” when a vehicle stops in one lane to let another vehicle take a turn onto the roadway but the other lane of traffic is obstructed from realizing this. This intersection is also LOS F, is on the state’s list of top 200 crash rate intersections, and has insufficient sight distance on the Eastern Avenue westbound approach.

Segment B-Fayes Avenue to Barnes Road

Ms. Chlebek presented findings on intersection deficiencies along Segment B, which includes shopping areas in Salem. A common problem in this segment is roadway debris, which is likely associated with the nearby quarry.

- The Fays Avenue intersection has low volumes of vehicles, and doesn’t meet the need for a warrant for a traffic signal. The timing of the existing traffic signal could be adjusted. There is a driveway in the middle of the signalized intersection without signal control which is of concern. The Route 107 northbound detection is not operating consistently.
- The Walmart intersection lacks sidewalks and crosswalks, which is dangerous for pedestrians. The Walmart driveway approach operates at LOS F on Saturdays, which is not unusual for major shopping areas.
- At the Old Village Drive intersection, vehicles tend to make a lot of illegal U-turns. Pedestrians experience wide crossing distances with no median refuge and there are missing sidewalks and crosswalks.
- The southbound left-turn lane at the Barnes Road/Ravenna Avenue intersection exceeds storage, meaning the left turn lane is not long enough to store the queue of vehicles waiting to turn. The illegal U-turns at this intersection may be associated with motorists wishing to access Swampscott Road in order to avoid the zig-zag movement on Route 107. The median is in poor condition and the intersection is missing sidewalks, crosswalks, and pedestrian signals.

Segment C-Swampscott Road to Hawthorne Square Mall

Mr. Adams shared observations of intersection deficiencies along Segment C, which contains the zig-zag connection between Swampscott Road and Marlborough Road. There is a lack of vehicle progression between traffic lights, which means that vehicle platoons are not progressing through on green indications and are frequently stopped at red lights.

- The Swampscott Road intersection lacks crosswalks, is plagued by illegal U-turns and the right turn movement on the westbound Swampscott Road approach operates over capacity. The traffic signals at Swampscott Road failed to show coordination, and there was significant queueing.
- **Question from Sen. Joan Lovely: There is frequent, significant queueing on First Street. Did you see that?** Ms. Chlebek said yes. That is another roadway that could be helped by better signal coordination. The team recorded a LOS F on the southbound left lane.
- The Marlborough Road intersection shows LOS F on all approaches. There are frequent rear-end collisions, long pedestrian crossing lengths, illegal U-turns and through movements being made from the southbound right turn lane.

- At Hawthorne Square Mall, there are signal coordination issues. Many drivers travel through the parking lot to Traders Way instead of taking Route 107. Pedestrian crossing lengths and missing crosswalks are of concern.

Question from Sen. Joan Lovely: In trying to improve the intersections, is the goal to keep drivers on Route 107? Ms. Chlebek said that the team will review signal coordination to improve flow of traffic on Route 107, but that will be the next step of the project when the team looks at potential improvements.

Comment from Sen. Joan Lovely: There are development opportunities at vacant parcels along Route 107. Ms. Chlebek thanked her for the comment.

Segment D –Willson Street to Boston Street

Ms. Chlebek reviewed the intersection deficiencies of Segment D, the northernmost part of corridor.

- At Willson Street/Cherry Hill Avenue, there is a long westbound queue which extends to the high school driveway and there may be issues with signal timing. Route 107 southbound operates over capacity with the left lane dominated by left turns. The pedestrian audible accessibility operates inconsistently.
- **Question from Beth Debski: When you observed the Cherry Hill Avenue intersection, was that in the AM? The queue is worse in the AM.** Ms. Chlebek and Mr. Adams responded that yes, they do have data that supports that.
- The Salem Hospital lower entrance intersection is unsignalized, and meets the volume warrants for signalization. Pavement markings at the intersection are faded and motorists exiting the hospital driveway experience long delays.
- The intersection of Route 107 and Jackson Street is signalized. Dalton Parkway intersects Route 107 just north of the signalized intersection and is signed for right turns only. However, drivers were observed making illegal left turns onto Route 107 from Dalton Parkway. The intersection experiences a high rate of crashes and is missing crosswalks and pedestrian signals.
- The Boston Street/Essex Street intersection has significant queuing that extends past the fire station driveway, which is problematic during an emergency. The Route 107 northbound left turn lane lacks pavement markings, and experiences long queues. The intersection is missing crosswalks, pedestrian signals, and driveway detection.

Question from David Eppley: Between Segments 2 and 3, there should be anticipated deficiencies for the construction of the potential new Cinema World complex. What is the project team's plans to include this development? Ms. Chlebek and Ms. Duncan responded that the team has not been able to procure a traffic study or plans from Cinema World yet. The team will continue to coordinate with the developer and if possible, will incorporate the Cinema World traffic into the future projections.

Question from Andrew Hall: Can you elaborate on the specific deficiency mentioned about the pedestrian push button for Chatham Street? Ms. Chlebek said the push button did not work. Mr. Hall took note of this issue.

Ms. Chlebek stated that at the next Working Group meeting there will be a discussion of ways to address these deficiencies. She showed a map of design constraints. Property lines are the biggest constraint. There are wetlands and historic resources that the project team will consider.

Comment from Andrea Leary: The study needs to look at projected buildout around the corridor when coming up with design. Ms. Chlebek agreed and noted that is why the team is looking at land use and zoning around the corridor.

Ms. Chlebek showed a map of MassDOT's right-of-way (ROW) along the corridor.

Question from Lynn Duncan: Are you working only along the ROW or are there areas outside of the ROW that might need to be improved as well? Ms. Chlebek said that the team will generally stay on the ROW but will consider improvements outside of the ROW if necessary.

Ms. Chlebek stated that at the next Working Group meeting there will be a discussion of improvements and concept designs.

Question from Andrea Leary: Will you be looking at innovative solutions for bottleneck issues besides just widening the lanes? Ms. Chlebek said that a lot of queue management will be done with better signal coordination, but the team will look beyond that to other solutions as well. Ms. Duncan added that McMahan Associates is familiar with and open to creative solutions.

Question: Aside from signal solutions, will the project team consider changing straight and turning lane restrictions? Ms. Chlebek said that the team knows one size does not fit all, and will be looking at a variety of corridor improvements.

Question & Answer Session

Ms. Chlebek welcomed further discussion and questions from the Working Group.

Question from Shelly Bisegna: Would you please send me the traffic study data outside of Salem Hospital? Ms. Chlebek said yes, she can share that data. Ms. Duncan and Mr. Bisegna discussed traffic studies at the hospital.

Question: Is one objective of this study to develop a list of solutions for the short-term? Ms. Chlebek said yes, short-term solutions, such as fixing a broken pedestrian push button, will be developed.

Ms. Chlebek noted the presentation will be posted to the project website. Mr. Clark reminded the Working Group about the online survey and thanked them for attending the meeting.

Working Group Meeting #3 Summary



Route 107 Corridor Study Working Group Meeting #3: Summary

March 2, 2016, 10:00 AM, Lynn City Hall, Room 402, 3 City Hall Square, Lynn, MA

Purpose

At the third Working Group meeting for Route 107 Corridor Study, MassDOT and its consultant team provided a recap of the public meeting in Salem on January 27 and an overview of the online survey results, presented future traffic volumes and analysis, and introduced alternatives. The team also presented a variety of roadway cross sections for three segments along Route 107 in the study area.

Present

Michael Clark, Massachusetts Department of Transportation (MassDOT) Office of Transportation Planning (OTP); Jason Adams and Maureen Chlebek, McMahon Associates; Emily Christin and Sarah Paritsky, Regina Villa Associates (RVA); and the following members of the Working Group:

Sam Barrows, Office of State Representative
Paul Tucker

Shelly Bisegna, North Shore Medical Center

Bill Bochnak, Economic Development &
Industrial Corporation (EDIC) of Lynn

Ethan Britland, MassDOT

Norm Cole, Lynn Housing Authority &
Neighborhood Development (LHAND)

Patrick Delulis, Salem and Lynn Area Chamber
of Commerce

Mayor Kim Driscoll, City of Salem

Andrew Hall, City of Lynn, Department of Public
Works

Meaghan Hamill, Office of State Senator
Thomas McGee

Cheyenne Hidden, The Salem Partnership

Thor Jourgensen, Lynn Daily Item

Andrea Leary, North Shore Transportation
Management Association (TMA)

Jenna Lovely, Lovely Law Group

Stephen Lovely, Salem City Council

John Pelletier, Salem Mass in Motion Program
Coalition

Connie Raphael, MassDOT

Stephanie Raymond, Office of State Senator
Joan Lovely

Bill Rogers

Lucas Santos, Office of U.S. Representative Seth
Moulton

Edward Shinnick, Lynn Police Department

Debbie Smith Walsh, Lynn Community Health
Center (LCHC)

Meeting Summary

Welcome, Introductions, and Study Process

MassDOT Project Manager Michael Clark opened the meeting, reviewed the agenda, and led a round of introductions. Mr. Clark introduced the study consultant team of McMahon Associates and RVA. He explained that the study team is in the middle of Task 4, Develop Improvement Alternatives, and will

incorporate Working Group feedback before progressing to Task 5, Alternatives Analysis and Recommend Improvements. Mr. Clark stated that the team received good feedback at the public meeting on January 27, 2016 in Salem, and heard concerns regarding the proposed Cinemaworld Project. A follow-up meeting has been scheduled for March 9, 2016 in Lynn and will cover the same material as the first public meeting.

Survey

Sarah Paritsky, RVA, presented the results of the online survey. Ms. Paritsky stated that there was a high number (1,672) of responses, partially due to the local media coverage. She summarized the demographics of the respondents: the respondent pool was less racially diverse and older than the City of Lynn as a whole, according to Census data. Ms. Paritsky explained that most respondents claimed they “never” walk or bike in the corridor, indicating that the respondents were primarily drivers and the survey did not reach many bicyclists and pedestrians who utilize the corridor. She said that overall, the survey responses are consistent with the Existing Conditions report, and most respondents expressed interest in improvements to all modes of transportation within the corridor.

Future Year Traffic Volumes

Maureen Chlebek, McMahon Associates, presented the components that the study team is using to predict future traffic volumes. In addition to background traffic growth, the team is also incorporating special traffic generators, including the Cinemaworld Project based on feedback from the Working Group. The study corridor is broken up into three growth rates based on Central Transportation Planning Staff (CTPS) data. Ms. Chlebek noted that the growth rates for each segment are low, and the corridor has generally been maximized for retail and residential use.

Ms. Chlebek showed the projected peak hour traffic volumes for the Cinemaworld Project, and proposed mitigation, including a signalized intersection at Cedar Road. She noted that by including the data for the Cinemaworld Project, MassDOT is not approving the project; it will need to go through multiple rounds of review at the local and state level.

Overall Improvement Alternative Concepts

Ms. Chlebek reviewed a list of project opportunities, the recommended transit improvements to the corridor, and photos of potential improvements such as bus stop amenities and shelters. She provided a photo of the current type of bus shelter that is typically found throughout Lynn and Salem. Other types of shelters will be explored, depending on the width of the sidewalk that is available to accommodate them. Ms. Chlebek explained that bus operations are also in need of improvements, and the consolidation of bus stops would greatly improve current rider experience. Ms. Chlebek showed a map of the current bus stop spacing along the corridor and a map of a potential consolidation plan. She explained that the MBTA would need to further review this recommendation before it is implemented, with the possible need of public meetings and municipal officials’ approval.

Ms. Chlebek presented recommended bus service improvements, which would include a review of Route 456 to expand its service. She explained that the current service ends at 5:00 PM. Public comments from the online survey support the need for expanded Route 456 service and increased bus service overall.

Jason Adams, McMahon Associates, reviewed recommended pedestrian improvements. Mr. Adams said that the study team has looked at locations along the corridor and catalogued places in need of pedestrian improvements. He showed examples of potential improvements such as countdown pedestrian signal heads and marked crosswalks. Mr. Adams said the study team recommends installing a crossing at First Street in Salem, which currently has no marked crosswalk and is close to Hawthorne Square Mall and the Food Bank. The amount of pedestrian traffic at the First Street stop does not warrant a traffic signal or high-intensity activated crosswalk (HAWK) Beacon, but it does warrant a Rectangular Rapid Flashing Beacon (RRFB). A RRFB is activated by a push button and alerts vehicles with flashing lights when a pedestrian is present.

Ms. Chlebek presented recommendations for bicycle improvements along the corridor. She reviewed the criteria for measuring Level of Traffic Stress (LTS), with 1 being the least stress and 4 being the most stress. She explained that the corridor is currently LTS 4, and the goal for the recommendations is to bring the corridor to a lower LTS, where possible. Ms. Chlebek shared examples of the types of separated bikeways that would produce a LTS 1, including a separated bike lane and a shared use path, which would be difficult to implement here due to the limited right-of-way (ROW). She explained that adding a bike lane along the corridor would bring the LTS to 3. She showed a table of the additional changes that would need to be implemented to reduce the LTS to 2 or 1.

Mr. Adams summarized a list of recommendations for vehicular improvements, including potential intersection, corridor, and short term improvements. Mr. Adams clarified that a pedestrian phase is when time is allotted for pedestrians.

Mr. Adams showed a map of three intersections along the corridor that warrant a traffic signal: Stanwood Street/Eastern Avenue at Route 107 in Lynn, Swampscott Road at First Street in Salem, and Salem Hospital Lower Entrance. Mr. Adams noted that just because an intersection warrants a signal, it does not mean that it is required.

Mr. Adams presented two signalization alternatives for the area of the corridor between Stanwood Street/Eastern Avenue and Maple Street/Waitt Avenue in Lynn:

- Prohibit left turns from Eastern Avenue onto Route 107 and make Stanwood Street a one-way street.
- Add a signal to the Stanwood Street/Eastern Avenue intersection and prohibit left turns from Eastern Avenue onto Route 107.

Mr. Adams showed maps of four intersections in Lynn and two intersections in Salem that would benefit from turn lanes. He explained that adding turn lanes would increase vehicular capacity at these intersections, and improve operations and safety.

Mr. Adams presented three locations for potential roundabouts along the corridor in Salem: Swampscott Road, Traders Way/Marlborough Road, and Boston Street. Mr. Adams noted that there are no current roundabouts along the corridor. He said that the Boston Street intersection has particularly heavy vehicular traffic with a good amount of space to accommodate a roundabout.

Mr. Adams reviewed potential traffic calming measures which could be implemented corridor-wide. He provided photos of examples of such measures, including curb extensions and roundabouts, as well as a map of locations along the corridor to implement these measures.

What is a Cross-Section?

Ms. Chlebek explained that a cross-section is how the components of a streetscape within a ROW are allocated, such as the roadway, parking, pedestrian facilities, bicycle facilities, and landscaping. She explained that the study team divided the corridor into three distinct areas of cross-sections: the 66 foot ROW in Lynn, the 90 foot ROW in southern Salem, and the 60 foot ROW in northern Salem. The three sections were designated by their current land use.

Segment by Segment Improvements

Ms. Chlebek showed a map of the three segments:

- Lynn Corridor Segment
- Retail Corridor Segment
- Northern Corridor Segment

Ms. Chlebek presented the recommended improvements for the Lynn Corridor Segment. She presented a map of current bus stops in the Lynn Corridor Segment along with corresponding ridership. She explained that there are many stops with very low ridership, and several are poorly located. The average spacing is 700 feet, and the proposed spacing is approximately 1,000 feet.

Question from Mayor Kim Driscoll: Do the numbers on the map represent the number of passengers?

Ms. Chlebek said yes, the first number is the boarding count and the second number is the alighting count. Ms. Chlebek presented a map of the recommended bus stop modifications to the Lynn Corridor Segment.

Question from Mayor Driscoll: Is there a net loss of bus stops in this recommendation, or did you mostly move stops? Ms. Chlebek said that most of the bus stops would remain; a couple have been relocated; and a couple new stops were added to fill in missing pairs. She explained that the point of modifying the bus stops is to simplify and organize the stops so bus operations move more efficiently through the corridor.

Question from Mayor Driscoll: Are you asking for input from MBTA bus drivers? Ms. Chlebek said that this is only a recommendation, and the MBTA will hold its own public meetings and public participation process before implementing any changes to the current routes.

Lynn Corridor Segment

Ms. Chlebek presented three potential cross-sections for the Lynn Corridor Segment:

- Parking Both Sides + Bike Lanes (existing parking is maintained, narrow on-street bicycle lane)
- Parking One Side + Buffered Bike Lanes (on-street buffered bicycle lane, removes parking on one side of the street)
- No Parking + Two Way Separated Bike Lane (removes on-street parking, full separation of bicycles and pedestrians)

Ms. Chlebek indicated that the intention is to have the bicycle lanes plowed in the winter, and noted that moving the curb line adds to the cost of potential improvements.

Comment: It would be a big challenge to eliminate street parking from a commercial interest concern.

Question from John Pelletier, Salem Mass in Motion Program Coalition: Are there any plans for cross sections to include a tree zone? Ms. Chlebek said no, not currently. Mr. Pelletier suggested adding trees in the sidewalk.

Comment from Patrick Delulis, Salem and Lynn Area Chamber of Commerce: Utility poles will pose a cost issue when implementing certain cross sections. It may be easier to divert bike traffic to other roadways. Mr. Clark thanked him for his comment and explained that the point of this meeting is for the Working Group to advise the study team how bicyclists should be accommodated in the cross section recommendations.

Comment from Mr. Pelletier: Bicyclists do not want to be diverted to neighborhood streets. They would prefer a direct route, similar to motorists.

Question from Shelly Bisegna, North Shore Medical Center: Do you have bicycle traffic counts for the corridor? It seems unfair to put the same level of modifications to improve bicycle accommodations when the number of vehicles is much higher. Ms. Chlebek said yes, bicycle counts were taken and they were very low. She explained that the reason for the low numbers could be due to the lack of current accommodations.

Comment from Andrea Leary, North Shore TMA: If the accommodations for bicyclists along the corridor were improved, then the number of bicyclists along the corridor will increase. We should improve Route 107 for all users.

Question from Stephen Lovely, Salem City Council: Can spaces be shared by pedestrians and bicyclists? Ms. Chlebek said that it is possible to reduce the width of sidewalks and add some space to the bicycle lanes.

Question from Meaghan Hamill, Office of State Senator Thomas McGee: How will each corridor segment's cross-section transition to the next? Ms. Chlebek explained there would be appropriate transitions in place.

Comment from Andrew Hall, City of Lynn DPW: The City will want to maintain parking on both sides of the street.

Ms. Chlebek and Mr. Adams stated that based on the feedback, the "Parking Both Sides + Bike Lanes" cross-section is the most popular for the Lynn Corridor Segment. The Working Group agreed.

Retail Corridor Segment

Mr. Adams presented the recommended improvements for the Retail Corridor Segment in Salem, as well as a map of bus stops and proposed modification plan. The modification plan adds a stop at Trader's Way, relocates two stops (including the stop by the Walmart), and removes low ridership stops.

Mr. Adams presented three potential cross-sections for the Lynn Corridor Segment:

- Two Lane Roadway + One Way Cycle Tracks (not recommended due to the high volume of vehicles that travel here)
- Four Lane Roadway + Median + Buffered Bike Lanes (maintains the roadways in their current configuration and takes advantage of the 90 foot ROW)

- Four Lane Roadway + Shared-use Path (removes the median, which allows more space for the shared-use path)

Question from Ms. Leary: Is there data regarding an increase of vehicular accidents due to the removal of a median? Mr. Adams explained that he does not know of any data regarding the removal of a median, but there is data for criteria that warrants a median. Mr. Adams and Ms. Chlebek said this is something the study team will have to evaluate further.

A discussion followed regarding the benefits of a median, and the majority of the Working Group expressed that the removal of the median would be disadvantageous and possibly dangerous.

Comment: The addition of trees to the cross-section alternatives should be considered.

Comment: The southern end of Salem is often dangerous for vehicles, and the movement of ambulances and other emergency vehicles through this area should be considered.

Mr. Adams stated that based on the feedback regarding the median, the most popular cross-section for the Retail Corridor Segment is the “Four Lane Roadway + Median + Buffered Bike Lanes.” The Working Group agreed.

Mr. Adams presented alternatives for the Zig Zag Segment of the corridor in Salem (Swampscott Road/Route 107/Marlborough Road), all of which include the installation of a traffic signal at the intersection of Swampscott Road and First Street:

- Full Access (would increase safety and can be considered as a short-term improvement)
- No Left Turn onto Marlborough Road – *not recommended*
- No Right Turn from Marlborough Road – *not recommended*
- No Left Turn onto Swampscott Road – *not recommended*
- No Right Turn from Swampscott Road (many vehicles are using this route anyway and it would reduce northbound vehicular traffic on the corridor)
 - **Comment from Mr. Bisegna:** There is significant queuing on Trader’s Way on Saturdays that could pose a problem for this alternative. Mr. Adams said that is very helpful feedback, and the study team could consider adding a new lane to the alternative.
- Limited Marlborough Road to Swampscott Road Connection (with physical barrier or lane marking)
- Limited Swampscott Road to Marlborough Road Connection (with physical barrier or lane marking)
- No Connection Between Marlborough Road & Swampscott Road via Route 107
- Swampscott Roundabout – *not recommended*
- Marlborough Roundabout (this alternative can reduce queuing and crashes)
- Marlborough Road Roundabout & No Left Turn onto Swampscott Road (using signage)

Comment from Mr. Delulis: Signal issues should be fixed as soon as possible. The first option seems to make the most sense.

Comment from Mr. Pelletier: Roundabouts offer efficiency benefits.

Comment from Mayor Driscoll: There is ongoing development on Traders Way and First Street, rerouting traffic through that area could be problematic. Has MassDOT considered alternatives that are outside the ROW? Mr. Clark explained that Trader’s Way and First Street are already outside of the defined study corridor, and the study team did not consider going outside of the ROW in their alternatives because of the complexity and potential costs. Mayor Driscoll said she would be happy to work with the study team and have further discussions regarding the use of land outside the ROW.

Northern Corridor Segment

Ms. Chlebek presented the recommended improvements, including bus stop modifications, for the Northern Corridor Segment. The modification plan removes low ridership stops and relocates three stops to be more equally spaced.

Ms. Chlebek presented three potential cross-sections for the Northern Corridor Segment, and noted that this is the narrowest segment of the corridor so vehicular traffic flow was prioritized:

- Two-way Left Turn Lane + Bike Lanes (most prioritizing vehicular traffic)
- Two Lane Road + Two-way Separated Bike Lane (most advantageous for pedestrians and bicyclists)
- Two Lane Roadway + Shared-use Path (improvement for pedestrians and bicyclists)

Comment from Mayor Driscoll: It is not always clear when there are two or one lanes in this segment.

Comment from Mr. Pelletier: The study team should consider making transitions at Salem High School where many vehicles are entering and exiting every day.

Comment from Mr. Bisegna: There is a lot of traffic turning in to the Salem Hospital entrance, and adding a turn lane here should be considered. Ms. Chlebek said that turn lanes are definitely part of the study’s recommendations and a signal is warranted at that intersection.

Ms. Chlebek noted that based on the feedback from the Working Group the “Two-way Left Turn Lane + Bike Lanes” is the most popular alternative for the Northern Corridor Segment.

Next Steps

Mr. Clark reviewed the study’s next steps and noted that the feedback from this meeting was extremely helpful so the study team can move forward. He reminded the Working Group of the study’s draft goals and objectives and draft evaluation criteria, and said the study team will be sure that the alternatives that are proposed adhere to these criteria. He thanked everyone for attending and welcomed further comments from the Working Group.

Discussion

Question from Mr. Delulis: Is the existing drainage system along the corridor being considered and does it limit the alternatives? Ms. Chlebek said yes, the drainage system is part of the construction plans and adds to the costs of the alternatives.

Question from Mr. Pelletier: Has the option of three travel lanes (one in one direction and two in the other direction) in a cross section been considered? Mr. Adams said that was not considered because the traffic volume is very similar in both directions.

Question from Mr. Bisegna: When will the final report be ready? Ms. Chlebek said the final report should be ready this summer.

Question from Mr. Lovely: Can I coordinate with MassDOT to discuss implementing short-term improvements as a Salem City Councilor? Connie Raphael, MassDOT District 4, said that it would be better to wait for the study team to share their recommended solutions before discussing next steps on short-term improvements.

Mayor Driscoll thanked the study team for its work and expressed her support of the evaluation criteria. Mr. Clark thanked the Mayor for her comments.

Question from Edward Shinnick, Lynn Police Department: Can left turn lanes be considered for a short-term improvement? Mr. Adams explained that implementing a left turn may require the removal of parking and/or the installation of a new signal.

Comment from Mr. Delulis: The intersection at First Street and Highland Avenue does not currently warrant a signal, but this could change if the guard rail is removed. Ms. Chlebek said this intersection could be analyzed as part of a future traffic study.

Mr. Clark thanked attendees for their participation, and closed the meeting.

Working Group Meeting #4 Summary



Route 107 Corridor Study Working Group Meeting #4: Summary

June 30, 2016, 10:00 AM, Salem City Hall Annex, Salem, MA

Purpose

At the fourth and final Working Group meeting for the Route 107 Corridor Study, MassDOT and its consultant team presented the alternatives analysis and recommendations for improvements. The project team also discussed plans for the final round of public meetings in Lynn and Salem in September.

Present

Michael Clark and Ethan Britland, Massachusetts Department of Transportation (MassDOT) Office of Transportation Planning (OTP); Maureen Chlebek and Angela Saunders, McMahon Associates; Emily Christin and Sarah Paritsky, Regina Villa Associates (RVA); and the following members of the Working Group:

Gary Barrett, North Shore Alliance for Economic Development

Ralph Coluntino, Office of Congressman Moulton

Lisa Darlington, Greater Lynn Senior Services

Gina Manning, City of Lynn DPW

Beth Debski, The Salem Partnership

Patrick Delulis, Salem and Lynn Area Chamber of Commerce

Barry Driscoll, Salem Police Department

Mayor Kim Driscoll, City of Salem

Lynn Duncan, City of Salem

David Eppley, Salem City Council

Russell Findley, Mass in Motion

Darlene Gallant, Lynn Economic Opportunity

Gary Hebert, Stantec

David Knowlton, City of Salem

Andrea Leary, North Shore Transportation Management Association (TMA)

Stephen Lovely, Salem City Council

Rinus Oosthoek, Salem Chamber of Commerce

Connie Raphael, MassDOT

Bill Rogers

Edward Shinnick, Lynn Police Department

Jason Silva, Office of Senator Lovely

Jon Thibault, Lynn Housing Authority & Neighborhood Development (LHAND)

Sara Timoner, MassDOT

Rep. Paul Tucker, Massachusetts House of Representatives

Jeff Weeden, LHAND

Kathy Winn, City of Salem

Meeting Summary

Welcome, Introductions, and Study Process

MassDOT Project Manager Michael Clark opened the meeting, reviewed the agenda, and led a round of introductions. Mr. Clark introduced the study consultant team of McMahon Associates and RVA. He explained that the study team is in the middle of Task 5, Alternatives Analysis and Recommended

Improvements. He said that public meetings will be held in Salem and Lynn in September during the public comment period for the Final Report (Task 6). Mr. Clark provided a recap of the previous working group meeting in March, and said the feedback was heavily incorporated into the analysis.

Segment by Segment Improvements

Maureen Chlebek and Angela Saunders, McMahon Associates, presented the existing conditions and proposed improvements to each of the 15 key intersections within the study corridor's three segments: the Lynn Corridor Segment, Retail Corridor Segment, and Northern Corridor Segment. The proposed improvements were designed to fit with the cross-sections agreed upon at the previous working group meeting for each segment. Ms. Chlebek reviewed the design considerations for the corridor, which included staying within the right-of-way (ROW) to minimize impacts and choosing the most cost-effective solutions. Maps detailing the proposed improvements to the following intersections and road segments can be reviewed in the meeting presentation on the project website: www.mass.gov/massdot/route107. Detailed discussions regarding these intersections and road segments are described below.

Summary of Changes in Lynn Corridor Segment (Parking Both Sides + Bike Lanes cross-section)

- Provided bicycle accommodations throughout segment and at each intersection
- Improved pedestrian accommodations through sidewalk replacement to meet the Americans with Disabilities Act (ADA) standards
- Enriched transit accommodations by providing ADA compliant bus stops and adjusted bus stop locations
- Increased safety with left turn lanes and reduced lane width to slow traffic speeds
- Improved vehicle operations with added capacity and signal timing/coordination improvements
- Identified opportunities for access management
- Minimized parking impacts to extent possible

Intersection-Specific Improvements:

Route 107 at Chestnut Street

- Existing conditions: This intersection has wide lanes, no left turn lanes, and sub-par pedestrian ramps.
- Proposed improvements: The Route 107 northbound (NB) and southbound (SB) bus stops were relocated, sidewalks added, left turn lanes added to all approaches, and signal coordination improved.

Route 107 at Chatham Street

- Existing conditions: This intersection has similar conditions to Route 107 at Chestnut Street, as well as no delineated parking spaces.
- Proposed improvements: Left turn lanes were added to all approaches, improved signal coordination, and relocated bus stops to provide a level landing for both front and rear doors.

Route 107 at Eastern Avenue & Route 107 at Waitt Avenue

- Existing conditions: These two intersections produce conflicting traffic movements, have no turn lanes, and the roadway cross-section is constrained by the floating Buchanan Bridge.

- Proposed improvements: The improvements at both intersections play off of one another, and include left turn restrictions from Route 107 to Waitt Avenue and from Eastern Avenue to Route 107; left turn lanes added to Maple Street, Waitt Avenue, and Route 107 southbound; added curb extensions; installed planted island on Eastern Avenue; relocated bus stops; and improved signal coordination.

Route 107 at Fays Avenue

- Existing conditions: This intersection is constrained by ledges and the residences close to Route 107 and has poor sidewalks.
- Proposed improvements: Relocated bus stop closer to pedestrian crosswalk to provide level landing at rear and front doors, improved sidewalk including an 8-foot sidewalk at bus stop, new buffered bike lanes, and improved signal timing/coordination.

Route 107 Corridor Transition at Lynn/Salem border

- Existing conditions: The transition at the Salem and Lynn city border from two travel lanes to one travel lane heading south occurs suddenly.
- Proposed improvements: Lengthened the transition from two lanes to one lane, replaced the guardrail with a planted median, and added buffered bike lanes.

Summary of Changes in Retail Corridor Segment (Four Lane Roadway + Median + Buffered Bike Lanes cross-section)

- Added buffered bicycle lanes through most of segment
- Improved pedestrian accommodations by adding pedestrian crosswalks at key intersections and added sidewalk to the west side of Route 107
- Enriched transit accommodations by providing ADA compliant bus stops and adjusted bus stop locations
- Increased safety by reducing lane width to slow traffic speeds
- Improved vehicle operations through signal installation and signal timing/coordination improvements
- Provided aesthetically pleasing median

Intersection-Specific Improvements:

Route 107 at Walmart Drive

- Existing conditions: Lack of sidewalk and pedestrian crossings.
- Proposed improvements: Added crosswalks and sidewalks, removed guardrail, added planted median, added buffered bicycle lanes, converted right-turn-only lane into shared lane, relocated bus stops to provide level landing at rear and front doors, and improved signal timing/coordination.

Route 107 at Olde Village Drive

- Existing conditions: Lack of sidewalk on one side of Route 107 and only one pedestrian crossing.

- Proposed improvements: Added three crosswalks and sidewalks to both sides of Route 107, removed guardrail and converted to planted median, added buffered bicycle lanes, and improved signal timing/coordination.

Route 107 at Barnes Road

- Existing conditions: Lack of crosswalks and sidewalks.
- Proposed improvements: Added crosswalks and sidewalks, removed guardrail and converted to planted median, added buffered bicycle lanes, relocated bus stops, and improved signal timing/coordination.

Zig Zag Segment

Ms. Chlebek reviewed the discussion regarding the Zig Zag segment, which includes the intersections of Route 107 at Marlborough Road, Traders Way, and Swampscott Road, at the previous meeting and presented what the project team has advanced since that meeting. The project team is still recommending the short-term “Full Access” improvements which would increase safety by signaling the intersection at First Street and Swampscott Road, improving signal coordination, and reallocating the green time.

Ms. Chlebek reviewed the alternatives that remained for further consideration after the previous meeting, and noted that more constraints within the segment became apparent as the team looked at them in more detail. Detailed maps and descriptions of the following alternatives to the Zig Zag segment can be found in the meeting presentation on the project website linked above:

1. Dual Left Turn at Swampscott Road and Marlborough Road
2. Marlborough Road Roundabout and Dual Left Turn Lanes at Swampscott Road
3. Marlborough Road Roundabout Shifted Toward CVS with Northbound and Southbound By-Pass Lanes and Dual Left Turn Lanes at Swampscott Road
4. Swampscott Road at Highland Avenue Intersection Relocation

Ms. Chlebek noted that the alternatives listed above are not recommended because they would require the removal of several businesses and residential buildings, and the Level of Service (LOS) is still rated “F” or “E” at peak hours. The below alternatives are still under consideration:

5. Elimination of the Connection Between Marlborough Road & Swampscott Road via Route 107 by implementing turn and lane restrictions
6. Marlborough Road Roundabout & No Left Turn onto Swampscott Road

Comment from Patrick Delulis, Salem and Lynn Area Chamber of Commerce: At the last meeting, Salem Mayor Kim Driscoll expressed concern for traffic being redirected to Traders Way, but there is also a lot of traffic on First Street. Could the project team look into rerouting vehicles earlier onto First Street from Route 107? Mr. Clark thanked Mr. Delulis for sharing the idea and said he would look into it further.

Question from Ralph Coluntino, Office of Congressman Moulton: Would the fifth and sixth Zig Zag alternatives involve the taking of buildings? Ms. Chlebek said no, the changes are primarily within the ROW and do not require building acquisition.

Question from Mr. Delulis: Has the project team addressed the potential Cineplex with the alternatives? Mr. Clark said the intention of the Zig Zag alternatives is to keep traffic moving as much as possible.

Question/Comment from Mayor Kim Driscoll, City of Salem: Would the prohibited movements in the proposed Zig Zag alternatives be implemented 24 hours per day or just during peak hours? Ms. Chlebek said the project team planned for the restriction to be at all times, but a peak hour restriction can be looked into further. Mayor Driscoll said she is concerned that rerouting traffic onto Traders Way will not solve the queueing problem, and would just relocate traffic queues to Traders Way from Route 107. Ms. Chlebek said that rerouting traffic to Traders Way would result in a more efficient through-traffic movement than current conditions on Route 107. She added that more movements would become through-movements as opposed to turns, so they would be given more green time and encounter less traffic conflicts. Mayor Driscoll asked if the project team could produce a traffic model that shows the result of shifting a portion of Route 107 traffic to Traders Way. Mayor Driscoll thanked the project team for their work and commended them on all the reviews that were done since the last meeting.

Question from Andrea Leary, North Shore TMA: Can vehicles still make a left turn onto Route 107 from Traders Way in the proposed Zig Zag alternatives? Ms. Chlebek said yes.

Comment from David Eppley, Salem City Council: Vehicles may attempt to cut through the McDonald's parking lot at Traders Way. Ms. Chlebek said a lot of cut through traffic is already occurring, and the alternatives may lessen that.

Question from Jeff Weeden, LHAND: Is there room for any more capacity on Traders Way, perhaps an additional lane? Ms. Chlebek said all of this is still at a concept level design and this could be explored further along in project development.

Route 107 at Hawthorne Square Mall

- Existing conditions: Only one through lane on Route 107 southbound.
- Proposed improvements: Added buffered bicycle lanes, relocated bus stop for better retail area access, converted right-turn-only lane into shared lane, and improved signal timing/coordination.

Route 107 Corridor Transition at Crowdis Street

- Existing conditions: The pedestrian bridge at Crowdis Street is a major constraint, and the lane merge happens quickly.
- Proposed improvements: Lengthened the transition from two lanes to one lane heading north, added bicycle lanes, removed existing bus stops, and replaced guardrail with planted median.

Question from Mr. Delulis: Can the median be shifted so as not to cut off Mooney Road? Ms. Saunders said the median will not block Mooney Road, she can modify the map to reflect that.

Comment from Councilor Eppley: There are many existing residential buildings in this area and more are being developed, so the median may cut these residents off from easily crossing Route 107. Mayor Driscoll added that it may be dangerous to remove the median because of vehicles making unsafe left turns. Barry Driscoll, Salem Police Department, described an issue with the left turn at Willson Street.

Ms. Chlebek said a two-way left turn lane could be implemented here, but not at the High School due to space constraints.

Summary of Changes in Northern Corridor Segment (Two-way Left Turn Lane + Bike Lanes cross-section)

- Added bicycle provisions throughout segment
- Improved pedestrian accommodations by replacing sidewalks and adding crosswalks
- Enriched transit accommodations by providing ADA compliant bus stops
- Increased safety with left turn lanes and reduced lane width to slow traffic speeds
- Improved vehicle operations by adding capacity via exclusive turn lanes, a two-way left-turn lane, installing a signal at Salem Hospital and optimizing signal timing/coordination

Intersection-Specific Improvements

Route 107 at Willson Street

- Existing conditions: Unclear lane striping, and very narrow ROW due to pedestrian bridge in front of high school.
- Proposed improvements: Installed left turn lane from Route 107 onto Willson Street and right turn lane from Route 107 onto Willson Street, added buffered bike lanes (the project team considered routing the bicycle lanes around Salem High School, and will suggest that this be considered as the project moves into the next stage), relocated bus stop, and improved signal timing/coordination.

Comment from Mayor Driscoll: The land abutting the pedestrian crosswalk is owned by Salem High School (and by extension, the City of Salem), so perhaps relocating the entrance to the high school would solve some issues at this intersection and better accommodate bicyclists. Ms. Chlebek said the project team will suggest that this be considered in the next phase of the project.

Comment from Beth Debski, The Salem Partnership: Removing a lane between Willson Street and Valley Street seems like it could cause backups. Ms. Chlebek said the bicycle lanes would have to be removed in order to add another lane. It would be possible to remove the bicycle lanes after these changes are implemented if it proves necessary. Ms. Debski suggested keeping two lanes in each direction through Valley Street.

Route 107 at Salem Hospital Lower Entrance

- Existing conditions: No traffic signal and lack of crosswalks and sidewalk.
- Proposed improvements: Added new traffic signal, bike lanes, a two-way left turn lane in front of Proctor Street, and crosswalks and sidewalk.

Comment from Lynn Duncan, City of Salem: Has Shelly Bisegna, Salem Hospital, provided the project team with the hospital's development plans? Ms. Chlebek said they received plans at the early stages of the study, but are not sure if they received the full plans. Ms. Duncan suggested the project team reach out to City of Salem's Planning Department for the plans.

Route 107 at Dalton Parkway and Jackson Street

- Existing conditions: Unclear signage for left turn restriction and lack of crosswalks.
- Proposed improvements: Extended island between Dalton Parkway and Jackson Street to Route 107, added buffered bike lanes and crosswalks, added buffered bike lanes, and improved signal timing/coordination.

Question from Stephen Lovely, Salem City Council: Is it dangerous to design a bike lane between two lanes of vehicular traffic? Ms. Chlebek said the bike lane for bicyclists traveling straight would be adjacent to a right-turn-only lane, and that it is the design standard. She added that painting on the roadway can help make drivers aware. Ms. Saunders noted that it is important to keep in mind that the proposed cross sections narrow the through lanes on Route 107 in order to slow vehicles down significantly and increase safety.

Comment from Ms. Duncan: There is a movement now to put bicycle lanes next to sidewalks with parked cars on the other side next to traffic; will that be considered in this study? Ms. Chlebek said that there is a risk of placing bike lanes next to parked vehicles when car doors open into the bike lanes. She said that there are pros and cons to both designs. Ms. Duncan said the project team should share these plans with the Salem Bicycling Advisory Committee. Ethan Britland, MassDOT, explained if the roadway is wide enough, ideally there would be a buffer between bike lanes and parked cars to prevent car doors from opening into the bike lanes.

Comment from Mayor Driscoll: The City of Salem owns the land here as part of Collins Middle School, so the City may be able to provide the land to MassDOT to increase the width of the corridor and accommodate the bicycle lanes.

Route 107 at Boston Street

- Existing conditions: There are a lot of traffic movements at this intersection and a fire station that can be blocked by traffic.
- Proposed improvements: Raised shared streets to serve pedestrians, cyclists, and driveway access along Route 107, realignment of the intersection to allow Route 107 to proceed as a through-movement, added buffered bike lanes and crosswalks, added left turn only lane, and available space in the shared street in front of the fire station for a monument or landscaping. Ms. Chlebek explained that a shared street is like a driveway, where pedestrians and vehicles share the road and vehicles move very slowly.

Mayor Driscoll said she liked the idea of shared streets in this area and would like the businesses to weigh in on this proposal. A discussion followed about various ways bike lanes could be accommodated.

Comment from David Eppley: We would need clear demarcations to prevent drivers from blocking the fire house.

Comment from Ms. Duncan: The concept of shared streets is not new, and many cities around the world are implementing them into their plans. There was a discussion in Salem about shared streets in the past but it never moved forward, so it will be interesting to see this happen.

Comment from Ms. Debski: There is a convenience store at this intersection that appears to be blocked by the median, and cars may not be able to turn left into it. Ms. Chlebek said the project team will look into this and could consider breaking the median or painting lines instead of a raised median here.

Next Steps

Mr. Clark reviewed the study's next steps, which include a 30-day comment period on the Draft Report, and two public meetings in September. After the Final Report, MassDOT will continue to have discussions with the Cities of Lynn and Salem and carry forward any ideas that have public support. He welcomed further comments from the Working Group.

Discussion

Comment from Mr. Delulis: The proposed left-turn lanes in Lynn may need more capacity for the volume of vehicles, otherwise vehicles waiting to turn may lead to accidents. Mr. Clark said the left-turn lanes were added to alleviate the high crash rate on the corridor, and it is generally considered a safe space for vehicles to wait.

Comment from Edward Shinnick, Lynn Police Department: There may be a lot of resistance to the removal of parking spaces at the Chatham Street intersection, particularly from local business owners. Darlene Gallant, Lynn Economic Opportunity, said a previous Working Group member expressed concern about parking near John's Roast Beef & Seafood, and there is a daycare center on Waitt Avenue that would be impacted. Mr. Clark thanked them for their comments and said the project team will consider this.

Question from Mayor Driscoll: A discussion took place at the previous meeting regarding a communication model with the MBTA regarding the proposed shifting of bus stops. Mayor Driscoll asked if any discussions have begun with the MBTA. Mr. Clark said there is a representative from the MBTA on the working group, but she is not present at this meeting. He added that the MBTA has its own process regarding changes to bus routes and bus stops that will need to be carried out, and the project team will be sure to share all of the proposed improvements from this study with the MBTA.

Mr. Clark thanked attendees for their participation and said the feedback has been extremely helpful to the project team, and closed the meeting.

APPENDIX C

Public Meeting

**Public Meeting #1 Summary
Salem**



Route 107 Corridor Study Public Meeting #1: Summary

January 27, 2016 – 6:00 PM

Salem High School Auditorium, 77 Willson Street, Salem, MA

Project Team

Michael Clark, Massachusetts Department of Transportation (MassDOT) Office of Transportation Planning (OTP); Maureen Chlebek and Jason Adams, McMahon Associates; Nancy Farrell and Sarah Paritsky, Regina Villa Associates (RVA).

Present

The following elected officials attended, plus members of the public (see attendance):

- Kimberley Driscoll, Mayor, City of Salem
- David Eppley, Salem City Council
- Heather Famico, Salem City Council
- Tom Furey, Salem City Council
- Elaine Milo, Salem City Council
- Stephanie Raymond, Office of Senator Joan Lovely
- Paul Tucker, Massachusetts House of Representatives

Meeting Purpose

This was the first public information meeting on the Route 107 Corridor Study. The purpose of this meeting was to introduce the study to the communities of Lynn and Salem, and welcome feedback on the study framework and work completed to date. The presentation shown at this meeting is posted on the project website at:

<http://www.massdot.state.ma.us/planning/Main/CurrentStudies/Route107CorridorStudy.aspx>

Meeting Summary

Welcome and Introductions

MassDOT Project Manager Michael Clark opened the meeting, reviewed the agenda, and introduced elected officials present at the meeting, including Salem Mayor Kimberly Driscoll and Massachusetts Representative Paul Tucker (7th Essex District).

Mayor Driscoll introduced additional local officials in attendance: Salem City Councilor Dave Eppley, Salem City Councilor Heather Famico, Salem City Councilor Elaine Milo, Salem City Councilor Stephanie Raymond, and staff of Senator Joan Lovely. Mr. Clark also welcomed Debbie Smith Walsh, of Lynn Community Health Center, and City of Salem staff, Lynn Duncan, Director of Planning and Community

Development, and David Knowlton, City Engineer. Mayor Driscoll encouraged attendees to participate in the online survey and said she was happy to see state resources devoted to the Route 107 Corridor Study. She highlighted some of the existing issues on Highland Avenue, including traffic and concern about growth, including the CW Theaters Cinema Complex (Cinemaworld).

Mr. Clark reviewed the study process and outlined the five study tasks. The study has progressed to the end of Task 3: Evaluate Existing Conditions and Identify Transportation Issues. There will be two more Working Group meetings and one more public meeting before the study is completed. Mr. Clark introduced the study consultant team of McMahon Associates and RVA. Mr. Clark explained the role of the Working Group, which consists of local officials, residents and stakeholders.

Mr. Clark introduced Nancy Farrell, Regina Villa Associates, who outlined the goals of the study's bilingual online survey. The survey launched in October 2015 and will close on January 31, 2016. She encouraged attendees to participate in the survey to provide feedback on existing issues for all modes, if they had not already. Ms. Farrell asked that meeting attendees hold all questions until the end of the meeting, so the study team can cover all of its presentation. She will facilitate a question and answer session at the end of the presentation.

Maureen Chlebek, McMahon Associates, described the goals of the study, followed by the evaluation criteria, which helps the study team evaluate its alternatives.

Existing Transportation Conditions

Ms. Chlebek explained that the study area, which extends from Chestnut Street in Lynn to Boston Street in Salem, includes 15 key intersections. While 35% of the roadway is under local jurisdiction (at the far north and south ends of the corridor), 65% is under MassDOT jurisdiction.

Jason Adams, McMahon Associates, described the study's data collection effort to better understand existing traffic conditions. The team collected automatic traffic recorder (ATR) counts and turning movement counts for vehicles, pedestrians, and bicycles during the weekday AM and PM peak periods and Saturday peak periods at the 15 study area intersections. Vehicle counts were fairly consistent for northbound and southbound traffic. The largest vehicle volumes are between Swampscott Road and Marlborough Road.

Mr. Adams said that while bicycle counts were very low (0 to 2 bicyclists per peak hour), he does not interpret that to mean there is low demand. The roadway conditions make bicycling a challenge. Mr. Adams identified the five intersections with the highest pedestrian volumes, which were concentrated in the southern portion of the corridor. McMahon performed a license plate matching survey to better understand the zig-zag movement of vehicles between Swampscott Road, Route 107/Highland Avenue, and Marlborough Road. Mr. Adams explained that five out of the 15 intersections have a crash rate higher than the MassDOT average; three are listed on the top 200 crash intersections in Massachusetts. McMahon is looking at data to see if there are patterns or problems that could be alleviated as a result of the study.

Ms. Chlebek provided an overview of existing transit conditions. The study area overlaps with three Massachusetts Bay Transit Authority (MBTA) bus routes – the 424, 450, and 456 – which vary in service, ridership, and frequency. Ms. Chlebek noted that some stops have a particularly low volume of passengers boarding and alighting buses, while others are missing a corresponding stop on the other side of the road.

Ms. Chlebek described maps that her team has developed for land use, zoning, environmental resources, environmental justice, and cultural and historic resources.

Traffic Operations

Ms. Chlebek explained that traffic engineers assign an overall level-of-service, ranging from A to F, to each intersection to evaluate its capacity and operations. A level-of-service rating of “D” is acceptable for MassDOT standards, but “E” or “F” ratings are problematic. Ms. Chlebek said this rating is one tool and does not tell the whole story. For example, the team has also looked at the queue lengths (the number of stacked vehicles) at major intersections and whether the queues extend to adjacent intersections.

Future Year Traffic Volumes

Ms. Chlebek emphasized the importance of making long term improvements of the corridor to serve future traffic volumes. The Central Transportation Planning Staff (CTPS) predicted 0.1% to 0.3% traffic growth per year between 2015 and 2035. Ms. Chlebek explained this data is based on historical data, future population and employment projections, and known developments in the permitting stage. The study team was made aware of the high level of community concern about the Cinemaworld development proposed near Ravenna Avenue and Cedar Drive. With guidance from the City of Salem, the study team has decided to account for the proponent’s projected traffic data and proposed traffic mitigation. This consists of installing a signal and northbound and southbound left turn lanes at the intersection of Route 107 with Cedar Drive and the proposed site driveway. Ms. Chlebek said the study team will make sure the development would not preclude any design recommendations resulting from the study.

Transportation Issues/Deficiencies

Ms. Chlebek presented the findings on transit deficiencies, which include low ridership, close bus stop spacing, and missing matching stops. While the MBTA guidelines suggest that the spacing between stops be between 750 and 1,350 feet, 30 stops along Route 107 are less than 750 feet apart, which suggests these stops could be managed differently. Many bus stops are missing pedestrian amenities, such as sidewalk connections.

Mr. Adams reviewed pedestrian deficiencies along the corridor, including poor sidewalk conditions and missing crosswalks and curb ramps. He described the catalog of pedestrian amenities the team has compiled, and provided an example of pedestrian conditions in Salem.

Ms. Chlebek provided some background on the cyclist population. Any proposed improvements aim to draw from the “interested but concerned” population (about 60% of the overall population). McMahon rated bicycle conditions throughout the corridor as a level of traffic stress (LTS) 4, which is the highest level of stress and based on conditions such as proximity to vehicles. The study team hopes to improve the LTS to a LTS 3, or even LTS 2 in some spots.

Mr. Adams reviewed vehicular deficiencies, including queuing that inhibits movements from adjacent intersections, signal issues, and pavement conditions. The study team divided the corridor into four segments and narrowed in on vehicular deficiencies in each area, which Mr. Adams and Ms. Chlebek subsequently presented, from south to north:

- Segment A – lack of signal coordination, high crash locations, turning lanes, queueing issues, old signal equipment
- Segment B – access management, roadway debris, wide crossings, queue issues, missing sidewalks/crosswalks
- Segment C – vehicle progression, queue storage, signal coordination, roadway debris, high speeds, illegal U-turns
- Segment D – pavement markings, queue storage, access management, missing crosswalks

Next Steps

Mr. Clark described next steps for the Route 107 Corridor Study. With help from the Working Group, the study team will define design constraints, begin to develop improvement concepts, evaluate those improvement concepts, and estimate costs. At the second public meeting, the study team will share its recommendations for public feedback. Mr. Clark encouraged attendees to visit the project website to sign up for emails and download the meeting presentation and summary. MassDOT will notify the study's email list when the materials have been posted.

Question & Answer Session

Ms. Farrell asked if any elected officials would like to ask questions or make comments. Salem City Councilor Heather Famico asked if the study is considering plans for a possible senior center at the intersection of Boston Street and Bridge Street. Ms. Chlebek confirmed anything within a one-mile radius is being considered as part of the study and asked Ms. Famico to share the plans.

John Coleman Walsh asked the attendees to raise their hands if they were Salem or Lynn residents. More participants were from Salem than Lynn. Mr. Walsh requested that the study hold its next meeting in Lynn.

An attendee asked how the quality of life in the corridor could improve and crash areas be addressed if 2,500 cars are added to the road due to the Cinemaworld development. Several additional comments were made regarding the proposed Cinemaworld development, many of which encouraged MassDOT not to approve a proposed curb cut related to the development. Ms. Chlebek clarified that MassDOT is not approving the development, but rather anticipating future traffic resulting from the development if it is permitted. The Route 107 study started in February 2015, and the team was made aware of the proposed development by way of the Working Group during its first meeting in June. Typically developments are not included in the study until they are in the permitting stage, but the team was advised of the public concern and decided to include it. The proposed project will be required to go through the City approval process and the Massachusetts Environmental Policy Act (MEPA) approval process, which includes MassDOT approval for curb access and traffic mitigation. Mr. Clark explained that since the developer has not filed a permit with the state, he cannot speak to the plans. MassDOT's role in the MEPA approval process concerns appropriateness of a developer's mitigation plans to access state-owned roadways. It does not evaluate proposals from a quality of life perspective for the community as it is not the state's desire or responsibility to dictate land use planning for cities and towns.

Lynn Duncan, City of Salem, said there will be a local process for the Cinemaworld development, with a public hearing and planning board meeting. The City will hire a peer reviewer to examine the traffic data

used in the developer's proposal. Ms. Duncan thanked MassDOT for incorporating the traffic data into the Route 107 study. Ms. Duncan later added that the City has lobbied the state to conduct the Route 107 study going back to the Lowe's/Walmart development proposal.

Salem City Councilor-at-Large Tom Furey said the city was approached by the owner of the property 15 years ago to purchase the land for a school, before the Cinemaworld developer owned the property. He thinks the development is good for the city.

A Salem resident commented that the study for Walmart done in 2010 identified that the Route 107 roadway could not handle any additional traffic. The resident asked the study team if it would recommend the Cinemaworld development. Ms. Farrell said the team cannot answer such a question since it is not the team's decision. Ms. Chlebek noted that McMahon is not conducting a peer review of the proponent's traffic study and therefore, cannot comment on the traffic projections and/or proposed mitigation.

An attendee suggested adding a right-turn-only lane from Swampscott Road onto Route 107. Mr. Adams explained that geometric changes could help improve capacity, and is not sure who owns the land adjacent to Swampscott Road. He said he will look into this idea.

An attendee described an issue at Olde Village Drive regarding illegal U-turns and vehicles running red lights. She asked about the curb cut for the proposed senior center and requested more coordination between MassDOT and the City of Salem. Mr. Clark said MassDOT's Highway Division reviews curb cuts for compliance, but permitting decisions are done at the local level, where officials better understand local issues. Mr. Adams noted the developer must get local board approval and MassDOT approval. The study's final report will also catalog signal and crash issues at Olde Village Drive.

A resident of Fays Avenue in Lynn asked about some U-turns that are illegal for trucks but not other vehicles. Ms. Chlebek confirmed that sometimes this is the case and sometimes the sign can be hard to see; the study team is rethinking the median because it breaks up the roads and necessitates U-turns.

An attendee asked when bicycle counts were taken. Mr. Adams said his team took bicycle counts for the original study area's ten intersections in March and April 2015. After five intersections were added, per guidance of the Working Group, bicycle counts were done in July and August. Counts were normalized for the seasonal difference.

An attendee described an issue turning onto Ravenna Avenue from Route 107. Additionally, she commented that there are very few sidewalks in Lynn, and no one maintains or removes snow from the sidewalk. She added that trucks drive very high speeds early in the morning and do not obey traffic lights. Ms. Farrell thanked the participant for her comments and said that the notes will reflect residents' comments on these issues.

An attendee commented that residents and businesses should have different rules for maintenance. She described issues with plows dumping snow into driveways and on sidewalks, particularly problematic last winter. She cited the need for more enforcement to prevent people from driving in the breakdown lane and parking where it is not allowed. Ms. Farrell thanked her for her comments and apologized for the inconvenience.

A resident of Salem requested the addition of a driveway at Collins Middle School next to Salem Hospital. She expressed concern for safety with kids walking in the area. Ms. Chlebek said she will look into the location and concern.

One attendee said the intersection of First Street and Swampscott Road should be part of the study. Mr. Adams explained this is not one of the primary intersections, but it is very much a part of the study and will be considered for geometric improvements and signal changes. McMahon has done traffic counts at this intersection.

A comment was made about the proximity of the entrance and exit driveways to Hawthorne Square Mall. Mr. Adams noted these are on private property, but the team hopes to improve the overall connection to the mall.

An attendee asked a question about the additional cars projected on Route 107. Mr. Adams explained that 0.1% to 0.3% per year, compounded over 20 years, is significant growth. The CTPS model accounts for smaller developments that will be proposed and built over the decades.

An attendee expressed concerns regarding accidents and trust in the state, and said she does not see how these problems can be fixed. Ms. Farrell explained the next step in the study is to develop potential solutions. She encouraged interested parties to listen at the next Working Group meeting and/or attend the next public meeting, and email any comments to Mr. Clark.

An attendee asked if any residents are on the Working Group. Several members of the Working Group present announced that they are residents. The attendee also noted that a prevalent issue along the corridor was the lack of enforcement of traffic violations.

Rep. Paul Tucker said before he was elected he was a Police Chief in Salem. At that time, Salem was the third highest town for citations and enforcement in the state. The biggest challenge in enforcement is manpower. Engineering improvements will also help reduce speeds.

An attendee said she was having trouble hearing the presenters. Ms. Farrell said the team will seek to improve the sound system at the next meeting.

An attendee asked how the study will determine if it was successful. Mr. Clark said that while crash and traffic data are measured on a continual basis determination of success for any implemented recommendations and alternatives is largely based on community feedback.

An attendee said more outreach is needed in Lynn and the next public meeting should be in Lynn.

An attendee noted a hidden problem where sand is getting into pipes that lead to the wetlands. Piles of sand are creating plumbing problems. Any new catch basins should be oversized to catch sand.

An attendee described a blind turn at Ravenna Avenue due to snow banks. He asked how long it will take MassDOT to make improvements. Mr. Clark said there will be short-term improvements, such as signage and signal changes, which can happen immediately, and long-term improvements, which have to compete with other transportation projects throughout the region. Mr. Clark encouraged people to continue advocating for funding with local officials and state representatives.

Ms. Farrell thanked everyone for attending and providing comments. She closed the meeting at 8:10 PM.

Attendance

Seth Albaum, Lynn Happens
Marie Aloisi
Elizabeth Anderson
Carl Andrews
Cindy Anselmo
Chuck Barton, Neighborhood Group
Edward Bayard
Marci Benson, Benson Communications
Jan & Jim Bettger, Indian Hill Lane Salon
Joan Bissett
Mary Jane Blais
David Bowen
Ethan Britland, MassDOT
Mary Butler
Lucille C
George & May Carey
Jeanette Chavarin
Becky Christie
Eileen Cole
Norm Cole
Joseph Correnti
Leslie Courtemanche
Myrna Cudlik
Beth Debski, The Salem Partnership
Ann Delulis
Patrick Delulis, Salem Chamber of Commerce
Sharon Deveraux
Steve Dibble
Michael Donahue
Lynn Duncan, City of Salem, Department of
Planning and Community Development
Laura Fleming, North Shore TMA
Patricia Fusco
Darlene Gallant, LEO
William Gondellc
Mary Graham
Jane Guy
Giles Ham, Vanasset Assoc.
David Hark, The Drumlin Group
John Holian
Helen Hughes
Beth Isler
Deb Jeffers
James Jellison
Barbara Jones
Ken Jones
Joanna Kavalaris
David Knowlton, City of Salem
Joann Kowalski
L. Langone
Andrea Leary, North Shore TMA
Annette Levitt
Anthony Liberti
Pat Liberti, Ward 4/Gallows Hill Neighborhood
Group
Stephen Lovely, Lovely Law Group LLP
Dustin Luca, The Salem News
Mary Madore
Rosemary Masters
Jeanne McAuley
Michael McMahan
Sandra McMahan
J Melanson
Ralph Meneads
Geoffrey Millar
Rinus Oosthoek, Salem Chamber of Commerce
Pam Oppelt
Karen & Paul Pagnotti
Michele Parr
Michael Pelletier
Anne Pellitier
Jason Pivacek
Mary Powers
Bill Rogers, City of Lynn
Anne Romano
Robert Ross
Kathy Sands
Nicholas Sansone
Susan Schuer
Edward Shinnick, Lynn PD
Wayne Silva
Marilyn Smith Melanson, Sanctuary Salon
Deborah Smith Walsh
Bob & Nancy Stapleton
Lorelee Stewart
Ted Stolz

Beverly Strauss
John & Barb Sullivan
Jonathan Thibault, Lynn Housing Authority &
Neighborhood Development
Patrick Toomey
Linda Vaughan
Andrea Viglas
John Coleman Walsh
Patricia Warren, St. Jeans CU
David Wescott, Instant Alarm
Dale Yale, Salem Planning Board
David Zaltman
Manny Zhukovsky
Tamara Zhukovsky
Anthony Zihertu

**Public Meeting #2 Summary
Lynn**



Route 107 Corridor Study Public Meeting #2: Summary

March 9, 2016 – 6:00 PM

Lynn English High School Auditorium, 50 Goodridge Street, Lynn, MA

Project Team

Michael Clark, Massachusetts Department of Transportation (MassDOT), Office of Transportation Planning (OTP); Maureen Chlebek, McMahon Associates; Kate Barrett and Sarah Paritsky, Regina Villa Associates (RVA).

Present

The following elected officials or their designees attended, plus members of the public (see attendance):

- Mayor Judith Flanagan Kennedy, City of Lynn
- Dan Cahill, Lynn City Council
- Brian LaPierre, Lynn City Council
- Wayne Lozzi, Lynn City Council
- Bill Trahant, Lynn City Council
- Stephanie Raymond, Office of Senator Joan Lovely
- Meaghen Hamill, Office of Senator Thomas McGee

Meeting Purpose

This was the second public information meeting on the Route 107 Corridor Study. The purpose of this meeting was to introduce the study to City of Lynn residents. The study team encouraged participants to provide feedback on the study framework and work completed to date. The presentation shown at this meeting is posted on the project website at: www.mass.gov/massdot/Route107

Meeting Summary

Welcome and Introductions

Kate Barrett, RVA, opened the meeting, reviewed the meeting guidelines, and introduced the presenters. She asked participants to hold questions until the end of the presentation, when she would moderate a question and answer session. MassDOT Project Manager Michael Clark reviewed the agenda, and introduced elected officials present at the meeting.

Mr. Clark reviewed the study process and outlined the five study tasks. The study has progressed to the end of Task 3: Evaluate Existing Conditions and Identify Transportation Issues. The first public meeting was held in Salem on January 27. There will be two more Working Group meetings and one more round of public meetings before the study is completed. Mr. Clark introduced the study consultant team of

McMahon Associates and RVA. Mr. Clark explained the role of the Working Group, which consists of local and state officials, business organizations, residents of Lynn and Salem, and other stakeholders.

Mr. Clark said an online survey was available for four months and gathered over 1,672 responses on issues and opportunities for motorists, pedestrians, transit riders, and bicyclists in the corridor. He noted the results of the survey indicate that MassDOT's existing conditions findings are consistent with the community's understanding of corridor issues. More details are available in the survey report, which is available on the study website.

Mr. Clark introduced Maureen Chlebek, McMahon Associates, who described the goals of the study. The primary goal is to improve mobility, connectivity, and safety for all transportation modes and users along the corridor. She presented the criteria used to help the study team evaluate alternatives.

Existing Transportation Conditions

Ms. Chlebek explained that the study area, which extends from Chestnut Street in Lynn to Boston Street in Salem, includes 15 key intersections. While 35% of the roadway is under local jurisdiction (at the far north and south ends of the corridor), 65% is under MassDOT jurisdiction.

Ms. Chlebek described the study's data collection effort to better understand existing traffic conditions. The team collected automatic traffic recorder (ATR) counts and turning movement counts for vehicles, pedestrians, and bicycles during the weekday morning (AM) and afternoon (PM) peak periods and Saturday midday peak periods at the 15 study area intersections. Vehicle counts were fairly consistent for northbound and southbound traffic. The highest vehicle volumes are between Swampscott Road and Marlborough Road.

Ms. Chlebek said that while bicycle counts were very low (zero to two bicyclists per peak hour), she does not interpret that to mean there is low demand. The roadway conditions make bicycling a challenge. Ms. Chlebek identified the five intersections with the highest pedestrian volumes, which were concentrated in the southern portion of the corridor. McMahon examined origin/destination data to better understand the zig-zag movement of vehicles between Swampscott Road, Route 107/Highland Avenue, and Marlborough Road. Ms. Chlebek explained that five out of the 15 intersections have a crash rate higher than the MassDOT average; three are listed on the top 200 crash intersections in Massachusetts. McMahon is looking at data to see if there are patterns or problems that could be alleviated as a result of the study.

Ms. Chlebek provided an overview of existing transit conditions. The study area overlaps with three Massachusetts Bay Transit Authority (MBTA) bus routes – the 424, 450, and 456 – which vary in service, ridership, and frequency. Ms. Chlebek noted that some stops have a particularly low volume of passengers boarding and alighting buses, while others are missing a corresponding stop on the other side of the road.

Ms. Chlebek described maps that her team has developed for land use, zoning, environmental resources, environmental justice, and cultural and historical resources.

Traffic Operations

Ms. Chlebek explained that traffic engineers assign an overall level-of-service, ranging from A to F, to each intersection to evaluate its capacity and operations. A level-of-service rating of "D" is acceptable for MassDOT standards, but "E" or "F" ratings are problematic. Ms. Chlebek said this rating is one tool

and does not tell the whole story. For example, the team has also looked at the queue lengths (the number of stacked vehicles) at major intersections and whether the queues extend to adjacent intersections.

Future Year Traffic Volumes

Ms. Chlebek emphasized the importance of making long term improvements on the corridor to serve future traffic volumes. The Central Transportation Planning Staff (CTPS) predicted 0.1% to 0.3% traffic growth per year between 2015 and 2035. Ms. Chlebek explained this data is based on historical data, future population and employment projections, and known developments in the permitting stage. The study team was made aware of the high level of community concern about the proposed Cineworld development proposed near Ravenna Avenue and Cedar Drive. As a result, the study team will account for the proponent's projected traffic data and proposed traffic mitigation. Ms. Chlebek said the study team will make sure the development would not preclude any design recommendations resulting from the study.

Transportation Issues/Deficiencies

Ms. Chlebek presented the findings on transit deficiencies, which include low ridership, close bus stop spacing, and missing matching stops. While the MBTA guidelines calls for spacing between stops of between 750 and 1,350 feet, 30 stops along Route 107 are less than 750 feet apart, which suggests these stops could be managed differently. Many bus stops are missing pedestrian amenities, such as sidewalk connections.

Ms. Chlebek reviewed pedestrian deficiencies along the corridor, including poor sidewalk conditions and missing crosswalks and curb ramps. She described the catalog of pedestrian amenities the team has compiled, and provided an example of pedestrian conditions in Salem.

Ms. Chlebek provided some background on the cyclist population. Any proposed improvements aim to draw from the "interested but concerned" population (about 60% of the overall population who are interested in cycling but may not be willing to do so in all conditions). McMahon rated bicycle conditions throughout the corridor using a level of traffic stress (LTS) 4 measure, which is the highest level of stress and based on conditions such as proximity to vehicles. The study team hopes to improve the LTS to a LTS 3, or even LTS 2 in some spots.

Ms. Chlebek reviewed vehicular deficiencies, including queuing that inhibits movements from adjacent intersections, signal issues, and pavement conditions. The study team divided the corridor into four segments and focused on vehicular deficiencies in each area, which Ms. Chlebek subsequently presented, from south to north:

- Segment A – lack of signal coordination, high crash locations, turning lanes, queueing issues, old signal equipment
- Segment B – access management, roadway debris, wide crossings, queueing issues, missing sidewalks/crosswalks
- Segment C – vehicle progression, queue storage, signal coordination, roadway debris, high speeds, illegal U-turns
- Segment D – pavement markings, queue storage, access management, missing crosswalks

Next Steps

Mr. Clark described next steps for the Route 107 Corridor Study. The study team is developing recommendations for improvements, with input from the Working Group, and will evaluate those improvement concepts and estimated costs. At the second round of public meetings, the study team will share its recommendations for public feedback before writing the final report. Mr. Clark noted that the recommendations will not move forward into construction without community support. He encouraged attendees to visit the project website to sign up for emails and download the meeting presentation and summary.

Question & Answer Session

Ms. Barrett reviewed the meeting guidelines pertaining to the Q&A. She asked if any elected officials would like to ask questions or make comments. Mayor Kennedy spoke first, specifying that her comments were more as a resident along Segment B, than as Mayor of Lynn. She stated that if the traffic counts were taken during the summer, the counts would be far lower than when schools, which are located in close proximity to Route 107, are in session. Mayor Kennedy said she lives on Buchanan Circle, north of Route 107, and she and her neighbors have tried for years to get an on-demand signal installed at that intersection. She said it once took four minutes for her to turn left from Buchanan Circle onto Route 107 and there are no other outlets from her neighborhood. Mayor Kennedy added that there are many accidents turning left onto Route 107 from Stanwood Street. She proposed the idea of changing Stanwood Street to one-way traffic westbound.

At-Large Councillor Dan Cahill expressed his concerns regarding safety, the condition of sidewalks on Route 107 and debris near his residence. He said he is very grateful this study will propose improvements and hopes funding will be made available to implement them. He understands the difficulty in managing the different jurisdictions for sections under MassDOT control and those under City control, for instance at the “floating” bridge. Mr. Cahill thanked Senator McGee for working with the study team to expand the study area. He added that the closure of Union Hospital in Lynn could make traffic worse around North Shore Medical Center (NSMC), and asked MassDOT to coordinate with the Department of Public Health (DPH) about this study. It’s a safety and economic development issue.

Ward 2 Councillor Bill Trahan said he has witnessed many accidents on Route 107 and a young woman was killed as a result of an accident about a year ago. He suggested installing a signal at the intersection of Stanwood Street and Western Avenue (Route 107). Mr. Trahan thinks making Stanwood Street one-way could negatively affect other roadways by creating a bottleneck back to the rotary. He asked if the team can make any immediate changes to reduce queuing. Ms. Chlebek said the study’s final report will propose short-term improvements, including signal coordination, which could be rolled out as early as this summer.

At-Large Councillor Brian LaPierre explained he thinks the CinemaWorld development will be very difficult for traffic management on Route 107. He thanked Senator McGee for his work and said he appreciates the collaboration between the state and the City of Lynn.

Bill McGuinness said he has been a Lynn resident for over 82 years. He expressed concerns about the DPH hearing on the closure of Union Hospital and believes DPH is assuming the improvements that result from this study will relieve any traffic problems with higher volumes generated by patients and visitors who are shifted to NSMC. He added that there are issues in Salem affecting Lynn’s segment of roadway, such as the CinemaWorld development.

Peter Vanamburgh said he lives on Euclid Avenue and expressed concern about cut-through traffic. He believes quality of life is the biggest issue, though safety is also important. He thinks traffic has a significant negative impact on a good neighborhood.

Cecile Fanti stated that she is a resident of Buchanan Circle. She can no longer drive and likes to walk but it is difficult, especially when sidewalks are not plowed. Ms. Fanti emphasized the importance of good lighting for pedestrians, and walk signals at crosswalks. Areas without sidewalks are problematic for those who choose to or have to walk. She added that since U-turns are not allowed at any intersections, drivers use Buchanan Circle to turn around.

Patricia Demirdjiah suggested adding a guard rail along the median into Salem. She noted that northbound vehicles stop to make an illegal left turn into the Campfire campground. This causes other drivers to swerve around them. She expressed concern that if U-turns aren't permitted, people will use Buchanan Circle to turn around.

Calvin Anderson, who lives on Concord Street, is concerned about the area around Waitt Street. He proposed introducing service roads to connect shopping centers and avoid too many curb cuts. He expressed concern with MassDOT's maintenance of its infrastructure.

Donna Marrama said she lives on Western Avenue at the bottom of a hill. Drivers don't see the signal until they reach the top of the hill, so she suggested MassDOT add a signal warning sign at the bottom of the hill. She expressed concern about the volume of tractor trailer trucks that go to Walmart and that they travel at very high speeds. She does not want Route 107 to turn into a roadway with characteristics similar to Route 114. Ms. Marrama also suggested installing a sign at the top of the hill near Chestnut Street because the signal is not visible at the bottom of the hill.

Elena Kirios explained that she lives near the intersection of Eastern Avenue and Western Avenue. She is happy to hear about the study. Ms. Kirios expressed concern regarding the high speeds of drivers turning from Route 107 onto Eastern Avenue. She asked if a signal could be added at the intersection. She added that parking is allowed on both sides of Eastern Avenue impacting sight lines and making it very difficult for her and her neighbors to safely back out of their driveways. She suggested adding speed bumps to slow drivers down. Ms. Kirios also shared concerns regarding bicyclists and motorcycles, cars exiting from gas station driveways, and noise. She also noted that beach traffic causes problems at Waitt Avenue and the triangle area of Eastern Avenue, Waitt Avenue, and Western Avenue should be dealt with.

Barbara Kinney said she lives on Fernwood Avenue and experiences "gridlock" due to traffic on Western Avenue and schools. She is concerned if Stanwood is made one-way westbound, traffic could get gridlocked on Chase Road and cause problems on Euclid Avenue. She requested MassDOT install a sign to prevent using local side streets to cut-through during commuting hours. She noted that bikes currently use sidewalks on Western Avenue. She urged MassDOT to consider improvements to Route 107 south of the study area boundary.

Toso Nikolakopoulos stated that he owns John's Roast Beef and some properties on Western Avenue. The businesses rely on on-street parking. Mr. Nikolakopoulos asked MassDOT to maintain all on-street parking, which is crucial to his business customers and employees. He noted that he is a member of the Lynn Chamber of Commerce and Commissioner of Off-Street Parking.

John Wilson, Lynn Area Chamber of Commerce, read an excerpt from a letter that discourages MassDOT from eliminating any on-street parking. He noted that he has also experienced traffic due to construction and asked that MassDOT keep the traffic moving during construction of any improvements resulting from the study. Mr. Clark explained that during these studies, MassDOT keeps an open mind to all potential options, and had proposed a concept to the Working Group for feedback that eliminated portions of on-street parking. The Working Group confirmed that would not receive public support and the study team will not be advancing this idea forward as a recommendation. While it is ultimately the City's decision, the study may find that one or two spaces may need to be removed to accommodate safety improvements at certain intersections. The Working Group and public will be consulted on all potential parking removal proposals.

Jean Hart, a resident of French Street, said she avoids the Western Avenue area. She believes that no improvement could alleviate potential traffic effects of the proposed Cinemaworld development. Mr. Clark explained that this concern came up at the public meeting in Salem. He explained that once the proponent of the development submits an application for a curb cut permit to MassDOT, which has not yet occurred, MassDOT could approve or disapprove it. MassDOT would analyze the projected traffic impacts and proposed mitigation to ensure it would not overload the roadway. The decisions regarding land use and quality of life effects on the community rest with the City of Salem. MassDOT only evaluates impacts to its infrastructure and that is reviewed by engineering staff. Mr. Clark was not sure how the City of Lynn would be involved with this decision-making process. Ms. Hart was interested in knowing the correlation between closing Union Hospital and opening the Cinemaworld development.

Ed Mollett, a resident of Waitt Avenue, expressed his support for a traffic light at Stanwood Street and at Eastern Avenue. Light timing will be important. He has experienced traffic from Walmart all the way down to Waitt Avenue. He does not think making Stanwood one-way would improve traffic.

Patricia Liberti, an Olde Village Drive resident of Salem, shared her concerns with the potential traffic resulting from the proposed Cineplex and also the number of one-way streets between the 400 Highland residential complex and Barnes Road/Ravenna Avenue. An additional traffic signal for the development would create a close concentration of traffic lights.

Donna Kennedy said she lives on Westview Road and is aware of multiple undeveloped, commercially zoned parcels in Salem. She asked if the study has looked at the potential impact of these developments and traffic generated should they be developed in the future. Ms. Chlebek explained the study team has coordinated with the cities to understand all formally proposed developments. It is hard to predict traffic impacts for something that has not been proposed when the type of use is unknown, but the study team has looked at land use maps, population growth rates, and employment projections. Ms. Kennedy suggested that the projections are not adequate given the potential for development. She does not want Route 107 to become similar to Route 114. Ms. Kennedy added there is only one way in and out of her neighborhood and asked for an on-demand signal. She also noted that lane markings are needed, and she has seen many vehicles speeding on Route 107.

Karen Maliansk said she lives on Western Avenue and believes traffic and truck convoys are major problems. She has trouble accessing her driveway and sight lines are blocked by parked vehicles. Traffic speeds are too high. South of Chestnut is also a problem. She generally has concerns about quality of life, health, congestion, and safety concerns.

An attendee expressed interest in three lanes in each direction between the floating bridge and fire station in Salem to adequately prepare for growth. He suggested using land acquisition or whatever is needed to widen the roadway. He stated that land acquisition would be the only way MassDOT can solve the problem between 400 Highland and NSMC.

Deborah Smith Walsh said she lives near the Mayor and reiterated some of the previous comments. She expressed her support for a traffic light at Buchanan Circle. She said the light at Fays Avenue must stay. Ms. Walsh thanked the study team for holding a meeting in Lynn and requested that the next meeting to be held in the City.

John Coleman Walsh added that it is difficult to see drivers on Western Avenue at Highland Avenue. He also noted that it's hard to see cars near Belleaire Avenue where drivers speed up the hill, and trucks are a concern. He, too, would like the study team to hold another meeting in Lynn.

Ms. Barrett thanked everyone for attending and providing comments, and closed the meeting.

Attendance

Calvin Anderson	Barbara and Shawn Kinney
Steve Archer	Elena Kirios
John and Colleen Barry	Pat Lee
Matt Breen	Pat Liberti, Ward 4/Gallows Hill Neighborhood Group
Joy Campbell	Jill Madigni
Leslie Cartemanche	Brenda Maillet
Mr. and Mrs. Roger Chia	Ivan Maillet
Norm Cole, Lynn Housing Authority and Neighborhood Development	Karen Maliansk
Patricia Demirdjiah	Donna Marrama
June DeRoin	Juor McCarthy
Michael Dollard	Bria McCarthy
Sean Donahue, Lynn Community Television	William McGuinness
William Erwin	Gloria Minny
Nevelle and Dale Faly	Ed Mollett
Cecile Fanti	Jean Mulhern
Peter Frangipane	Carol Noble
Alex Freedman, Mass in Motion	Tom O'Hare
Jill Frucci	John Olson
Darlene Gallant, LEO	Toso Nikolakopoulos
Andrea Gayle-Bennett	Rebecca Potter
Alexander Gershaw	William Rafuse
K Gobichaud	William Reilly
Jean Hart	Bill and Sherry Roberson
Mary-Kate James, Vanasse and Associates	Marty Robichaud
Robert Jesionowski	Bill Rogers, City of Lynn
Helen Jesionowski	Edward Shinnick, Lynn Police Department
Donna Kennedy	Deborah Smith Walsh, Lynn Community Health Center
Susan and Robert Kerni	

Anthony Spence
Karyl Stoa
Martin Sullivan
Nesly Telfoht
James Tozza
Linda and Steve Upton
Peter Vanamburgh
Kathy Veilleux
Beverly Weaver
Lorry and Richard Willis
John Wilson, Lynn Area Chamber of Commerce
Kimberlee Worth

**Public Meeting – Second Round Summary
Lynn/Salem**



Route 107 Corridor Study – Second Round of Public Meetings: Summary

September 7, 2016 – 6:00 PM

Lynn English High School Auditorium
50 Goodridge Street, Lynn, MA

September 13, 2016 – 6:00 PM

Collins Middle School Auditorium
29 Highland Avenue, Salem, MA

Project Team

Michael Clark, Massachusetts Department of Transportation (MassDOT), Office of Transportation Planning (OTP); Jason Adams and Maureen Chlebek, McMahon Associates; Kate Barrett, Emily Christin and Sarah Paritsky, Regina Villa Associates (RVA).

Present

The following elected officials attended, plus members of the public (see attendance):

September 7

- State Representative Dan Cahill
- Wayne Lozzi, Lynn City Council

September 13

- State Senator Joan Lovely
- State Representative Paul Tucker
- David Eppley, Salem City Council
- Stephen Lovely, Salem City Council
- Elaine Milo, Salem City Council

Meeting Purpose

The purpose of these meetings was to present the team’s draft recommendations and gather additional input, prior to issuing the Final Report. The recommendations are the result of a comprehensive evaluation of a number of alternatives to improve the Route 107 corridor. MassDOT and its team carefully considered input from the Working Group, general public, and the public survey results. Various factors were considered in arriving at the recommendations, including projected traffic volumes for known existing conditions and potential future development, and options for improving bike and pedestrian accommodations. The study team encouraged participants to provide feedback on the recommendations and work completed to date. The same presentation was given at both meetings, and can be reviewed on the project website at: www.mass.gov/massdot/Route107. The September 13 meeting in Salem was the final public meeting for the Route 107 Corridor Study.

Meeting Summary

Welcome and Introductions

Kate Barrett, RVA, opened the meeting and reviewed the meeting guidelines. She asked participants to hold questions until the end of the presentation, when she would moderate a question and answer session.

MassDOT Project Manager Michael Clark reviewed the agenda, introduced project team members Maureen Chlebek and Jason Adams, McMahon Associates, and Sarah Paritsky, RVA. Mr. Clark introduced elected officials present at the meeting and provided an opportunity for comments, as he knew they needed to leave for another meeting.

Rep. Dan Cahill thanked MassDOT for conducting the study and including the portions in Lynn. He announced that he and Rep. Tucker were able to secure funding in the economic development bill to pay for the implementation of some of the study recommendations.

Study Process

Mr. Clark described the study process and area, which includes 15 key intersections in Lynn and Salem. Mr. Clark outlined the five study tasks and explained that the study began in spring 2015. Tasks 1 and 2 were presented at the March public meeting. When the Final Report is released, a 30 day public comment period will begin.

Mr. Clark said that there were four working group meetings at key steps in the process. He explained the role of the Working Group, which consists of local and state officials, business organizations, residents of Lynn and Salem, and other stakeholders.

Mr. Clark described the primary goals of the study: to improve mobility, connectivity and safety, support local economic development goals, and improve the quality of life for corridor residents and businesses. The study team developed evaluation criteria based on these goals, which helps the team evaluate improvements.

Survey Results¹

Ms. Paritsky provided an overview of the online survey results. Ms. Paritsky said an online survey gathered over 1,670 responses on issues and opportunities for motorists, pedestrians, transit riders, and bicyclists in the corridor. She said the survey was available for about four months and was available in English and Spanish. Ms. Paritsky said about half of the respondents live in the corridor and a fifth work in the corridor.

Most respondents drive through the corridor; however, the responses to the survey indicated an interest in improving pedestrian and bicycle amenities to make it easier to walk, bike, and take the bus. Ms. Paritsky said the results of the survey were largely consistent with the team's existing conditions findings presented at the March public meeting.

Overall Improvement Alternative Concepts

Ms. Chlebek reviewed the project study area. At the last public meeting, the presentation focused on the deficiencies in the corridor – the poor condition of the sidewalks and the lack of bicycle facilities. This meeting will focus on improvements.

The corridor is served by MBTA Bus Routes 424, 450, and 456. Ms. Chlebek said the study team found that there are many bus stops with low volumes of users. Without losing transit users, the bus stops could be relocated strategically to increase the efficiency of the transit service. Pedestrian improvements will include adding marked crosswalks, curb extensions to shorten crosswalks, and countdown pedestrian signals. Ms. Chlebek explained that at the last meeting, the project team

¹ Ms. Barrett presented the survey results at the September 13 meeting.

described how it assigned the corridor a Level of Traffic Stress (LTS) 4 for cyclists, indicating high stress conditions. Ms. Chlebek described vehicular improvements, which include traffic signal upgrades, exclusive turn lanes (especially at high-crash rate intersections), corridor-wide signal coordination, reducing the number of curb cuts, and traffic calming to reduce speeds. Some vehicular improvements, such as changes to traffic signals, could be implemented in the short term.

Ms. Chlebek identified three unsignalized intersections that meet the criteria for a signal: Route 107 at Stanwood Street and Eastern Avenue, Swampscott Road at First Street, and Route 107 at the Salem Hospital Lower Entrance.

What is a Cross-Section?

Ms. Chlebek explained that cross-sections are the framework for how the study team developed improvement alternatives, with help from the Working Group. She outlined each element of a cross-section, providing travel space for vehicles, pedestrians, and cyclists, as well as parking and buffer space. She described how the study team applied a cross-section to the Lynn Corridor Segment (which has 66 feet of right-of-way (ROW)), the Retail Corridor Segment (90 feet of ROW), and the Salem Corridor Segment (60 feet of ROW). The goal is to accommodate land use and needs and find the mix that best fits each segment.

Segment by Segment Improvements

Ms. Chlebek described some design considerations, including cost, feasibility, property and ROW boundaries, and constructability. She noted that the improvements she and Mr. Adams are presenting are conceptual plans only. Once the plans are funded, they move to the engineering phase where detailed designs are developed.

Summary of Changes in Lynn Corridor Segment (Parking Both Sides + Bike Lanes Cross-Section)

Mr. Adams said the study team developed three roadway cross-sections for the Lynn Corridor Segment: one with parking on both sides plus bike lanes, another with parking on one side and buffered bike lanes, and a third that eliminated parking and added a two-way separated bike lane. The Working Group prioritized maintaining parking whenever possible, so the team moved forward with the cross-section that maintained seven-foot parking lanes on both sides, 11-foot travel lanes, and 5-foot bike lanes. Mr. Adams described the improvements proposed to the corridor and each intersection:

- Provided bicycle accommodations throughout segment
- Improved pedestrian accommodations through sidewalk replacement to meet the Americans with Disabilities Act (ADA) standards
- Enriched transit accommodations by providing ADA-compliant bus stops and adjusted bus stop locations for efficiency
- Increased safety with left turn lanes and reduced lane width to slow traffic speeds
- Improved vehicle operations with added capacity and signal timing/coordination improvements
- Identified opportunities for access management (minimizing curb cuts)
- Minimized parking impacts to extent possible

Intersection-Specific Improvements:

Route 107 at Chestnut Street

- Existing conditions: This four-way intersection has crosswalks but no left turn lanes.
- Proposed improvements: Bike lanes and bike boxes (which help increase visibility by placing cyclists ahead of vehicles at signals) were added in both directions, bus stops relocated, sidewalks added, left turn lanes added to all approaches, and signal coordination improved. Some parking spaces are removed in order to create the left turn lanes and to reduce conflicts in close proximity to the intersection.

Route 107 at Chatham Street

- Existing conditions: This intersection has similar conditions to Route 107 at Chestnut Street, as well as no delineated parking spaces.
- Proposed improvements: Left turn lanes were added to all approaches; therefore, some parking was removed, signal coordination improved, and bus stops relocated. There is an opportunity to improve access management by combining driveways.

Route 107 at Eastern Avenue/Stanwood Street & Route 107 at Waitt Avenue/Maple Street

- Existing conditions: These two intersections produce conflicting traffic movements, have no turn lanes, and high crash rates.
- Proposed improvements: The improvements at both intersections play off of one another, and include left turn restrictions from Route 107 to Waitt Avenue and from Eastern Avenue to Route 107; left turn lanes added to Maple Street, Waitt Avenue, and Route 107 southbound; a traffic island with plantings on Eastern Avenue; relocated bus stops; and improved signal coordination. The majority of the parking is maintained.

Route 107 at Fays Avenue

- Existing conditions: This signalized T-shaped intersection is constrained by ledge and the residences close to Route 107 and has poor sidewalks.
- Proposed improvements: A relocated bus stop provides a level landing at rear and front doors, improved sidewalk, new buffered bike lanes, a new crosswalk, and improved signal timing/coordination.

Parking Impacts – Lynn Corridor Segment

- There are 130 existing parking spaces.
- 97 parking spaces are proposed, with a net loss of 33 spaces to improve safety and operations of the intersections.

Route 107 Corridor Transition at Lynn/Salem border

- Existing conditions: The southbound transition from two travel lanes to one travel lane at the Lynn/Salem border occurs suddenly.
- Proposed improvements: Maintained buffered bike lanes, lengthened the transition from two lanes to one lane, and replaced the guardrail with a landscaped median.

Summary of Changes in Retail Corridor Segment (Four Lane Roadway + Median + Buffered Bike Lanes Cross-Section)

Ms. Chlebek explained that the Retail Corridor has 90 feet of ROW, far more than the other two corridor segments. There are also particularly high traffic volumes through this area, so four travel lanes are needed. The team considered two cross-section concepts: 1) a four lane roadway plus median plus buffered bike lanes, and 2) a four lane roadway plus shared-use path. Ms. Chlebek explained that the Working Group expressed its preference for the first concept, which maintains the median. She described the improvements proposed to the corridor and each intersection:

- Added buffered bicycle lanes through most of segment
- Improved pedestrian accommodations by adding pedestrian crosswalks at key intersections and missing links of sidewalk on the west side of Route 107
- Enriched transit accommodations by providing ADA-compliant bus stops and adjusted bus stop locations
- Increased safety by reducing lane width to slow traffic speeds
- Improved vehicle operations through signal installation and signal timing/coordination improvements
- Provided aesthetically pleasing median

Intersection-Specific Improvements:

Route 107 at Walmart Drive

- Existing conditions: Lack of sidewalk and pedestrian crossings, with a southbound right-turn-only lane.
- Proposed improvements: Eliminated southbound right-turn-only lane, added crosswalks and sidewalks, removed guardrail, added planted median (which terminates for a left turn lane), added buffered bicycle lanes, relocated bus stops to provide level landing at rear and front doors, and improved signal timing/coordination.

Route 107 at Olde Village Drive

- Existing conditions: Lack of sidewalk on one side of Route 107 and only one pedestrian crossing.
- Proposed improvements: Added two crosswalks and sidewalks to both sides of Route 107, replaced guardrail with planted median, added buffered bicycle lanes, and improved signal timing/coordination.

Route 107 at Barnes Road

- Existing conditions: Lack of crosswalks and sidewalks.
- Proposed improvements: Added crosswalks and sidewalks, replaced guardrail with planted median, added buffered bicycle lanes, relocated bus stop, and improved signal timing/coordination.

Zigzag Segment

Mr. Adams described the zigzag traffic movement – a connection between Marlborough Road and Swampscott Road that crosses over Route 107 and connects to Traders Way and First Street. The study

proposed a short-term improvement to improve traffic flow on these roads. After evaluating more than 10 alternatives with Working Group guidance, the study team looked at four alternatives to keep vehicles on Route 107 (through a widened ROW). Mr. Adams described the alternatives:

- Short-term improvement: Full Access – Signalize the intersection of First Street and Swampscott Road, improve signal coordination, reallocate green light timing for more traffic flow.
- Alternative 1 (removed from further consideration): Dual left turn at Swampscott Road and Marlborough Road – two buildings would be impacted and ledge and grade changes would restrict construction.
- Alternative 2 (removed from further consideration): Marlborough Road roundabout and dual left turn lanes at Swampscott Road – significant building and private property impacts.
- Alternative 3 (removed from further consideration): Marlborough Road roundabout shifted toward CVS with northbound and southbound by-pass lanes and dual left turn lanes at Swampscott Road – significant building and private property impacts.
- Alternative 4 (removed from further consideration): Swampscott Road at Highland Avenue intersection relocation – easier for vehicles to access Route 107, but impacts Forest River.
- Preferred long-term improvement: No connection between Marlborough Road and Swampscott Road via Route 107 – This alternative appears to improve operations and reduce vehicle queuing on Route 107, Marlborough Road, and Swampscott Road, but further study of impacts to First Street, and Traders Way is recommended. Turn restrictions would require some type of physical lane barrier.

Route 107 at Swampscott Road

- Existing conditions: Vehicle queuing, missing crosswalks and sidewalks.
- Proposed improvements: Lane barriers added, same number of lanes maintained, tailored bike lane (not buffered due to limited space), installed landscaped median and islands, remove existing bus stop.

Route 107 at Marlborough Road

- Existing conditions: Vehicle queuing, missing crosswalks and sidewalks.
- Proposed improvements: Same number of lanes maintained on Route 107, lanes rearranged on Traders Way and Marlborough Road with added capacity, operational and safety improvements, added lane barriers, relocated and added bus stop, and added two-stage bike boxes (allows bike to make left turns in two movements for improved safety).

Swampscott Road at First Street

- Existing conditions: Existing unsignalized intersection.
- Proposed improvements: Added signal and sidewalk, extra lane on First Street, added an approach lane and a receiving lane on the Swampscott Road northbound approach, improved traffic operations, and crosswalk.

Route 107 at Hawthorne Square Mall

- Existing conditions: Only one through lane on Route 107 southbound, exclusive right-turn lane, missing crosswalk.

- Proposed improvements: Converted right-turn-only lane into shared lane, added buffered bicycle lanes and two-stage bike boxes, relocated bus stop for better retail area access, added medians, and improved signal timing/coordination.

Route 107 Corridor Transition at Crowdis Street

- Existing conditions: Lanes are not well-defined and merge happens quickly.
- Proposed improvements: Defined lanes with painted markings, lengthened transition from two lanes to one lane heading north, added bicycle lanes, removed existing bus stops, and replaced guardrail with landscaped median.

Summary of Changes in Northern Corridor Segment (Two-Way Left Turn Lane + Bike Lanes Cross-Section)

Ms. Chlebek explained that the study team originally considered three cross-section concepts – a two-way left turn lane plus bike lanes, a two lane road plus two-way separated bike lane, and a two lane road plus shared-use path. With feedback from the Working Group, the team moved forward with the two-way left turn lane plus bike lanes cross-section. She described the improvements proposed to the corridor and each intersection:

- Added bicycle provisions throughout segment
- Improved pedestrian accommodations by replacing sidewalks and adding crosswalks
- Enriched transit accommodations by providing ADA-compliant bus stops
- Increased safety by reducing lane width to slow traffic speeds
- Improved vehicle operations by adding capacity via exclusive turn lanes, a two-way left-turn lane, installing a signal at Salem Hospital Lower Entrance, and optimizing signal timing/coordination

Intersection-Specific Improvements

Route 107 at Willson Street

- Existing conditions: Unclear lane striping, and very narrow ROW due to pedestrian bridge in front of high school.
- Proposed improvements: Maintained two lanes in each direction due to traffic volumes, dropped bike lane for a short distance (see below), installed pavement markings to define lanes and use sharrows for bike/vehicle shared lane, relocated bus stop.
- Bicycle lane alternative: The Working Group suggested using high school property to take the bike lane off Route 107 in this area. The study team thinks this idea is worth further investigation and would need to be coordinated with the City of Salem.

Route 107 at Salem Hospital Lower Entrance

- Existing conditions: No traffic signal and lack of crosswalks and sidewalk.
- Proposed improvements: Added new traffic signal, a two-way left turn lane, painted median, bike lanes, and crosswalks and sidewalk.

Route 107 at Dalton Parkway and Jackson Street

- Existing conditions: Unclear signage for left turn restriction from Dalton Parkway and lack of crosswalks.

- Proposed improvements: Better defined median space (including added islands) to force vehicles to turn right from Dalton Parkway to Route 107, added buffered bike lanes and two-stage bike boxes, added crosswalks, and improved signal timing/coordination.

Route 107 at Boston Street

- Existing conditions: There are a lot of traffic movements at this intersection and a lot of ROW.
- Proposed improvements: Redesigned so major movements continue as through-movements; raised shared streets to serve pedestrians, cyclists, and driveway access along Route 107; added buffered bike lanes and crosswalks; added left turn only lane, and available space in the shared street in front of the fire station for a monument or landscaping.
- Shared streets: Ms. Chlebek explained that a shared street is a textured, low-speed area where pedestrians and vehicles share the road and vehicles move very slowly. She showed some examples of shared streets and noted that through traffic stays on the roadway.

Study Summary and Next Steps

Mr. Clark explained that the improvements presented support the project goals, which are all related to the broader goals of MassDOT and the regional Metropolitan Planning Organization. This gives the improvements a stronger chance of being funded. Mr. Clark reviewed some approximate costs of the proposed improvements, which total \$26 million. He noted the improvements can be packaged according to the community's desire and added that MassDOT's jurisdiction is only from the Floating Bridge to Greenway Road. Mr. Clark described MassDOT's project development process and noted this project is in the conceptual planning stage (Step II: Planning). At Step IV: Environmental Permitting, Design, and ROW Process, the public can provide more input on the detailed design.

Mr. Clark announced that the final report will be released later in September. A 30-day comment period on the final report will be announced. He encouraged interested attendees to sign up for project emails at the project website (www.massdot.state.ma.us/route107) to be notified when the final report is available, and when the presentation and meeting summary are posted.

Question & Answer Session (September 7)

Ms. Barrett reviewed the meeting guidelines pertaining to the Q&A and invited attendees to provide comments or ask questions.

Leslie Courtemande, a resident of Farrell Avenue in Lynn, stated that in her opinion, there are a lot of accommodations proposed for bikes rather than vehicles. She is not certain that the number of bike riders warrants so many improvements. She suggested that the bikes and pedestrians could share the sidewalk instead of separate lanes. Ms. Courtemande asked if a landscaped median would prevent crash damage as well as a guardrail in the median. Ms. Chlebek explained there would be a curb with the landscaping, which would take some impact and help prevent cars from passing over the median. The improvements are designed to lower travel speeds, which should help reduce crash rates. Ms. Courtemande added that it is difficult to change directions on Route 107 near the Walmart and suggested an access road be considered.

Mary Ann Murray asked where the funding will come from. Mr. Clark explained the funding source will depend on how the cities package the projects, but likely from the State Transportation Improvement Program (TIP). Ms. Murray said she doubts that a median with plantings would stop cars from crossing

the median in an accident. She asked if the traffic signals will allow emergency vehicles to pass through, and Ms. Chlebek said yes, this is part of the signal operations. Ms. Murray stated that the sidewalks are not accessible for wheel chairs and Ms. Chlebek said the improvements would complete missing sidewalks and each proposed crosswalk would have ramps at each end and at the bus stops. Pedestrian countdown signals also help make it easier for pedestrians to judge if they have time to cross the street during the current cycle or wait for the next one.

Mary Margaret Malone said she applauds the team's efforts on the Study. She said the area from Chestnut Street to Chatham Street is very residential and she thinks the bike lanes would be an improvement, but she is worried the 11-foot lanes are too narrow for cars and make it hard to turn across bike lanes. She noted that as the baby boomers are aging, it is important to keep as many bus stops as possible; walking a few extra blocks can be difficult. She asked that as many bus stops between Chestnut Street and Chatham Street as possible be maintained and that access for the visually impaired be improved.

John Barry, a resident of Stanwood Street, said he thinks the study team has some good ideas, but there is too much of a focus on bikes and he does not see many bicyclists in the corridor currently. He suggested the study team look into opening Linton Road to two-way traffic, near the Western Avenue/Eastern Avenue/Stanwood Street intersection. He also asked that the study team look at how the rotary off Stanwood Street is impacted by the recommendations, where traffic currently backs up.

Travis Wojcik, a resident of Peabody, thinks the improvements would enhance the look of the corridor and he thinks the 11-foot lanes are sufficiently wide. He asked if there would be increased signage for Route 107 north and southbound at Eastern Avenue. Mr. Clark said this would be considered during the design stage of the project. Mr. Wojcik asked if the team considered protected bike lanes with the cars parking between the bike lane and the travel lane. Ms. Chlebek said the Lynn Corridor Segment is narrow and too constrained for that configuration. Mr. Wojcik also suggested that an access road be created between the Walmart and Olde Village Drive. Ms. Chlebek said the team explored similar ideas, but not that area specifically. It's something Walmart would need to pursue.

Calvin Anderson said he was impressed with the proposed solution at the Stanwood Street and Maple Avenue intersections. He suggested the agencies work with the private sector, such as Meineke and Walmart, to resolve access issues by consolidating curb cuts. He said he drives the Zigzag Segment frequently and is in favor of roundabouts.

Patricia Demirdjiah, a resident of Coolidge Road, described an access issue with Scouts Camp. She thinks an access road should be provided. Currently, vehicles turning left from Route 107 northbound to the Camp and from the Camp to reach Route 107 northbound are cutting across lanes creating a safety issue. She asked how buffers with traffic stakes would be affected during the winter when roads are plowed. Mr. Clark explained that snow considerations would be discussed during the design phase.

Elena Kirios, a resident of Eastern Avenue, said she thinks left turn lanes are definitely needed but she has some concerns. First, she asked if there is enough room to pass buses that are pulled over in a through lane. Mr. Adams explained that parking and bike lanes are reduced or removed to give more space to buses and other traffic. Ms. Kirios said the left turn lanes are often too short to fit all of the cars. Mr. Adams explained that the team has considered the traffic volumes when proposing the size of the lane. Ms. Kirios described some concerns with rerouting traffic from Swampscott Street to First

Street and Traders Way, specifically access and traffic flow at the Eastern Bank or Shaws parking lots. Mr. Adams said these details will be examined during the design phase. Ms. Kirios said she is pleased with the proposal for the Eastern Avenue and Western Avenue intersection. She said this intersection and the Waitt Avenue intersection are very dangerous.

Peter Frangipane, a resident of Western Avenue, asked the study team to revisit the width and design from Eastern Avenue to the Salem line as he is worried about limited sight distances. He requested parking be restricted. He does not believe bicyclists would want to use Route 107 due to the narrow roadway and heavy industrial truck traffic from the Salem quarry. Snow piles further reduce road widths during the winter. Sidewalks are best and should be kept passable during the winter.

Melina [no last name provided], a resident of Stanwood Street, commented on the barriers off Stanwood Street. She said traffic backs up in the small rotary at Maple Street. She asked if the study team looked at prohibiting turns on Stanwood Street from Western Avenue, perhaps during rush hour. Mr. Adams explained that the rotary isn't in the study area so the team didn't specifically evaluate it, but is aware of the issues there. The team is trying to solve traffic in the area with left turn lanes and turn restrictions. He said the design phase will include an examination of impacts to residential streets.

Mike Dollard, a resident of Western Avenue, suggested moving bus stops to the other side of the intersections. Ms. Chlebek said some stops were relocated, but the MBTA has a process for moving stops and would hold separate public meetings before making any changes. Mr. Dollard said before any major changes are made at fire stations, the state should request input from the shift commander or captain, not just headquarters.

Bill Marnik, a resident of Chatham Street, said he appreciates the changes for bicyclists and sees some people riding bikes, but it is dangerous. He said it can be difficult to get to the Riverworks Credit Union where he works. Five-foot wide bike lanes is not excessive. Ms. Chlebek said the team has done bike counts and the data will be included in the Final Report. She acknowledged that volumes are low but that does not mean there is no desire to bike, just a lack of amenities.

Matt McCormack, a Lynn resident, said the sidewalks should be widened for use by people in wheelchairs and bicyclists. He asked what happens if a car breaks down and said he has witnessed many accidents at the Puleo's ice cream shop nearby. He suggested keeping the guardrails and said that the gravel trucks are very wide, so wider lanes are better as well as providing sufficient turning radius. Mr. McCormack said he is worried about travel lane and bike lane widths and asked about access to Route 129A/Eastern Avenue. Mr. Adams said traffic on Route 107 southbound would turn left on Eastern Avenue, but the specific movement will be fleshed out during the design phase.

Ms. Barrett thanked everyone for attending and providing comments, and closed the meeting.

[Question & Answer Session \(September 13\)](#)

Stephen Lovely, Salem City Council, said a lot of residents were concerned about what they read in the newspaper about the Zigzag segment, and he believes that shifting traffic through Traders Way is not viable. He asked the study team to take another look at Zigzag Alternative 4, and stated that the land impacted there mostly belongs to Salem's transfer station. He thanked MassDOT for their work, and offered help in obtaining funding.

David Jacobson, a resident of Britannia Circle, asked how many members of the Working Group were local residents. Mr. Clark said many members of the Working Group are local residents, and that many are in the audience tonight (several raised their hands). Mr. Jacobson said the Zigzag alternative benefits the drivers on Route 107, but not the local residents. He added that bike lanes should not be prioritized because he does not believe many residents would use them. Emphasis should be on access/egress to the shopping center and left turn lanes

Rep. Paul Tucker thanked MassDOT for its work and said many residents have been concerned for a long time about the traffic and safety on Route 107. He said he does not support the Zigzag alternative on Traders Way.

Dave Walsh, a resident of Orleans Avenue, said his street is the last street off Marlborough Road before Highland Avenue. He said the Zigzag segment would further impact residents on Marlborough Road, which is already difficult to pull onto from his street.

Dave Pelletier said he has ridden his bike on Route 107 for nine years, and is surprised no one on the project team has mentioned the hills, which are difficult to bike on. He recommends widening the sidewalks to make it more appealing for pedestrians because no one walks on it now. He said shared sidewalks in Salem would make more sense than bike lanes because of the hills, and that other roads like Route 129 or 1A would be more suited for bicycle lane improvements. He also requested that the design should avoid placing light poles in the middle of the sidewalk as they are now in some places.

Senator Joan Lovely said she is part of the Working Group and thanked MassDOT and the study team for all of their work in developing the concepts, but now the focus should be on what really works. She said she is opposed to the Zigzag segment, because it does not solve the problem of congestion and just relocates it.

Linda Ferraresso said she is opposed to the Zigzag segment, and doesn't think it would be good for big trucks to go down Traders Way as they already speed on Swampscott Road. Only delivery trucks should be allowed on Traders Way and First Street.

Eric Papetti said he understands that right now bike and pedestrian use is unattractive, but he is in favor of the proposed bicycle improvements. He urged the study team to make sure pedestrian and bicycle improvements are designed to attract the most users, since they will have to live with whatever roadway is built for the next 30 years. These modes of travel should be safe and welcoming. Development and redevelopment opportunities should incorporate facilities.

Laura [no last name provided] said she appreciates the work that MassDOT has done so far but is opposed to the Zigzag segment, and said it is a nightmare to try to leave Home Depot or PetSmart right now. Access/egress must be addressed. She asked if there will be an analysis in the final report of what the study team looked at in developing the Zigzag alternatives. She also wants to know how the cost estimate and schedule were arrived at. Ms. Chlebek said the information will be in the final report.

Joan Gilman, a resident of First Street, said there are a lot of residential buildings on First Street and discouraged the team from going forward with the Zigzag alternative because of the impacts to residents.

William Legault, said the Zigzag segment will not work. He added that he supports the proposed bike lanes along the corridor, and has biked up and down Highland Avenue as he does not own a car. He said a lot of bicyclists would not mind the hills.

Kathleen Tone, a resident of Eclipse Lane, said she is relieved the city's representatives understand the Zigzag segment will not work. She asked the study team to reexamine the bike lanes and consider a shared sidewalk instead.

Becky Christie, a resident of Marlborough Road, said she lives across from the CVS on Marlborough Road. She is unsure how the expansion of Marlborough Road would affect her property. She is against the Zigzag, but in favor of widening Marlborough Road. She added that at 6:30 AM it takes her five minutes to cross the street to get to the CVS parking lot.

June DeRoin, a resident of Sophia Road, said drivers on Route 107 often block vehicles entering from Swampscott Road and if the Cineplex goes in there will be even more people on the road.

Brad Freeman, a resident of Marblehead, said a bike path is needed. The plows in the winter will spread salt and sand making it difficult for plants to grow in the median. He also said the landscaped islands make it more difficult for plows to turn around and navigate, and urged the team to think about plowing operations.

Nancy Gilberg, a resident of Aurora Lane, said she lives right next to the intersection of Traders Way and First Street. She said it takes her ten minutes to cross through this intersection now. She added that rerouting traffic for the Zigzag would add noise to the quiet neighborhood, which is a rarity in Salem. She likes the bike lanes, and asked how narrow the vehicle lanes would be with the proposed bike lanes along the corridor. Mr. Clark said it varies along the corridor, but most of the space being taken is from the existing shoulders and the travel lanes will be 11-feet, which is adequate for travel.

Paul [no last name provided], a resident of Tanglewood Lane, suggested the study team look into a flyover for the corridor. He said the elevated roadway would be for through traffic, and the lanes underneath would be for local access. He asked if the study team could include a comparison of a flyover to the current proposed alternative in the Final Report, including cost. Ms. Barrett said this would have to be looked at in the next phase of the project, if it advances.

Mindy Solomon said she manages several condos on Highland Avenue, and asked if the Cineplex was part of the study and if it impacted the design. Mr. Clark explained that the Route 107 Corridor Study was developed before the Cineplex was proposed and is a separate project. He said it's unclear if the Cineplex project will advance. The proponent needs to file an Environmental Impact Report with the Massachusetts Environmental Policy Act office, but has not done so yet. Nothing has been heard from the proponent recently. Any traffic numbers that the Cineplex had available were accounted for in this study.

Joseph O'Neil, a resident of Essex Street, said that Route 107 is a crucial corridor to the Metro-Boston area, and adding bike lanes could potentially decrease vehicular traffic. He added that highway lane widths are usually only 10 feet wide, so the proposed lane widths in the study are more than adequate for vehicles.

Dan Puopolo, a resident of Cavendish Road, said that adding a traffic light to the intersection of First Street and Swampscott Road is a great idea.

Drew Vector, a resident of Highland Condos, said that traffic on Route 107 has created a lot of aggressive driving and he often sees cars running red lights. He suggested adding cameras to the corridor for enforcement.

Don Collins said he was involved in a bike accident on the corridor. He also asked if there are any plans for ledge blasting. Ms. Chlebek said there are no plans for blasting at this point along the ROW.

Patricia [no last name provided], a resident of Lions Lane, said she cannot pull out of Olde Village Drive because of trucks speeding down the corridor. She said she saw an accident hold up traffic on Route 107 for six hours because there was no egress, and the intersection of Swampscott Road and Route 107 near the car dealership is very dangerous.

Laura [no last name provided] asked if the final report will include a section on cumulative impacts to the traffic. Ms. Chlebek said yes.

Councilor Lovely addressed the comments made earlier about the Cineplex, and said it is independent of MassDOT's study and the last he heard was that the property was on the market. He added that the City of Salem has an independent consultant looking at adding traffic lights to the intersection of Swampscott Road and First Street.

Artie Sullivan said the reduction of capacity on the northern corridor segment will increase traffic backups, and that Highland was turned from one to two turning lanes at Willson Road in the past because of this. He said the traffic will just find other routes to take. Other communities are making changes to traffic circulation, which is pushing more traffic into Salem. A comprehensive traffic management plan is needed.

A participant proposed that exiting traffic from Salem Hospital be relocated to Jefferson Avenue, and only traffic entering the hospital use Highland Avenue.

Joan Gillman asked about the intersection of First Street and Traders Way, and asked if there are any plans to take land. Ms. Chlebek said the project team is proposing signal modifications, but further study is required to determine whether added capacity is needed at this intersection under the Zigzag turn-restriction alternative.

Alexandra said she is opposed to the Zigzag segment and told the team they should spend a day at the intersection of Swampscott Road and First Street to see the traffic conditions. She added that until recently, bicycles were only considered a recreational vehicle. She suggested the study team widen the sidewalks for shared use rather than add bike lanes where they would interact with vehicles.

A participant commented that sidewalk maintenance along Highland Avenue is a problem.

Ms. Barrett thanked everyone for attending and providing comments, and closed the meeting.

Attendance (September 7)

Calvin Anderson

John and Colleen Barry
Daniel Cahill, Lynn City Council
James Carroll
Norm Cole, LHAND
Leslie Courtemanche
Patricia Demirdjiah
Michael Dollard
Peter Frangipane
Alex Freedman, Mass in Motion
Darlene Gallant, LEO
Francine Goldstein
Stan Goldstein
Loretta Harriman, Lynn Food & Fitness/
Mass in Motion
Kevin Kilroye
Elena Kirios
Kay Kirios

Pat Lee
Wayne Lozzi, Lynn City Council
Dustin Luca, The Salem News
Jill Madigan
Mary Malone
Bill Marnik, Friends of Spring Pond
Matt McCormack
Melina
Jean Mulhern
Mary Ann Munar, AACT-RTAC
Estelle Revelotis
Bill Rogers, City of Lynn
Kathy Sands
David Wescott, Instant Alarm
K Wirth
Travis Wojcik

Attendance (September 13)

Alexandra
Jim Anderson
Cyndy Anselno
Gary Barrett
Gene Beuderman
Jan and Jim Bettger
Patrick Bennet
Susan Bennett
Lorraine Black
Mary Jane Blais
Phillip Blaskovich
Joanne Brasil
Mark Burns
Bill Buttner
Doris Buttner
Laura Christiansen
Rebecca Christie
Dennis Colbert
Don Collins
Scott Conley
Lucille Cuicillo
Josephine D'Amato
Panfilo D'Amato
Beth Debski, The Salem Partnership

Jim DeFilippi
Ann Delulis
Patrick Delulis, Salem Chamber of Commerce
Neil Denenhas
June DeRoin
Chuck Dolce
Michael Donahue
Leanne Duncan
David Eppley, City of Salem
Richard Falanga
Linda Ferraresso
Ken Fine
L. de la Flor
Bradford Freeman
Nancy Gilberg
Joan Gilman
K.J. Girord
Gus
Jim Hacker
Ricki Hacker
Jean M. Hart
Gary Hebert
David Jacobson
Steve Jackson

Dave Janes
Jim Jellison
Ken Jones
Vinod Kalikiri
Joanna Kavalans
David Knowlton, City of Salem
Bonnie Kobialka
Paul LeBlanc
William Legault
Pat and Tony Liberti
Sen. Joan Lovely, MA Senate
Stephen Lovely, Salem City Council
Dustin Luca, Salem News
Jill Madigan
Toni Macione
Angela Mansi
Tom McAuliffe
James Melansan
Marilyn Smith Melansan
Carol and Fred Miller
Elaine Milo, Salem City Council
Mike Murray, Salem Access TV
Joseph O'Neil, Salem Bicycle Council
Rinus Oosthoek, Salem Chamber of Commerce
Paul and Karen Pagnotti
Eric Papetti
David Pelletier
David Powell
Dan and Gayle Puopolo
Tobin Reckuhi
Robert Ross
Frank Ryan
Yvonne Santiago
Jeanne Scott
Richard Scott
Elaine Skolnick
Karen Stelle
Arsie Sullivan
Nina Talalayevsky
Hedy Thibault
Cliff and Anne Thomson
Kathleen Tone
Theresa Tone
Ann Tucker

Rep. Paul Tucker, MA House of Representatives
Patricia Tusci
Christopher Walkers
David Walsh
Debbie Smith Walsh
John Coleman Walsh
Marilyn Whalen
Michael Williamson
Jamie Yomtov
[2 illegible names]



Corridor Study



Route 107 Corridor Study:

Data Collection, Analysis and Conceptual Design of Alternatives Along Route 107 in Salem and Lynn, MA

Appendix D

Public Comments on Draft Report



Comment #1

Email sent to Michael Clark on October 4, 2016

Dear Michael,

Kudos to you! I've done a cursory reading of the final report, which has answered many of my preliminary questions and concerns.

Well done - and thank you for all you do!

Leanne Duncan

Email response from Michael Clark

Thank you Ms. Duncan.

Comment #2

[Email sent to Michael Clark on October 4, 2016](#)

I may not have time to read tonight but a neighbor is reading it and says it appears the re-routing of the "zig zag" thru Traders Way and First Street now looks like it might happen. We thought our politicians said it WOULD NOT happen. Do you have time to comment on that?

Nancy Gilberg

[Email response from Michael Clark](#)

Hi Ms. Gilberg,

This is a draft Final Report and our analysis is reflective the work completed through the public meeting. It's customary for the agency to wait until after the public comment period of the draft report before deciding to amend any recommendations based on feedback.

As this study is looking at concepts for the corridor the City would need to be supportive of any specific idea in order for it to be advanced for further design, so no proposal presented in the report should be interpreted as absolutely happening.

Thanks,
Michael

Comment #3

[Email sent to Michael Clark on October 5, 2016](#)

As a 20 year resident of the portion of the study area between Fays Avenue Lynn and the Salem line, I read carefully the proposal for this part of 107. I was pleased to see that the no on street parking in this section is continued. This is vital to the residents being able to get in and out of their driveways safely. I worked hard personally to get the "State Highway No Parking" signs installed along this portion of the road. Parked cars impede a drivers view of oncoming traffic when backing out of the driveway especially on the odd side of the street which is the downhill side. Traffic traveling down from Salem is going an a speed above the speed limit most times and is a threat to residents safety. Because of the traffic, cars would and still are, often parked on the sidewalks for the protection of the cars against the posted signage. This endangers pedestrians walking along the sidewalks often forcing them out into the road. It is imperative that parking remain banned along this section and that enforcement is improved. Also, what is the enforcement against driving in a bicycle lane? We have a problem with cars speeding down the breakdown lane from Salem to Fays Avenue to avoid the back up at the Fays Avenue light. Sometimes these cars turn right on to Fays Avenue but frequently cut back into the line of traffic at Fays Ave. This is also a hazard to residents trying to enter or exit their driveways. If a bicycle lane helps to prevent this, I can live with that. However, if the bicycle lane is buffered, I would urge you to make sure that there is sufficient access to each driveway through the buffered lane. Also, during the winter, the State is responsible for plowing this section of 107 and into Salem. If there is heavy snow, they plow curb to curb throwing the plowed snow onto the shoveled sidewalks. This snow is almost impossible to remove in a timely manner by the residents as it is compressed chunks of ice and sand from the roadway. New policies on plowing by the State must be developed to maintain safety for all, vehicles, pedestrians, bicyclists as well as residents responsible for removing snow from in front of their property. I would suggest that the State limit its plowing to the width of the vehicle travel lanes, avoiding the bicycle lane, in order to keep from dumping more snow onto sidewalks. Bicycles would probably not be traveling during the winter in heavy snow anyway and this would leave a buffer from plowing for the residents clearing their walks for pedestrians. I would think that buffering the bicycle lane in some ways would also provide a natural buffer from plowing onto the sidewalks. Also, some provision will have to be made for clearing the sidewalks that will be installed further along in the retail portion of the roadway.

Please consider my comments when developing your final plan. Residents of this stretch of 107 are already putting up with many inconveniences, some natural and some man made and getting enforcement for posted signage is difficult at times. Many of us are senior residents and have been here for many years. It would be a shame to be forced to sell our homes and move because the State made traffic and plowing conditions even worse than they are now.

Jeanne McAuley
Lynn, MA

[Email response from Michael Clark](#)

Hi Ms. McAuley,

Thank you for your comments. Enforcement of vehicular misbehavior, whether driving in the breakdown lane or in a future bike lane, would continue to be the responsibility of each community.

Thanks,
Michael

[Follow-up email to Michael Clark on October 7, 2016](#)

Thank you for your response. I can see that enforcement will still be an issue. One other thought, will cars be able to move into the bicycle lane to allow ambulances to pass. There will be increased ambulance traffic (we are already seeing it) with the consolidation of inpatient services at Salem Hospital in the next 3 years. Now, the cars are able to move over to let the ambulances pass, but, depending on the type of buffering, cars will need to be able to move over in the future. I hope the buffering style chosen will not be obtrusive such as the standing posts. This will make a bad visual impact to the residences in this area potentially affecting the curb appeal and lowering property values.

Jeanne McAuley

[Email response from Michael Clark](#)

Hi Ms. McAuley, thank you for your input. The specifics of the bicycle lane design, including apportionment of lane space and types of buffering, would be explored more in depth and finalized during the design phase of a project.

Thanks,
Michael

Comment #4

[Email sent to Michael Clark on October 5, 2016](#)

Hi Michael - I didn't see any cost estimates for the recommendations. Did I miss them?

--

Thomas Grillo
The Daily Item

[Email response from Michael Clark](#)

Hi Thomas,

They are at the end of Chapter 6-D, or p. 198 of the overall study.

Slide 27 of part 4 of the 9/13 presentation also details costs, in a little more detail than in the report. These costs are approximate and would become more defined as components of the study are advanced through the design stage.

Thanks,
Michael

Comment #5

Email sent to Michael Clark on October 5, 2016

Mr. Clark,

I hope you are well. Attached you will find a joint response to the Route 107 Project written by MassBike, Livable Streets and WalkBoston. We trust you will give this matter due consideration.

I have also mailed a hard copy to many of those copied on this note.

We would welcome a chance to discuss this with you. We feel this is a once-in-a-50-year opportunity to create a safe corridor where all residents, regardless of their mode of transportation, are provided safe passage.

Regards,

Richard Fries
Executive Director
MassBike

Email response from Michael Clark

Hi Mr. Fries,

Thank you for the thoughts and comments expressed in the letter from MassBike, the LivableStreets Alliance, and WalkBoston regarding multimodal improvements detailed in the Route 107 Corridor Study draft Final Report. McMahon Associates reviewed your comments and have prepared a response below. The roadway concepts developed as part of this study aim to encompass the study's goals, objectives, and evaluation criteria while illustrating the direction provided by the Working Group. Opportunities to address design components of the corridor above and beyond the scope of this planning study, or to adjust any improvement concepts recommended in the report, will be provided in the design process of a future project.

Thanks,
Michael

Comment 1: Redesign the corridor with an awareness of Bicycle Level of Traffic Stress.

Thank you for introducing the much-needed concept of Level of Traffic Stress (LTS) to the general public. We believe that in addition to LTS, every project should contain explicit reference to "design users and conditions," and that those users should include children, the elderly, and people with disabilities who use bicycles as a mobility aide, and that those users should be able to safely navigate the system at all times of day and in all weather conditions. Every portion of the project should be explained in terms of how it meets the needs of these users, and project teams should design a facility which meets their needs before addressing automotive LOS. If additional funds are needed to maintain automotive LOS after meeting the needs of the area's most vulnerable design users, then that extra cost should be attributed to the automotive portion of the

project, not the portion of the project which supports the vulnerable (bike lanes, sidewalks, etc.).

Response: **Noted.**

Comment 2: Reduce lane widths from 11 feet to 10 feet

MassDOT is proposing 11-foot travel lanes throughout the corridor in order to accommodate truck traffic. However, 10-foot lanes are used successfully on roadways throughout the Commonwealth which have high volumes of truck traffic. One example is Binney Street in Cambridge, which has 10-foot lanes next to a bike lane. Binney Street is the hazmat detour for the Central Artery. Indeed, if that route can have 10-foot lanes without incident, so can 107. Ten-foot lanes will reduce vehicle speeds while allowing wider sidewalks, bike lanes, or buffers. The combination of slower vehicle speeds and more space for pedestrians and cyclists will improve safety for all road users.

Response: **For the planning concept of Route 107, eleven foot lanes were selected given the prevailing characteristics of the roadway, while still recognizing the opportunity to reduce current lane widths from twelve feet. Given Route 107's status as an urban major arterial and the presence of truck traffic along the roadway it was determined that eleven foot lanes were most appropriate for the corridor at this time. MassDOT's Project Development and Design Guide, particularly Chapter 5.3.3.3, recommends travel lanes between eleven and twelve feet in width for roadways with higher design speeds (45 miles per hour or more), higher traffic volumes (2,000 or more vehicles per day), or higher truck and bus activity (greater than 30 per hour). The last two conditions are met along this corridor. When the project moves into design, ten foot lanes can be considered within the corridor where appropriate. A Design Exception Report would be required to allow for ten foot lanes on a state highway, which is traditionally taken on in the design phase.**

Comment 3: Eliminate landscaped medians throughout the corridor.

Medians, like wide travel lanes, encourage speeding and reduce the space at the edge of the roadway that can be used to make safety improvements for people who walk and bike, such as wider sidewalks and separated bike lanes. Medians also reduce "friction" from oncoming traffic, which while at first glance seems to be a benefit to safety since it limits left turns, in reality often reduces safety because it makes drivers feel that they can drive much faster than they should. When plantings or trees are provided along a street, as they often should be, they are much more useful at the sides of the street rather than in the middle. Not only are trees more likely to survive and thrive there, they are much better incorporated into sidewalks or bike lane buffers. Space in the middle of the street is essentially "dead", but space on the sides can be used by people.

Response: **During the public outreach process, roadway cross-sections with and without medians were considered by the Working Group. The Working Group formed a consensus in favor of maintaining medians along the corridor where they currently exist. Planted medians were proposed instead of the guardrail divided medians that exist today in an effort to improve the aesthetics and to change the look and feel of the corridor from a "freeway" type design to a "boulevard" type design. The proposed medians are at least eight feet wide which can accommodate tree growth.**

Comment 4: Build bike lanes with physical barriers and protected intersections to protect cyclists from traffic.

Striped bicycle lanes and sharrows are helpful for legitimizing the presence of cyclists on the roadway and for alerting motorists to their presence, but painted lines on the roadway only have a modest impact on increasing safety and increasing bicycle ridership. In urban areas, vehicles illegally park in bike lanes, forcing cyclists to swerve into traffic. Paint-only bike lanes often also place cyclists in the door zone of parked cars. Sharrows encourage cyclists to ride in the center of the lane, but their presence is often not welcomed or effective on busy roadways where vehicle speeds are significantly higher than biking speeds. We therefore urge MassDOT to:

- Convert the proposed standard striped bike lanes into physically separated bike lanes, with a physical barrier and/or parking lane between the bike lane and travel lanes.
- Design the intersections using the protected intersection design guidance in the MassDOT Separated Bike Lane Design Guide. In particular, this type of design would allow for safer left turns by bicyclists and would reduce the right hook risk from vehicles turning right across the path of bicyclists.
- Avoid the use of sharrows on any roadway in this project scope where the posted speed limit is above 25 mph.

Response: The locations with buffered bike lanes are intended to have physical protection. The report text was not clear on this matter. The physical protection is shown in the roadway cross-sections but was not explained in the text of the report. The Final Report will be revised accordingly. Sharrows are only proposed for a short distance at Willson Street southbound where there is an option to provide bicycle facilities off-street within the school property, potentially freeing up space for a dedicated bicycle lane. Only the Lynn section of the corridor has parking adjacent to bike lanes. Multiple cross-sections for the Lynn corridor were presented to the Working Group, including options that provide buffers. The Working Group expressed concerns about wholesale elimination of parking in this portion of the corridor and opted to maintain parking on both sides of the roadway. At the intersections, bicycle boxes and two-stage queue boxes are proposed to help cyclists compete turning maneuvers.

Defining the physical separation, and adding protected intersections or additional widths to bike facilities during design can be considered in conjunction with right-of-way constraints, truck turning radii, maintenance, and funding.

Comment 5: Commit to not reducing sidewalk widths in any part of the project

In the Northern Corridor segment, the proposed design reduces the sidewalks from 9' (5' with a 4' planting strip) to 7' with no planting strip. This planting strip acts as a buffer between pedestrians and traffic and also provides a place for plantings and trees outside of the walking path of pedestrians. Losing this buffer would degrade the pedestrian experience.

Response: The pedestrian space in the northern section of the corridor was reduced in order to include bicycle facilities in the segment. The bicycle lane will provide some buffer from the roadway. Lane widths can be reconsidered during the design phase, and if reduced, then the additional space may be available for sidewalk buffers, wider sidewalks, or increased widths on the bike facilities.

Comment 6: Include bike lanes on the portions of intersecting streets within the project scope.

The goals for the intersecting streets should be to provide proper accommodation for bicyclists, minimize the length of the crosswalks and to encourage drivers to drive safely and slowly. Sharrows may be an acceptable solution where the posted speed limit and design speed are at or below 25 mph, but are not appropriate for any portion of Route 107 itself.

Response: **The roadway concepts along Route 107 do not preclude the addition of bicycle facilities on side streets along the corridor. However, it is beyond the scope of project to examine bicycle facilities on these side streets.**

Comment 7: **Provide safe and convenient signal timing for pedestrians and bicyclists.**

Where walk signals are concurrent to a green traffic phase, there should be a 5-second leading pedestrian interval, and the walk signals should come on without requiring pedestrians to press a button. Where there is an exclusive pedestrian phase, No Turn on Red should be posted at all approaches. The addition of bicycle signal phases (with separate bicycle signal heads) should be considered where special movements are needed for bicycles, where significant car/bike conflicts are expected to occur, or where it may be desirable to include a leading bicycle interval.

Response: **Signal timings for pedestrians and bicyclists are an important component to a multi-modal corridor and would be developed during the design phase of the project.**

Comment 8: **Identify opportunities for transit signal priority and queue-jump lanes in the corridor.**

Consider connections to a future south Salem commuter rail stop when siting bus stops and analyzing bus-related improvements. Providing fast, frequent, and reliable bus service will be a key component of making this a livable corridor.

Response: **Proposed improvements to the corridor for transit include bus stop consolidations, sidewalk and bicycle improvements, and intersection operations improvements. Based on current bus frequency, dedicating space at intersections for queue jumps at the expense of bicycle, pedestrian, and vehicle space, at this time, does not appear to be desirable. Signal priority measures and commuter rail connections are decisions to be made in conjunction with the MBTA. Coordination with the MBTA will continue during the design of the project to ensure a corridor design that can accommodate the provided transit.**

Comment 9: **Clarify further the design of the shared street at Boston Street.**

A shared street is typically one where there are no curbs, no lanes, and no signals. The surface of the street is consistent from edge to edge, usually pavers or some other textured material. People on foot, on bikes and in motor vehicles all share the street and negotiate with each other, traveling slowly and safely. Bollards are sometimes provided to prevent cars from driving into buildings. At intersections, a roundabout can be provided (but does not have to be.) However, such features are not shown in the presentation. What appears to be shown is simply bike lanes that end in some sort of pavers, along with a standard roadway intersection design. We find this design to be confusing and hope that MassDOT will clarify it further, ideally into something similar to what we have just described.

Response: **The concept developed in this study shares some characteristics with what is described above and differs in other areas. The “shared” portion of the roadway would only occur within the noted paver sections adjacent to the building edges to provide space for pedestrian, bicyclists, and motorists to access**

buildings and complete turning movements. Cross Street in the North End of Boston provides a conceptual example and is shown in Figure 1.

The primary idea behind the “shared street” concept is create new open space and a plaza-style environment created by realignment of the intersection. Due to the driveways at the intersection a “shared street” would allow for continued access to businesses at this intersection. Entry and egress through the driveways by motorists would need to be made obvious by markings in the pavement of the road or within the different material or texture of the new space itself, signage, and orientation of the space itself. For instance, cut-through movements by motorists traveling northbound along Highland Street to avoid the traffic signal would need to be made unviable, which can be achieved through visual cues and fixed objects in the shared space. The orientation of the space itself would be determined in the design phase.

A roundabout was explored at this space and found to not be feasible because there would be right-of-way impacts and the close proximity of the fire station would present safety and operational challenges.



LivableStreets

Rethinking urban transportation



Michael Clark
Route 107 Corridor Study Project Manager
MassDOT Office of Planning
10 Park Plaza, Suite 4160
Boston, MA 02116

Dear Mr. Clark, et al,

Thank you for considering people who walk and bicycle in MassDOT's proposed redesign of the Route 107 corridor between Salem and Lynn. The redesign will be a dramatic improvement over current conditions, providing additional safety for existing users while encouraging additional walking and biking trips in the corridor.

The bike, pedestrian, and transit components of this corridor are a part of the long-term solution to transform 107 into an appealing boulevard which will support developments and redevelopments which do not solely depend on car traffic for success. For decades, this road has suffered from auto-oriented highway planning which created conditions where only auto-oriented retail and residential developments could thrive. Automobile dependency, in turn, created the demand for wider roads and squeezed out almost all street life. With this redesign, MassDOT has the opportunity to balance transit, walking, and biking with automobiles, thereby making the Route 107 corridor more connected and more livable for everyone, and changing the context in which future redevelopments will occur.

We applaud MassDOT for providing continuous, often generous, sidewalks along with convenient crossings at all four legs of each intersection for pedestrians, along with continuous bike lanes, with additional striped buffers from traffic in locations where automobile speeds are expected to be higher. This design, if built today, would certainly be an improvement over what Route 107 currently has.

While the MassDOT plan is an important step forward, we believe that a "bolder" design which reduces pedestrian and bicyclist stress even further will have more universal appeal and broader public support as this project continues to develop. To that end, we have outlined a number of recommendations for improving upon the proposed design.

General recommendations:

1) Redesign the corridor with an awareness of Bicycle Level of Traffic Stress.

Thank you for introducing the much-needed concept of Level of Traffic Stress (LTS) to the general public. We believe that in addition to LTS, every project should contain explicit reference to "design users and conditions," and that those users should include children, the elderly, and people with disabilities who use bicycles as a mobility aide, and that those users should be able to safely navigate the system at all times of day and in all weather conditions. Every portion of the project should be explained in terms of how it meets the needs of these users, and project teams should design a facility which meets their needs before addressing automotive LOS. If additional funds are needed to maintain automotive LOS after meeting the needs of the area's most vulnerable design users, then that extra cost should be attributed to the automotive portion of the project, not the portion of the project which supports the vulnerable (bike lanes, sidewalks, etc.).

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welcomed or effective on busy roadways where vehicle speeds are significantly higher than biking speeds. We therefore urge MassDOT to:

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- Avoid the use of sharrows on any roadway in this project scope where the posted speed limit is above 25 mph.

5) Commit to not reducing sidewalk widths in any part of the project

In the Northern Corridor segment, the proposed design reduces the sidewalks from 9' (5' with a 4' planting strip) to 7' with no planting strip. This planting strip acts as a buffer between pedestrians and traffic and also provides a place for plantings and trees outside of the walking path of pedestrians. Losing this buffer would degrade the pedestrian experience.

6) Include bike lanes on the portions of intersecting streets within the project scope.

The goals for the intersecting streets should be to provide proper accommodation for bicyclists, minimize the length of the crosswalks and to encourage drivers to drive safely and slowly. Sharrows may be an acceptable solution where the posted speed limit and design speed are at or below 25 mph, but are not appropriate for any portion of Route 107 itself.

7) Provide safe and convenient signal timing for pedestrians and bicyclists.

Where walk signals are concurrent to a green traffic phase, there should be a 5-second leading pedestrian interval, and the walk signals should come on without requiring pedestrians to press a button. Where there is an exclusive pedestrian phase, No Turn on Red should be posted at all approaches. The addition of bicycle signal phases (with separate bicycle signal heads) should be considered where special movements are needed for bicycles, where significant car/bike conflicts are expected to occur, or where it may be desirable to include a leading bicycle interval.

8) Identify opportunities for transit signal priority and queue-jump lanes in the corridor. Consider connections to a future south Salem commuter rail stop when siting bus stops and analyzing bus-related improvements.

Providing fast, frequent, and reliable bus service will be a key component of making this a livable corridor.

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are sometimes provided to prevent cars from driving into buildings. At intersections, a roundabout can be provided (but does not have to be.) However, such features are not shown in the presentation. What appears to be shown is simply bike lanes that end in some sort of pavers, along with a standard roadway intersection design. We find this design to be confusing and hope that MassDOT will clarify it further, ideally into something similar to what we have just described.

Possible Cross-Sections:

We have come up with our own proposed cross-sections for the 3 segments of the project that incorporate the general principles we have outlined above. For all of these, intersections would look different, of course, but we are confident that there is room for left turn lanes and physically separated bike lanes.

Lynn Corridor Segment

We have removed on-street parking from the north side of the street in order to make room for the physically separated bike lanes.



Retail Corridor Segment

We removed the median and we were able to widen the sidewalks, add wide planting strips with trees between the sidewalks and physically separated bike lanes on both sides of the street.



Northern Corridor Segment

We removed the center dual left turn lane, in order to provide physically separated bike lanes, wider sidewalks, and trees.



Thank you again for the public outreach and collaborative process you have created for this project. We look forward to working with MassDOT and local leaders to provide input as this project develops further. Please feel free to contact us at any time for further clarification on our feedback and suggestions.

Sincerely,

Richard Fries
Executive Director, MassBike

Charlie Denison
Advocacy Committee Chair, LivableStreets Alliance

Wendy Landman
Executive Director, WalkBoston

CC: Route 107 Working Group

Comment #6

[Email sent to Michael Clark on October 5, 2016](#)

This email is regarding feedback on the Rt 107 Study.

1. The Zig Zag. The resolution presented in this document shifts the traffic from Marlboro-Highland-Swampscott to Marlboro-Traders-First-Swampscott. This shift places an undue stress on a neighborhood. Another solution to utilize the existing traffic light at Marlboro and McGrath Park. Setting this light to cue traffic into groupings that will not exceed the left turn from Highland to Swampscott. Coordinating these lights will better allow for traffic flow on Highland. I have witnessed this cuing when McGrath light triggers more frequently when the park is in use; the amount of cars through to Highland Ave are fewer in increment and does not congest Highland Ave.

2. Consider maintaining the 4 lanes (two in each direction) from Valley St. north to Essex St. The plan calls for one lane in each direction and a center turn lane. With 4 lanes now, traffic backs up in this area, a 50% lane reduction lane in each direction will impact traffic and not be able to accommodate the current vehicle usage.

Artie Sullivan
Schooner Group, Inc.

[Email response from Michael Clark](#)

Hi Mr. Sullivan,

Thank you for your comments.

-Michael

Comment #7

Email sent to Michael Clark on October 6, 2016

Hello Mr. Clark,

Great job with the Salem RT 107 report. You have presented a logical and workable solution. I have lived in Salem for almost 66 years and have had many related experiences, this small city is the world's worst when it comes to NIMBY.

Examples from just the last few years, Senior center on Bridge Street still not built, F.W. Webb use and remediation of a hazardous site rejected by the neighbors 2 times, Salem Station Power plant replacement dragged through the courts over and over.

The list is endless, they would rather sit in traffic forever than open their minds to other choices. The only resolution these Luddites will accept is the removal of the bridge from Lynn as a traffic solution.

I am sure you were aware going into this that nothing you proposed would ever be accepted.

But thanks for trying.

Regards,
Mark Carr

Email response from Michael Clark

Hi Mr. Carr,

Thank you for your comments.

-Michael

Comment #8

Letter sent to Michael Clark dated on October 6, 2016

See next page for letter from Martin Perkins.

REF. ROUTE 107 TRAFFIC PROBLEM IN SALEM, NEWS
ON OCT. 6, 2016

MR. CHARK

BEING A SALEM RESIDENT, I'VE DRIVEN HIGHLAND AVE. TO AND FROM SALEM FOR OVER 60 YEARS AND I AM FAMILIAR WITH THE LAINE HOPPING AND CONGESTION THAT OCCURS IN BOTH DIRECTIONS AT THE INTERSECTIONS OF BOTH SWAMPSCOTT RD AND MARLBOROUGH RD AT HIGHLAND AVE.

TO ELIMINATE (OR REDUCE) THIS SITUATION, I AM RECOMMENDING THE FOLLOWING:

1. ALLOW NO RIGHT TURN AT JUNCTION OF SWAMPSCOTT RD AND HIGHLAND AVE, FOR SWAMPSCOTT TRAFFIC.
2. ADD "TO PEABODY AND SALEM" ARROW SIGN AT JUNCTION OF FIRST ST. AND SWAMPSCOTT RD.
3. ADD "TO PEABODY AND SALEM" ARROW SIGN AT INTERSECTION OF TRADERS WAY AND FIRST ST. ALSO ARROW SIGN TO "DOWNTOWN SALEM" STRAIGHT DOWN FIRST ST.
4. ADD "NO LEFT TURN" SIGN ON HIGHLAND AVE AT JUNCTION WITH SWAMPSCOTT RD.
5. ADD ARROW SIGN FOR "SWAMPSCOTT AND MARBLEHEAD" AT MARLBOROUGH RD AND HIGHLAND AVE INTERSECTION WITH STRAIGHT ACROSS HIGHLAND AVE. ARROW
6. ADD LEFT TURN SIGN ON HIGHLAND AVE. AT TRADERS WAY AND MARLBOROUGH INTERSECTION FOR "SWAMPSCOTT AND MARBLEHEAD" FOR TRAFFIC COMING FROM SALEM.
7. ADD RIGHT TURN ARROW SIGN AT INTERSECTION OF TRADERS WAY AND FIRST ST. FOR SWAMPSCOTT AND MARBLE HEAD TRAFFIC

8. ARROW SIGN TO SWAMPSCOTT AND MARBLEHEAD AT INTERSECTION OF FIRST STREET AND SWAMPSCOTT ROAD.

THESE CHANGES IN TRAFFIC FLOW WOULD REDUCE ALL LANE HOPPING AND CONGESTION THAT EXISTS IN THIS AREA NOW.

AS FOR ZIG-ZAGS, THE ONLY TRAFFIC TO ZIG-ZAG WOULD BE SALEM TO SWAMPSCOTT-MARBLEHEAD VIA SWAMPSCOTT ROAD.

AMOUNT OF TURNS -	CURRENT	NEW
PEABODY TO SWAMPSCOTT	2	2
SWAMPSCOTT TO PEABODY	2	2
LYNN TO PEABODY	1	1
LYNN TO SWAMPSCOTT	1	1
SALEM TO SWAMPSCOTT	1	3

SINCE THE SALEM TO SWAMPSCOTT TRAFFIC ON HIGHLAND AVENUE IS MINIMAL, I THINK THE OVERALL CHANGE WOULD BE BENEFICIAL. MINOR CHANGES TO EXISTING TRAFFIC LIGHTS AND CYCLE TIMES TO EXPEDITE TRAFFIC FLOW MIGHT HELP.

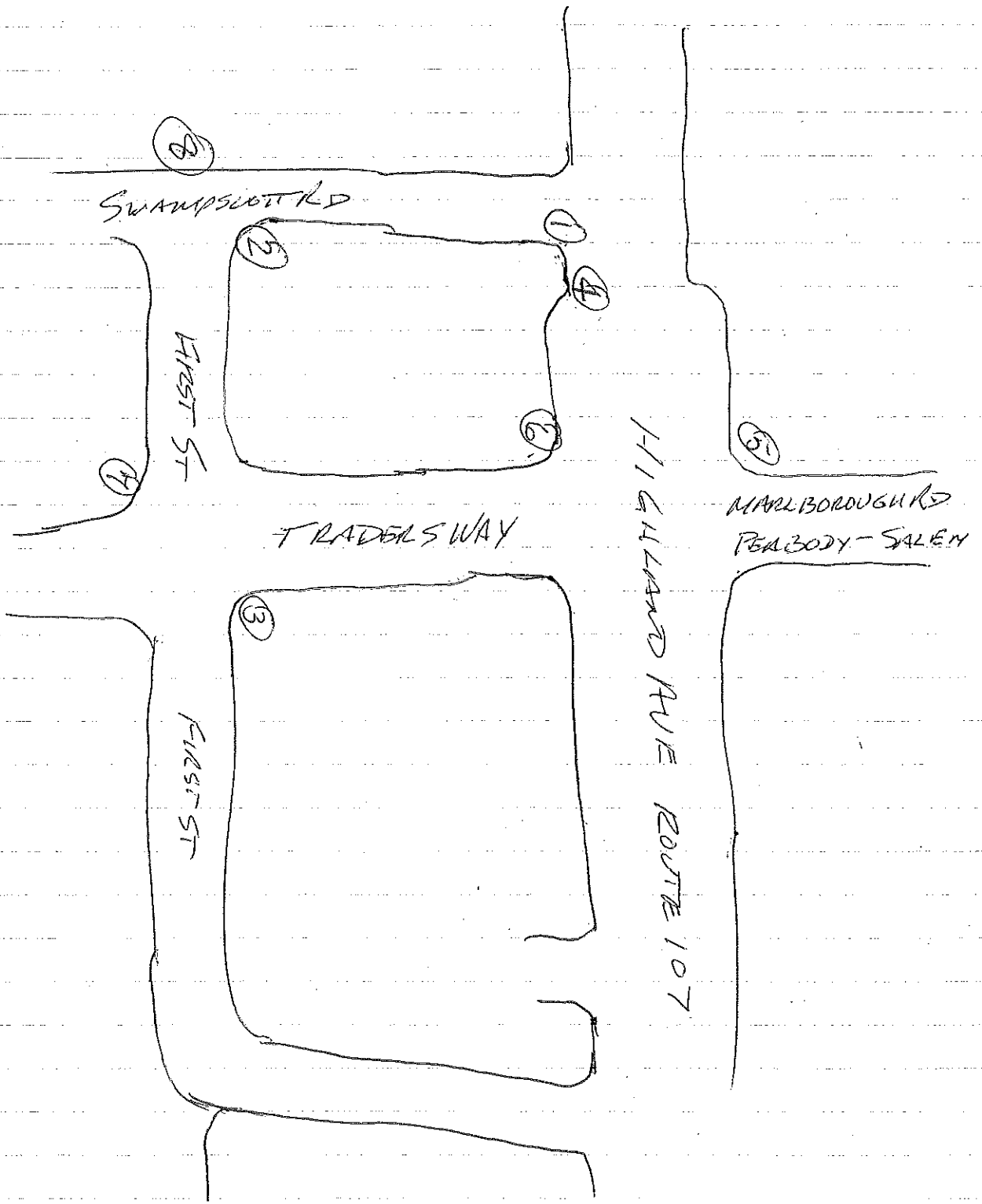
ALL THIS COULD BE DONE ON A TEMPORARY BASIS WITH MINIMAL COST OF SIGNS ONLY AND PROPER ANNOUNCEMENTS IN SALEM NEWS.

Martin P. Perkins
MEADOW ST
SALEM, MA 01970

cc:

MAYOR DRISCOLL

TRAFFIC CONTROL - SALEM POLICE.



Comment #9

Email sent to Michael Clark on October 6, 2016

My Initial comment, based on what I saw in the newspaper, is about the zig-zag suggestion. I'm not sure how much that would help. One of the biggest problems I see is the same intersection but it involves vehicles making a left turn in to Marlborough road heading to Peabody. Consistently, in the 7 to 9 am time frame, vehicles are backed-up to Swampscott Road, causing vehicles heading to Salem to be forced to one lane due to the back-up. The same situation may exist in the evening, but I don't know. I'm not in the area.

I look forward to looking over the complete report. Again thank you for sending it to me.

William Reilly
Lynn, MA

Email response from Michael Clark

Hi Mr. Reilly,

Thank you for your comment. Please let us know if you have anything to add upon reviewing the report.

Thanks,
Michael

Comment #10

[Email sent to Michael Clark on October 6, 2016](#)

Has anyone considered using a round-about in the plans. They work great to slow traffic but keep it moving. The zig-zag is absurd, many people already use these streets to cut over 107. Adding more congestion to them is not the answer.

Arthur Marengi

[Email response from Michael Clark](#)

Hi Mr. Marengi,

Roundabouts were considered at the intersections of Route 107 at Swampscott Road, Marlborough Road, and Boston Street. In each case, the layout of the roundabout required right-of-way acquisition, resulting in consequential impacts. In the case of Route 107/Marlborough Road, poor levels of service were projected for the two lane roundabout, in addition to the right of way impacts.

Consideration of roundabouts was included in meeting presentations and documented in the project report.

Thanks,
Michael

Comment #11

Letter mailed to Michael Clark dated on October 7, 2016

See letter from Salem City Councilor Stephen Lovely on next page.



City of Salem, Massachusetts

Office of the City Council City Hall

COUNCILLORS-AT-LARGE

JOSH H. TURIEL
PRESIDENT

CHERYL A. LAPOINTE
CITY CLERK

ADO 9:16 PM 2/18
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HEATHER E. FAMICO
STEPHEN P. LOVELY
DAVID W. EPPLEY
JOSH H. TURIEL
BETH GERARD
STEPHEN G. DIBBLE

Office of Transportation Planning
Attn: Michael Clark / Route 107 Corridor Study
Massachusetts Department of Transportation
10 Park Plaza, Suite #4150
Boston, MA 02116

October 7, 2016


Dear Mr. Clark,

As the Ward 3 city Councillor and member of the Route 107 Working Group, I write to express my opposition to specific traffic mitigation plans outlined in the Route 107 Corridor Study Report published on October 5, 2016.

The goals of the Route 107 Corridor Study seek to improve mobility, connectivity, and safety for all transportation modes and users along the corridor, support local economic development, and improve the quality of life for residents and businesses in the corridor. The proposed plans to redirect and shift traffic from Marlborough Road and Swampscott Road onto Traders Way and First Street, the so-called "Zig-Zag" do not meet the goals of the Corridor Study, and are not practical to the residents and businesses located in that area of Salem. Traders Way and First Street would be unable to accommodate the additional traffic congestion, and frankly this change would instead relocate the congestion from one location to another.

During the public review process, many residents of the Salem cited extremely strong opposition to the suggested study alternatives for the intersection of Marlborough Road and Swampscott Road. I oppose these proposed recommendations as they will negatively impact the quality of life for many residents and businesses along Traders Way and First Street. I respectfully request that further research be done to amend this proposal and I look forward to working with you towards that goal.

Sincerely,


City Councillor Stephen P lovely

Comment #12

[Email sent to Michael Clark on October 9, 2016](#)

One thing to fix would be to paint the island with the traffic light post. The curb and top surface should all be painted with a white reflective material which is easy to see. Turning onto Swampscott rd from 107, we have to pause to be sure not to hit the curb. Take a drive and think about it.

Steven Petersen

[Email response from Michael Clark](#)

Hi Mr. Petersen,

Thank you for your comments. This would likely be an item that could be considered in the design phase of a project.

-Michael

[Follow-up email to Michael Clark on October 11, 2016](#)

What about a light at golds gym intersection? Worth it?

[Email response from Michael Clark](#)

Hi Mr. Petersen,

A new traffic signal is suggested at the intersection of Swampscott Road and First Avenue to accommodate a left turn lane from First Street and both an approach lane and receiving lane on the Swampscott Road northbound approach. This was found to improve traffic operations. A rendering of a new intersection here can be found on [p. 175 in Chapter 6C of the report](#).

Thanks,
Michael

Comment #13

[Email sent to Michael Clark on October 7, 2016](#)

FYI. Letter published a few days later in the Salem News. The question remains. Why do the traffic lights in this state permit a left turn signal that only allows a very few cars to turn? The impact on traffic flow is tremendous. Isn't it worth analyzing?

I would appreciate your comments.

Sincerely, Eleanor Chayet

Sent: 9/14/2016 1:27:22 P.M. Eastern Daylight Time

Subj: Locals Blast Highland Ave Traffic Suggestions

To Letters to the Editor: I have read the article regarding the proposals to ease traffic congestion on Highland Ave in Salem, Ma. For a long time I have observed the congestion on Highland Ave. where drivers are waiting to turn left onto Marlborough Rd. The signal allows at most, 5-6 cars to turn left at that light. Going in the opposite direction the traffic left turn signal allows many more cars to turn left onto Swampscott Rd. I think it would be worthwhile to make that adjustment to see if it would help with the congestion. The plan to divert the traffic coming from Marlborough rd. onto Trader's Way and First St. through the already congested mall and past a neighborhood would be a plan that would represent many headaches in my opinion. Who knows it could save 5.3 million dollars.

Eleanor Chayet

Salem, Ma.

[Email response from Michael Clark](#)

Hi Ms. Chayet,

Thank you for comments. A series of potential improvements were considered and analyzed relative to the zig zag movements along Route 107. Early on, we analyzed signal improvements including signal phasing and timing optimization. The results showed a minor improvement to the intersection operations. However, particularly at the Route 107/ Marlborough Road intersection, the signal modifications were not enough to remedy the failing levels of service and long delays at these intersections. As such, higher-level improvements were then considered.

Thanks,

Michael

Comment #14

Email sent to Michael Clark on October 18, 2016

I would like to comment on the RT 107 corridor study, specifically the proposal to reroute Marlborough/Swampscott road traffic through 1st Street/Traders Way. I live in the condo community along 1st street and my home is close to the outside of the community along 1st street. The current traffic along 1st is almost unbearable and there is also considerable additional noise from the traffic along Swampscott road especially from heavy trucks coming from the Aggregate business on Swampscott road. These heavy trucks start rolling out very early in the morning (I hear them @ 5 am!). Note: Ch2A pg 9 of your study does not list the fact that 1st street has a heavy truck restriction; I assume this would remain? According to the study, the traffic along 1st street will greatly increase. This is unfair to this condo community and will have a major impact on property values. Keep in mind that a large part of this community are older adults, contribute greatly to the tax income of Salem, and utilize very little of town services (I think there is 1 child that utilizes the school system and the police patrols in this community are essentially non-existent). Nothing in this study addressed the impact to this large, contributing community. Currently, I almost never travel outside of this community during rush hour so on the weekends I feel trapped. I have adjusted my work hours (I travel down Swampscott road to get to work) to avoid rush hour and shop at Market Basket @ 6:30 am to avoid this congestion. I didn't realize when I moved there 3 years ago how much traffic comes down 1st street – and now it could potentially increase greatly!!! I will be watching this project closely. Although not fiscally the best idea, I will plan to sell my home if this project looks like it is going to move forward- before the property values of the condo community decrease. Also, if for some reason I end up still living in this community after this is implemented, I would expect the police to increase their presence near/in this community- try to reduce the drag racing, speeding, etc. and reduce the traffic along Traders Way due to contractors picking up the illegal immigrants (large groups routinely congregate next to the grocery store, in front of the sign that says no loitering!). I will also pursue a real estate tax abatement due to a reduction in my property value.

Joan Bissett
Salem, MA

Email response from Michael Clark

Hi Ms. Bissett,

Thank you for your comments.

-Michael

Comment #15

[Email sent to Michael Clark on October 18, 2016](#)

To whom it may concern,

Please, please, please incorporate the revisions recommended by MassBike and its co-advocates for truly safe bike lands on Highland Ave.! In the past few months we have seen, in Cambridge, just how little protection marked lanes give to cyclists. This is the 21st century. We need to prioritize safety, and we need to prioritize transportation options beyond the individual automobile. When the streets are made safe for cyclists, people will get on their bicycles. Let's not wait to experience cyclist deaths in Salem before we start really creating safe corridors for cyclists.

Aviva Chomsky
Salem State University

[Email response from Michael Clark](#)

Hi Mr. Chomsky,

Thank you for your comments.

-Michael

Comment #16

Email sent to Michael Clark on October 19, 2016

Hi!

I just got done reading the MassBike/Livable Streets/ Walk Boston advocate recommendations for the Highland Avenue Route 107 redesign and I am loving their recommendations! Their ideas are wonderful and would greatly improve the safety for all walkers, cyclists and drivers in that area. The safety of all commuters should be front and center, especially those that walk or ride that route daily, and the many more that would commute if these recommendations were put into place. Please take the initiative to greatly improve the safety of all commuters now, while we have the chance. So many of our roadways are built just for machines, and so many more people would benefit from a redesign that would include the safety measures they are recommending. The traffic in that corridor is immense and dangerous, a safe, healthy alternative is needed now, so that we can get more people walking and riding, enjoying the fresh air and sunshine, while at the same time re-leaving the traffic congestion. I ask again that you please take into consideration their recommendations. We have the opportunity in front of us right now, to make the changes that would benefit everyone!

Thank you for taking the time to read this!
LeeAnn O'Neil

Email response from Michael Clark

Hi Ms. O'Neil,

Thank you for your comments.

-Michael

Comment #17

Email sent to Michael Clark on October 22, 2016

Dear Senator Lovely, Representative Tucker, and Mr. Clark,

Thank you for your efforts so far to redesign Route 107 less like a highway and more fitting for our community. Your efforts will enhance safe mobility for the length of this corridor. That said, I think MassDOT can do much better. The letter co-authored by Walk Boston, Livable Streets and MassBike is full of excellent recommendations to further improve this route and I support every one of their suggestions. The letter is available here: http://www.massbike.org/route_107

Since I live in Medford you might wonder why I'm interested in this project. I just sold my car and I won't be replacing it. For the first time in 28 years I don't own a car. I commute year round from Medford to Boston by bicycle: rain or shine, cold or hot. My commute is just a little less than the distance from my home to Lynn. It's well within my abilities and interest to use this corridor to cycle to Salem. I have several friends in Salem, many who bike, and one who regularly bikes to Boston - I want safe roads for me and my friends to use.

Please do all you can to incorporate these suggestions to make Highland Avenue a balanced complete street that accommodates driving, walking and cycling.

Thank you.

Matthew Carty
Medford MA

Email response from Michael Clark

Hi Mr. Carty,

Thank you for your comments.

-Michael

Comment #18

Email sent to Michael Clark on October 25, 2016

Good evening Michael,

I am attaching my comments and suggestions to the Route 107 Corridor Study - Final Draft. Please take the time to read my attachment and i would appreciate your hearing your thoughts and comments. Thank you,

Ken Fine
Salem, MA

Email response from Michael Clark

Hi Mr. Fine,

Thank you for your comments. I asked our consultant to review your suggestions and they pointed to the lane barriers, as proposed in the report, serving only to restrict the zig-zag movement (Swampscott to Marlborough and vice-versa) but not motorists accessing these streets from further north or south along Route 107. That is, restricting any type of left turn from Route 107 onto Swampscott or Marlborough would force all motorists accessing these streets to use First Street and Traders Way instead of just those coming from Swampscott or Marlborough under the proposed lane barriers alternative. This was determined to induce an undue burden on First Street and Traders Way during hours of restriction.

The barriers themselves are seen as an enforcement mechanism to prevent the zig-zag movement. A different placement or alignment of the barriers, as you suggest, can be considered in the design phase of the project should this component be advanced.

Additionally, further review and analysis of the intersection at Swampscott Road and First Street would be carried out in the design phase to understand the most efficient way to signalize this intersection, again should this component be advanced.

Thanks,
Michael

Highland Ave at Swampscott Rd/and Highland Ave at Marlborough Rd/Traders Way (Zig Zag)

First I want to say that I think your people did a great job in adding the bike lanes and including many improvements to the roadway. My only comments are specifically regarding the ZigZag.

Currently, people have a choice whether to come up Malboro Rd and take a right on Highland Ave and make a left on to Swampscott Rd .. or.. go straight along Traders Way and turn right on First St. Even if all you did was add a light at First St and Swampscott Rd, more people would choose to go that way. Currently the cars often back up to Whalers Lane and even to Traders Lane and the wait time is unbearable.

I would also say that 70% of the cars take the first option and 30% take the second. I don't think you would recommend 100% of the cars take the first option so why would you send 100% of the cars thru the second option and down thru Traders Way and then on to First St.

So here is my proposal. Since the zigzag backup on Highland Ave both ways is only at **limited times of the day**, why are you restricting cars **24 hours a day**.

I would suggest you install the barriers on Highland Ave but just REMOVE the ones **IN the intersection**. Then post a sign on Marlboro Rd that says "No left turn to Swampscott Rd from 4 to 6 pm (or some restricted time) You could even prevent the light at Swampscott Rd from allowing a left turn arrow. This would allow traffic from Marlboro Rd to turn right into the barrier lane and make a left turn at non-restricted times (mornings, afternoons, evenings, late night, just not at the busiest times)

At Swampcott Rd and Highland Ave, do the same thing, install the barriers in the lane but REMOVE the barriers **IN the intersection**. Have a sign on Swampscott Rd saying "No left turn to Marlboro Rd from 4 to 6 pm (or some restricted time) You could even prevent the light at Highland Ave from allowing a left turn arrow. This would allow traffic from Highland to make a left turn to Marlboro Rd on non-restricted times (mornings, afternoons, evenings, late night, just not at the busiest times)

Also... at Swampscott Rd and First St. DO NOT bend the road to First St. Just put a right lane with a constant arrow. Traders Lane gets backed up now every morning, afternoon and evening and sending more cars there only backs it up more. And you would be re-routing all those huge trucks into the same road. As well as being impossible for cars to enter and exit the businesses on Traders Lane. For those cars that want to do the zig zag and go up Traders Lane, they can like they do now or they can also continue straight on **First St** and end up further down Highland Ave past the congestion.

I feel you might have listened to the many comments at the meetings, but you did not hear or apply any of the comments to the final draft. I hope you will read my proposal carefully and consider my suggests. If you find this does not work, then all you need to do is add the barriers back INTO the intersections and remove the restricted turn signs.

Thank you for your consideration,
Ken Fine
Salem, MA

Comment #19

Email sent to Michael Clark on October 28, 2016

Hello Mr. Clark,

I'm a cyclist who has ridden on 107 and found navigating it to be confusing and at times, unsafe. I support the recommendations outlined here by MassBike: http://www.massbike.org/route_107

Thanks,
Michele Smith

Email response from Michael Clark

Hi Ms. Smith,

Thank you for your comment.

-Michael

Comment #20

Email sent to Michael Clark on October 28, 2016

Hi Michael,

Thanks so much for your leadership and involvement in both this and other Salem projects.

Please accept this as my public comment in favor of multi-modal improvements on Route 107, and particularly, for improving on the proposed MassDOT plan by incorporating the comments submitted by MassBike, LivableStreets, and Walk Boston.

In addition to supporting the recommendations, I wanted to make a couple of suggestions regarding implementation and strategy:

- It would be very helpful if the engineer could provide data to the city of Salem such that we can create transportation demand management programs concurrent with roadway project development, so as to make certain bike-related improvements easier to achieve, both politically and technically. For example, if we wanted to put in a bike lane at the place where it is currently proposed that we drop it in favor of sharrows for a short distance, how many cars would we have to take off the road during the peak hour in order to maintain a LOS of C? Given that this is right next to the high school, it might be an achievable task, if the data is clearly presented to us in a way that all stakeholder groups can understand and act on.

- I can't emphasize enough the importance of incorporating the best possible version of these plans now, and not waiting until later in the design process. I have lost count of the number of times I've been involved in projects, only to be told "Great idea! But sorry, you're too late in the design process, you should try getting involved during the planning phase sometime!" MassDOT talks a big game about having an impact on climate change. But anything short of a fully protected (not just buffered) bike lane will not be enough to start a positive feedback loop between transportation choices and real estate development in this area, and won't have any meaningful impact on greenhouse gas emissions. The best ideas should be incorporated right now, and if people complain because they aren't sure of how the details related to bikes will impact them, you can tell them, rightfully, that those things can be worked out in the design phase. If you feel like it's not politically possible to do right now, you could always incorporate suggestions as "alternative concepts" in an appendix, and at least then have them on the record for future consideration.

Thanks again for considering all this.

Sincerely,
Eric Papetti
Salem, MA

Email response from Michael Clark

Hi Mr. Papetti,

Thank you for your comments.

-Michael

Comment #21

Email sent to Michael Clark on October 31, 2016

Hello Michael,

Aside from addressing the traffic congestion (particularly at the intersection from Swampscott Road to Marlborough Road), 107 desperately needs sidewalks. Some areas require pedestrians to actually walk on 107 (for e.g., corner of 107 and Old Village Road).

Thanks for your efforts in attempting to improve the many issues associated with this main thorough fare.

Regards,
John Stewart

Email response from Michael Clark

Hi Mr. Stewart,

Thank you for your comments.

-Michael

Comment #22

[Email sent to Michael Clark on October 31, 2016](#)

107 Highland Ave in Salem is designed to get cars/ trucks into and through Salem. It ignores and does nothing to encourage pedestrian and bicycle traffic and safety. There is considerable speeding on the road. The two lanes encourage this. I propose making it in Salem a one-way road all the way from Lynn to Essex St. The extra space can be used to widen pedestrian walkways and put in a bicycle lane with concrete barriers, one on each side of the road. Many more trees need to be planted. Pedestrian crosswalks should all be raised (speed bumps) increasing safety on the roadway. The speed limit should be 30 mph throughout! All your proposals and their expense will do only a little to improve the road quality. You are tinkering around the edges.

If people arrive in downtown Salem 5 minutes later, no big deal! A beautiful roadway, tree-lined, pedestrian and bike friendly IS A BIG DEAL !!!

Sincerely,
George Milowe MD
Salem, MA

[Email response from Michael Clark](#)

Hi Mr. Milowe,

Thank you for your comments.

-Michael

Comment #23

Email sent to Michael Clark on October 31, 2016

Good afternoon,

I have attached my comments regarding the Route 107 Corridor Study in addition to putting them in the body of this e-mail.

Thank you –

Route 107 Corridor Study Comments

Arguments for Installation of Shared Use path on Northern and Retail Sections of Highland Ave in lieu of bike lanes on either side of the street

Michael Williamson

Salem, MA

The proposed shared use path would be located on the east side of the street from Dalton Parkway to Hawthorn plaza (Target, Market Basket, & Shaws). The path would take a slight detour at Willson Road (not Willson street), run on the west side of Willson road (on city of Salem property) run into the High School/ Bowditch school property, and then slide back alongside Highland Ave.

The bike accommodations could then, somewhere at Hawthorn plaza, split back into two lanes on either side of the road.

A standard sidewalk would remain on the west side of the street for the duration of the shared use path.

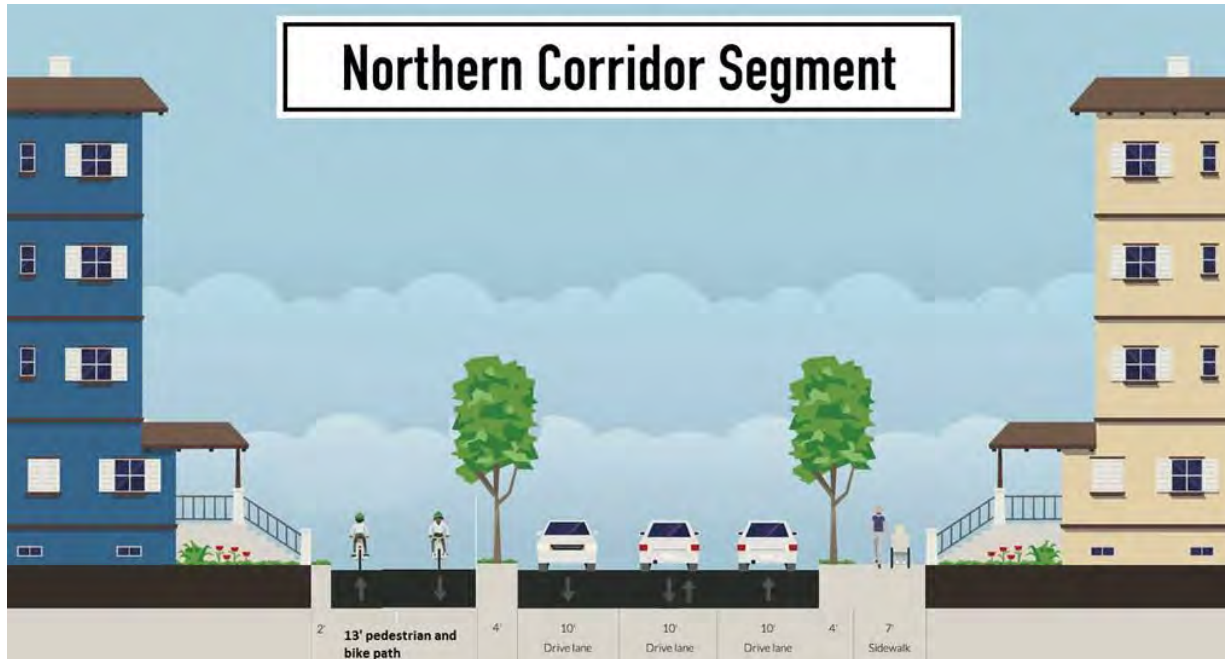
A planting strip will be placed between the path and the street.

The advantages to this arrangement are as follows;

- There are very few intersections and curb cuts along this stretch of road, which are typical negatives of a shared use path.
- The “target demographic” for this section of roadway in terms of bicycle and pedestrian usage are K-12 students, who will be much more likely to use a shared-use path than cycle on a major thoroughfare.
- Children and High school students will be more likely to use the path if they don’t have to cross the busy Highland Ave on the way to school. The only major street crossing will be at Willson Street, right at the entrance to the High school, which will be marked as such.
- Kids who bike to school unsupervised will simply not cross Highland Ave to bike on the correct side of the street and then cross back. They will (and do) bike on the east side of the road, regardless of which direction they are heading.
- Having one shared use path will allow for more pedestrian and bicycle traffic space since the buffer zones will be reduced.
- Since this stretch of roadway is wide enough for two lanes of auto traffic in each direction, the travel speed will be relatively high, regardless of the posted speed limit.
- The planting strip between the shared use path with actual plants in it (not just grass) at a level higher than the street will provide a much safer (both real and perceived) barrier than a striped buffer (even with poles) or a curb with minimal or no planting strip.
- The options for the northern section include a two-way turn lane, and a shared-use path, but not on the same option. The installation of a two-way turn lane is preferred by motorists, but the two-way turn lane does not preclude the installation of a shared-use path. A fourth option, Two Way, Left Turn Lane, AND SHARED USE PATH, should have been included, and in my opinion, the most favorable option.

- The section of road in question is a truck route. Having cyclists and trucks on the same stretch of asphalt is inherently unsafe, particularly school age cyclists.

(looking south toward Lynn)



In lieu of a shared use path, I strongly support completely separated bike lanes with a physical barrier for the 107 corridor.

Thank you – Michael Williamson

[Email response from Michael Clark](#)

Hi Mr. Williamson,

Thank you for your comments.

-Michael

Comment #24

Email sent to Michael Clark on November 1, 2016

Good evening,

I would like to register my comments on the above-mentioned study.

- Adding bike lanes to Route 107 is foolish and unsafe. This is not a road upon which people would bike. The cost, construction, and consequences to accommodate few if any bikers is unwarranted and not a wise use of limited resources.
- The "zig zag" proposal to divert traffic from Swampscott Road to 1st St and Traders' Way is also a terrible idea. These roads were not built for this use. Traffic is already an issue on these secondary roads at commute times as well as Saturdays. To add more vehicles to an area that is already dangerous (Home Depot, Shaw's, Eastern Bank, McDonald's entrances/exits) is both dangerous and unwise. This is not a well thought out solution to the traffic issues at Swampscott Rd./Highland Ave./Marlborough Rd.

These 2 proposals do nothing to improve the quality of life nor do they address/solve traffic issues in this area.

Thank you,
Debbie

Email response from Michael Clark

Hi Debbie,

Thank you for your comments.

-Michael

Comment #25

Email sent to Michael Clark on November 2, 2016

Dear Sir

I object to certain parts of the proposal for the re-work of Highland Ave (Route 107) and the adjoining roads for the following reasons:

1. The attempt to widen and expand sidewalks will only be reasonable if someone maintains them. I walk down Rte. 107 from and to Swampscott Rd many times and during the winter no one, including the city plows or maintains the sidewalks. I must thus walk on the street. If no one will accept this responsibility then new sidewalks are totally useless.
2. I also bike on Rte. 109 and have never seen any other person doing so. The people in the area are not bikers. Certainly there will always be a few but to allocate money and road space for these few is a waste of effort. Will the new bike paths encourage more people to use them on Rte. 107. I do not believe so. If you study the demographics of the area and consider the uphill nature of the road, there would appear to be only very limited future use. Also, without barriers to separate the bike lanes, the road would still be too dangerous given the idiots who now drive on Rte. 107.
3. The Zig Zag proposal will benefit people who drive thru the area at the expense of the, such as myself, who live there. I live off Traders Way and can barely move through the area now. The new light on Swampscott Rd will help. However, the light at Traders Way and Rte. 107 now allows only 5-6 cars thru at a time. I cannot imagine the congestion with thousands of more cars per day traversing this intersection going both ways. Many time it is impossible to get thru the light at Traders Way and First Street as well and this will create even more congestion for residents to just leave the area.

It seems as though the concerns of the residents of the area are being totally ignored by the DOT and I will never support any plan that creates more traffic coming thru First Ave.

I understand that the Zig Zag and increasing traffic is a problem but before making the significant changes reflected in your proposal, try to change light cycles and use lane painting and control as a cheap alternative.

It would also be advisable to first look at the traffic through Traders Way at the shopping Center and the entrances and exits for cars from the two sides of the shopping are. This is a major hazard that would only be exacerbated by your designs.

Thank you
David Jacobson
Salem MA

Email response from Michael Clark

Hi Mr. Jacobson,

Thank you for your comments.

-Michael

Comment #26

Email sent to Michael Clark on November 2, 2016

Thank you for mailing the study to me, it helped a great deal. My comments are below and I've attached them in a word file as well.

Route 107 Corridor Study Request for Comments

I will try to include page references in my comments to the extent possible.

Page iii: It is mentioned that, I believe in the retail segment, that four travel lanes were added and the median was changed to a raised grass medina lined with trees.

My comments: I think it is a mistake to add trees to any segment of the roadway in the median. I'm assuming existing guard rails would be removed. One only has to notice the number of dents in the guardrails from crashes and then imagine that every dent was caused be a vehicle. Without the guardrail that vehicle could have crossed over to collide with a vehicle going in the opposite direction. I believe there are federal regulations prohibiting the planting of trees within x feet of a highway. I realize this is a state highway, but one would think that planting trees would create more obstacles for vehicles to hit. To remove guardrails would be a mistake. As a side note, when the Nahant Causeway was re-built a couple of years ago the state was going to re-build it without a barrier between the outbound and inbound lanes. Someone at the state level said there was not a need for barriers since there had not been a fatal crash in over thirty years. Then someone educated that state official that the reason there were not any fatals was because of the existing guardrails. Let's not make the same mistake here.

Page iv: The Zig-Zag alternative.

My comments: What would prevent a vehicle existing Swampscott Road from making a right-hand turn onto Route 107 and then making a left-hand turn into Marlborough Road? How would it be enforced? Similarly, vehicles existing right from Marlborough Road making a left onto Swampscott Road, would it be prevented and how enforced? What about vehicles traveling north on Route 107 from Lynn? Would they be able to make a left into Marlborough Road? I see many cars from Lynn contributing to the long queues at Marlborough Road. I also see cars coming out of Swampscott Road making a right turn and blocking both northbound lanes of Route 107, preventing vehicles from Lynn continuing north on route 107.

My suggestions: Paint cross hatching lines in the intersection with "Do Not Block the Box" signage with strong peak hour enforcement. This can be done today without the need of further study. Another suggestion involves the Zig-Zag; try it with temporary restrictions and temporary traffic signals at the First Street and Swampscott Road intersection. I have seen temporary traffic signals in other states, especially at construction sites, so they are available. Installation costs would be minimal. Give the changes a "test drive" before spending millions.

Pages 16 - 18: Turning Movement Counts. Dates of collection, April 2, April 11 for some intersections, and July 30, August 1 for others.

My Comments: I think a study that was made during both School year counts and summer day counts would have produced more enlightening results. As well as studies that included more days, especially a Friday.

I think in more than one place in the study it was mentioned about reducing travel lanes from two in each direction to one each way.

My Comment: I think changes like that would have unintended consequences in that the resulting traffic delays would be considerable more severe than anticipated.

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Thank you for allowing the public to participate in this.

Bill Reilly

[Email response from Michael Clark](#)

Hi Mr. Reilly,

Thank you for your comments.

-Michael

Comment #27

Email sent to Michael Clark on November 2, 2016

Mike, good afternoon. I've attended a couple of meetings and they were very informative. I'm reaching to you regarding to section in front of 111 Western Avenue/Chatham Street in Lynn. I own the corner restaurant at that location and your plan shows elimination of parking at that location. I was told repeatedly by local and state officials that it's not the case. Can you clarify?

Sincerely,
Taso Nikolakopoulos, Owner of Johns Roast Beef & Seafood

Email response from Michael Clark

Hi Mr. Nikolakopoulos,

Thank you for reaching out. At each of our study area intersections efforts were made to maintain as much on-street parking as possible while addressing safety concerns. Chatham Street and Chestnut Street both have high crash rates with parking close to the intersections. This can create a hazard since the parked vehicles cause a friction effect on the through traffic, block sight lines, and occasionally block the travel lane when a motorist is maneuvering into or out of the parking position. To address these concerns exclusive left turn lanes are recommended and efforts be made to provide proper clear zones. This effort attempted to minimize the number of on-street parking spaces which would need to be removed to accommodate this improvement but a net loss of approximately 33 parking spaces would be required along Route 107 between Chestnut Street and Waitt Avenue.

Because this segment of the corridor is under the City of Lynn's jurisdiction any recommendations coming out of this study would need to be initiated by the City. Please be in touch with any more questions or comments you may have.

Thanks, Michael

Follow-up email to Michael Clark on November 4, 2016

Michael thank you responding. I agree 100% regarding the safety concerns. I witness it every day. It's a dangerous thru way. It worsened with the addition of the truck route created during the construction of the Central Artery project combined that with the emergency vehicles back and forth the Salem Hospital.

This is why I question the bike lanes in this route. It's far too dangerous for bike lanes. I think bike lanes fit better along the Boston Street Corridor connected with the South side of Western Avenue. My business has only 3 on street parking spots as it is. If this were to be implemented I have no choice but to sell.

Sincerely,
Taso Nikolakopoulos, Owner of Johns Roast Beef & Seafood

Email response from Michael Clark

Hi Mr. Nikolakopoulos,

We note your concerns and suggestion. Thank you for your comments.

-Michael

Comment #28

Email sent to Michael Clark on November 3, 2016

Thank you for the opportunity to comment. Please see attached.

Kathleen Tone
Salem MA 01970

Email response from Michael Clark

Hi Ms. Tone,

Thank you for your comments.

-Michael

November 3, 2016

To: Michael.clark@state.ma.us
107 Corridor Study

Fr: Kathleen Tone
Salem

Thank you for the opportunity to comment on the proposed changes to the Route 107 Corridor. After hearing the presentation and reviewing the report, I would like to focus my comments on two areas:

1. The Zig-zag: the proposal to have traffic re-routed to First Street and Traders Way instead of the current traffic lights at Marlboro and Danvers Rd

I live near the intersection of First Street and Traders Way, and strongly object to the proposal. The assumption that this is a viable alternative is faulty in several ways:

- a. Traders Way is, as the term suggests, a "way;" not a street, or a road. The American Heritage Dictionary defines "way" as "a path, affording passage from one place to another." This is exactly what it is and what it was designed to be. It enables people to access Home Depot, Shaws, and the several stores on both sides of the street. Traffic is constantly entering, crossing, and making left turns in order to access the stores. It takes me approximately 8 minutes to travel the space of approximately two blocks to reach the light at 107 across from Marlboro Rd because of all the interweaving traffic. It would be impossible, I repeat, impossible, to turn this "way" into a through-traffic road.
- b. First Street is already heavily traveled, and on the weekends and during rush hour it is currently impossible for me to make a left or a right turn onto First; so I avoid it at those times. As with Traders Way, this road was designed as a cut-through and not a through-road or highway. To try to make it so would be unwise and add to the traffic jam that already exists on the road.
- c. If the main purpose of this project is it to make people's driving easier and safer, then this proposal must be viewed as unwise and not feasible. Our elected officials believe so, as they stated in the

meeting I attended in Salem. I want to reaffirm their judgment, as someone who lives nearby and drives these roads frequently.

2. The need for bike lanes

I lived in California for 26 years and understand the beauty of bike lanes. The weather is great and the wide and flat roads can easily accommodate the bike lanes. They work very well in the suburbs. However, in San Francisco they do not have bike lanes because of the hills, the narrowness of the roads, and the volume of traffic. I think 107 is not suitable for bike lanes for the same reasons.

At the meeting I attended, a man who is a recognized bicyclist and a major proponent of bikes, rejected the feasibility of biking on 107. He said it was too narrow, and unsafe because of all the buses and large trucks that frequent the road. He proposed, instead, that the sidewalks be refurbished and made safer. That would not only offer greater safety for pedestrians, it would provide passage for those who might choose to ride their bikes. I second his proposal.

We must examine the underlying assumption of this study that bike lanes are desirable and feasible for 107. In the 3 years I have driven this road I have seen 2 people riding their bikes. Why would you narrow a road that is already too narrow to serve a handful of potential users, at most? While bike lanes are an environmentally good idea, they are not a priority if the purpose of this project is to make people's driving and pedestrians walking safer. Bike lanes do just the opposite: They make the road more narrow and treacherous for drivers and pedestrians. At the risk of being politically incorrect, bikers are not the priority: drivers and pedestrians are. Our tax money needs to be invested to provide the most good for the most people.

Comment #29

Email sent to Michael Clark on November 3, 2016

Dear Michael,

These are comments in response to the recent Route 107 report/ recommendations submitted after the presentations to Lynn and Salem residents. It was a bit surprising to see that, in spite of the discussion at the Salem meeting that adamantly opposed the zigzag proposal, this recommendation persisted in being your top choice. Every day the traffic on First Street and Trader's Way seems to get heavier and delays longer now, even without closing off access to Swampscott Rd. from Highland Ave. As a resident in the Sanctuary Condominiums, getting out of our complex to go most anywhere north usually requires 3-4 signal changes just to get through the lights on RT 107; getting out onto Swampscott Rd. is equally challenging. As well, just turning onto First Street can often be frustrating. We are looking for relief from the current traffic nightmares, not pouring more traffic into our neighbor. For what it's worth, First Street is a residential roadway, never designed for the load of traffic seen on a state highway.

My comments below mostly refer to the proposal to alleviate traffic at the 'zigzag' by rerouting the Traffic to Trader's Way and First Street which I am very opposed to for the following reasons:

1. Currently, a number of drivers already use that route as a cutoff (rather than taking a left onto Swampscott Rd). Most afternoons from 3 p.m. to past 6 p.m. there is a backup of traffic going west on First street (to access Swampscott Rd) back to the light at Traders Way.

Saturday that backup is throughout the day due to increased traffic going to Hawthorne Plaza and Home Depot and other shops in the area.

Sending more (? all) traffic that way would result in gridlock and add considerable inconvenience to the residents of the 5 condo complexes on the south side of First Street. Residents there are hopeful that changes will alleviate (not increase) the congestion in that area. Trader's Way is already a traffic nightmare with this being one of only 2 entrances to the Hawthorne Plaza and the only access to Home Depot.

2. If drivers continue as they have already done (finding ways around traffic tie-ups - which many of the mobile apps already do e.g., WAZE), the next 'work around' will be to drive onto Whaler's Lane (which is a continuation of Trader's Way at the First Street light), and will add traffic to a private condo complex, in spite of the fact there are signs saying it is a private community. This will impact both the safety and privacy of the residents in those condo communities. Many people walk or walk their dogs on Whalers Lane and other streets in the complex, and this could impact their safety.
3. First Street is primarily a residential street with signage already on the street (at least from Swampscott Rd to Trader's Way) about no trucks (except deliveries). This proposal will add significant truck traffic to the neighbor, which will also raise additional safety and noise concerns. Particularly of concern is the high level of truck traffic going to and from Aggregate on Swampscott Rd. Not to say anything about the associated noise.
4. Residents residing in the condominiums south of First Street moved there for the peace, quiet and tranquility the area offered. Making First Street a major highway would have a major impact

on the quality of life for those residents. Currently, those living in direct proximity to First Street experience unpleasant levels of noise, pollution from automobiles, and traffic congestion as it is. This would only get worse with the current recommendation. These residents have been awaiting solutions that would reduce the level of noise and traffic there, not increase it.

5. Regarding the overall proposal, there seems to be two issues here: one of design and the other of capacity. It appears that the current design has outlived the capacity - and by cutting down on the width of Rt 107 for bike lanes, etc., cannot have a positive effect on moderating the traffic problems. In fact, it was somewhat surprising to see how much thought, design alternatives and money have been allocated for bike lanes when only 10% of respondents to the survey ever ride a bike in the survey area (90% said they NEVER rode a bike in the survey area).

Seemed like a lot of attention was given to areas which impact only 10% of the population (respondents). Actually increasing the capacity of travel lanes seem to be more productive than removing some of the capacity. Particularly in the 'zigzag' area, most visits to this area (Shaws, Market Basket, Home Depot, Target, Busa Liquors, TJ Maxx) involve purchase of materials that could not easily be bicycled home. Therefore, there is little need for bike lanes in this area period.

6. On another front, with the increased traffic now at the medical center, having an access from Jefferson St to the hospital has the potential to greatly impact/decrease the traffic on Rt 107.
7. Improving the crosswalks and signals seem to have a lot of merit. A traffic light at the intersection of First St and Swampscott is long overdue.
8. While it may improve the outward appearance of the road, spending effort and money to 'beautify' the medians seems like it should be the lowest of priority; as well it appears these medians may serve to further reduce lane capacity.

One recommendation presented by a participant at the meeting I attended seemed to have quite a bit of merit:

Create an overpass for through traffic on RT 107 at the intersection of Marlborough Rd/Trader's Way. Traffic needing to access the mall, other shops, gas, or Swampscott Rd would be diverted off the main road and reduce the related traffic tie-ups. This mechanism has been very successful at the entrance to the Sagamore Bridge accessing Cape Cod as well as other locations.

The proposed solution to the zigzag may make sense on paper but in practice, it will only move the problem a few blocks down the road, inconvenience residents in the area, as well as impacting their safety and quality of life.

Best Regards,
Linda Ferraresso
Salem, MA

[Email response from Michael Clark](#)
Hi Ms. Ferraresso,

Thank you for your comments.

-Michael

Comment #30

Email sent to Michael Clark on November 3, 2016

To All It Concerns Regarding the Highland Avenue/Rt. 107 Highway Design:

I want to express *my* concern and support for a safe design for bicycle access and use on Rt. 107/Highland Ave. The current plans, to my understanding, merely include striped bicycle lanes on the Salem portion of 107 passing Hawthorne Plaza. Given the technology and knowledge regarding the requirements for bicycle safety, the mere striping of lanes, as opposed to physically separated, protected lanes, is highly inadequate and retro in thinking. Many cities all over the United States, including Cambridge and Boston, are implementing protected lanes for the safety of bicyclists. Those cities which have implemented protected lanes have not only seen a great decrease in accidents and fatalities, but have experienced much greater usage by bicyclists.

My understanding regarding the argument against protected bicycle lanes is that the highway along this passage is too narrow to accommodate them. As the former Chair of the Salem Bicycling Advisory Committee, our committee went out and did our own measurements in this area. There was no doubt, given our own measurements, that this area could *easily* accommodate protected bicycle lanes. Those who have come to the determination that only striped lanes is sufficient up here for the safety of bicyclists are putting bicycling way down the list of priorities. Furthermore, in addition to the far greater safety that protected lanes provide, bicyclists of all levels are *much* more inclined to use it, whereas particularly on a busy highway such as Rt. 107, only those who are the most proficient bicyclists will be inclined to use it.

I strongly support a redesign to include protected bike lanes on 107/Highland Avenue, and ask that the current design plan be reconsidered.

Jeff Bellin
Salem

For Chairman of the Salem Bicycling Advisory Committee

[Email response from Michael Clark](#)

Hi Mr. Bellin,

Thank you for your comments.

-Michael

Comment #31

[Email sent to Michael Clark on November 3, 2016](#)

Attached please find my comments as a 17-year resident of Thomas Circle, Salem, MA.

Thank you for your consideration.

-Jane Guy

Jane A. Guy
Assistant Community Development Director
City of Salem
Department of Planning & Community Development
120 Washington St., 3rd Floor
Salem, MA 01970

[Email response from Michael Clark](#)

Hi Ms. Guy,

Thank you for your comments.

-Michael

November 3, 2016

Office of Transportation Planning
Attn: Michael Clark / Route 107 Corridor Study
Massachusetts Department of Transportation
10 Park Plaza, Suite #4150, Boston, MA 02116

RE: Route 107 Corridor Study Draft Final Report Comments

Dear Mr. Clark:

I am a resident of Thomas Circle, ground zero for the traffic problems of the Marlborough/Swampscott Road zigzag. I travel daily to and from downtown Salem for work, frequent Hawthorne Square, Shaws Plaza and Trader's Way businesses and walk/run along Swampscott Rd., First Street, Marlborough Road and down Highland Avenue to downtown Salem.

My comments focus mostly on the section of Highland Ave. from Marlborough Road to Swampscott Road. During rush times, cars traveling from Lynn to Salem on the left travel lane eventually get stuck behind the cars using the turning lane onto Marlborough Rd., forcing drivers to cut over to the right lane and then back into the left travel lane when the road widens to 3 lanes (leaving the left travel lane empty for several car lengths).

Likewise, cars traveling from Salem toward Lynn on the left travel lane eventually get stuck behind the cars using the turning lane onto Swampscott Road, forcing drivers to cut over to the right lane and then back in to the left travel lane when the road widens to 3 lanes (again leaving the left travel lane empty for several car lengths). Because the

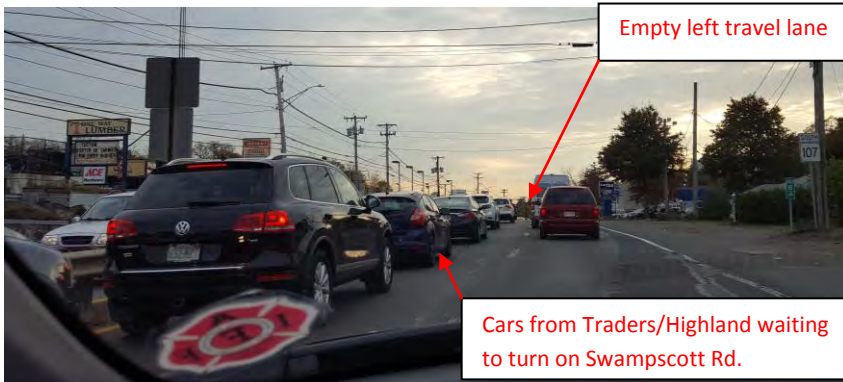
Marlborough right onto Highland goes green first, my experience is that the back-up is made up of cars coming from Highland and Traders, rather than Marlborough.



Cars from waiting to turn onto Marlborough Rd.

Empty left travel lane

Above: At Highland/Swampscott heading toward downtown Salem. During peak hours the turning lane onto Marlborough will back up through the Highland/Swampscott intersection and beyond, resulting in the left travel lane being empty, obstructing traffic flow and causing backups down Highland Ave.



Empty left travel lane

Cars from Traders/Highland waiting to turn on Swampscott Rd.

Left: At Highland/Marlborough heading toward Lynn. During peak hours the turning lane onto Swampscott Road will back up to the Highland/Traders intersection and beyond, resulting in the left travel being empty, obstructing traffic flow and causing backups down Highland Ave because not enough cars can get through the intersection.

Regarding the proposed recommendation of using Trader's and First Street to eliminate the zigzag: Trader's Way has several quick-stop businesses for which cars frequently turn in and out. Forcing more cars coming from both directions will make Trader's Way more of a hazard than it already is and will be more of a traffic nightmare to utilize these local businesses. It will just push the same amount of traffic from the wider street designed for moderate movement to the narrower street designed for slow movement and it will move this traffic closer to the residential neighborhood.

- Heading north on Swampscott Road with a required right on First might work, particularly if the green traffic signal at Highland/Traders is increased. However, there would need to be a way for cars to easily turn around on Highland Ave, because they will inevitably miss First street and have to turn left on Highland and need to turn around without having to go too far toward Lynn.
- The elimination of a left turn onto Swampscott from Highland Ave. coming from Marlborough Road through the addition of lane barriers will absolutely not work. There is already a lengthy back-up on First street for people turning left onto Swampscott Rd. Signalizing First/Swampscott will back up the cars onto Traders Way during red lights, as well as for cars turning onto Swampscott Road from either side of Highland Ave. I question being able to precisely time the lights at Highland/Marlborough, Highland/Swampscott, Swampscott/First and First/Traders to keep the traffic from backing up to the intersection before it.
- Although it is not the current recommendation, it is important to say that I do NOT support the installation of roundabouts. They are dangerous, are not pedestrian or bike friendly and would not adequately alleviate the traffic woes.

While there is no fix-all solution, there may be small things that could help ease some of the traffic problems, including increased green light time for the left turns during peak hours. While I strongly support the installation sidewalks and bike lanes to encourage alternative modes of travel, they should only be on one side of Highland Ave. between Marlborough & Swampscott Roads (presumably on the eastern side). For this section, traffic flow needs must outweigh the need for sidewalks on both sides. Space constraints cannot support sidewalks (and maybe even bike lanes) on both sides, because there are currently two lanes that widen to three, when there is a need for three full lanes on both sides of Highland between these two intersections. It is unfortunate, but it would seem land takings on one or both sides to widen the road to allow a full third turning lane (left turn only) on both sides (or at least the worst side, if only one is possible) would alleviate a lot of this back up and make the intersections less dangerous. It would be well worth the cost.

However, another alternative for consideration could be making Swampscott Road one way from Highland to First, forcing the right hand turn from Swampscott onto First for all cars... and then making Swampscott Rd. two lanes in from Highland Ave. (making the left travel lane on Highland Ave a dual straight/left turn lane). It would add less traffic onto Traders Way than is proposed by your current recommendation. It would eliminate the zigzag from Swampscott to Marlborough and would increase the amount of cars able to turn onto Swampscott from the Marlborough/Highland intersection. This would also eliminate the need for lane barriers, eliminate the need for the proposed new signal at Swampscott/First and would not require any land takings.

In any case, I support widening Swampscott Rd. at Highland to create two lanes and making the left travel lane on Highland Ave a dual lane (straight/left turn) onto Swampscott Rd. to move more traffic through the zigzag. I also support the adding of a second receiving lane on Trader's Way from Highland Avenue.

For Figure V1-17, I do not understand the purpose of the lane barrier on Highland Ave on the eastern side of Highland Ave. and feel its removal will save cost. I also strongly oppose the lane barrier on the western side based on my comments and alternatives noted above.

Additional comments:

- Medians should not be planted/landscaped. Plantings require regular maintenance and/or annual replanting (at the taxpayers cost), else they will look horrible. Plantings are not likely to survive snow clearing activities. I recommend using an alternative non-living, but attractive, design.
- I am vehemently opposed to Highland Ave going to a single lane heading toward downtown as shown in Figure VI-21 in order to create a turning lane onto Willson Street. As seen in VI-22, cars utilize both lanes. I drive this road every day, staying in the right lane. I have no issue with cars in front of me turning onto Willson as they move freely at the light and result in no traffic back-up. I do have issue with being in the left lane (or a proposed single lane) and having cars in front of me turn left onto Valley Street, Colby Street, Princeton Crossing, Heritage Drive and Proctor Street, all causing back-ups and forcing cars to move to the right to go around cars turning left. Going down to one lane at on Highland Ave at any of these will increase traffic backups exponentially.

Thank you for your consideration of my comments.

Jane A. Guy
Salem, MA 01970

Cc: Kimberley Driscoll, Mayor
David Eppley, Ward 4 City Councillor
Tom Daniel, Director of Planning & Community Development
David Knowlton, City Engineer

Comment #32

Email sent to Michael Clark on November 4, 2016

Michael

Please see attached comments from Rep. Daniel F. Cahill regarding the Route 107 Corridor. Please let me know if you need any further information.

Thank you

Joe

Email response from Michael Clark

Received. Thank you for your comments.



The Commonwealth of Massachusetts

HOUSE OF REPRESENTATIVES
STATE HOUSE, BOSTON 02133-1054

DANIEL F. CAHILL
STATE REPRESENTATIVE
10TH ESSEX DISTRICT

STATE HOUSE, ROOM 527A
TEL. (617) 722-2020
Daniel.Cahill@MAhouse.gov

November 4, 2016

Michael Clark
MassDOT
10 Park Plaza, Suite #4150
Boston, MA 02116

Dear MassDOT Study Team,

First and foremost I would like to thank you for your work to compile a study to properly address the safety and traffic concerns along the Route 107 Corridor. The Route 107 Corridor is one of the most travelled roads in the City of Lynn so to conduct this study was of utmost importance.

The final report was thorough with specific recommendations but there has been public feedback that expressed concern regarding certain parking restrictions, including off-street parking in front of local businesses. With that being said, I would like to reiterate my desire to stay involved through the process.

I am confident that the lines of communication will remain open and through a partnership with the MassDOT and the City of Lynn we can reach a plan that will alleviate the congestion and increase the safety of the Route 107 Corridor. Thank you again for your time and please do not hesitate to contact my office with any follow up issues.

Sincerely,

A handwritten signature in dark ink that reads "D.F. Cahill".

Daniel F. Cahill
State Representative
10th Essex District

Comment #33

Email sent to Michael Clark on November 4, 2016

Michael,

Attached is a letter from the Lynn Housing Authority & Neighborhood Development representing comments and concerns for its constituency. Thank you and let me know if you have any questions.

Jeff Weeden

Lynn Housing Authority & Neighborhood Development

Email response from Michael Clark

Hi Mr. Weeden,

Thank you for providing comments from the Lynn Housing Authority & Neighborhood Development. We appreciate your input throughout this effort.

Thanks,
Michael



Administration Office (781) 477-2800
Administration Fax (781) 592-6296
Neighborhood Development (781) 477-2800
Neighborhood Development Fax (781) 593-4350
Rental Assistance (781) 592-1966/TDD
Rental Assistance Fax (781) 586-9478

10 Church Street
Lynn, Massachusetts 01902

Executive Director
Charles Gaeta

Curwin Circle Management Office (781) 598-3663
State Housing Management Office (781) 592-1966/TDD
Wall Plaza Management Office (781) 592-4038
Maintenance Office (781) 598-3434
Family Investment Center (781) 595-5089
Application Intake & Screening (781) 581-6105

November 3, 2016

Office of Transportation Planning
Attn: Michael Clark / Route 107 Corridor Study
Massachusetts Department of Transportation
10 Park Plaza, Suite #4150
Boston, MA 02116

Re: Route 107 Corridor Study

Dear Michael Clark:

The Lynn Housing Authority & Neighborhood Development (LHAND) has been actively participating in the Route 107 Corridor Study. As you know, The Massachusetts Department of Transportation (MassDOT) initiated the Route 107 Corridor Study to evaluate existing transportation conditions along the corridor, assess the potential of future development and economic growth in the corridor, and to develop both short term and long-term improvements for all modes of travel. LHAND's specific interest is the neighborhood impact between Chestnut Street and the Lynn/Salem border. As such, LHAND has concerns that will be submitted during the final public comment period. These concerns are as follows:

Traffic entering Lynn from Salem at Cain Road. This is one of the more dangerous sections of the corridor, where speeds drastically change and two lanes merge into one. Concern has been shown that because it is not an intersection, this stretch did not receive the crash data consideration. It is imperative to see improvements to slow speeds and facilitate the lane merger.



Walmart Drive improvements. There is currently flooding issues that affect Highland Ave in front of this intersection. It is not uncommon for this road to be shut down during heavy rain forcing drivers to use the Wal-Mart parking lot heading south. Is there opportunity to address drainage and infrastructure conditions that affect the neighboring communities?

No U Turn signs along Highland Avenue. There are currently No U Turn signs extending from Wal-Mart to Marlboro Road which force drivers to divert Highland into shopping centers or side streets to go south. Also, the No U Turn sign at the end of the median by Cain Road forces cars and trucks to use Belleaire Ave or Buchanan Circle to turn back to Salem, impacting residents and neighborhoods.

Thank you in advance for you time and attention to these neighborhood concerns. If you have any questions please do not hesitate to contact me at your earliest convenience.

Sincerely,



Charles Gaeta

Executive Director

Comment #34

[Email sent to Michael Clark on November 4, 2016](#)

My name is Jonathan Brideau, a local cyclist from Beverly. I ride my bike to and from Boston weekly to work when I can. I have tried several routes, and have been intrigued with the possibility of using 107/Highland Ave but have chosen to avoid. This corridor is one of the true “eye sores” of the North Shore. As a driver who has used it, it is intimidating and frustrating. I could not imagine using it as pedestrian and yet I see many of the local folks who need to walk to several businesses try their best with poor facilities to allow them to do so safely.

These reasons above ultimately stopped my purchase of a house along 107 two years ago with my wife. I could not imagine living along this road given the above. How does a community allow their families to use something like that in anything but a car and a seat belt is beyond me. It is so uninviting as a pedestrian or cyclist.

I work in several key metro areas across the country organizing the charity event, the Best Buddies: Challenge in San Francisco, Los Angeles, Miami, and for a time Washington, DC. I have traveled with my bicycle hundreds of times to these locations, and have spent countless days commuting and traveling within their neighborhoods. Some are better than others. The problem I see is a lack of true coordination with key partners. There are too many examples of local communities implementing old substandard facilities when they have the capital, knowledge, and support to do much more. Unfortunately, the next round of improvements comes decades later, and many of their residents do not ever see these changes. More importantly too many people are hurt or killed because of poor design. More progressive communities push for excellence to create a truly connected neighborhood for all users that is not only safe, but inviting to use by bike and foot rather than just the automobile. With vehicle traffic and obesity problems rising daily, simply giving residents an inviting option to walk or cycle a few blocks from their home to work/school could solve these problems. Too often this is pushed aside for a cheaper design for more vehicles.

I strongly urge all of you to consider the written comments from our advocacy groups and their recommendations to improve design. To provide continuous, physically separated bike lanes along the entire corridor rather than bike lanes with just a painted buffer, as currently proposed. These painted bike lanes are not the answer, and you can go to many cities that will tell you it is not enough with their list of fatalities and brutal accidents from distracted driving. Please use the principles in the MassDOT separated bike lane design guide to create protected intersections at all road crossings and major retail development entrances. Please widen sidewalks and plant additional trees throughout the corridor. These things have been proposed and I ask that you consider them before creating a temporary fix that will NOT better the community.

Thank you for your time and consideration on this matter.

Sincerely,
Jonathan Brideau

[Email response from Michael Clark](#)

Hi Mr. Brideau,
Thank you for your comments.
-Michael

Comment #35

Email sent to Michael Clark on November 4, 2016

Hello,

Thanks for presenting the results of the Route 107 traffic study to Salem residents.

As I stated at the meeting, I live on Aurora Lane, parallel to and one block from First Street. During busy times, it can take me 10 minutes to make my way up Traders Way and through the light at the junction of Traders Way and Highland Ave. The First Street / Traders Way section of roadway seems to be at capacity already. It's already tricky getting into and out of the store parking lots along Traders Way. I cannot imagine adding more congestion to what already exists.

Furthermore, we have the pleasure of living in a quiet and safe neighborhood while still living close to everything we need (stores, downtown, etc.). Re-routing main throughway traffic right next to our neighborhood will surely change the peaceful ambiance of the place we have chosen to live.

For these reasons, I strongly oppose re-routing zigzag traffic down Traders Way and First Street.

Thank you for allowing me the opportunity to comment.

Sincerely,

Nancy Gilberg
Salem, MA

Email response from Michael Clark

Hi Ms. Gilberg,

Thank you for your comments.

-Michael

Comment #36

Email sent to Michael Clark on November 4, 2016

Dear Mr. Clark,

Attached please find my comments letter for the Route 107 Corridor Study. Hard copy to follow by mail.

Thank you.

Best regards,
Joan

Senator Joan B. Lovely

Second Essex District
State House, Room 413-A
Boston, MA 02133
Phone: (617) 722-1410
Fax: (617) 722-1347
Email: Joan.Lovely@MASenate.gov

Email response from Michael Clark

Hi Senator Lovely,

Thank you for your comments. We appreciate your office's participation throughout this process.

Thanks,
Michael



The Commonwealth of Massachusetts
MASSACHUSETTS SENATE

SENATOR JOAN B. LOVELY
Second Essex District

STATE HOUSE, ROOM 413A
BOSTON, MA 02133-1053
TEL. (617) 722-1410
FAX (617) 722-1347
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WWW.MASENATE.GOV

Office of Transportation Planning
Attn: Michael Clark / Route 107 Corridor Study
Massachusetts Department of Transportation
10 Park Plaza, Suite #4150
Boston, MA 02116

November 4, 2016

Dear Mr. Clark,

Thank you for this opportunity to submit comments on the Route 107 Corridor Study Report published on October 5, 2016. I would also like to thank MassDOT for the inclusive work that has gone into this process to date. As the state Senator for the Second Essex District, and member of the Route 107 Working Group, I write to express my support for, and opposition to, specific traffic mitigation plans outlined in the Report.

As you are aware, the goals of the Route 107 Corridor Study seek to improve mobility, connectivity, and safety for all transportation modes and users along the corridor; support local economic development; and improve the quality of life for residents and businesses in the corridor. The Report outlines many improvements for vehicular, pedestrian and bicycle travel along the route, and I support those improvements. However, the proposed plan to redirect and shift all traffic from Marlborough Road and Swampscott Road (the so called "zig-zag") onto Traders Way and First Street, unfortunately, does not meet the goals of the Study, and will only relocate traffic congestion from one area to another without actually mitigating traffic at all.

As you are aware, at peak hours, traffic currently backs up on First Street heading towards Swampscott Road. By adding all traffic from Marlborough Road to Traders Way and First Street will only redirect the problem from Highland Avenue to an already busy area used by customers of the dozens of businesses along Traders Way (with emphasis on Home Depot) and the thousands of residents who live on and off of First Street.

Additionally, during the public review process, you will recall that many residents expressed strong opposition to the proposed plan to redirect traffic from Marlborough Road and Swampscott Road to Traders Way and First Street as outlined above. I wish to be recorded as

Chair
STATE ADMINISTRATION AND
REGULATORY OVERSIGHT

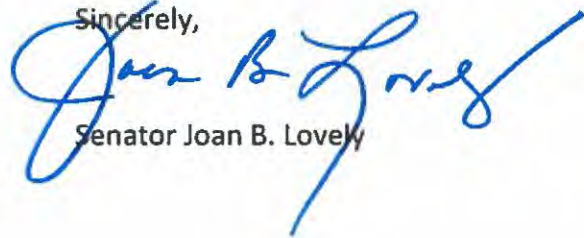
Vice Chair
CHILDREN, FAMILIES AND
PERSONS WITH DISABILITIES
and
MENTAL HEALTH AND
SUBSTANCE ABUSE
and
MUNICIPALITIES AND
REGIONAL GOVERNMENT



opposed to this proposed recommendation as it will not meet the goals of the Study to improve mobility, connectivity, and safety for all transportation modes and users along the corridor; support local economic development; and improve the quality of life for residents and businesses in the corridor.

Therefore, I respectfully request that further study be completed to amend the proposal including appropriate land takings, if necessary, and I look forward to working with MassDOT to accomplish the Study's goals.

Sincerely,

A handwritten signature in blue ink, appearing to read "Joan B. Lovely". The signature is fluid and cursive, with a long, sweeping underline that extends to the right.

Senator Joan B. Lovely

Comment #37

Email sent to Michael Clark on November 4, 2016

Hello,

I am Joseph O'Neil. I love that the city and state are planning to reconstruct this area. However, the designs thus far are conservative and out-dated. There is a ton of new information out there for bicycle infrastructure. For instance, the painted bike lanes that we have done for decades are beginning to raise questions in regards to safety. They were once great and innovative concepts, but experience over the years has detected flaws in the design. This is a great opportunity to explore bolder and new ideas in regards to bicycle infrastructure. I encourage all involved to researched and work with organizations such as MassBike, Livable Streets and WalkBoston. These are powerhouses of information that can turn these conservative designs into something that will set a tone for the rest of the infrastructure on the North Shore.

A protected bike lane was once purposed on Lafayette Street in Salem. Unfortunately, this brought much animosity to the neighborhood and was ultimately shot down. Recently, a member of Salem State University's faculty got doored on this street during their bicycle commute. Situations like this are extremely dangerous and easily avoided through modern infrastructure.

Safety is not the only issue, but bicycles bring business! Imagine if it was possible to safely ride to the big box stores on 107. It has to potential to completely redesign the neighborhood. It is also a direct corridor between the North Shore and the Boston Metro area. Much business is being lost by not having sufficient facilities.

The last point I want to make is that there is a finite amount of space for cars and trucks. Parking lots and wider roads will eventually cease to be an option. Building roads that only cater to motorists is slowly evolving into a dead end idea. Congestion is already picking up and is a main concern with this reconstruction project. Providing alternative options is the most viable solution to the car epidemic.

Thank you for your time,
Joseph O'Neil

[Email response from Michael Clark](#)

Hi Mr. O'Neil,

Thank you for your comments.

-Michael

Comment #38

[Email sent to Michael Clark on November 4, 2016](#)

I have read through both the final draft report by MassDOT and the more bike-friendly one supplied by MassBike. I have looked at the diagrams for both and I respect the level of civil engineering that has gone into this plan at all 3 location sections.

I don't pretend to know what is best when it comes to the flow of multi-faceted traffic use but I am always excited as a bicycle owner and citizen to know bike travel is always part of the plan. I would prefer the more bike-friendly designs as a citizen of Salem that MassBike has presented but understand the situation with trying to mitigate automobile congestion. I'm writing to have my and my wife's concerns counted, even if non-numerically and just an overall feeling of the increase of bike riders in cities.

Thank you to Somerville and Cambridge (my previous home) for their bike improvements and now thank you personally to Salem and the North Shore (my new home!) with these bike plans, making it safer for bike commuters to use these travel arteries. May the best plan come to a beautiful fruition.

Jimmi Heiserman
Salem, MA

[Email response from Michael Clark](#)

Hi Mr. Heiserman,

Thank you for your comments.

-Michael

Comment #39

Email sent to Michael Clark on November 4, 2016

Michael,

I am writing in support of plans for 107 including bicycle infrastructure - either protected bike lanes or wide multi-use paths. As we plan long term for roadways, we need to ensure that we are taking all users equally into account.

Heather Famico
City Council, Ward 2
City of Salem

Email response from Michael Clark

Hi Councilor Famico,

Thank you for your comments.

-Michael

Comment #40

Letter sent to Michael Clark on November 4, 2016

Thank you for allowing residents to comment on the impending changes to highway Rt 107 Lynn/Salem corridor. You may recall our meeting at one of your comment sessions in Lynn.

I have two properties that front and border this road and have been a life resident here for my entire life, retired and thankful for the opportunity to share some thoughts and concerns.

Am of the firm belief that this artery must be kept free and clear of any traffic slowdowns since since it impacts the quality of life in our neighborhood, lowers property values, creates a safety hazard for emergency vehicles frequently on route to both Salem Hospital in Salem and Union Hospital in Lynn.

1. The traffic congestion at the intersection at Eastern and Western Avenue will be bottle necked with the planned addition of a working traffic signal. A simple blinking signal with yellow facing Western and red blinking on Eastern/Stanwood. Add a dotted line to delineate lanes on the approach southbound starting from Linton Road and the traffic will flow easily though in all directions without being impeded. Also regarding the idea of limiting traffic to only right hand turns from Eastern to Western and moving the southbound traffic to the Waitt Avenue signal light will surely back traffic up solidly at the Eastern Avenue fork since turns will be limited to one choice only.

A real bad idea since this area of RT 129 receives all westbound traffic from Swampscott and Lynn Shore Drive especially at drive times.

2. Your configuration for a bike path on a state highway needs reconsideration. The Rt107 roadway is very narrow at the Floating bridge and makes bike travel life threatening. A better suggestion to contemplate might be to re-route the traffic around the bridge to Victory Road avoiding the possibility of accidents. By way of information, you won't be the first to do this since the Ringling Bros Circus first created this pathway around the floating bridge because the elephants reared up and refused to cross the pontoons. The circus workers intent on getting the animals to the circus destination in Salem carved and chopped their way through the woods to make the trip. The Lynn city fathers called it a "victory" and named the road after the event.

3. Lastly, The proposed changes at the Marlborough and Swampscott Road intersection at Rt 107 is surely going to create problems in all directions. This traffic clog is due to the poor planned expansion and overbuilding of large apartment units that dump hundreds of cars

into the area. There's no doubt that the purpose of this density is rooted in the fact that Salem wants to garner as much tax revenue from Highland Avenue strip as possible and the state planners have been complicit in this.

Your plan to re-route traffic from Swampscott Road to the intersection of 107 past the Pancake House will result in a massive traffic jam. Add the Marlborough Road traffic only being allowed to turn right and travel all around in a circle in order to go left towards Salem will be a virtual nightmare. what's needed is a righthand turn onto a road off Marlborough bis headed southbound on 107 behind the mattress store that will channel all traffic heading in that direction to a road on the other side of the hill located across from the Irving Gas Station. For all traffic going headed northbound on 107 toward Salem, there should be a left hand turn behind CVS that will lead you to a road past the Dunkin Donut Kiost drive through to the Market Basket intersection. That will alleviate traffic and allow for smooth transition for the Swampscott Road traffic moving west toward Peabody to pass through. Thanks for allowing me to comment and I hope this helps?

Good Luck!

Peter Frangipane
Lynn, Mass. 01904

PS: Would suggest a blank paper flip chart and tripod with heavy black markers to use for your comment sessions audience. It's been my experience some have difficulty explaining in words what can be easily be drawn out on paper. The best part is that your staff gets to take the picture back to the office for reference.

P.L.F.

[Email response from Michael Clark](#)
Thank you Mr. Frangipane.

Comment #41

Email sent to Michael Clark on November 16, 2016

Michael,

Here are the combined comments from the Salem Engineering and Planning departments.

Tom

Tom Daniel, AICP
Director of Planning and Community Development
City of Salem
120 Washington Street
Salem, MA 01970

Email response from Michael Clark

Hi Tom,

Thank you for submitting comments on behalf of the Salem Engineering and Planning Departments. Regarding points raised in the letter:

- MassDOT is receptive to opportunities to improve this cross-section provided new ideas satisfy study goals, such as improving multimodal mobility, improving safety, and addressing community, health, and social equity effects. This discussion would need to take place in the design phase. The cross-section concept settled upon for the Retail Segment of the study corridor was achieved through Working Group consensus. Three improvement alternative concepts were put forward (Figures V-15 through V-17), with consensus reached on the viability of the recommended option (Figure VI-4).

The cross-section concepts recommended in this study, particularly when paired with intersections, seeks to address various constraints that were found owing to the geometry of intersections, traffic operations, and access to businesses, among other considerations. The design phase of the project can address these specific problem spots.

Future consideration of this cross-section is required to ensure proper delineation between pedestrians and bicyclists, which would likely include use of different pavement materials to separate the two spaces and may require widening of the shared-use space to ensure a safe passing distance between the two types of users.

- The study team notes potential improvements to the edge of the roadway, particularly as a landscaped buffer between vehicles and pedestrians/bicyclists. Figures V-15 and V-16 detail improvement concepts which would provide this protection. As with the point above determination of the improvement concept would need to be taken in the design phase but provided a concept like this achieves study goals MassDOT is receptive to different options. Drainage impacts are outside of the scope of this planning study.

- The 10' planting strip as proposed in the recommended alternative (Figure VI-4) includes a 1' buffer space on each side of the raised median to separate the fixed object from the travel lane. Working Group consensus throughout the study spoke to keeping the median in the Retail Segment of the study. The decision on a 10' median was in recognition of the need for left-turn lanes at various intersections, as the roadway is currently configured.
- The traffic signal at the Highland/Dalton/Jackson interchange would be timed to prevent excessive queuing on Route 107. Cyclists turning right onto Dalton Parkway/Jackson Street should be able to intuitively use the right-turn lane and additional shared lane markings can be added at this location in the design stage.
- Elaboration of the shared street concept for Essex Street at Boston Street will be provided in the report. The idea behind the concept is create new open space and a plaza-style environment created by realignment of the intersection. Due to the driveways at the intersection a "shared street" would allow for continued access to businesses at this intersection. Entry and egress through the driveways by motorists would need to be made obvious by markings in the pavement of the road or within the different material or texture of the new space itself, signage, and orientation of the space itself. For instance, cut-through movements by motorists traveling northbound along Highland Street to avoid the traffic signal would need to be made unviable, which can be achieved through visual cues and fixed objects in the shared space. A decision to implement the "shared street" space would be the choice of the City of Salem, and orientation of the space itself determined in the design phase.
- A roundabout was explored at this space and found to not be feasible because there would be right-of-way impacts and the close proximity of the fire station would present safety and operational challenges.

Thanks,
Michael

City of Salem Route 107 Corridor Study Comments
11/15/2016

Comments with Attached Design Change Document PDF

1. Generally, the MassDOT study recommended motor vehicle lane use strategy is appropriate.
2. Consider an alternate cross-section treatment for Highland Avenue to create continuous multi-use pathways (pedestrian sidewalk with bike accommodations) on both sides of Highland Avenue. Eliminate the need for stanchions within buffered bike lanes (aesthetic and maintenance concerns). This works well throughout much of the corridor, with a few tight locations. This is compatible with the Salem Bicycle Advisory Commission's desire to have separate bike accommodations through this corridor. (see pages 1-4 of attached pdf)
3. At intersections, consider minimizing the bicycle conflict areas by employing the Dutch crossing method. By placing non-motorized demands off the street, a larger group of users will be able to take advantage of the available multi-use pathways. Traffic and pedestrian/bike clearance intervals will be minimized to keep pedestrian and traffic delays as short as possible. (page 6, bright green crossing at Swampscott Rd in attached pdf)
4. At Swampscott to Marlborough Road (zig-zag area), do not restrict movements; make intersections safer, but retain ability to for the Swampscott Road, Highland Avenue, Marlborough Road maneuvers to continue. Remove all the stanchions for the lane designations. Address First/Swampscott Road per recent Stantec study of options (page 6 attached pdf).

Recommend moving the crosswalk up to the corners of the road, put in a bike box on the Northbound and Southbound side before the crosswalk, to allow for bicyclists to safely get in the queue to take a left.

5. Consider retaining the typical four 11-foot lanes of travel from Willson Street to the Lynn line with auxiliary turn lanes as needed at intersections. (see attached suggested cross sections on page 4 of pdf). Where width permits, add a greenspace/utility corridor to Highland Avenue adjacent to the curb. (see page 5 of attached pdf for aerial view)

General Comments On Chapter 6 Recommendations

Address drainage impacts mainly through catch basin inlet relocations, assuming the drainage system is not in need of replacement. If it is in need of replacement, drainage costs would be similar to the alternative shown in the Draft MassDOT Study report.

What is the reasoning for increasing the center median to 10ft in place of the guard rail? Can the center median be less wide to add increased width to non-motorists (multi-use path, or planted buffer)?

Can street trees be added as a buffer between sidewalks and bike lanes as a visual mechanism to slow traffic and decrease “highway-like” perception?

Highland and Jackson St and Dalton Pkwy

Northbound right-turn only lane at Highland/Jackson has been repainted as a straight through and right arrow so recommended configuration puts bicyclists at risk going straight as they have to cross a lane of traffic to get back into protected bike lane.

Highland and Boston St and Essex St

“Shared street” markings might be confusing for road users and may not be clear for multiple uses of this intersections. This configuration may create access problems for property owners with driveways that exist at the proposed shared street sections, particularly at ASAP Drains.

What is the proposed location for the Choate Memorial Statue at this intersection, assuming it will remain?

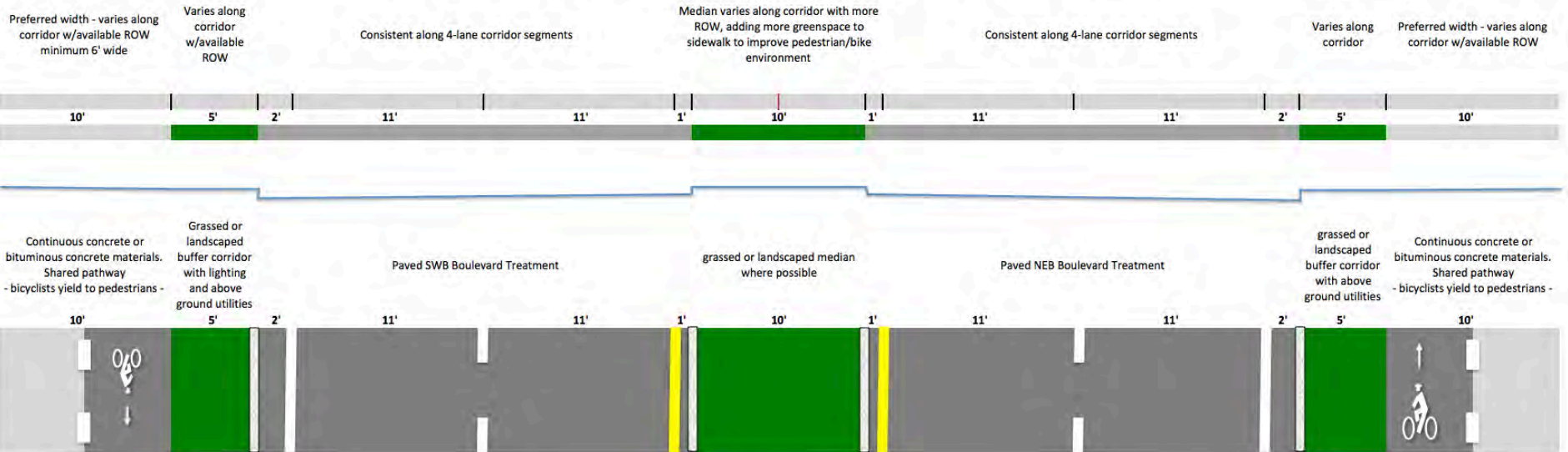
We are concerned about the possible conflicting programming of the “shared street” space beyond pedestrian and bicycle transportation access:

- Parking for businesses
- Cut-throughs in high traffic volume Northbound from Highland to Essex
- Restaurants could ask for outdoor seating on mixed use space – conflict between traffic flow and outdoor seating

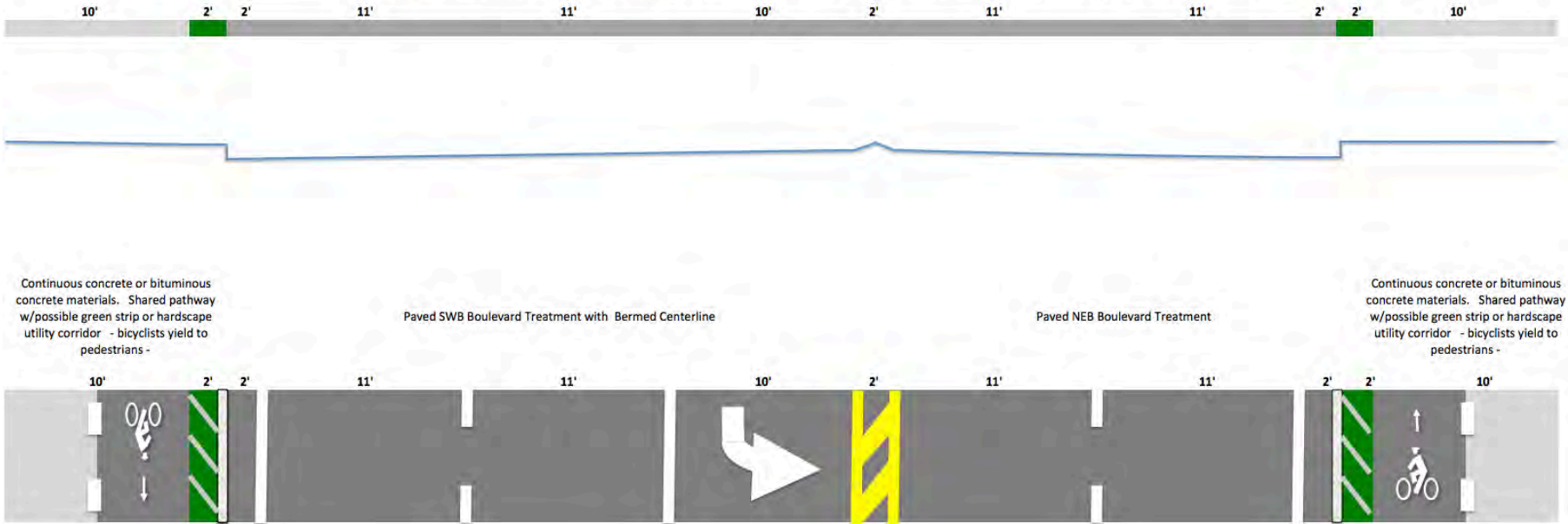
Has there been any consideration of a **roundabout/rotary** at that intersection with the Choate Statue and landscaping at the center. A residential scale rotary would be appropriate method of travel to entrance of the McIntire Historic District.

Crosswalks could be implemented with bump outs to shorten the distance to the cross walks at that intersection, in particular Mandy’s Pizza and the sub shop.

EXAMPLE 1 - SUGGESTED TYPICAL LAYOUT FOR MAXIMUM 90' ROW SHOWN WITHOUT BUS STOPS - WITH BUS STOP INCREASE CURB WIDTH AND TRANSITION TO NARROWER MEDIAN



EXAMPLE 3 - SUGGESTED TYPICAL LAYOUT FOR 84' ROW - NORTHEAST OF SWAMPSCOTT ROAD INTERSECTION



Continuous concrete or bituminous concrete materials. Shared pathway w/possible green strip or hardscape utility corridor - bicyclists yield to pedestrians -

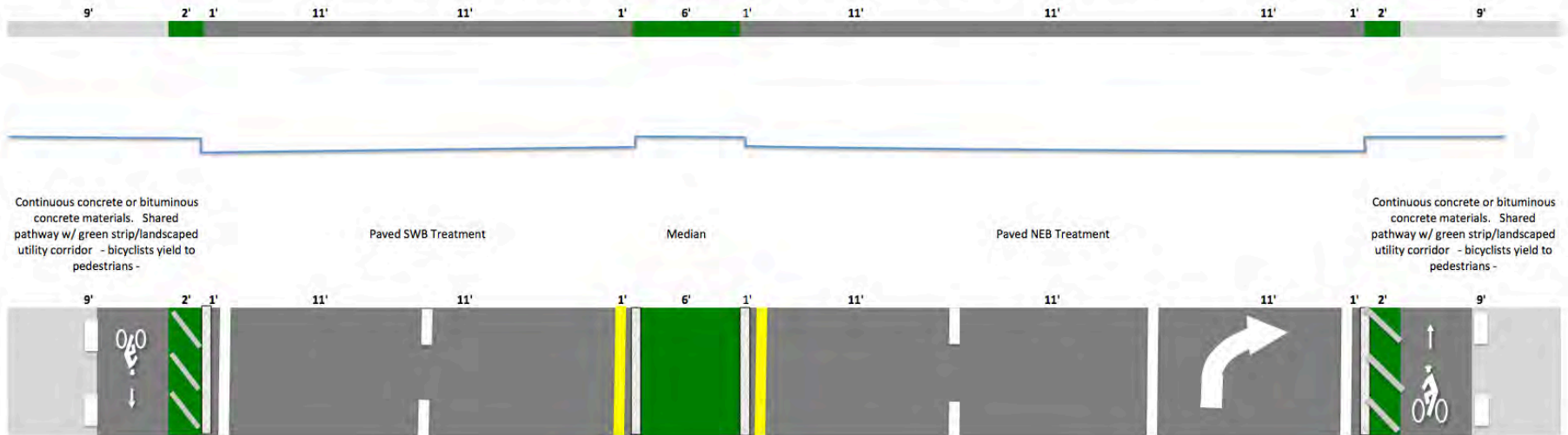
Paved SWB Boulevard Treatment with Bermed Centerline

Paved NEB Boulevard Treatment

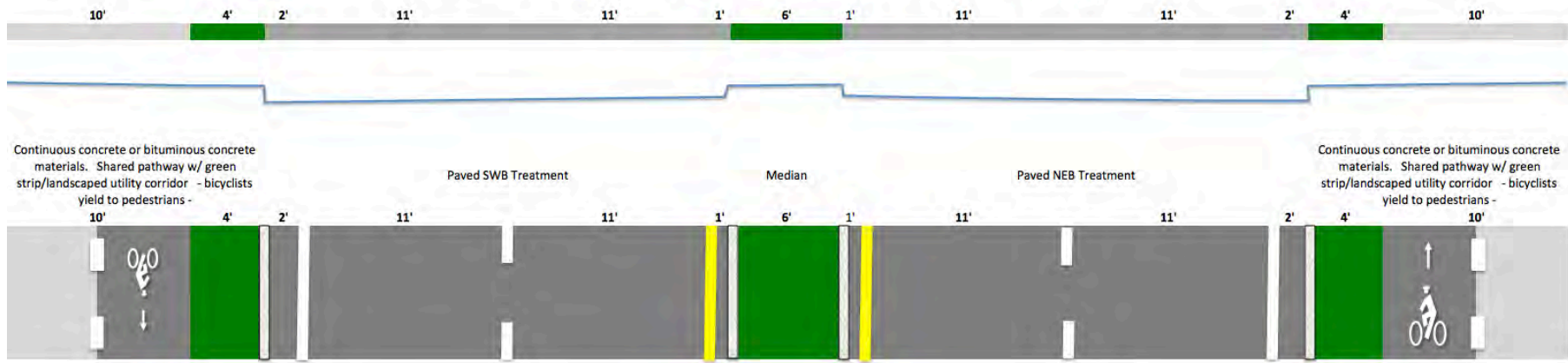
Continuous concrete or bituminous concrete materials. Shared pathway w/possible green strip or hardscape utility corridor - bicyclists yield to pedestrians -

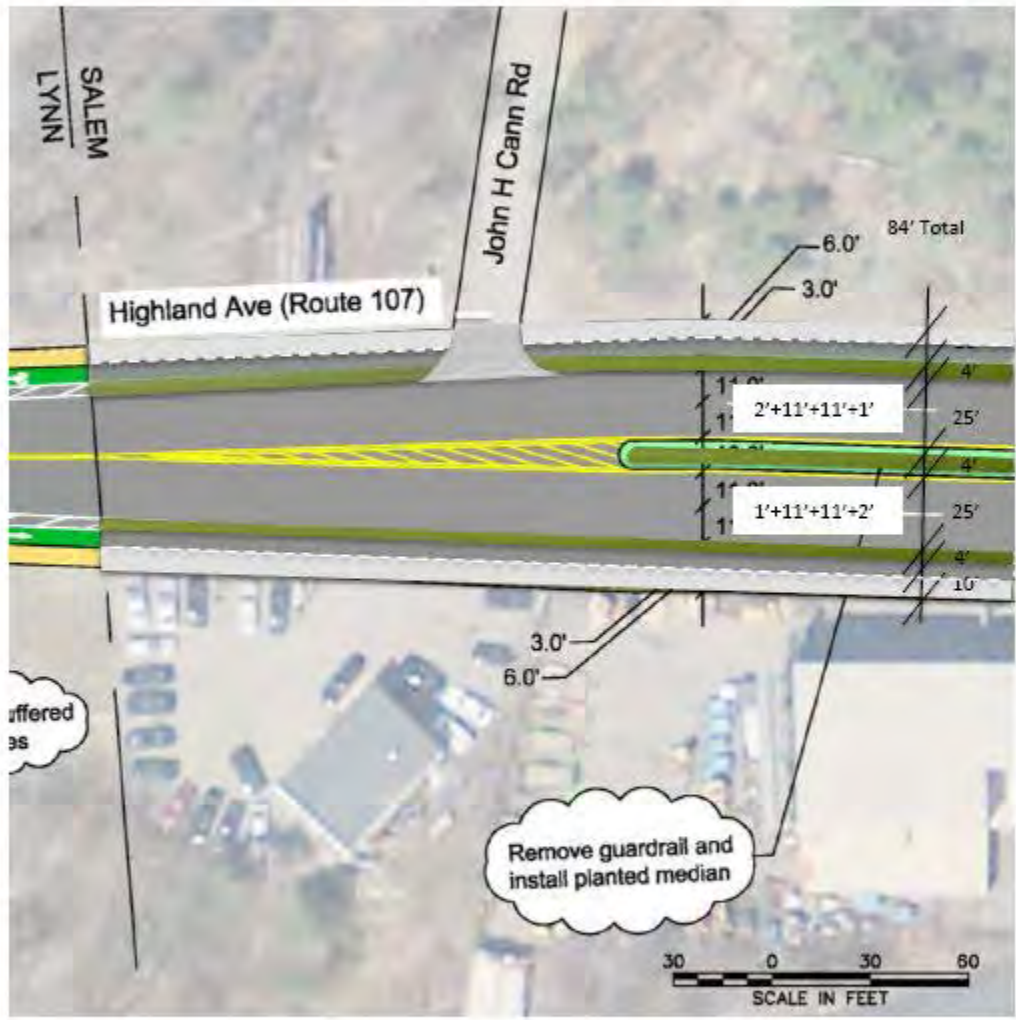


EXAMPLE 2 - SUGGESTED TYPICAL LAYOUT FOR 87' ROW - SOUTHWEST OF SWAMPSCOTT ROAD INTERSECTION



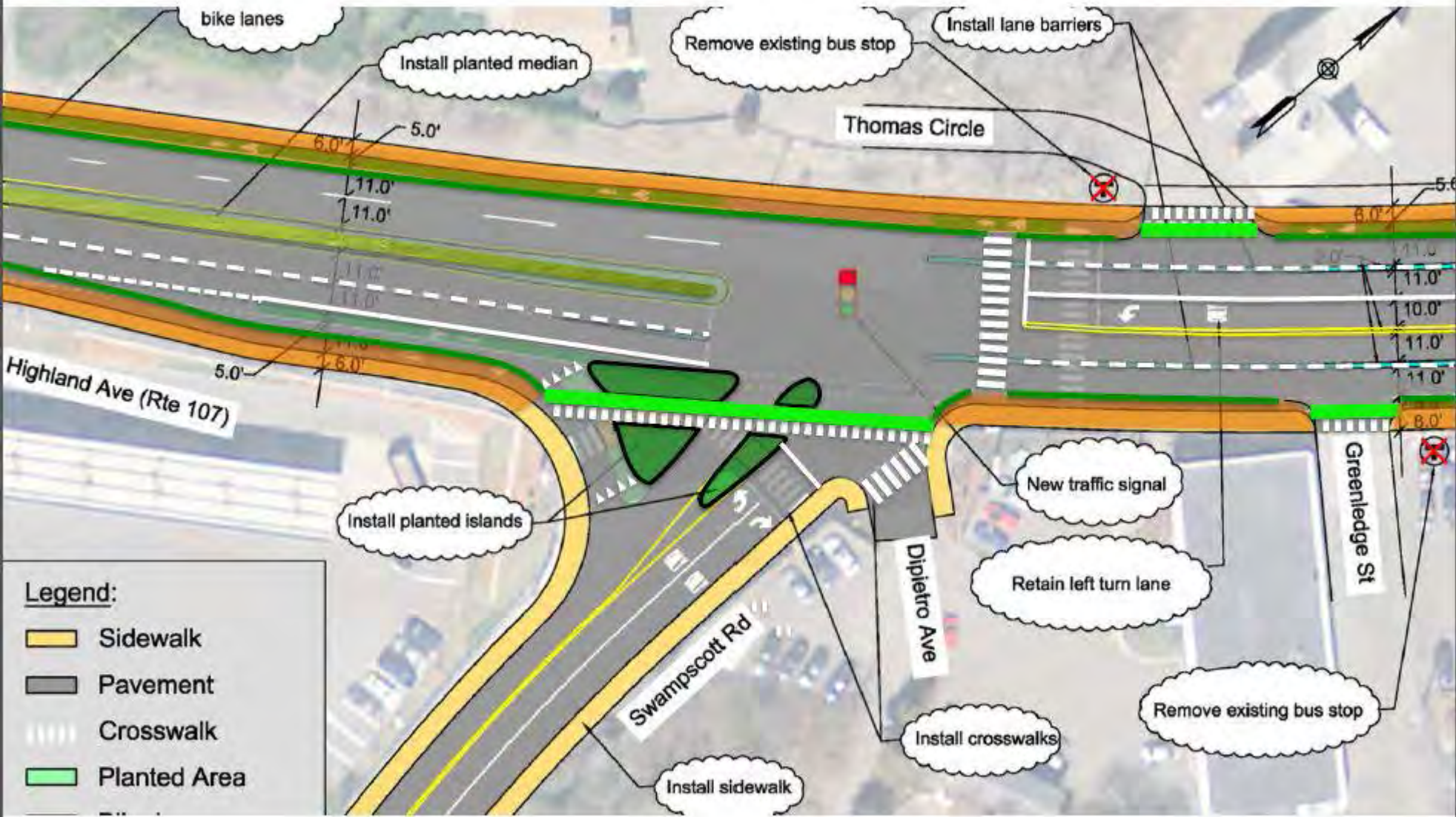
EXAMPLE 4 - SUGGESTED TYPICAL LAYOUT FOR 84' ROW AWAY FROM INTERSECTIONS





Rough concept sketch for illustrative purposes only -- basemap from MassDOT DRAFT REPORT.



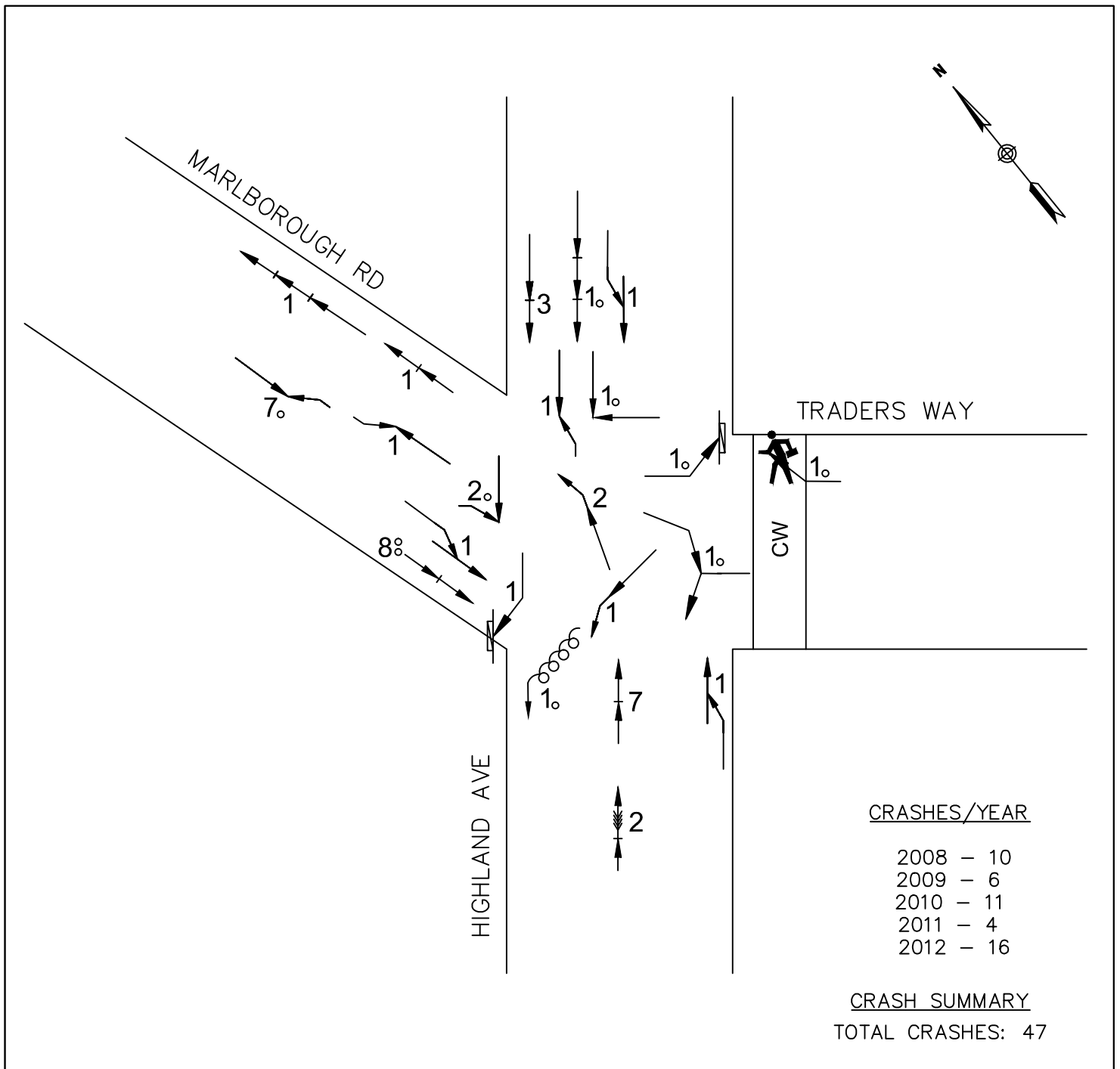


Rough concept sketch for illustrative purposes only -- basemap from MassDOT DRAFT REPORT.

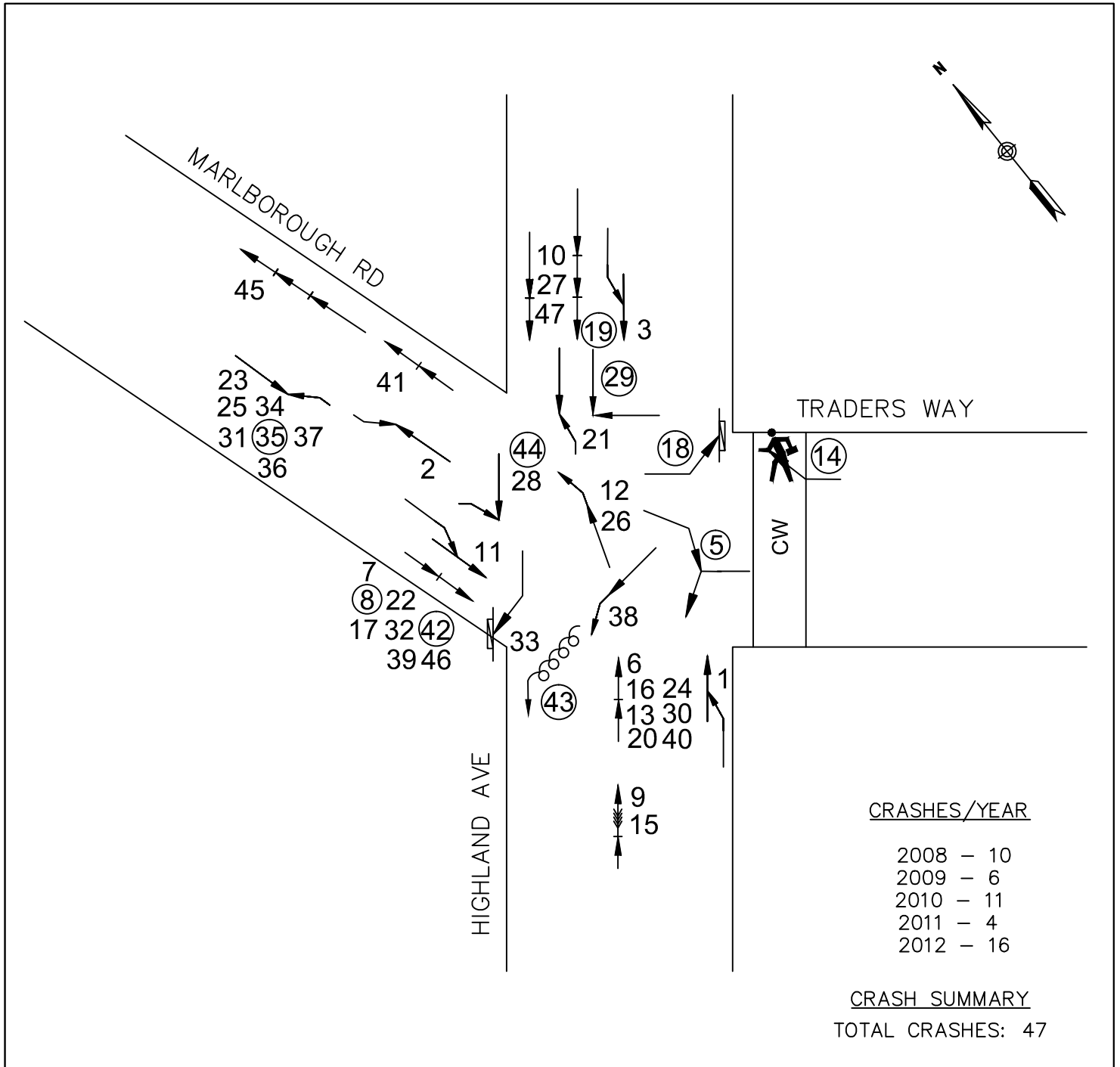


APPENDIX E

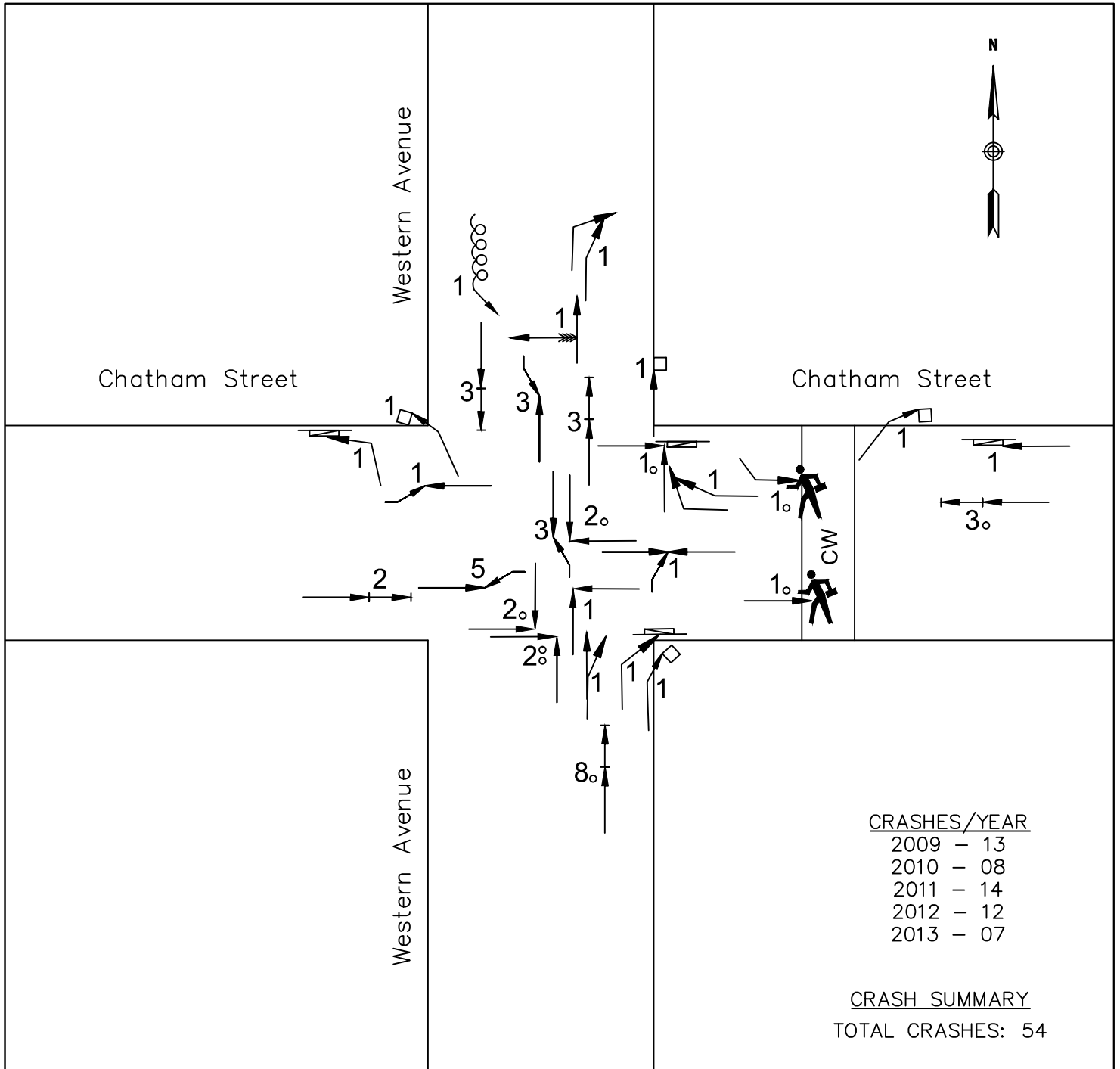
Crash Data



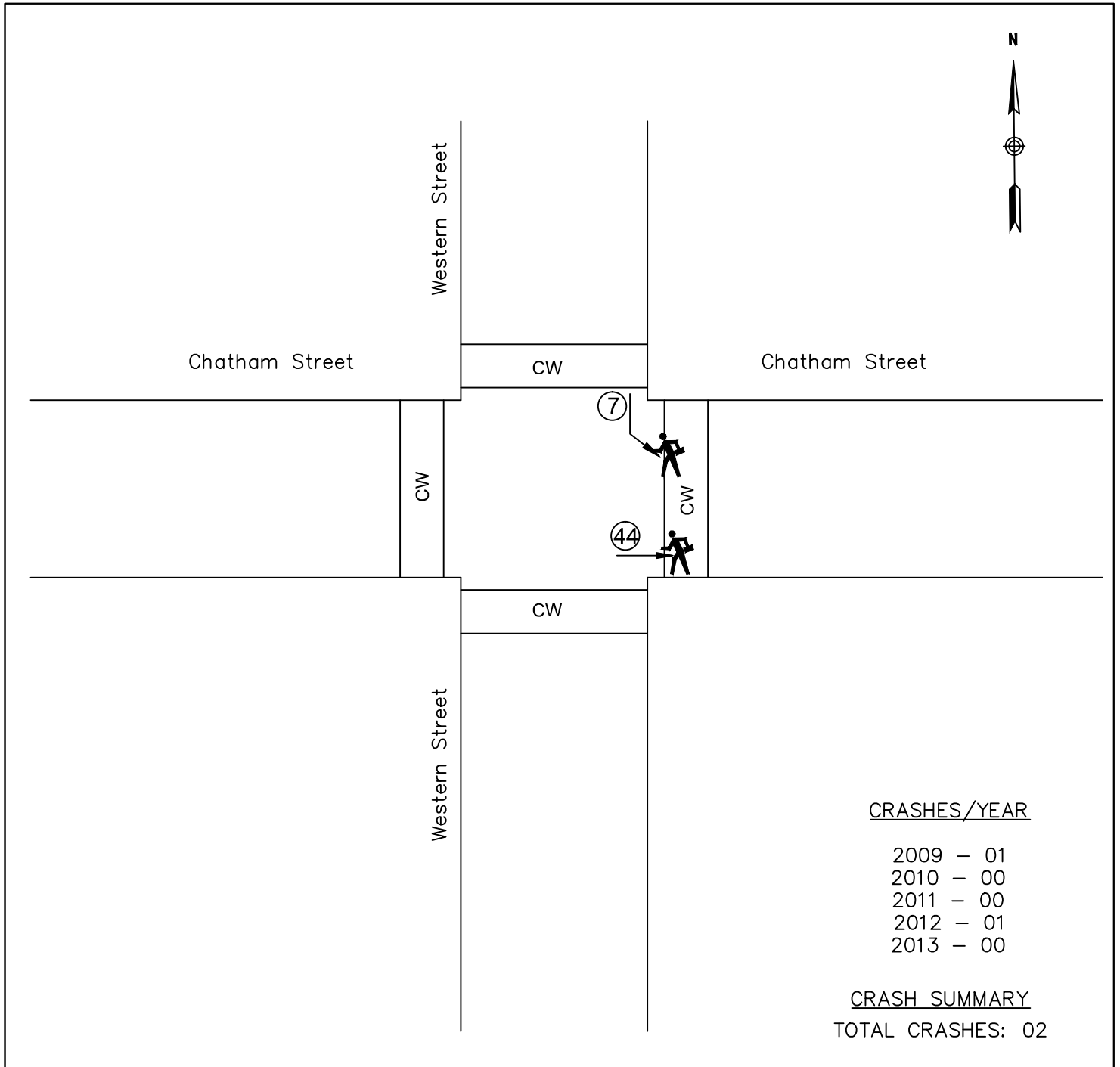
SYMBOL	ACCIDENT TYPE
MOVING VEHICLE	REAR END
BACKING VEHICLE	HEAD ON
PEDESTRIAN	SIDESWIPE
CROSSWALK	OUT OF CONTROL
PARKED VEHICLE	LEFT TURN
FIXED OBJECT	RIGHT ANGLE
INJURY ACCIDENT	



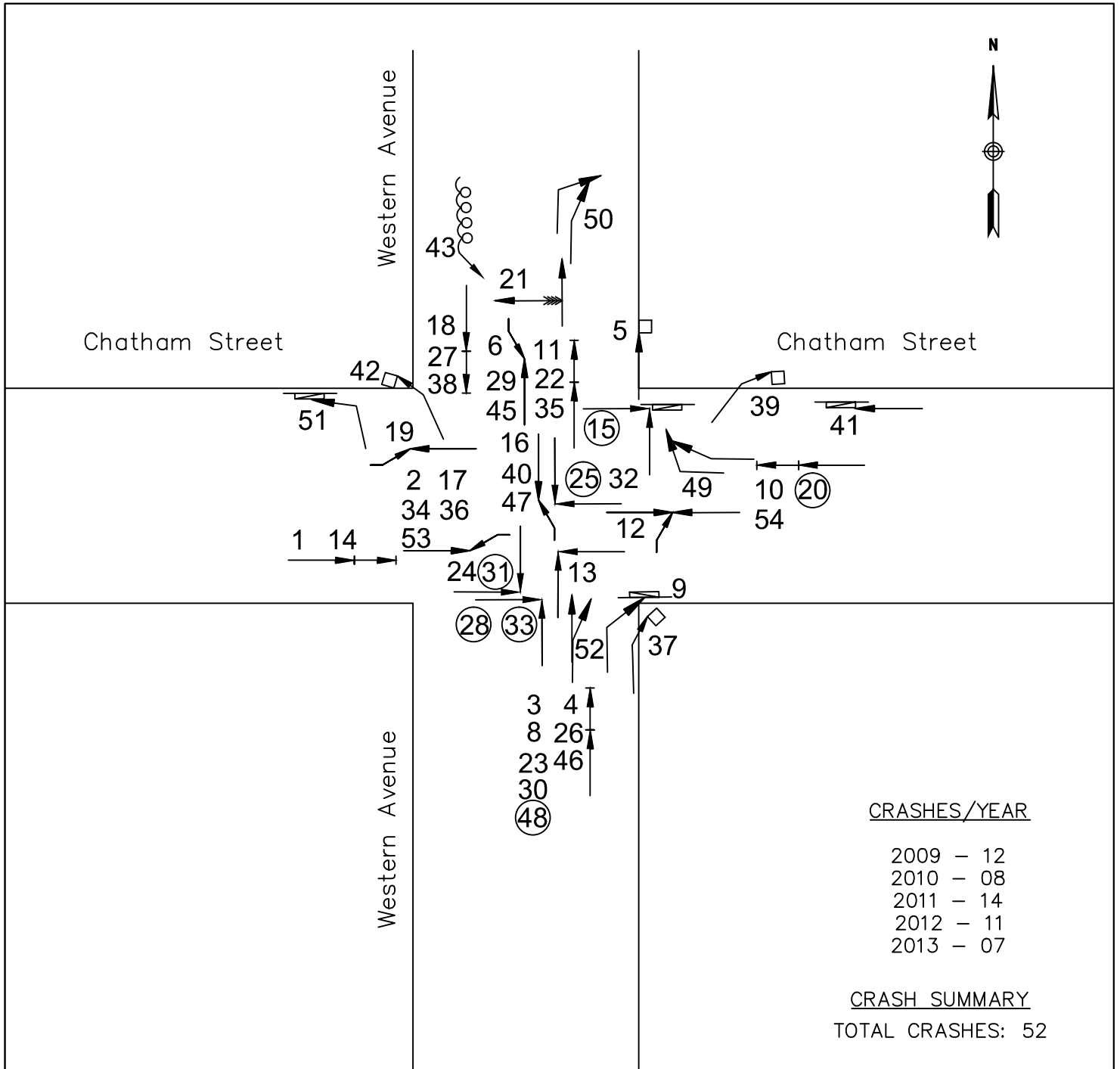
SYMBOL	ACCIDENT TYPE
MOVING VEHICLE	REAR END
BACKING VEHICLE	HEAD ON
PEDESTRIAN	SIDESWIPE
CROSSWALK	OUT OF CONTROL
PARKED VEHICLE	LEFT TURN
FIXED OBJECT	RIGHT ANGLE
INJURY ACCIDENT	



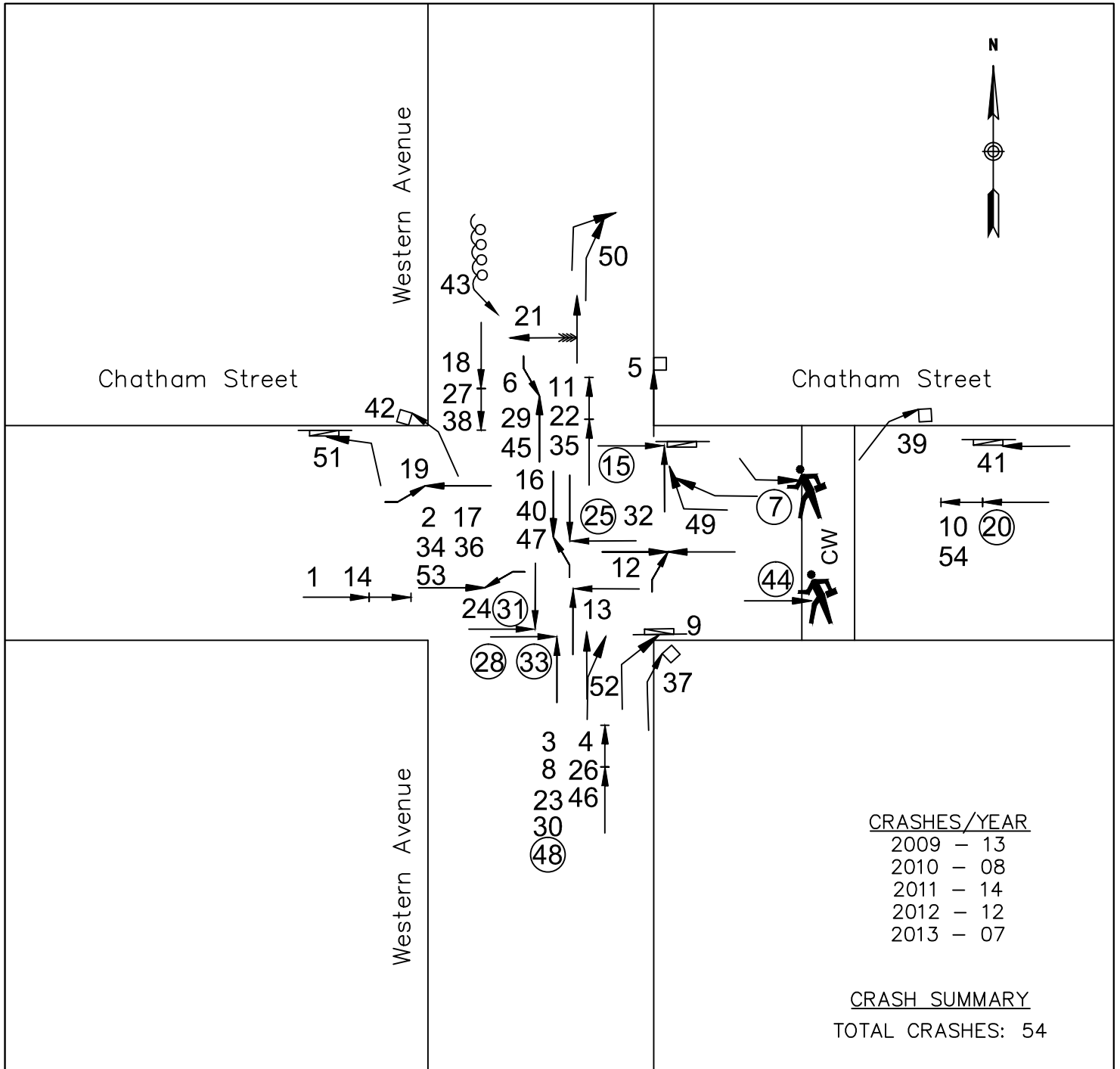
SYMBOL	ACCIDENT TYPE
MOVING VEHICLE BACKING VEHICLE PEDESTRIAN CROSSWALK PARKED VEHICLE FIXED OBJECT INJURY ACCIDENT	REAR END HEAD ON SIDESWIPE OUT OF CONTROL LEFT TURN RIGHT ANGLE



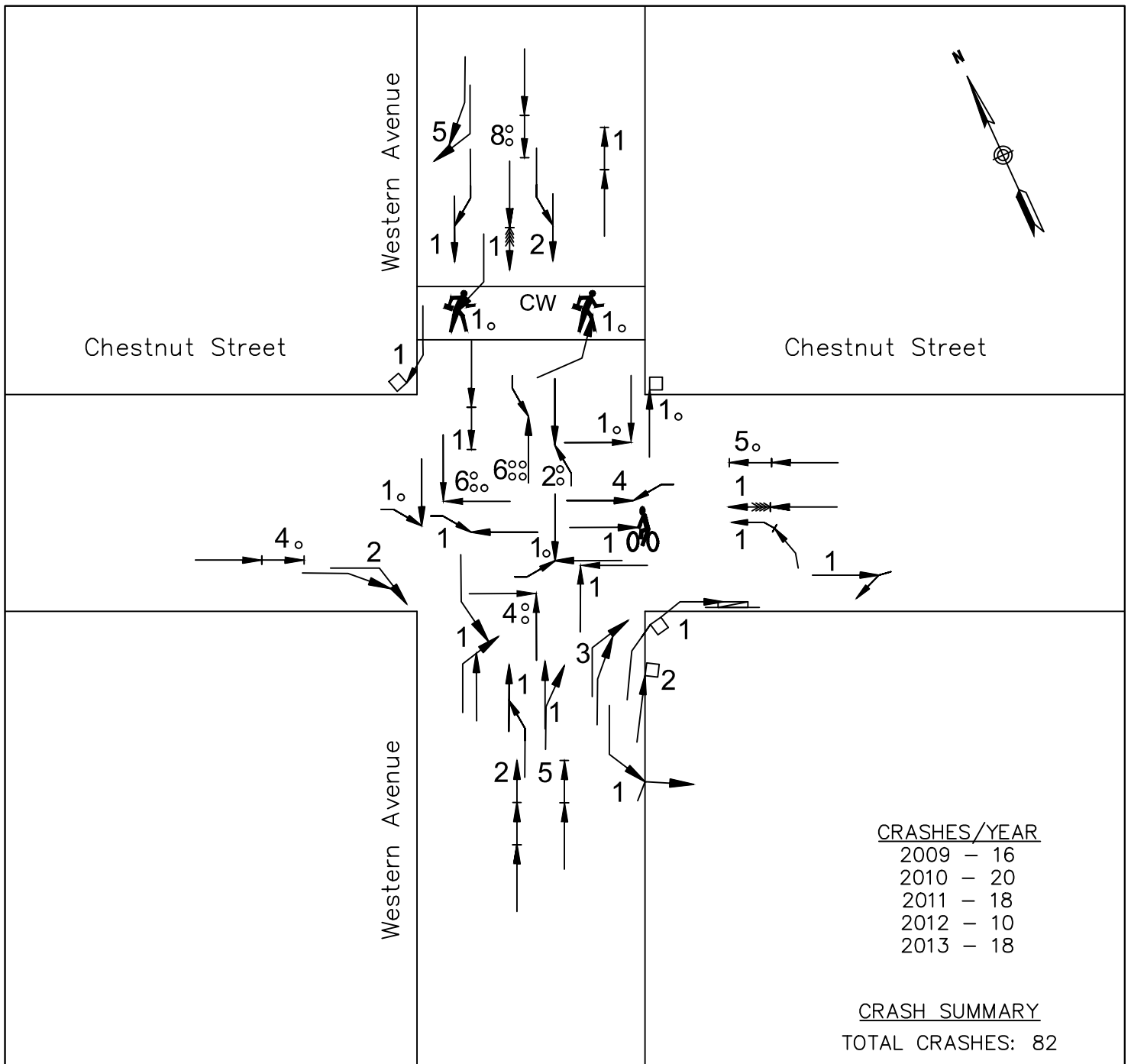
SYMBOL	ACCIDENT TYPE
<p>MOVING VEHICLE BICYCLE PEDESTRIAN CROSSWALK MBTA BUS STOP INJURY ACCIDENT</p>	<p>REAR END HEAD ON SIDESWIPE OUT OF CONTROL LEFT TURN RIGHT ANGLE</p>

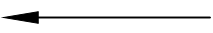
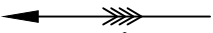



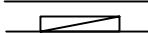





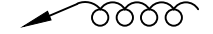

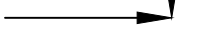


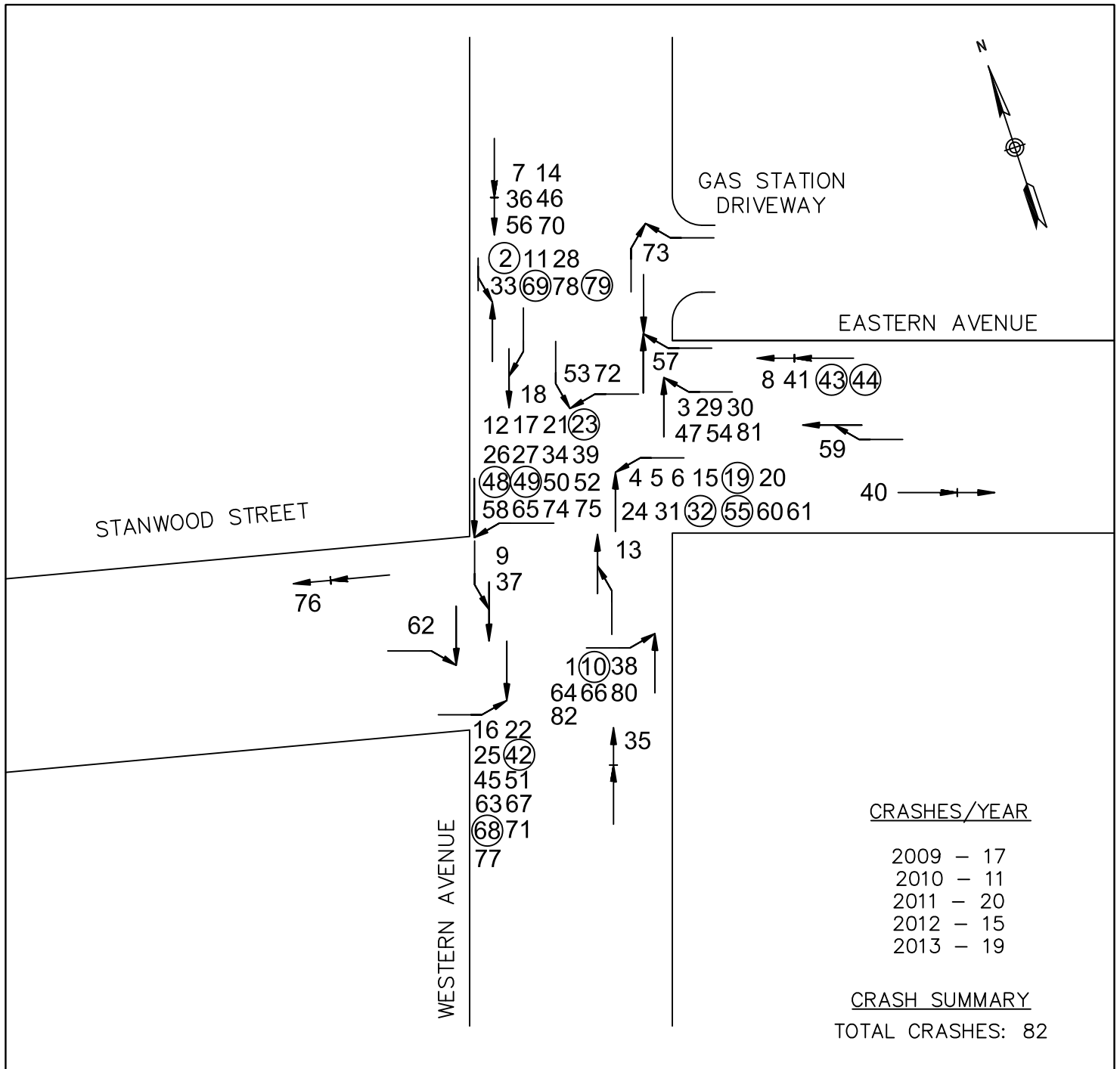
SYMBOL	ACCIDENT TYPE
MOVING VEHICLE	REAR END
BACKING VEHICLE	HEAD ON
PEDESTRIAN	SIDESWIPE
CROSSWALK	OUT OF CONTROL
PARKED VEHICLE	LEFT TURN
FIXED OBJECT	RIGHT ANGLE
INJURY ACCIDENT	



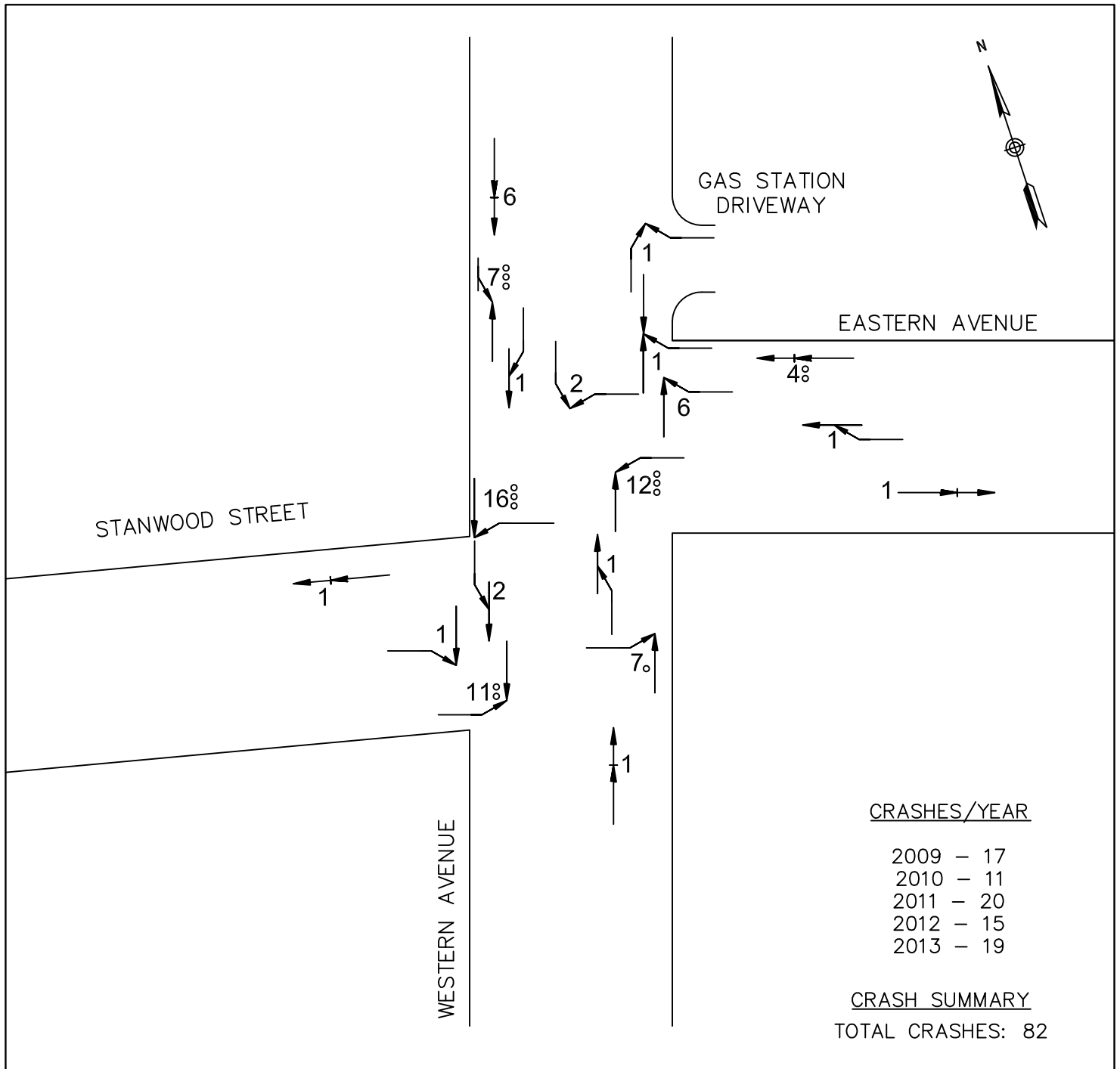
SYMBOL	ACCIDENT TYPE
MOVING VEHICLE BACKING VEHICLE PEDESTRIAN CROSSWALK PARKED VEHICLE FIXED OBJECT INJURY ACCIDENT	REAR END HEAD ON SIDESWIPE OUT OF CONTROL LEFT TURN RIGHT ANGLE



SYMBOL	ACCIDENT TYPE
 MOVING VEHICLE  BACKING VEHICLE  PEDESTRIAN  BICYCLIST  CROSSWALK  PARKED VEHICLE  FIXED OBJECT  INJURY ACCIDENT	 REAR END  HEAD ON  SIDESWIPE  OUT OF CONTROL  LEFT TURN  RIGHT ANGLE



SYMBOL	ACCIDENT TYPE
	MOVING VEHICLE
	BACKING VEHICLE
	NON-INVOLVED VEHICLE
	PEDESTRIAN
	PARKED VEHICLE
	FIXED OBJECT
	FATAL ACCIDENT
	INJURY ACCIDENT
	REAR END
	HEAD ON
	SIDESWIPE
	OUT OF CONTROL
	LEFT TURN
	RIGHT ANGLE



SYMBOL	ACCIDENT TYPE
	REAR END
	HEAD ON
	SIDESWIPE
	OUT OF CONTROL
	LEFT TURN
	RIGHT ANGLE

APPENDIX F

Sidewalk Deficiency Maps



Flax Pond

Severe cracking on sidewalk at edge of curb ramp

Severe cracking on sidewalk at driveway

Bus stops without crosswalks across Route 107

6" sidewalk upheave next to tree

Poor/narrow ramps cracked curb

Parked vehicles encroach on sidewalk

Narrow curb ramp

Cracked curb ramp

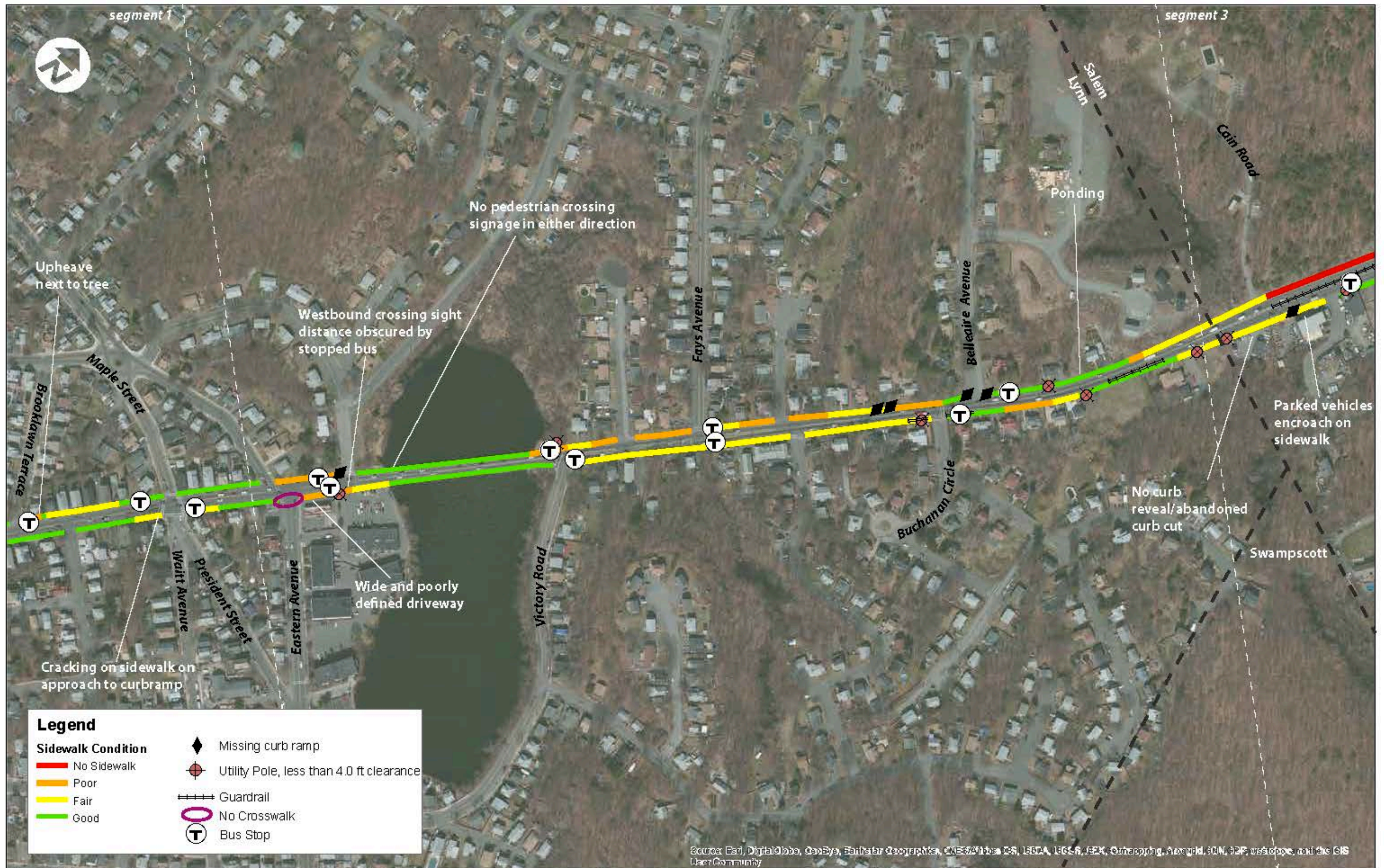
Cracking on sidewalk on approach to curb ramp

Legend

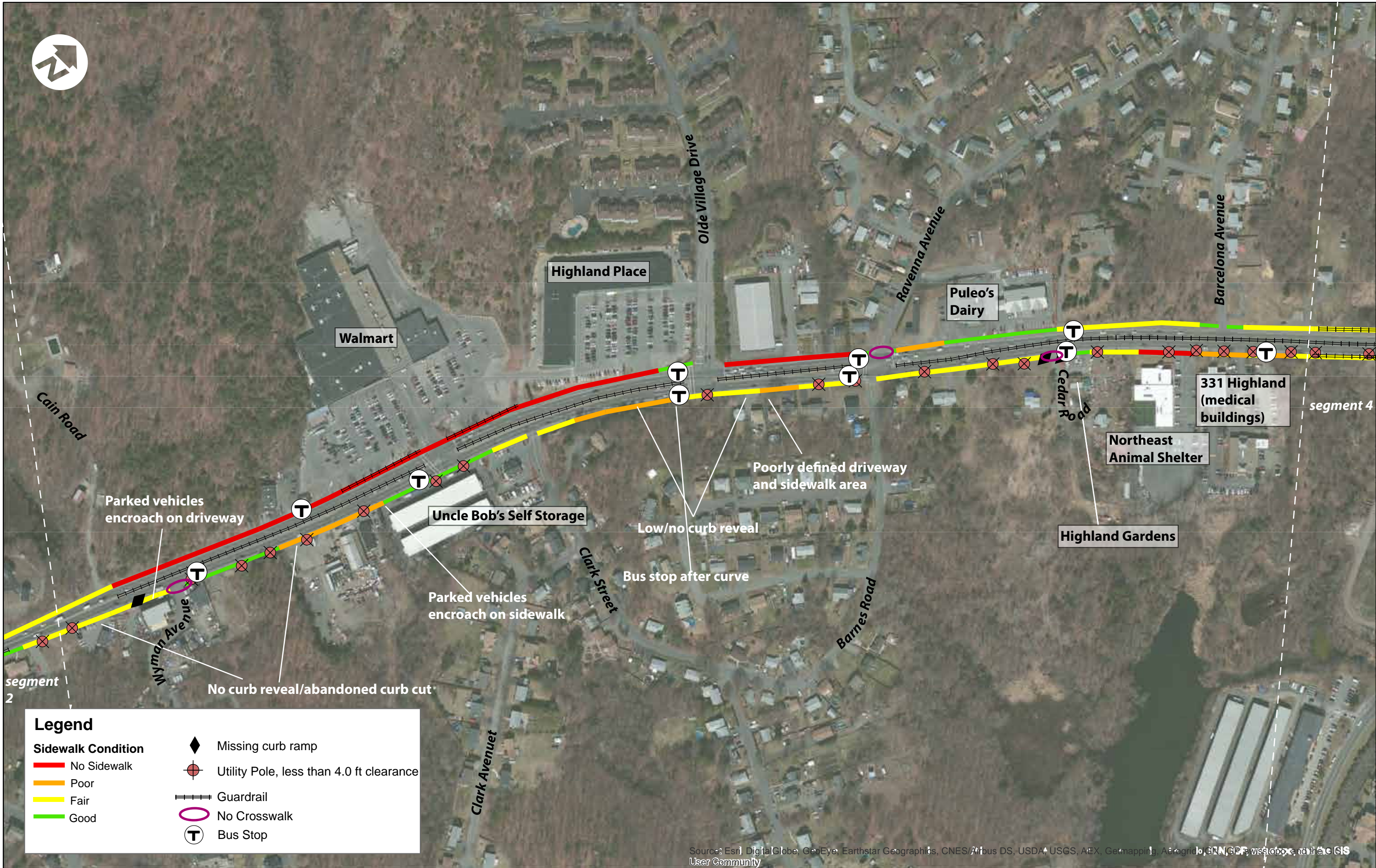
- Sidewalk Condition**
- █ No Sidewalk
 - █ Poor
 - █ Fair
 - █ Good

- Missing curb ramp
- Utility Pole, less than 4.0 ft clearance
- Guardrail
- No Crosswalk
- Bus Stop

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA/USGS, AEX, Getmapping, Aerogrid, IGN, IGP, Swire, and the GIS User Community



Route 107 Segment 2

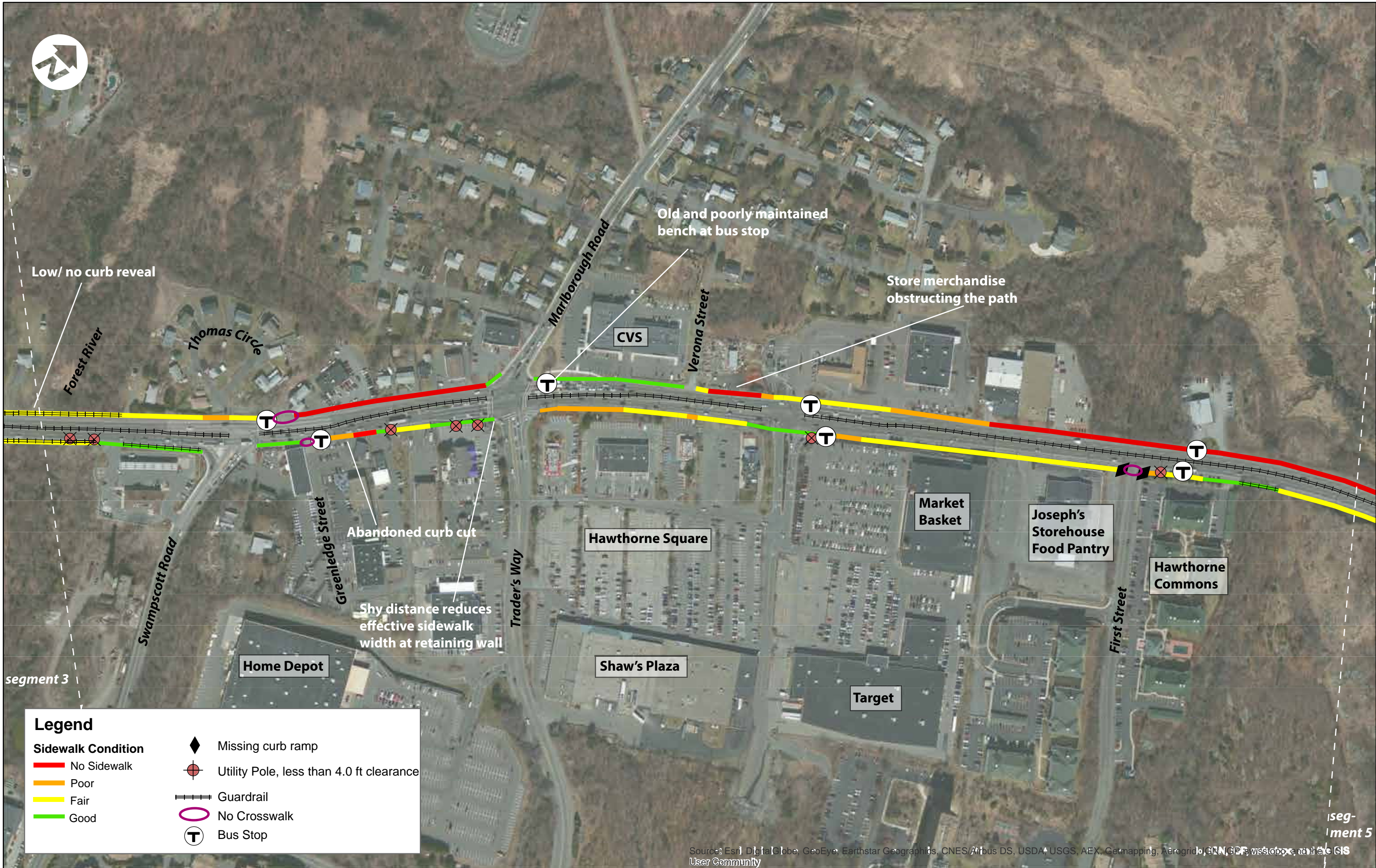


Legend

- | | |
|---------------------------|--|
| Sidewalk Condition | Missing curb ramp |
| No Sidewalk | Utility Pole, less than 4.0 ft clearance |
| Poor | Guardrail |
| Fair | No Crosswalk |
| Good | Bus Stop |

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Route 107 Segment 3



Legend

- | | |
|---------------------------|--|
| Sidewalk Condition | Missing curb ramp |
| No Sidewalk | Utility Pole, less than 4.0 ft clearance |
| Poor | Guardrail |
| Fair | No Crosswalk |
| Good | Bus Stop |

Low/ no curb reveal

Old and poorly maintained bench at bus stop

Store merchandise obstructing the path

Abandoned curb cut

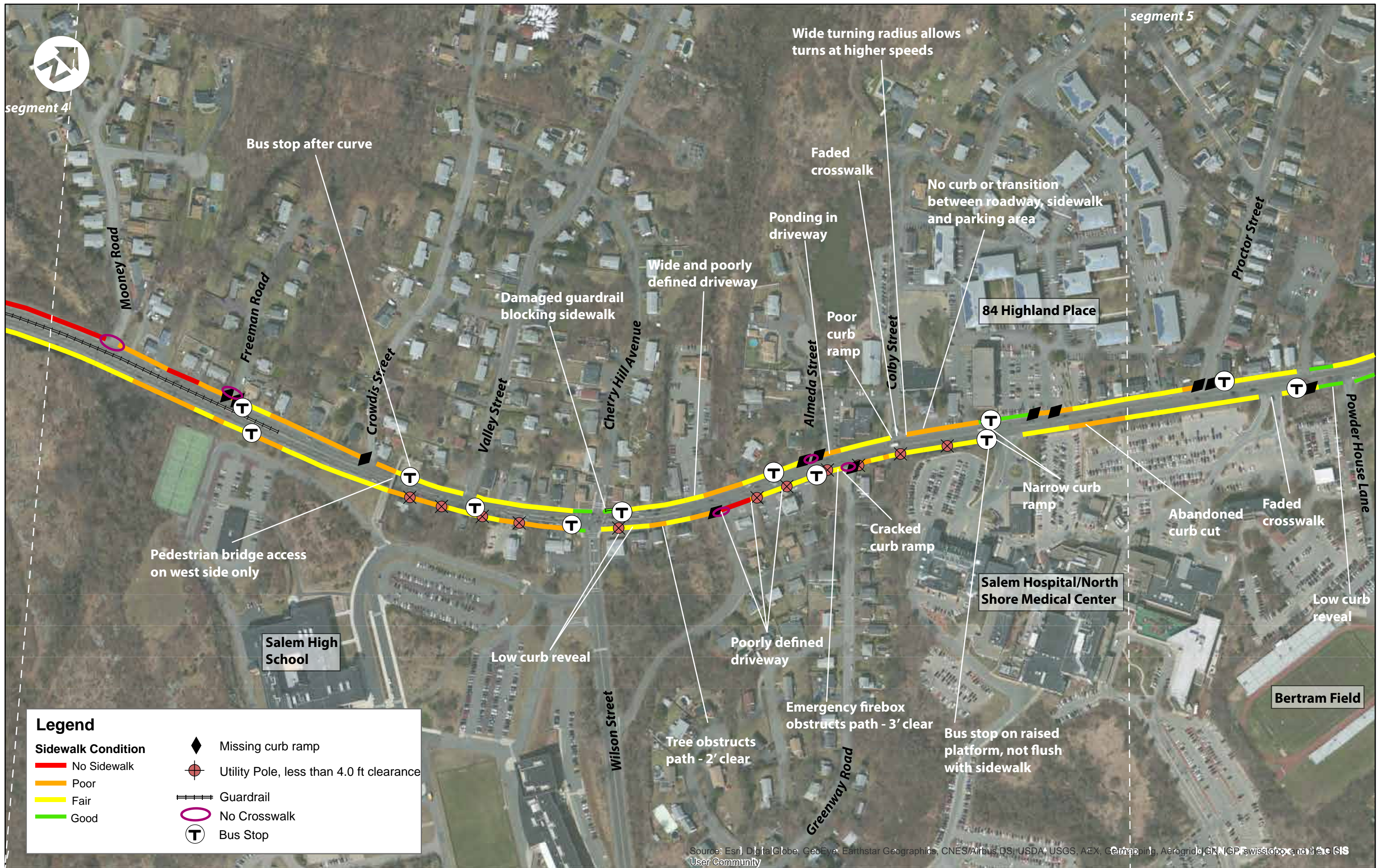
Shy distance reduces effective sidewalk width at retaining wall

segment 3

segment 5

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, Swire, and the GIS User Community

Route 107 Segment 4



Route 107 Segment 5

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Geomatics, Aérgrido, IGN, IGP, swisstopo, and the GIS User Community

segment 5



Legend

Sidewalk Condition	Missing curb ramp
No Sidewalk	Utility Pole, less than 4.0 ft clearance
Poor	Guardrail
Fair	No Crosswalk
Good	Bus Stop

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

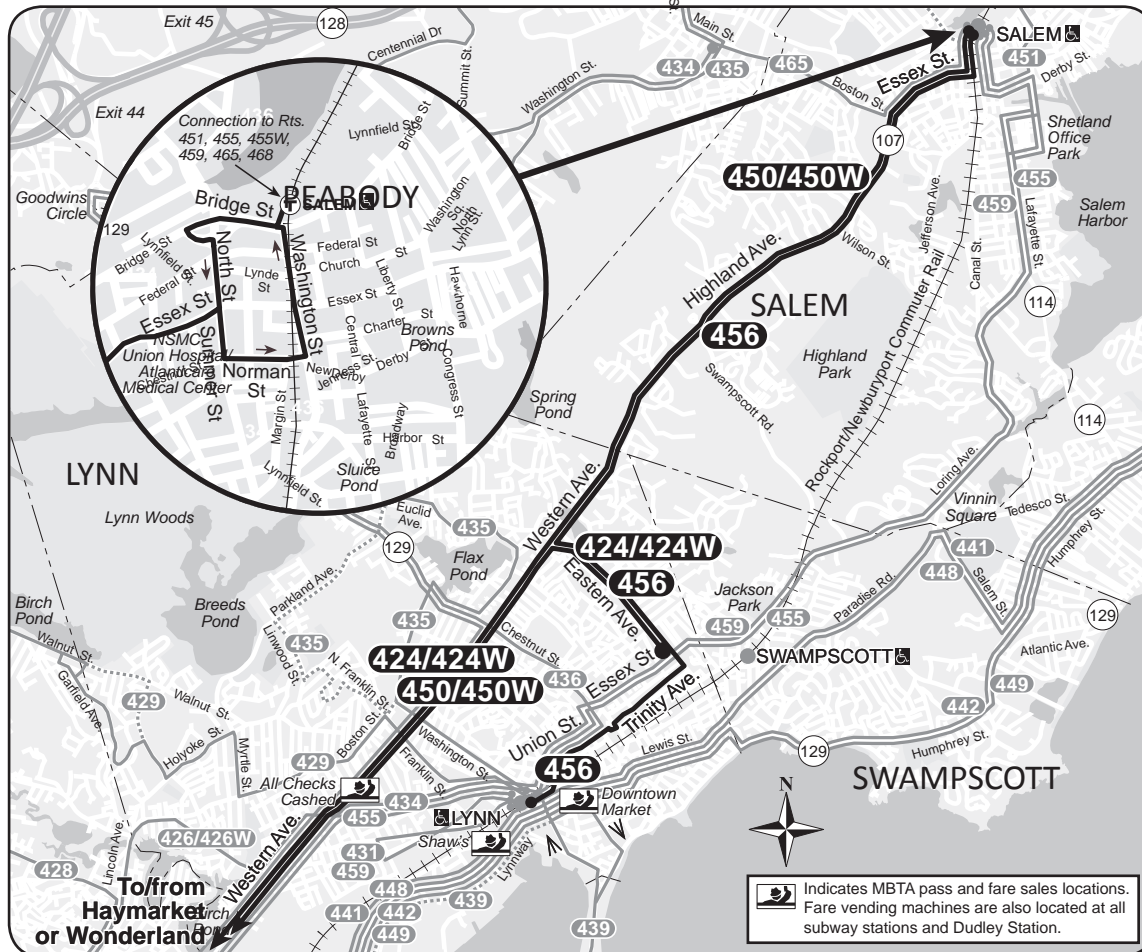
Route 107 Segment 6

APPENDIX G

Transit Information

Bus Route 424

Route 424/424W Eastern Ave/Essex St. - Haymarket or Wonderland
Route 450/450W Salem Depot - Haymarket or Wonderland
Route 456 Salem Depot - Central Square, Lynn



424/424W 450/450W•456

Fall September 3, 2016 - December 30, 2016

424/424W Eastern Ave. & Essex Street-
Haymarket or Wonderland
450/450W Salem Depot-Haymarket or
Wonderland

456 Salem Depot-Central Sq. Lynn

Serving

- Central Square, Lynn
- Salem Hospital
- North Shore Children's Hospital
- Bell Circle
- Eastern Avenue
- Essex Street
- Green Line
- Orange Line



T Massachusetts Bay Transportation Authority **massDOT**
Massachusetts Department of Transportation

Information 617-222-3200 • 1-800-392-6100
(TTY) 617-222-5146 • www.mbta.com

424/424W/450/450W/456 Weekday

Route	Leave Salem Depot	Leave Eastern & Essex	Arrive Central Square	Arrive W.Lynn Garage	Arrive Wonder-land	Arrive Haymarket Station
424W	.....	5:51A	.....	6:08A	6:19A	.....
450	5:40	.....	.....	6:09	.....	6:30A
450	6:10	.....	.....	6:39	.....	7:00
424W	.....	6:31	.....	6:51	7:03	.....
450	6:40	.....	.....	7:11	.....	7:43
424W	.....	7:01	.....	7:22	7:37	.....
450	7:10	.....	.....	7:48	.....	8:20
424W	.....	7:31	.....	7:56	8:15	.....
450	7:40	.....	.....	8:18	.....	8:53
424W	.....	8:01	.....	8:19	8:37	.....
450	8:10	.....	.....	8:43	.....	9:17
450	8:40	.....	.....	9:09	.....	9:37
450	9:10	.....	.....	9:40	.....	10:01
450	10:20	.....	.....	10:56	.....	11:17
450	11:40	.....	.....	12:18P	.....	12:39P
450	1:00	.....	.....	1:38P	.....	1:59P
450	2:20	.....	.....	3:02	.....	3:21
450	3:40	.....	.....	4:24	.....	4:43
450	4:50	.....	.....	5:34	.....	5:53
450	5:40	.....	.....	6:17	.....	6:40
450	6:10	.....	.....	6:40	.....	7:03
450	6:37	.....	.....	7:06	.....	.....
450W	7:01	.....	.....	7:29	7:44	.....
450	7:39	.....	.....	8:03	.....	.....
450	8:10	.....	.....	8:34	.....	8:58
450	9:10	.....	.....	9:35	.....	9:57
450	10:15	.....	.....	10:40	.....	11:02
450	11:15	.....	.....	11:36	.....	11:57
450	12:12A	.....	.....	12:32A	.....	.....
450	1:10	.....	.....	1:30	.....	.....

All buses are accessible to persons with disabilities

450W Saturday

Route	Leave Salem Depot	Arrive W. Lynn Garage	Arrive Wonderland Station	Leave Wonderland Station	Arrive W. Lynn Garage	Arrive Salem Depot
450	.....	4:42A	.....	5:03A	.....	.....
450	.....	5:10	.....	5:29	.....	.....
450	.....	5:41	.....	6:00	.....	.....
450	.....	6:28	.....	7:03	.....	.....
450	6:40A	6:58	.....	7:36	.....	.....
450	7:10	7:28	.....	8:12	.....	.....
450	7:40	7:57	.....	8:36	.....	.....
450	8:10	8:27	.....	9:06	.....	.....
450	9:10	9:27	.....	10:06	.....	.....
450	10:20	10:38	.....	11:19	.....	.....
450	11:40	12:01P	.....	12:42	.....	.....
450	1:00P	1:21P	.....	2:03	.....	.....
450	2:15	2:40	.....	3:29	.....	.....
450	3:10	3:35	.....	4:17	.....	.....
450	3:40	4:04	.....	4:49	.....	.....
424 b	4:00	4:26	.....	.....	.....	.....
450	4:25	4:53	.....	5:39	.....	.....
424 b	4:40	5:07	.....	.....	.....	.....
450	4:55	5:25	.....	6:11	.....	.....
424 b	5:10	5:46	.....	.....	.....	.....
450	5:25	5:56	.....	6:37	.....	.....
424 b	5:40	6:15	.....	.....	.....	.....
450	5:55	6:21	.....	7:00	.....	.....
450	6:10	6:35	.....	7:11	.....	.....
450	6:40	7:02	.....	7:33	.....	.....
450	7:10	7:29	.....	8:00	.....	.....
450	8:20	8:39	.....	9:10	.....	.....
450	9:20	9:39	.....	10:10	.....	.....
450	10:20	10:39	.....	11:10	.....	.....
450	11:30	11:49	.....	12:20A	.....	.....

450W Sunday

Route	Leave Salem Depot	Arrive W. Lynn Garage	Arrive Wonderland Station	Leave Wonderland Station	Arrive W. Lynn Garage	Arrive Salem Depot
450	8:30A	8:55A	9:08A	7:45A	8:00A	8:23A
450	9:30	9:55	10:08	8:45	9:00	9:23
450	10:30	10:55	11:08	9:45	10:00	10:23
450	11:30	11:55	12:08P	10:45	11:00	11:23
450	11:45	.....	.....	11:45	12:00N	12:23P
450	12:30P	12:55P	1:08P	.....	.....	.....
450	1:30	1:55	2:08	12:45P	1:00P	1:23P
450	2:30	2:55	3:08	1:45	2:00	2:23
450	3:30	3:55	4:08	2:45	3:00	3:23
450	4:30	4:55	5:08	3:45	4:00	4:23
450	5:30	5:55	6:08	4:45	5:00	5:23
450	6:30	6:55	7:08	5:45	6:00	6:23
450	7:30	7:55	8:08	6:45	7:00	7:23
450	8:30	8:55	9:08	7:45	8:00	8:23
450	9:30	9:55	10:08	8:45	9:00	9:23
450	10:30	10:55	11:08	9:45	10:00	10:23
450	11:50	12:15A	.....	10:45	11:00	11:23

b - To Eastern Avenue & Essex Street

All Route 450 trips travel via the Callahan/Sumner Tunnel

Route 424/424W Eastern Avenue & Essex Street-Haymarket or Wonderland

Route 450/450W Salem Depot-Haymarket or Wonderland

Route 456 Salem Depot-Central Square, Lynn

Route 424/424W/450/450W Fares

Fare	Local Bus	Inner Express	Inner Express + Local Bus	Inner Express + Subway
CharlieCard	\$1.70	\$4.00	\$4.00	\$4.00
CharlieTicket	\$2.00	\$5.00	\$7.00	\$7.75
Cash-on-Board	\$2.00	\$5.00	\$7.00	\$7.75
Student*	\$0.85	\$2.50	\$2.50	\$2.50
Senior/TAP**	\$0.85	\$2.50	\$2.50	\$2.50

VALID PASSES: Inner Express Bus (\$128/mo.), Outer Express Bus (\$168/mo.), commuter rail, and boat passes.
 FREE FARES: Children under 12 ride free when accompanied by an adult; Blind Access CharlieCard holders ride free and if using a guide, the guide rides free.
 * Requires Student CharlieCard, available to students through participating middle schools and high schools.
 ** Requires Senior/TAP CharlieCard, available to Medicare cardholders, seniors 65+, and persons with disabilities.

Local bus fare applies if your trip does not include MassRapid the Tobin Bridge or Boston Harbor

Route 456 Fares

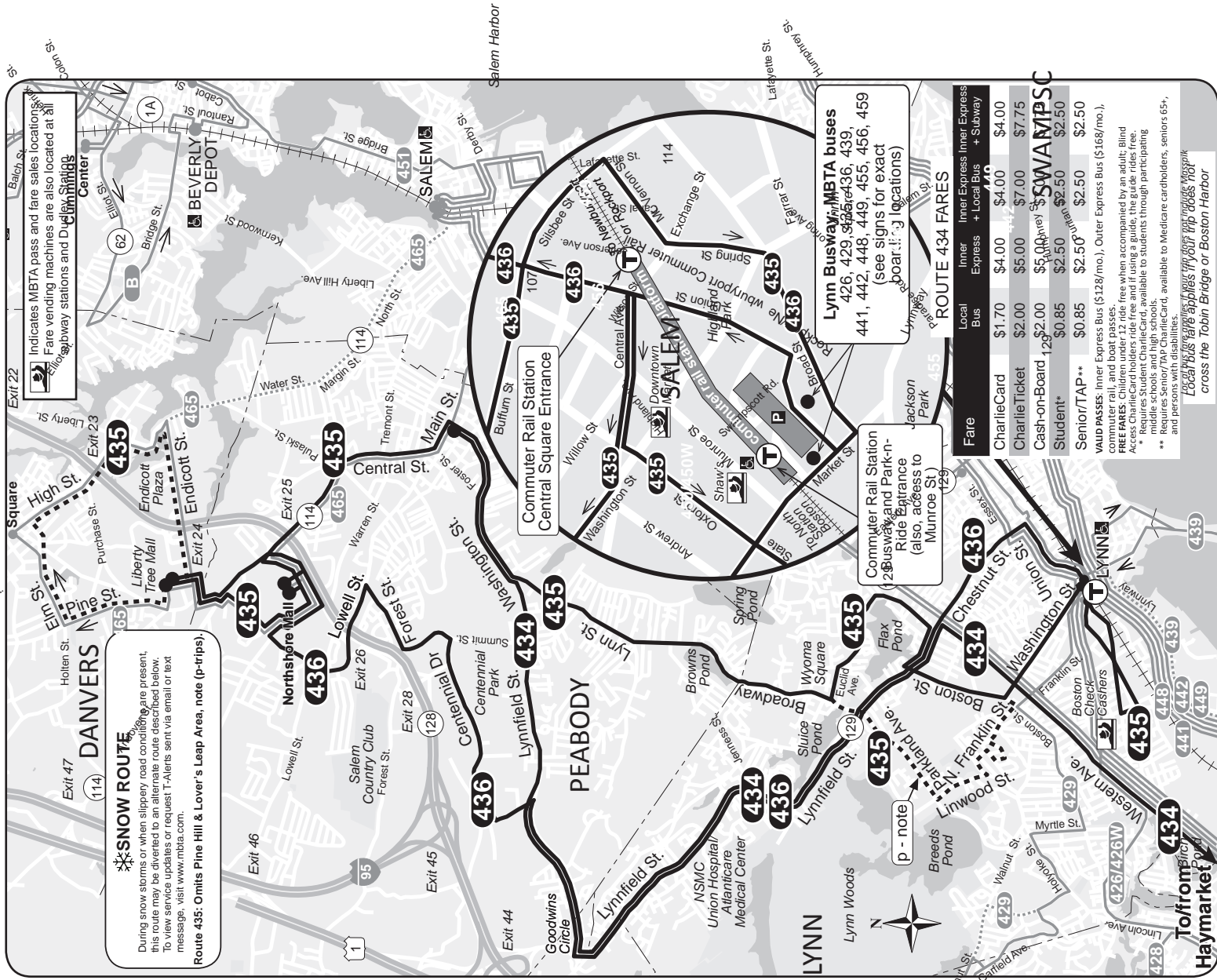
Fare	Local Bus	Bus + Bus	Rapid Transit	Bus + Rapid Transit
CharlieCard	\$1.70	\$1.70	\$2.25	\$2.25
CharlieTicket	\$2.00	\$2.00	\$2.75	\$4.75
Cash-on-Board	\$2.00	\$4.00	\$2.75	\$4.75
Student*	\$0.85	\$0.85	\$1.10	\$1.10
Senior/TAP**	\$0.85	\$0.85	\$1.10	\$1.10

VALID PASSES: LinkPass (\$84.50/mo.), Local Bus (\$55/mo.), *Student LinkPass (\$30.00/mo.), **Senior/TAP LinkPass (\$30/mo.) and express bus, commuter rail, and boat passes.
 FREE FARES: Children 11 and under ride free when accompanied by an adult; Blind Access CharlieCard holders ride free and if using a guide, the guide rides free.
 * Requires Student CharlieCard, available to students through participating middle schools and high schools.
 ** Requires Senior/TAP CharlieCard, available to Medicare cardholders, seniors 65+, and persons with disabilities.

Fall 2016 Holidays
 October 10 & November 11: see Weekday
 September 5, November 24 & December 26: see Sunday

Bus Route 434

Route 434 Peabody Square - Haymarket Station
Route 435 Liberty Tree Mall - Central Square, Lynn or Neptune Towers via Peabody Sq.
Route 436 Liberty Tree Mall - Central Square, Lynn via Goodwins Cir.



route/schedule change

434•435•436

Fall September 3, 2016 - December 30, 2016

434 Peabody Square-Haymarket Station
435 Liberty Tree Mall-Central Square, Lynn or Neptune Towers via Peabody Square
436 Liberty Tree Mall-Central Square, Lynn via Goodwins Circle

Serving

- AtlantiCare Medical Center
- Wyoma Square
- Lakeshore Park
- Centennial Park
- Newburyport/Rockport Commuter Rail

T Massachusetts Bay Transportation Authority **massDOT**
 Massachusetts Department of Transportation

Information 617-222-3200 • 1-800-392-6100
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434/435/436

Weekday

Route	Leave Liberty Tree Mall	Lv/Arrive N. Shore Mall	Leave Main St. Peabody	Arrive Centennial Park	Lv/Arrive Goodwins Circle	Arrive Central Square	Arrive Neptune Towers
436	.....	.....	.....	.....	6:40A	7:00A	7:05A
435	.....	.....	6:40A	.....	.....	7:05	.....
434	.....	.....	h 6:45	.....	6:58	.....	.....
435	.....	.....	p 7:15	.....	.....	7:43	.....
436	.....	7:00A	.....	7:13A	7:21	7:44	.....
436	.....	7:25	.....	7:38	7:46	8:09	.....
435	8:05A	8:14	8:23	.....	.....	8:48	8:53
436	.....	8:10	.....	8:23	8:31	8:50	.....
436	.....	8:40	.....	8:55	9:01	9:20	.....
436	.....	9:05	.....	9:20	9:26	9:45	.....
435	9:10	9:16	p 9:22	.....	.....	9:53	9:58
436	9:40	9:47	.....	10:03	10:09	10:33	.....
435	10:20	10:29	10:38	.....	.....	11:03	11:08
436	10:55	11:02	.....	11:16	11:22	11:47	.....
435	11:25	11:34	11:43	.....	.....	12:08P	12:13P
436	12:05P	12:13P	.....	12:27P	12:33P	12:58P	.....
435	12:35	12:44	12:53P	.....	.....	1:18	1:23P
436	1:10	1:17	.....	1:31	1:39	2:04	.....
435	1:45	1:57	2:08	.....	.....	2:33	2:40
436	.....	.....	.....	ms 2:35	2:43	.....	.....
436	.....	.....	.....	bs 2:45	3:04	.....	.....
436	2:25	2:33	.....	2:48	2:56	3:24	.....
435	3:05	3:17	3:28	.....	.....	3:53	3:58
436	3:35	3:44	.....	4:00	4:08	4:34	.....
435	4:15	4:27	4:38	.....	.....	5:03	.....
436	4:45	4:54	.....	5:13	5:22	5:48	.....
435	5:10	5:22	5:33	.....	.....	5:58	.....
436	5:30	5:38	.....	5:57	6:03	6:26	.....
436	5:50	5:58	.....	6:13	6:18	6:41	.....
435	6:10	6:19	6:28	.....	.....	6:53	.....
436	6:40	6:48	.....	7:03	7:08	7:31	.....
435	7:50	8:01	8:06	.....	.....	8:33	.....
435	8:45	8:56	9:01	.....	.....	9:26	.....
435	9:45	9:57	10:01	.....	.....	10:26	.....
435	10:45	10:55	10:58	.....	.....	11:20	.....

- b - Leaves from Broadway at Conomo Avenue to West Lynn Garage
- c - To/from Central Square, Lynn ONLY
- d - Continues to Danvers Square
- g - Leaves from Haymarket Station at 5:20 PM.
- h - To Haymarket Station, arrives at 8:00AM
- m- Leaves from Goodridge Street at Memorial Park Avenue to West Lynn Garage
- o - Continues to O'Callaghan Way & Osborne Street via Route 429
- p - Via Pine Hill
- s - Does NOT run during school vacation

**Route 434
Peabody Square-Haymarket
EXPRESS**

Please refer to map side of this card for fare information.

Route 434 Weekday Note: Service between Peabody Square and Haymarket Station via Goodwins Circle & Western Avenue departs Peabody at 6:45 AM. Departs Haymarket Station at 5:20 PM.

Fall 2016 Holidays

October 10 & November 11: see Weekday
September 5, November 24 & December 26: see Sunday

435/436

Saturday

Route	Leave Liberty Tree Mall	Arrive N. Shore Mall	Leave Main St. Peabody	Arrive Centennial Park	Lv/Arrive Goodwins Circle	Arrive Central Square	Arrive Neptune Towers	Route	Leave Neptune Towers	Leave Central Square	Arrive Goodwins Circle	Arrive Centennial Park	Arrive Main St. Peabody	Arrive N. Shore Mall	Arrive Liberty Tree Mall
436	.....	.....	.....	.....	6:45A	7:02A	.....	436	.....	6:20A	6:40A	.....	.....	.....	.....
436	.....	.....	.....	.....	8:25	8:42	.....	436	.....	8:00	8:20	.....	.....	.....	.....
435	9:25A	9:38A	9:42A	.....	.....	10:12	10:17A	435	.....	8:30	.....	.....	8:54A	9:05A	9:15A
436	10:10	10:18	.....	10:29A	10:35	10:55	.....	436	.....	9:00	9:19	9:24A	.....	9:37	9:44
435	10:35	10:48	10:52	.....	.....	11:22	11:27	435	.....	9:35	.....	.....	9:59	10:10	10:20
436	11:20	11:32	.....	11:44	11:51	12:13P	.....	436	.....	10:10	10:29	10:35	.....	10:48	10:55
435	11:45	12:03P	12:09P	.....	.....	12:42	12:47P	435	10:42A	10:45	.....	.....	11:11	11:24	11:34
436	.....	.....	.....	.....	.....	.....	.....	436	.....	11:20	11:43	11:49	.....	12:02P	12:10P
435	11:52	11:55	.....	.....	.....	.....	.....	435	11:52	11:55	.....	.....	12:21P	12:34	12:44
436	12:30P	12:42P	.....	12:54P	1:01P	1:25P	.....	436	.....	12:30P	12:53P	12:59P	.....	1:14P	1:22P
435	12:55	1:13	1:19P	.....	.....	1:52	1:56P	435	1:02P	1:05	.....	.....	1:33P	1:47	1:59
436	1:40	1:53	.....	2:06	2:13	2:37	.....	436	.....	1:40	2:03	2:09	.....	2:25	2:33
435	2:05	2:20	2:26	.....	.....	2:58	3:02	435	2:12	2:15	.....	.....	2:43	2:57	3:09
436	2:50	3:03	3:03	3:16	3:23	3:47	.....	436	.....	2:50	3:14	3:20	.....	3:36	3:44
435	3:15	3:32	3:39	.....	.....	4:12	4:16	435	3:22	3:25	.....	.....	3:53	4:06	4:17
436	4:00	4:13	.....	4:26	4:33	4:56	.....	436	.....	4:00	4:21	4:27	.....	4:43	4:51
435	4:25	4:42	4:49	.....	.....	5:22	5:26	435	4:32	4:35	.....	.....	5:00	5:13	5:24
436	5:10	5:24	.....	5:37	5:44	6:06	.....	436	.....	5:10	5:31	5:37	.....	5:53	6:01
435	5:35	5:52	5:59	.....	.....	6:32	.....	435	5:42	5:45	.....	.....	6:08	6:19	6:29
436	6:20	6:34	.....	6:47	6:54	7:16	.....	436	.....	6:20	.....	.....	6:42	6:53	7:02
435	6:45	6:59	7:03	.....	.....	7:32	.....	435	.....	7:00	.....	.....	7:21	7:32	7:41
435	7:30	7:44	7:48	.....	.....	8:16	.....	435	.....	8:00	.....	.....	8:20	8:29	8:39
435	8:00	8:17	8:21	.....	.....	8:48	.....	435	.....	9:00	.....	.....	9:20	9:29	9:39
435	9:00	9:17	9:21	.....	.....	9:48	.....	435	.....	10:00	.....	.....	10:20	10:29	10:39
435	10:00	10:12	10:16	.....	.....	10:43	.....	435	.....	.....	.....	.....	.....	.....	.....
435	11:00	11:12	11:16	.....	.....	11:43	.....	435	.....	.....	.....	.....	.....	.....	.....

435

Sunday

Route	Leave Liberty Tree Mall	Arrive N. Shore Mall	Leave Main St. Peabody	Arrive Central Square	Arrive Neptune Towers	Route	Leave Neptune Towers	Leave Central Square	Arrive Main St. Peabody	Arrive N. Shore Mall	Arrive Liberty Tree Mall
435	11:00A	11:09A	11:18A	11:43A	11:46A	435	.....	9:30A	9:55A	10:03A	10:12A
435	12:50P	12:59P	1:08P	1:33P	1:36P	435	10:07A	10:10	10:35	10:43	10:52
435	2:40	2:49	2:58	3:23	3:26	435	11:57	12:00N	12:25P	12:33P	12:42P
435	4:30	4:39	4:48	5:13	5:16	435	1:47P	1:50P	2:15P	2:23P	2:32P
435	6:20	6:29	6:38	7:03	.....	435	3:37	3:40	4:05	4:13	4:22
435	7:00	7:09	7:18	7:43	.....	435	5:27	5:30	5:55	6:03	6:12
435	7:40	7:49	7:58	8:23	.....	435	.....	6:10	6:35	6:43	6:52

**Route 435
Liberty Tree Mall-
Central Square, Lynn or
Neptune Towers
via Peabody Sq.**

**Route 436
Liberty Tree Mall-
Central Square, Lynn
via Goodwins Circle**

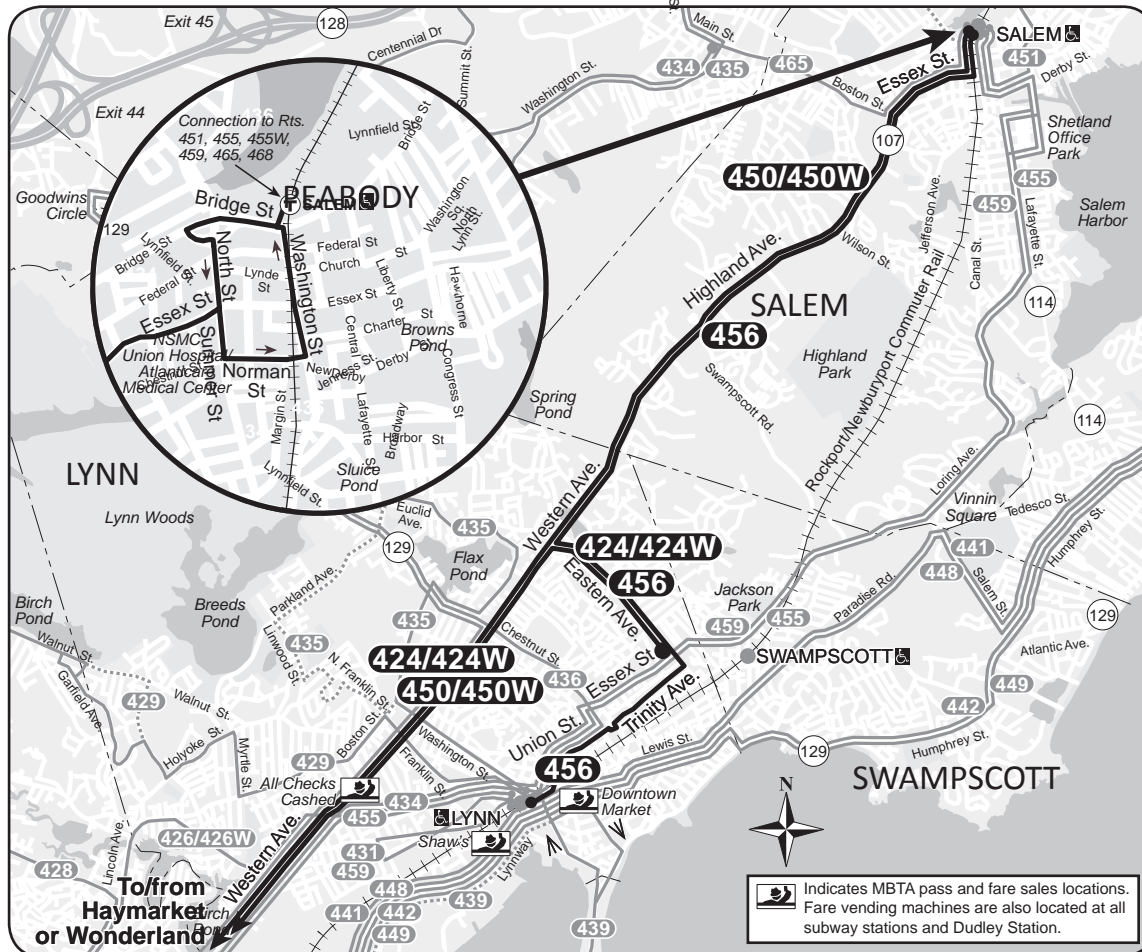
Fare	Local Bus	Bus + Bus	Rapid Transit	Bus + Rapid Transit
CharlieCard	\$1.70	\$1.70	\$2.25	\$2.25
CharlieTicket	\$2.00	\$2.00	\$2.75	\$4.75
Cash-on-Board	\$2.00	\$4.00	\$2.75	\$4.75
Student*	\$0.85	\$0.85	\$1.10	\$1.10
Senior/TAP**	\$0.85	\$0.85	\$1.10	\$1.10

All buses are accessible to persons with disabilities

VALID PASSES: LinkPass (\$84.50/mo.); Local Bus (\$55/mo.); *Student LinkPass (\$30.00/mo.); **Senior/TAP LinkPass (\$30/mo.); and express bus, commuter rail, and boat passes.
FREE FARES: Children 11 and under ride free when accompanied by an adult; Blind Access; CharlieCard holders ride free and if using a guide, the guide rides free.
* Requires Student CharlieCard, available to students through participating middle schools and high schools.
** Requires Senior/TAP CharlieCard, available to Medicare cardholders, seniors 65+, and persons with disabilities.

Bus Route 450

Route 424/424W Eastern Ave/Essex St. - Haymarket or Wonderland
Route 450/450W Salem Depot - Haymarket or Wonderland
Route 456 Salem Depot - Central Square, Lynn



424/424W 450/450W•456

Fall September 3, 2016 - December 30, 2016

424/424W Eastern Ave. & Essex Street-
Haymarket or Wonderland
450/450W Salem Depot-Haymarket or
Wonderland

456 Salem Depot-Central Sq. Lynn

Serving

- Central Square, Lynn
- Salem Hospital
- North Shore Children's Hospital
- Bell Circle
- Eastern Avenue
- Essex Street
- Green Line
- Orange Line



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424/424W/450/450W/456 Weekday

Route	Leave Salem Depot	Leave Eastern & Essex	Arrive Central Square	Arrive W.Lynn Garage	Arrive Wonder-land	Arrive Haymarket Station
424W	.....	5:51A	.....	6:08A	6:19A	.....
450	5:40	.....	.....	6:09	.....	6:30A
450	6:10	.....	.....	6:39	.....	7:00
424W	.....	6:31	.....	6:51	7:03	.....
450	6:40	.....	.....	7:11	.....	7:43
424W	.....	7:01	.....	7:22	7:37	.....
450	7:10	.....	.....	7:48	.....	8:20
424W	.....	7:31	.....	7:56	8:15	.....
450	7:40	.....	.....	8:18	.....	8:53
424W	.....	8:01	.....	8:19	8:37	.....
450	8:10	.....	.....	8:43	.....	9:17
450	8:40	.....	.....	9:09	.....	9:37
450	9:10	.....	.....	9:40	.....	10:01
450	10:20	.....	.....	10:56	.....	11:17
450	11:40	.....	.....	12:18P	.....	12:39P
450	1:00	.....	.....	1:38P	.....	1:59P
450	2:20	.....	.....	3:02	.....	3:21
450	3:40	.....	.....	4:24	.....	4:43
450	4:50	.....	.....	5:34	.....	5:53
450	5:40	.....	.....	6:17	.....	6:40
450	6:10	.....	.....	6:40	.....	7:03
450	6:37	.....	.....	7:06	.....	.....
450W	7:01	.....	.....	7:29	7:44	.....
450	7:39	.....	.....	8:03	.....	.....
450	8:10	.....	.....	8:34	.....	8:58
450	9:10	.....	.....	9:35	.....	9:57
450	10:15	.....	.....	10:40	.....	11:02
450	11:15	.....	.....	11:36	.....	11:57
450	12:12A	.....	.....	12:32A	.....	.....
450	1:10	.....	.....	1:30	.....	.....

All buses are accessible to persons with disabilities

450W Saturday

Route	Leave Salem Depot	Arrive W. Lynn Garage	Arrive Wonderland Station	Leave Wonderland Station	Arrive W. Lynn Garage	Arrive Salem Depot
450	.....	4:42A	.....	5:03A	.....	.....
450	.....	5:10	.....	5:29	.....	.....
450	.....	5:41	.....	6:00	.....	.....
450	.....	6:28	.....	7:03	.....	.....
450	6:40A	6:58	.....	7:36	.....	.....
450	7:10	7:28	.....	8:12	.....	.....
450	7:40	7:57	.....	8:36	.....	.....
450	8:10	8:27	.....	9:06	.....	.....
450	9:10	9:27	.....	10:06	.....	.....
450	10:20	10:38	.....	11:19	.....	.....
450	11:40	12:01P	.....	12:42	.....	.....
450	1:00P	1:21P	.....	2:03	.....	.....
450	2:15	2:40	.....	3:29	.....	.....
450	3:10	3:35	.....	4:17	.....	.....
450	3:40	4:04	.....	4:49	.....	.....
424 b	4:00	4:26	.....	.....	.....	.....
450	4:25	4:53	.....	5:39	.....	.....
424 b	4:40	5:07	.....	.....	.....	.....
450	4:55	5:25	.....	6:11	.....	.....
424 b	5:10	5:46	.....	.....	.....	.....
450	5:25	5:56	.....	6:37	.....	.....
424 b	5:40	6:15	.....	.....	.....	.....
450	5:55	6:21	.....	7:00	.....	.....
450	6:10	6:35	.....	7:11	.....	.....
450	6:40	7:02	.....	7:33	.....	.....
450	7:10	7:29	.....	8:00	.....	.....
450	8:20	8:39	.....	9:10	.....	.....
450	9:20	9:39	.....	10:10	.....	.....
450	10:20	10:39	.....	11:10	.....	.....
450	11:30	11:49	.....	12:20A	.....	.....

450W Sunday

Route	Leave Salem Depot	Arrive W. Lynn Garage	Arrive Wonderland Station	Leave Wonderland Station	Arrive W. Lynn Garage	Arrive Salem Depot
450	8:30A	8:55A	9:08A	7:45A	8:00A	8:23A
450	9:30	9:55	10:08	8:45	9:00	9:23
450	10:30	10:55	11:08	9:45	10:00	10:23
450	11:30	11:55	12:08P	10:45	11:00	11:23
450	11:45	.....	.....	11:45	12:00N	12:23P
450	12:30P	12:55P	1:08P	.....	.....	.....
450	1:30	1:55	2:08	12:45P	1:00P	1:23P
450	2:30	2:55	3:08	1:45	2:00	2:23
450	3:30	3:55	4:08	2:45	3:00	3:23
450	4:30	4:55	5:08	3:45	4:00	4:23
450	5:30	5:55	6:08	4:45	5:00	5:23
450	6:30	6:55	7:08	5:45	6:00	6:23
450	7:30	7:55	8:08	6:45	7:00	7:23
450	8:30	8:55	9:08	7:45	8:00	8:23
450	9:30	9:55	10:08	8:45	9:00	9:23
450	10:30	10:55	11:08	9:45	10:00	10:23
450	11:50	12:15A	.....	10:45	11:00	11:23

b - To Eastern Avenue & Essex Street

All Route 450 trips travel via the Callahan/Sumner Tunnel

Route 424/424W Eastern Avenue & Essex Street-Haymarket or Wonderland

Route 450/450W Salem Depot-Haymarket or Wonderland

Route 456 Salem Depot-Central Square, Lynn

Route 424/424W/450/450W Fares

Fare	Local Bus	Inner Express	Inner Express + Local Bus	Inner Express + Subway
CharlieCard	\$1.70	\$4.00	\$4.00	\$4.00
CharlieTicket	\$2.00	\$5.00	\$7.00	\$7.75
Cash-on-Board	\$2.00	\$5.00	\$7.00	\$7.75
Student*	\$0.85	\$2.50	\$2.50	\$2.50
Senior/TAP**	\$0.85	\$2.50	\$2.50	\$2.50

VALID PASSES: Inner Express Bus (\$128/mo.), Outer Express Bus (\$168/mo.), commuter rail, and boat passes.
 FREE FARES: Children under 12 ride free when accompanied by an adult; Blind Access CharlieCard holders ride free and if using a guide, the guide rides free.
 * Requires Student CharlieCard, available to students through participating middle schools and high schools.
 ** Requires Senior/TAP CharlieCard, available to Medicare cardholders, seniors 65+, and persons with disabilities.

Local bus fare applies if your trip does not include MassRail the Tobin Bridge or Boston Harbor

Route 456 Fares

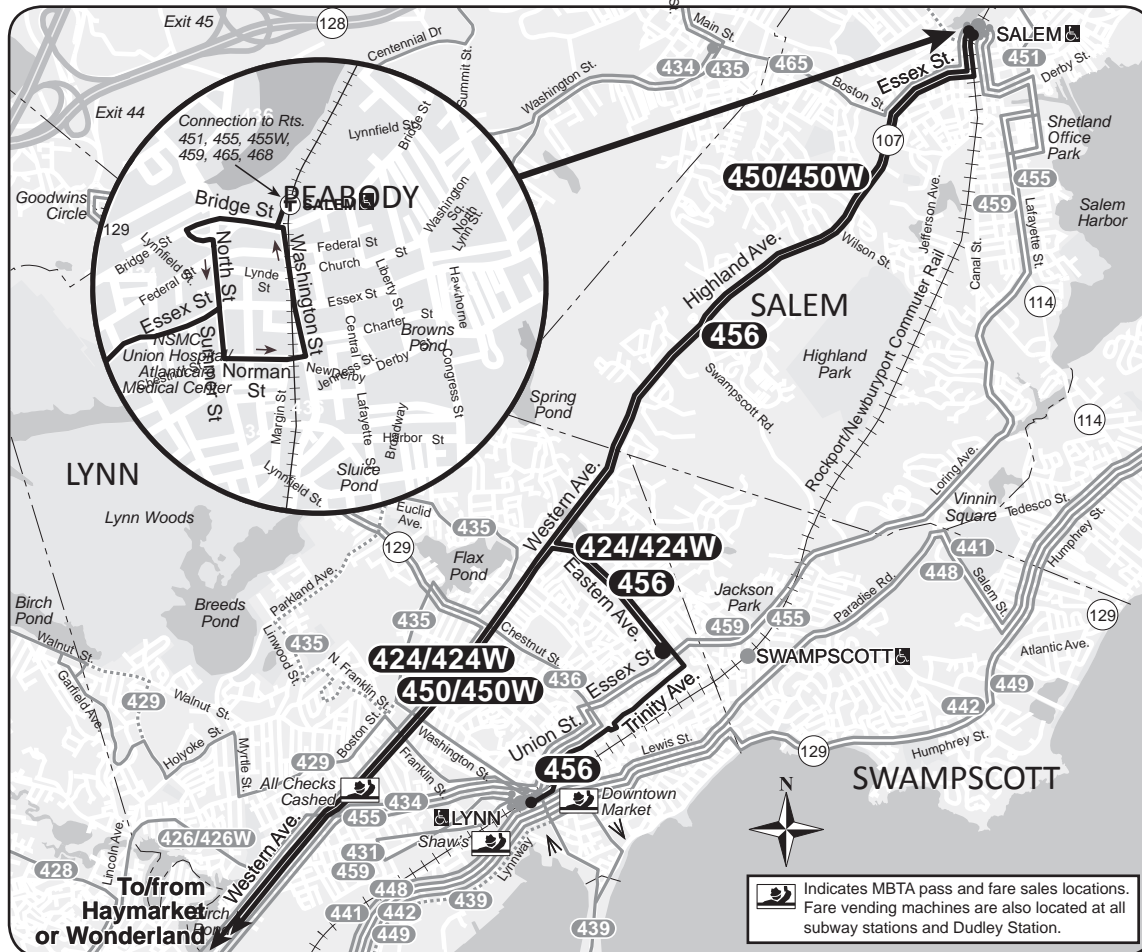
Fare	Local Bus	Bus + Bus	Rapid Transit	Bus + Rapid Transit
CharlieCard	\$1.70	\$1.70	\$2.25	\$2.25
CharlieTicket	\$2.00	\$2.00	\$2.75	\$4.75
Cash-on-Board	\$2.00	\$4.00	\$2.75	\$4.75
Student*	\$0.85	\$0.85	\$1.10	\$1.10
Senior/TAP**	\$0.85	\$0.85	\$1.10	\$1.10

VALID PASSES: LinkPass (\$84.50/mo.), Local Bus (\$55/mo.), *Student LinkPass (\$30.00/mo.), **Senior/TAP LinkPass (\$30/mo.) and express bus, commuter rail, and boat passes.
 FREE FARES: Children 11 and under ride free when accompanied by an adult; Blind Access CharlieCard holders ride free and if using a guide, the guide rides free.
 * Requires Student CharlieCard, available to students through participating middle schools and high schools.
 ** Requires Senior/TAP CharlieCard, available to Medicare cardholders, seniors 65+, and persons with disabilities.

Fall 2016 Holidays
 October 10 & November 11: see Weekday
 September 5, November 24 & December 26: see Sunday

Bus Route 456

Route 424/424W Eastern Ave/Essex St. - Haymarket or Wonderland
Route 450/450W Salem Depot - Haymarket or Wonderland
Route 456 Salem Depot - Central Square, Lynn



424/424W 450/450W•456

Fall September 3, 2016 - December 30, 2016

424/424W Eastern Ave. & Essex Street-
Haymarket or Wonderland
450/450W Salem Depot-Haymarket or
Wonderland

456 Salem Depot-Central Sq. Lynn

Serving

- Central Square, Lynn
- Salem Hospital
- North Shore Children's Hospital
- Bell Circle
- Eastern Avenue
- Essex Street
- Green Line
- Orange Line



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424/424W/450/450W/456 Weekday

Route	Leave Salem Depot	Leave Eastern & Essex	Arrive Central Square	Arrive W.Lynn Garage	Arrive Wonder-land	Arrive Haymarket Station
424W	.....	5:51A	.....	6:08A	6:19A	.....
450	5:40	.....	.....	6:09	.....	6:30A
450	6:10	.....	.....	6:39	.....	7:00
424W	.....	6:31	.....	6:51	7:03	.....
450	6:40	.....	.....	7:11	.....	7:43
424W	.....	7:01	.....	7:22	7:37	.....
450	7:10	.....	.....	7:48	.....	8:20
424W	.....	7:31	.....	7:56	8:15	.....
450	7:40	.....	.....	8:18	.....	8:53
424W	.....	8:01	.....	8:19	8:37	.....
450	8:10	.....	.....	8:43	.....	9:17
450	8:40	.....	.....	9:09	.....	9:37
450	9:10	.....	.....	9:40	.....	10:01
456	9:40	9:59	10:08	.....	.....	.....
450	10:20	.....	.....	10:56	.....	11:17
456	11:00	11:19	11:29	.....	.....	.....
450	11:40	.....	.....	12:18P	.....	12:39P
456	12:20P	12:39P	12:49P	.....	.....	.....
450	1:00	.....	.....	1:38P	.....	1:59P
456	1:40	2:01	2:11	.....	.....	.....
450	2:20	.....	.....	3:02	.....	3:21
456	3:00	3:24	3:32	.....	.....	.....
450	3:40	.....	.....	4:24	.....	4:43
456	4:20	4:44	4:52	.....	.....	.....
450	4:50	.....	.....	5:34	.....	5:53
450	5:40	.....	.....	6:17	.....	6:40
450	6:10	.....	.....	6:40	.....	7:03
450	6:37	.....	.....	7:06	.....	.....
450W	7:01	.....	.....	7:29	7:44	.....
450	7:39	.....	.....	8:03	.....	.....
450	8:10	.....	.....	8:34	.....	8:58
450	9:10	.....	.....	9:35	.....	9:57
450	10:15	.....	.....	10:40	.....	11:02
450	11:15	.....	.....	11:36	.....	11:57
450	12:12A	.....	.....	12:32A	.....	.....
450	1:10	.....	.....	1:30	.....	.....

Route 456 indicated by shaded areas

All buses are accessible to persons with disabilities

b - To Eastern Avenue & Essex Street

All Route 450 trips travel via the Callahan/Sumner Tunnel

450W Saturday

Route	Leave Salem Depot	Arrive W. Lynn Garage	Arrive Wonderland Station	Leave Wonderland Station	Arrive W. Lynn Garage	Arrive Salem Depot
450	.....	4:42A	.....	5:03A	.....	.....
450	.....	5:10	.....	5:29	.....	.....
450	.....	5:41	.....	6:00	.....	.....
450	.....	6:28	.....	7:03	.....	.....
456	.....	6:52	7:00A	7:34	.....	.....
450	6:40A	6:58	.....	7:36	.....	.....
450	7:10	7:28	.....	8:12	.....	.....
450	7:40	7:57	.....	8:36	.....	.....
450	8:10	8:27	.....	9:06	.....	.....
456	.....	8:30	8:40	9:15	.....	.....
456	.....	.....	9:00	9:30	.....	.....
450	9:10	9:27	.....	10:06	.....	.....
456	.....	.....	10:15	10:48	.....	.....
450	10:20	10:38	.....	11:19	.....	.....
456	.....	.....	11:35	12:05P	.....	.....
450	11:40	12:01P	.....	12:42	.....	.....
456	.....	.....	12:55P	1:30P	.....	.....
450	1:00P	1:21P	.....	2:03	.....	.....
456	.....	.....	2:15	2:58	.....	.....
450	2:15	2:40	.....	3:29	.....	.....
456	.....	.....	3:35	4:11	.....	.....
450	3:10	3:35	.....	4:17	.....	.....
450	3:40	4:04	.....	4:49	.....	.....
424 b	4:00	4:26	.....	.....	.....	.....
450	4:25	4:53	.....	5:39	.....	.....
424 b	4:40	5:07	.....	.....	.....	.....
450	4:55	5:25	.....	6:11	.....	.....
424 b	5:10	5:46	.....	.....	.....	.....
450	5:25	5:56	.....	6:37	.....	.....
424 b	5:40	6:15	.....	.....	.....	.....
450	5:55	6:21	.....	7:00	.....	.....
450	6:10	6:35	.....	7:11	.....	.....
450	6:40	7:02	.....	7:33	.....	.....
450	7:10	7:29	.....	8:00	.....	.....
450	8:20	8:39	.....	9:10	.....	.....
450	9:20	9:39	.....	10:10	.....	.....
450	10:20	10:39	.....	11:10	.....	.....
450	11:30	11:49	.....	12:20A	.....	.....

450W Sunday

Route	Leave Salem Depot	Arrive W. Lynn Garage	Arrive Wonderland Station	Leave Wonderland Station	Arrive W. Lynn Garage	Arrive Salem Depot
450	.....	8:55A	9:08A	7:45A	8:00A	8:23A
450	8:30A	8:55A	9:08A	7:45A	8:00A	8:23A
450	9:30	9:55	10:08	8:45	9:00	9:23
450	10:30	10:55	11:08	9:45	10:00	10:23
450	11:30	11:55	12:08P	10:45	11:00	11:23
450	.....	.....	.....	11:45	12:00N	12:23P
450	12:30P	12:55P	1:08P	.....	.....	.....
450	1:30	1:55	2:08	12:45P	1:00P	1:23P
450	2:30	2:55	3:08	1:45	2:00	2:23
450	3:30	3:55	4:08	2:45	3:00	3:23
450	4:30	4:55	5:08	3:45	4:00	4:23
450	5:30	5:55	6:08	4:45	5:00	5:23
450	6:30	6:55	7:08	5:45	6:00	6:23
450	7:30	7:55	8:08	6:45	7:00	7:23
450	8:30	8:55	9:08	7:45	8:00	8:23
450	9:30	9:55	10:08	8:45	9:00	9:23
450	10:30	10:55	11:08	9:45	10:00	10:23
450	11:50	12:15A	.....	10:45	11:00	11:23

Route 424/424W Eastern Avenue & Essex Street-Haymarket or Wonderland

Route 450/450W Salem Depot-Haymarket or Wonderland

Route 456 Salem Depot-Central Square, Lynn

Route 424/424W/450/450W Fares

Fare	Local Bus	Inner Express	Inner Express + Local Bus	Inner Express + Subway
CharlieCard	\$1.70	\$4.00	\$4.00	\$4.00
CharlieTicket	\$2.00	\$5.00	\$7.00	\$7.75
Cash-on-Board	\$2.00	\$5.00	\$7.00	\$7.75
Student*	\$0.85	\$2.50	\$2.50	\$2.50
Senior/TAP**	\$0.85	\$2.50	\$2.50	\$2.50

VALID PASSES: Inner Express Bus (\$128/mo.), Outer Express Bus (\$168/mo.), commuter rail, and boat passes.

FREE FARES: Children under 12 ride free when accompanied by an adult; Blind Access CharlieCard holders ride free and if using a guide, the guide rides free.

* Requires Student CharlieCard, available to students through participating middle schools and high schools.

** Requires Senior/TAP CharlieCard, available to Medicare cardholders, seniors 65+, and persons with disabilities.

Local bus fare applies if your trip does not include MassRail the Tobin Bridge or Boston Harbor

Route 456 Fares

Fare	Local Bus	Bus + Bus	Rapid Transit	Bus + Rapid Transit
CharlieCard	\$1.70	\$1.70	\$2.25	\$2.25
CharlieTicket	\$2.00	\$2.00	\$2.75	\$4.75
Cash-on-Board	\$2.00	\$4.00	\$2.75	\$4.75
Student*	\$0.85	\$0.85	\$1.10	\$1.10
Senior/TAP**	\$0.85	\$0.85	\$1.10	\$1.10

VALID PASSES: LinkPass (\$84.50/mo.); Local Bus (\$55/mo.); *Student LinkPass (\$30.00/mo.); **Senior/TAP LinkPass (\$30/mo.) and express bus, commuter rail, and boat passes.

FREE FARES: Children 11 and under ride free when accompanied by an adult; Blind Access CharlieCard holders ride free and if using a guide, the guide rides free.

* Requires Student CharlieCard, available to students through participating middle schools and high schools.

** Requires Senior/TAP CharlieCard, available to Medicare cardholders, seniors 65+, and persons with disabilities.

Fall 2016 Holidays
October 10 & November 11: see Weekday
September 5, November 24 & December 26: see Sunday

Bus Stop Consolidation Analysis

Stop Seq	Stop ID	INBOUND STOPS	Route Direction	Distance to next stop (ft)	Revised distance to next stop (ft)	On (FA14)	Off (FA14)	Stop pairs opposite/close by?	Proposed Recommendation
1	4458	ESSEX ST OPP WARREN ST	IB	1,292	1160+F2:F25	46	3	Y	Retain stop due to presence of shelter and good sidewalk conditions. ALT: Ideally relocate shelter to recessed area and shift stop north and closer to crosswalk and pedestrian path through adjacent property.
2	4459	HIGHLAND AVE @ PROCTOR ST	IB	687	800	11	6	Y	Retain nearside of Procter, farside of proposed crosswalk.
3	14460	HIGHLAND AVE OPP SALEM HOSPITAL	IB	654	1,100	74	11	Y	Retain stop but shift slightly north, closer to the crosswalk, to improve left turn movements from the hospital driveway. Add bench or shelter.
4	4461	HIGHLAND AVE @ ALMEDA ST	IB	458	-	3	2	Y	Eliminate stop due to low ridership, absence of crosswalk and to improve stop spacing.
5	4462	HIGHLAND AVE @ CHERRY HILL AV	IB	630	620	4	1	Y	Retain stop due to the proximity to the schools. Consider shifting south slightly closer to Cherry Hill Ave, if sight distance is not an issue.
6	4463	HIGHLAND AVE @ VALLEY ST	IB	546	1,650	12	1	Y	Retain stop close to the pedestrian bridge and add a crosswalk for connections to the eastside of Route 107.
7	4464	HIGHLAND AVE @ FREEMAN RD	IB	1,119	-	1	0	Y	Eliminate stop due to low ridership, absence of crosswalk, poor sidewalk conditions and proximity to previous stop
8	14464	HIGHLAND AVE OPP FIRST ST	IB	1,125	1,170	5	1	Y	Retain stop due to the presence of Hawthorne Commons apartments on First St, and distance to closest stop, but only in conjunction with the addition of a crosswalk and creation of a connecting sidewalk to/from and at the bus stop. If a crosswalk is not feasible, stop should probably be eliminated to discourage crossing Route 107.
9	14465	HIGHLAND AVE OPP HAWTHORNE SQ	IB	775	770	99	65	Y	Retain stop nearside, due to absence of sidewalk at the farside of the intersection. Bus will continue to stop in right turn lane.
10	4465	HIGHLAND AVE @ MARLBOROUGH RD	IB	824	830	48	20	N	Temporarily retain stop nearside, due to absence of sidewalk at the farside of the intersection. Bus will continue to stop in right turn lane. Long-term. Relocate farside in conjunction with access management improvements and the addition of a sidewalk. Relocation of stop out of the right turn lane will improve traffic operations, and eliminate the conflict crossing the proposed bike lane. New location stopping in the bike and travel lanes will impact traffic operations with the proposed lane barrier, however because of the low frequency of bus service the delay will be minimal.
11	4467	HIGHLAND AVE @ THOMAS CIRCLE	IB	1,460	1,960	4	5	Y	Temporarily retain stop due to the absence of a sidewalk, between Thomas Circle and Marlborough Rd, on the westside of Route 107. Relocate front sign to improve visibility and widen sidewalk to provide LA. Also add crosswalk across Route 107 for connections to Swampscott Road. Long-term. Eliminate stop, due to low ridership, the relocation of Marlborough Rd stop, in conjunction with sidewalk improvements on the westside of Route 107.
12	14468	HIGHLAND AVE OPP CEDAR RD	IB	647	-	1	1	Y	Eliminate stop due to low ridership, proximity to next stop and absence of crosswalk (closest is at next stop). Addition of a crosswalk is anticipated to be complicated due to the existing roadway alignment and grade, in addition to the speed limit.
13	4469	HIGHLAND AVE @ RAVENNA AVE	IB	541	690	5	2	Y	Temporarily relocate stop to nearside of intersection to existing sidewalk. Existing location has no sidewalk and there are a number of pinch points due to utility poles. Long-term - Retain stop farside in conjunction with sidewalk, crosswalk and intersection improvements.
14	4470	HIGHLAND AVE @ RICHS PLAZA	IB	1,169	830	19	4	Y	Retain stop. Create LA by removing grass strip.
15	14470	HIGHLAND AVE @ WALMART	IB	1,478	1,960	37	18	Y	Relocate stop north to farside of crosswalk in conjunction with construction of sidewalk and pedestrian connections to Walmart internal pathway (no existing sidewalk in this area). Add bench or shelter.
16	4472	WESTERN AVE OPP BUCHANAN CIRC	IB	891	640	1	2	Y	Relocate stop about ~270' south to farside of crosswalk to improve pedestrian crossing and safety, and add curb ramps. Rename stop @ Belleaire Ave.
17	4473	WESTERN AVE @ FAYS AVE	IB	491	1,700	8	5	Y	Temporarily retain stop nearside. Relocate front sign from ped signal to post. Long-term. Relocate stop farside in conjunction with sidewalk, crosswalk and intersection improvements.
18	4474	WESTERN AVE OPP VICTORY RD	IB	697	-	1	2	Y	Eliminate stop due to low ridership, proximity to previous stop and pond, very narrow sidewalk, poorly maintained and absence of curb ramps at the adjacent crosswalk.
19	4475	WESTERN AVE OPP EASTERN AVE	IB	535	-	27	16	Y	Eliminate stop due to proximity to next stop & pond, very poor sidewalk conditions, and absence of curb ramp at crosswalk.
20	4477	WESTERN AVE @ MAPLE ST	IB	351	1,300	24	4	Y	Retain stop farside. Relocate front sign = <-1 parking space. Add rear sign. If Route 424 is re-routed because of banned left from Eastern onto Western, lengthen stop to the south to allow both bus doors to pull to the curb.
21	4478	WESTERN AVE @ BROOKLAWN TERR	IB	850	-	4	1	N	Eliminate stop to improve spacing, low ridership, absence of crosswalk, grass strip at LA & ~200' from its stop pair. No rear sign but nearest driveway is ~2 parking spaces length away.
22	4479	WESTERN AVE @ CHATHAM ST	IB	605	820	28	14	Y	Relocate further north ~200' to farside of Ryans Terr (outside appliance store) ~3 unreg parking spaces.
23	4480	WESTERN AVE OPP TRACY AVE	IB	354	-	8	3	Y	Eliminate stop to improve spacing, low ridership, and absence of crosswalk. No rear sign but stop between driveways -- 1 parking space long.
24	4481	WESTERN AVE @ CROSS ST	IB	795	800	11	2	Y	Retain stop nearside. Relocate rear sign = -2 parking spaces. Add curb ramp at crosswalk in front of stop.
25	4482	WESTERN AVE @ CHESTNUT ST	IB	-	-	42	18	Y	Retain stop nearside. Add bench in coordination with abutting property owner. Eliminate next stop at Rockingham (if exists) and relocate opp Rockingham (@ Lucia Lighting) to be farside of the crosswalk, instead of the LA in the curb ramp (-2 striped parking spaces). Also, retain Chestnut EB & relocate front sign closer to intersection to improve proximity to the crosswalk and bus connections on Western Ave. A consolidation to Western Ave would require maintaining existing stop, or creating new stop on Chestnut Ave for Route 436 that doesn't travel on Western Ave. It would be 220' from Western to clear gas station driveway.

Stop Seq	Stop ID	OUTBOUND STOPS	Route Direction	Distance to next stop (ft)	Revised distance to next stop (ft)	On (FA14)	Off (FA14)	Stop pairs opposite/close by?	Proposed Recommendation
1	7252	WESTERN AVE @ CHESTNUT ST	OB	885	1,110	28	34		Relocate stop to farside of Tucker = -2 parking spaces. Existing front sign is on pedestrian signal post, although riders appear to wait for the bus between two gas station driveways. Improve safety away from driveways and allow buses turning left onto Chestnut to get into the correct lane further from the intersection. Eliminate previous stop at Rockingham (nearest crosswalk is 400'+ away at Chestnut or Linden, improve spacing to relocated Tucker, sidewalk grades pose constructability issues for a LA) - no rear sign for parking restoration.
2	4533	WESTERN AVE @ WEST COLONY RD	OB	448	760	6	20	Y	Retain stop but shift north, farside of driveway next to West Colony Rd to enable both doors to open to level sidewalk (too many driveways nearside of crosswalk). Add rear sign = -2 parking spaces. Add curb ramp at crosswalk.
3	4534	WESTERN AVE @ TRACY AVE	OB	427	-	4	5	Y	Eliminate stop to improve spacing, low ridership, and absence of crosswalk. No rear sign, but farside stop is -1 parking space long.
4	4535	WESTERN AVE @ CHATHAM ST	OB	656	1,500	15	26	Y	Retain stop but shift slightly south, in front of residential unit, between 2 driveways (verify sufficient sidewalk length for both doors to open to a level sidewalk, not driveway) = -1/2 parking spaces. Formalize driveway apron abutting Ocean City Nails to extend proposed bus stop zone.
5	4536	WESTERN AVE @ LLOYD TERR	OB	760	-	1	6	Y	Eliminate stop to improve spacing, low ridership, absence of crosswalk & ~200' from its stop pair. No rear sign, but farside stop = -2 parking spaces long.
6	4537	WESTERN AVE @ WAITT AVE	OB	402	1,600	1	12	Y	Retain stop farside but shift slightly north farside of the driveway. Relocate front sign & add rear sign.
7	4538	WESTERN AVE @ EASTERN AVE	OB	728	-	20	9	Y	Eliminate stop due to proximity to previous stop and pond, and very poor sidewalk conditions between two very active driveways servicing gas station and small strip mall (that includes Dunkin Donuts, 7/11 etc).
8	4539	WESTERN AVE @ VICTORY RD	OB	419	-	0	3	Y	Eliminate stop due to low ridership, proximity to next stop & pond, and elimination of stop pair.
9	4540	WESTERN AVE OPP FAYS AVE	OB	733	760	1	7	Y	Retain stop but shift south closer to crosswalk to enable both doors to open to level sidewalk.
10	4541	WESTERN AVE @ BUCHANAN CIRCLE	OB	1,244	2,000	2	3	Y	Retain stop but shift north away from guardrail. Relocate front sign ~40' north.
11	4543	HIGHLAND AVE @ WYMAN AVE	OB	722	-	0	1	Y	Assume already eliminated. 14543-435 Highland deactivated by MBTA for FA15; 4544 renamed Highland opp Walmart
12	4544	HIGHLAND AVE opp Walmart	OB	821	830	10	28	Y	Temporarily shift stop north of crosswalk to avoid utility pole obstructing the sidewalk. Long-term. Restore stop south of southern crosswalk with widened sidewalk (existing sidewalk in this area is <8') as part of intersection improvements.
13	14544	HIGHLAND AVE OPP OLDE VILLAGE	OB	510	520	6	14	Y	Retain nearside of crosswalk, raise height of sign, and create LA by removing grass strip, & target removal of brush at back of sidewalk to improve visibility of stop.
14	4545	HIGHLAND AVE @ BARNES RD	OB	653	1,130	2	2	Y	Relocate farside with the addition of a crosswalk on the northern leg and associated sidewalk and intersection improvements.
15	4546	HIGHLAND AVE @ CEDAR RD	OB	605	-	0	0	Y	Eliminate stop due to low ridership, proximity to previous stop, lack of trip generators and absence of crosswalk (closest is at previous stop). Addition of a crosswalk is anticipated to be complicated due to the existing roadway alignment and grade, in addition to the speed limit.
16	14546	331 HIGHLAND AVE	OB	1,042	940	1	4	Y	Retain stop due to presence of abutting medical buildings, and widen sidewalk to provide a LA and remove the pinch point at the utility pole. Coordinate with abutter to provide a safe and designated pedestrian path alongside the driveway to connect to the sidewalk. No bus stop pair exists or is proposed due to the absence of a crosswalk. Addition of a crosswalk is anticipated to be complicated due to the existing roadway alignment and grade, in addition to the speed limit.
17	4547	HIGHLAND AVE @ GREENLEDGE ST	OB	1,486	830	3	46	Y	Temporarily relocate stop to nearside of Greenledge for better existing sidewalk conditions and a more pleasant and safe waiting area, protected by the retaining wall. Add crosswalk across Route 107. Long-term. Eliminate stop due to the establishment of a new stop at Trader's Way - a closer and more central location to rider origins/destinations.
	NEW	HIGHLAND AVE opp MARLBOROUGH RD (@ SHAW'S PLAZA)			770				Create new stop farside of Trader's Way next to Shaw's Plaza, opp Marlborough Rd. Add LA by removing grass strip, and improve sidewalk conditions to the driveway, including removing pinch points at the utility pole. Assume most of the offs at the Greenledge stop will relocate to this stop.
18	14548	HIGHLAND AVE @ HAWTHORNE SQ	OB	1,048	1,000	32	82	Y	Retain stop but shift further south closer to driveway and access to the retail area. Add bench, or shelter.
19	4549	HIGHLAND AVE @ FIRST ST	OB	1,211	1,650	7	7	Y	Retain stop due to presence of abutting Hawthorne Commons apartments & proximity to Food Pantry, and distance to closest stop, but only in conjunction with the addition of a crosswalk, and shift stop south closer to farside of First St to maintain good visibility of the stop. If a crosswalk is not feasible, stop should probably be eliminated to discourage crossing Route 107.
20	4550	HIGHLAND AVE OPP FREEMAN RD	OB	706	-	0	2	Y	Eliminate stop due to low ridership, absence of crosswalk, poor sidewalk conditions and proximity to previous stop.
21	4551	HIGHLAND AVE OPP VALLEY ST	OB	287	620	1	7	Y	Relocate stop south to farside of the pedestrian bridge, opposite the existing Valley St stop, and farside of a proposed crosswalk to improve connections to the pedestrian bridge and stop spacing with the elimination of the Freeman Rd stops.
22	14551	HIGHLAND AVE @ WILSON ST	OB	750	1,100	4	6	Y	Relocate stop to farside of Wilson St (currently in driveway) for the presence of a sidewalk & crosswalk behind the stop, and improve spacing, while maintaining connections to the school. Improve sidewalk at proposed location.
23	14552	HIGHLAND AVE @ ALMEDA ST	OB	490	-	0	2	Y	Eliminate stop due to low ridership, narrow sidewalk, absence of crosswalk and to improve stop spacing.
24	4553	HIGHLAND AVE @ SALEM HOSPITAL	OB	939	900	9	70	Y	Retain stop due to presence of shelter and shortest (although steeper) path to the hospital, and improve sidewalk around the shelter to remove the step. ALT: relocate stop to farside of intersection and crosswalk, in conjunction with the relocation or addition of a shelter and creation of a LA by removing the grass strip.
25	14553	HIGHLAND AVE OPP PROCTOR ST	OB	345	1,260	5	18	Y	Retain stop, farside of the new crosswalk north of Salem Hospital driveway, in association with sidewalk and other signalized intersection improvements.
26	4554	HIGHLAND AVE OPP 30 HIGHLAND AVE	OB	676	-	1	7	N	Eliminate stop due to low ridership and improve stop spacing.
27	4555	ESSEX ST @ WARREN ST	OB			1	32	Y	Relocate stop to farside of Warren, farside of the crosswalk and to better sidewalk conditions = -2/3 parking spaces (signage indicates parking for doctors office). If on-street parking is for 421 Essex St, it has its own small lot. Warren St is resident parking.

APPENDIX H

Traffic Growth Estimates

MEMORANDUM

DATE: July 29, 2015
TO: Michael Clark, MassDOT Office of Transportation Planning
FROM: Chen-Yuan Wang, Central Transportation Planning Staff
RE: Route 107 Corridor Traffic Growth Estimates

This memorandum summarizes the analyses and estimates of the background traffic growth from 2015 to 2035 for the Route 107 corridor from Chestnut Street in Lynn to Essex Street in Salem.

The estimates were based on reviews and analyses of the Boston Region MPO base-year and future-year travel demand models recently prepared for the Long-Range Transportation Plan. In addition to the Route 107 corridor, major reviewed corridors in the North Shore region include Route 1A, Route 129, Route 114, and Lynn Street/Washington Street in Peabody.

Table 1 summarizes the estimated traffic growth rates along three different sections of the study corridor and on average for the entire corridor. The three sections are:

1. Western Avenue from Chestnut Street to the Lynn/Salem border
2. Highland Avenue from the Lynn/Salem border to the west of Willson Street
3. Highland Avenue from Willson Street to Essex Street

TABLE 1 Corridor Traffic Growth Estimates

Route 107 Corridor Sections	AM Peak Period		PM Peak Period		Weekday Daily	
	Annual Rate	2015-35 Total	Annual Rate	2015-35 Total	Annual Rate	2015-35 Total
1. Western Ave in Lynn	0.10%	2.0%	0.10%	2.0%	0.05%	1.0%
2. Highland Ave (west section)	0.10%	2.0%	0.15%	3.0%	0.10%	2.0%
3. Highland Ave (east section)	0.30%	6.0%	0.25%	5.0%	0.30%	6.0%
Corridor Average	0.15%	3.0%	0.15%	3.0%	0.15%	3.0%

The estimates were based on the calibrated base-year and the projected future-year traffic volumes on Route 107 in both directions, with emphasis on the peak direction. In traffic operational analyses, these rates can be applied to both the peak and off-peak directions. The model AM peak period is from 6:00 to 9:00 and the PM peak period is from 3:00 to 6:00.

The study corridor overall was estimated to have an annual growth rate of 0.15% and a 20-year growth rate of 3%. It is lower than adjacent travel corridors in the North Shore region, such Route 1A, Route 114, and Lynn Street/Washington Street in Peabody, which were all projected to have a growth rate of 5% to 10% in 2035. One of the main factors for this relative low growth is that the Western Avenue section of the corridor is currently thickly settled and has little room for future capacity improvements. Meanwhile, for the entire MPO region, the transit mode share is projected to increase from 7.2% (base-year) to 7.7% (future-year) and the non-motorized mode from 15.8% to 16.4%.

The study identified a number of developments in or near the corridor. These include the North Shore Medical Center expansion, a new cinema on Highland Avenue, a new transfer station on Swampscott Road, and residential developments near the corridor. A quick review of the population and employment projections for the corridor's adjacent traffic analysis zones suggested that these developments were mostly covered in the future year model, except the new cinema. Also note that the development on Bridge Street and Boston Street (Gateway Center) was defined mainly as commercial use (140,000+ square feet) with the future Salem Senior Center (20,000 square feet).

Table 2 summarizes the estimated growth rates at nine major intersections in the corridor. The estimates were based on the projected total entry volume at each of the intersections.

TABLE 2 Intersection Traffic Growth Estimates

Route 107 Corridor Intersections	AM Peak Period		PM Peak Period	
	Annual Rate	2015-35 Total	Annual Rate	2015-35 Total
1. Western Ave @ Chestnut St (Lynn)	0.10%	2.0%	0.15%	3.0%
2. Western Ave @ Waitt St/President St (Lynn)	0.10%	2.0%	0.15%	3.0%
3. Western Ave @ Fays Ave (Lynn)	0.10%	2.0%	0.15%	3.0%
4. Highland Ave @ Olde Village Dr (Salem)	0.10%	2.0%	0.15%	3.0%
5. Highland Ave @ Swampscott Rd (Salem)	0.10%	2.0%	0.15%	3.0%
6. Highland Ave @ Hawthorne Sq. Mall (Salem)	0.10%	2.0%	0.20%	4.0%
7. Highland Ave @ Willson St (Salem)	0.15%	3.0%	0.20%	4.0%
8. Highland Ave @ North Shore Medical (Salem)	0.20%	4.0%	0.25%	5.0%
9. Highland Ave/Boston St @ Essex St (Salem)	0.25%	5.0%	0.25%	5.0%

Note that these estimates represent average growth rates in the peak periods (6:00–9:00AM and 3:00–6:00PM).

CW/cw