

Town of Concord

Cut-Through Traffic Study



May 1, 2019

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Agenda

1. Welcome & Introductions
2. Cut-Through Traffic
 1. Globally
 2. Regionally
 3. Locally
 4. Management Strategies and Trade-Offs
3. Concord Cut-Through Study Overview
4. Next Steps
5. Your Input

Cut-Through Traffic: Global Epidemic

The Atlantic

TECHNOLOGY

NEW YORK

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ALE:

TOPICS SEARCH

Avenatti indicted on 36 charges of tax dodging, perjury, theft from clients



How Waze and speedway

By STEVE LOPEZ MAY 30, 2018



Pam Sokol and mail carrier Varonina Solie at

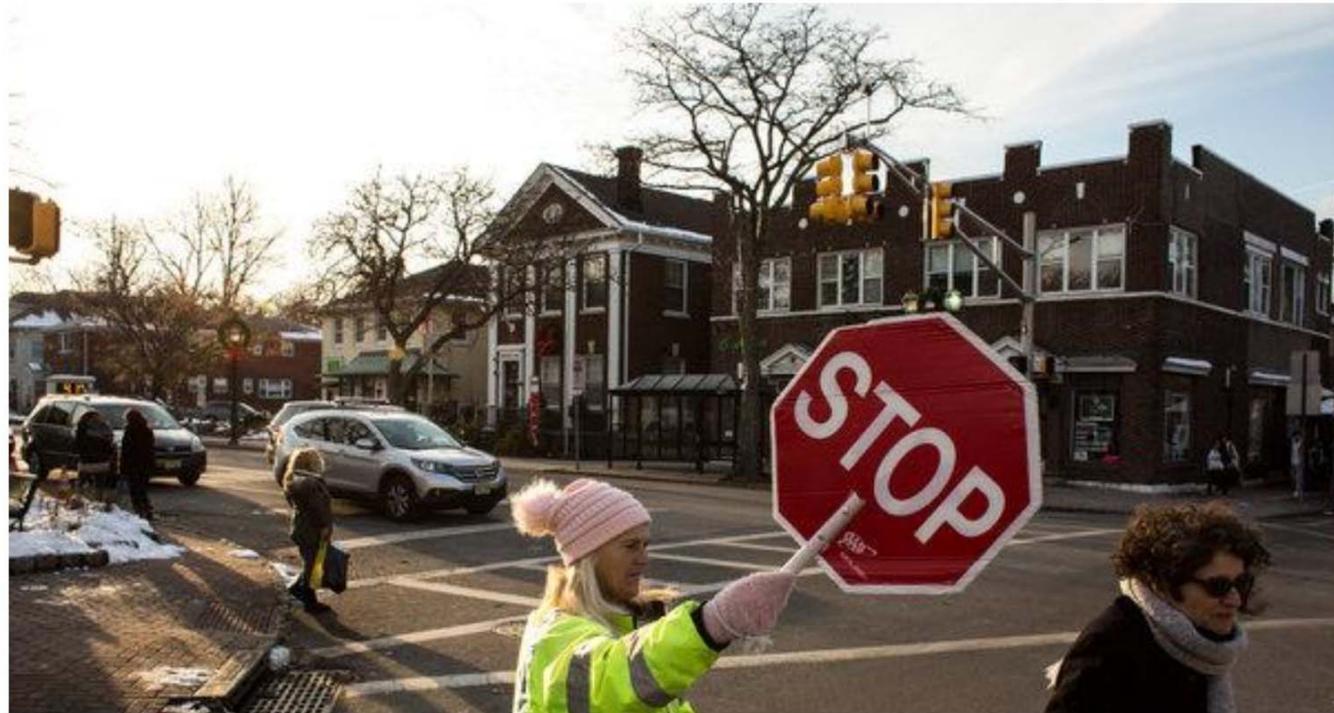
Local

Traffic-weary homeowners and Waze are at war, again. Guess who's winning?

The New York Times

GET U

Navigation Apps Are Turning Quiet Neighborhoods Into Traffic Nightmares



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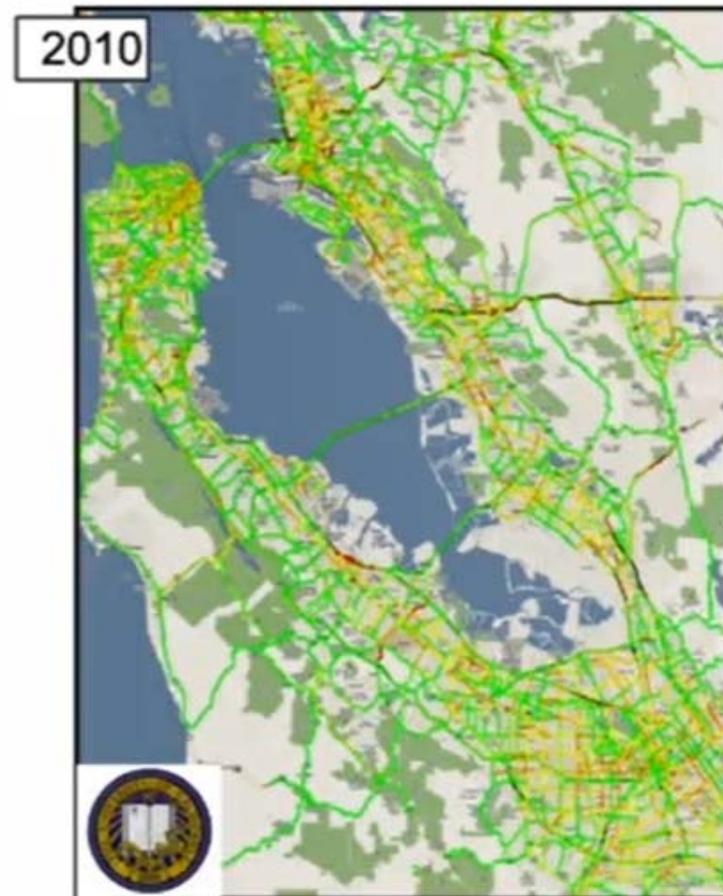
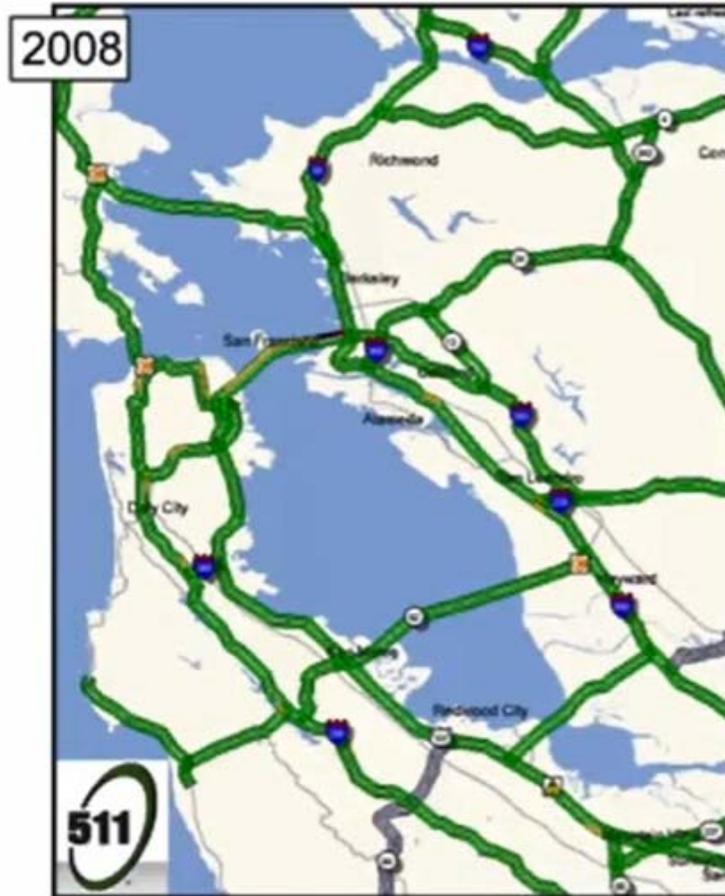
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Cut-Through Traffic: Global Epidemic



Giving everybody information everywhere for free...

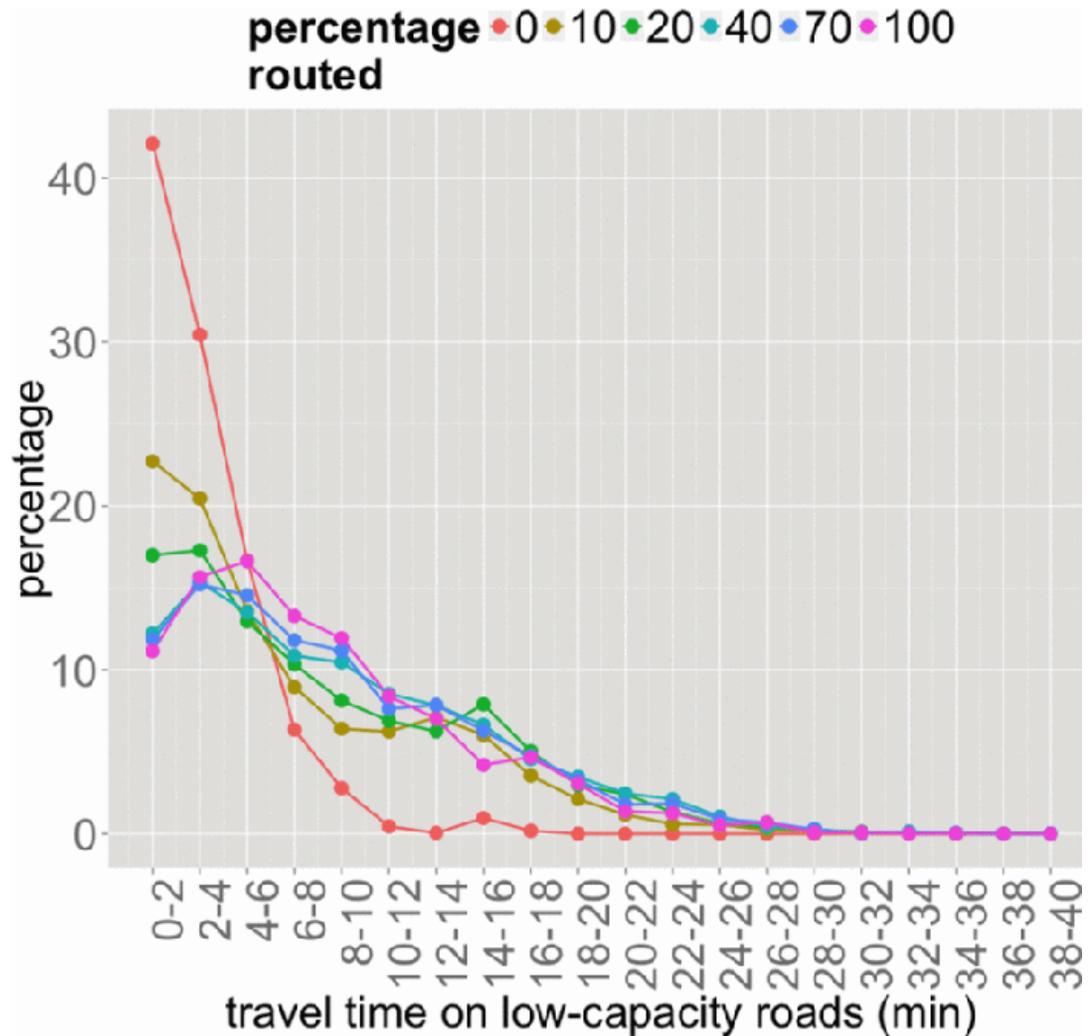


“Negative externalities of GPS-enabled routing applications: A game theoretical approach”

2016 IEEE 19th International Conference on Intelligent Transportation Systems (ITSC) by Jérôme Thai ; Nicolas Laurent-Brouty ; Alexandre M. Bayen

Cut-Through Traffic: Global Epidemic

Research confirms that mapping applications are drawing travelers to “low capacity roads”



“Negative externalities of GPS-enabled routing applications: A game theoretical approach”

2016 IEEE 19th International Conference on Intelligent Transportation Systems (ITSC) by Jérôme Thai ; Nicolas Laurent-Brouty ; Alexandre M. Bayen

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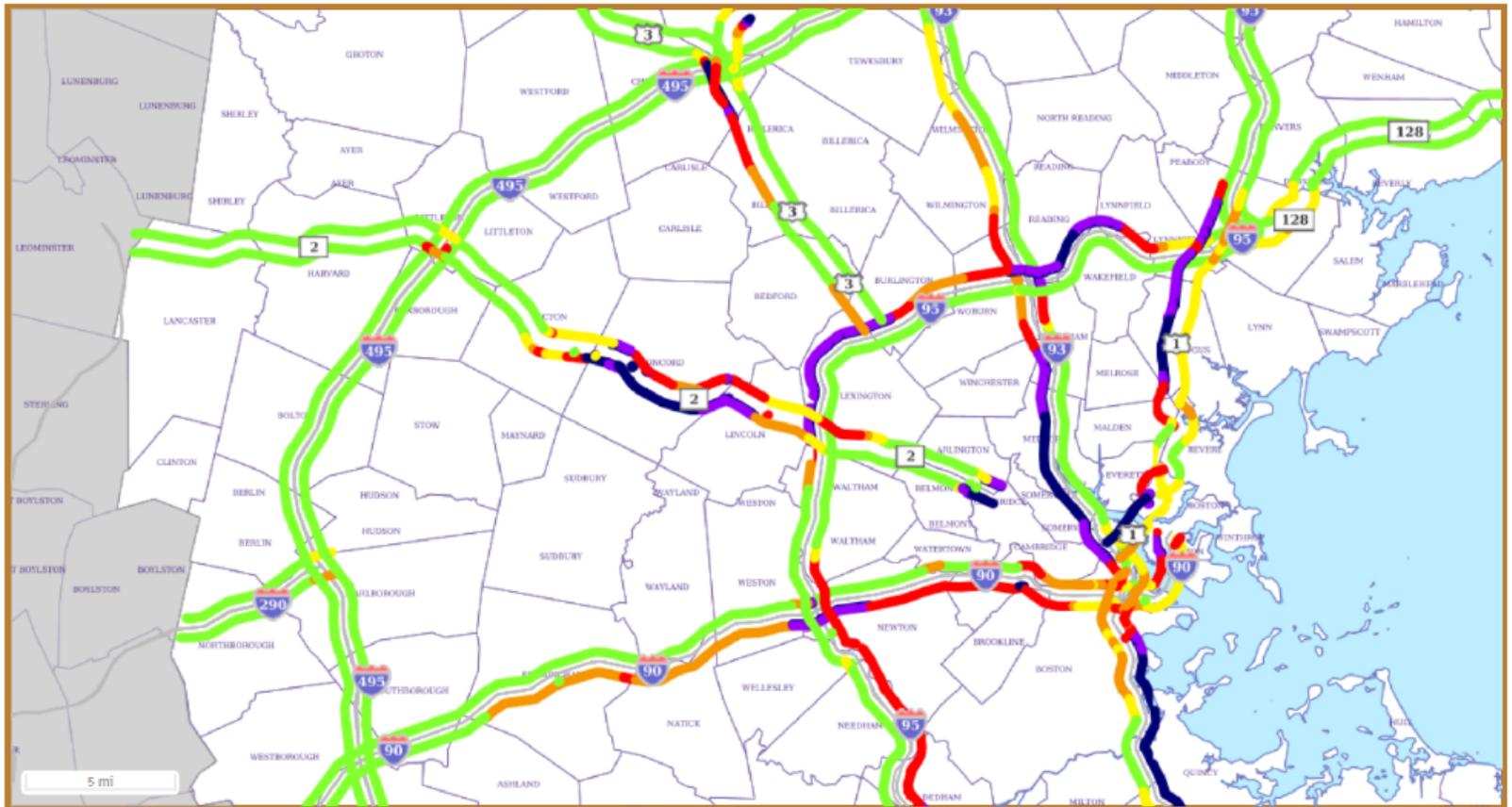
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Traffic Pattern Analysis: Regional Road Network

AM Average Speed ▾

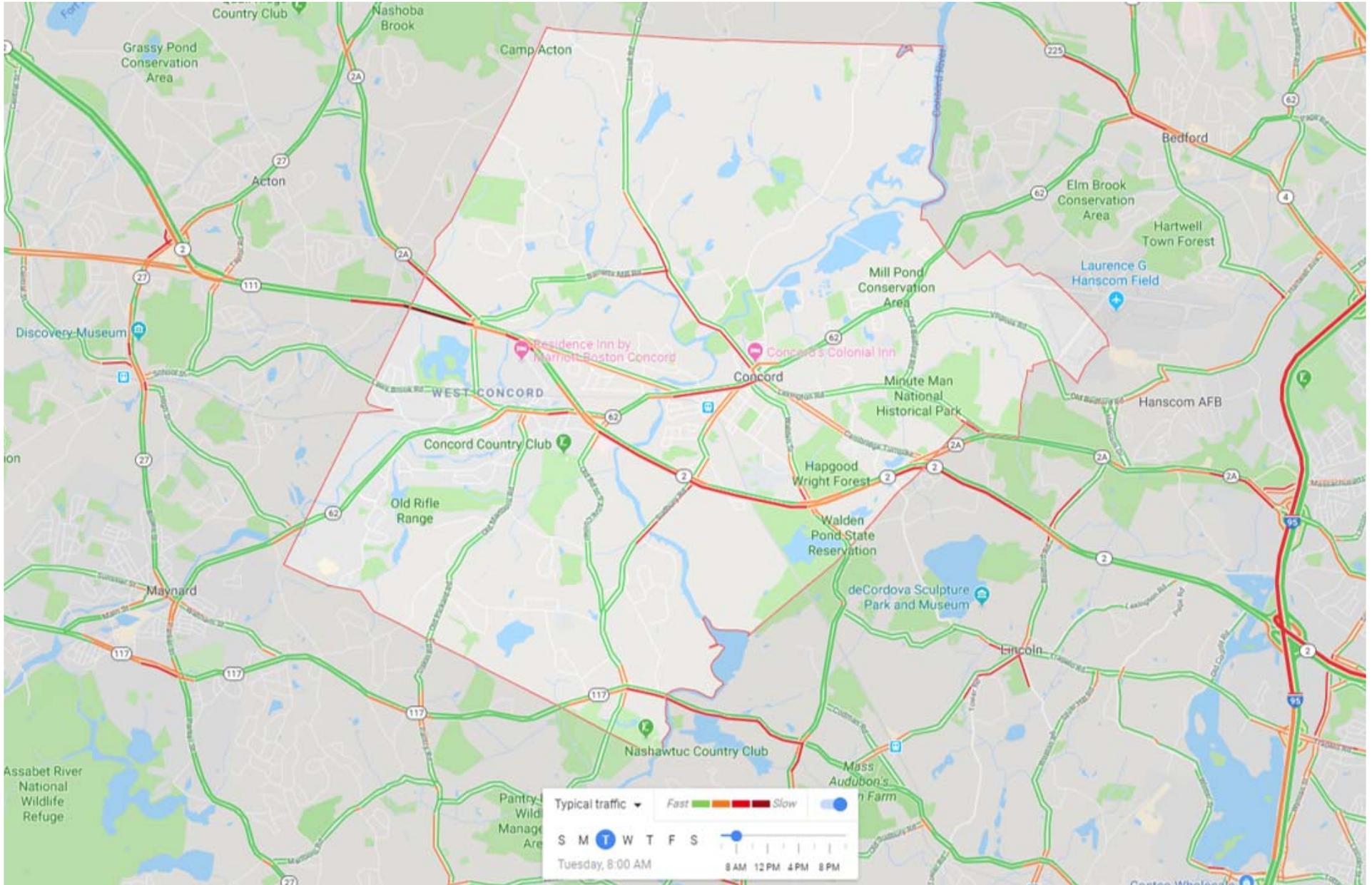
Average Speed

- 25 MPH or less
- 25 MPH-34.999 MPH
- 35 MPH-44.999 MPH
- 45 MPH-49.999 MPH
- 50 MPH-54.999 MPH
- More than 55 MPH

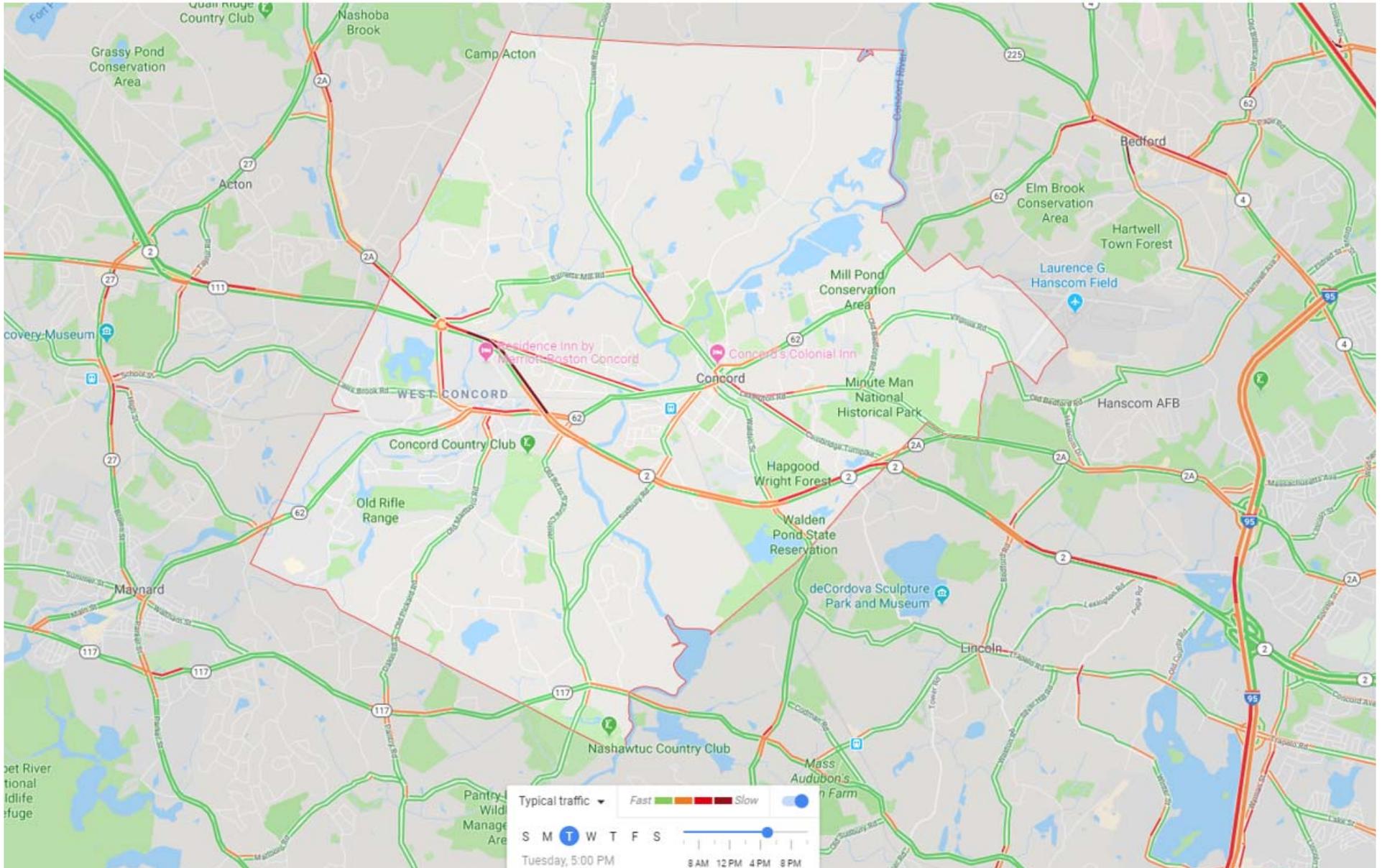


2015 Express Highway Performance Dashboard

Traffic Pattern Analysis: Google Traffic AM



Traffic Pattern Analysis: Google Traffic PM



Traffic Pattern Analysis: AM Speed Index



2015 Arterial Highway Performance Dashboard

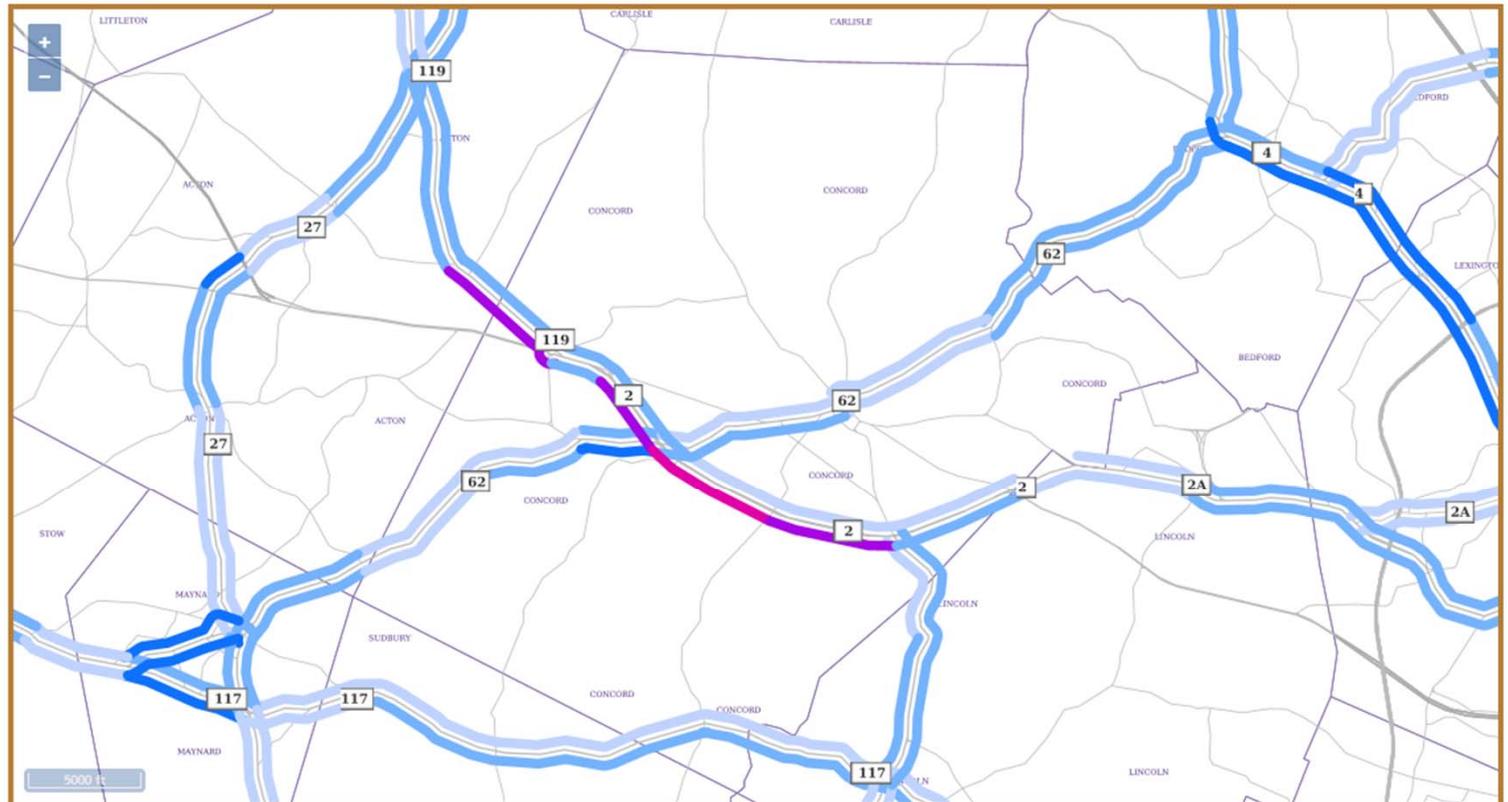
[Regional Overview Map](#) [Data by Route](#) [Reset Application](#) [Download data](#) [Help](#)

AM Speed Index

Speed Index

(Average speed/posted speed limit)

- Less than 40 percent
- 40.00-49.99 percent
- 50.00-69.99 percent
- 70-90 percent
- More than 90 percent



Traffic Pattern Analysis: PM Speed Index



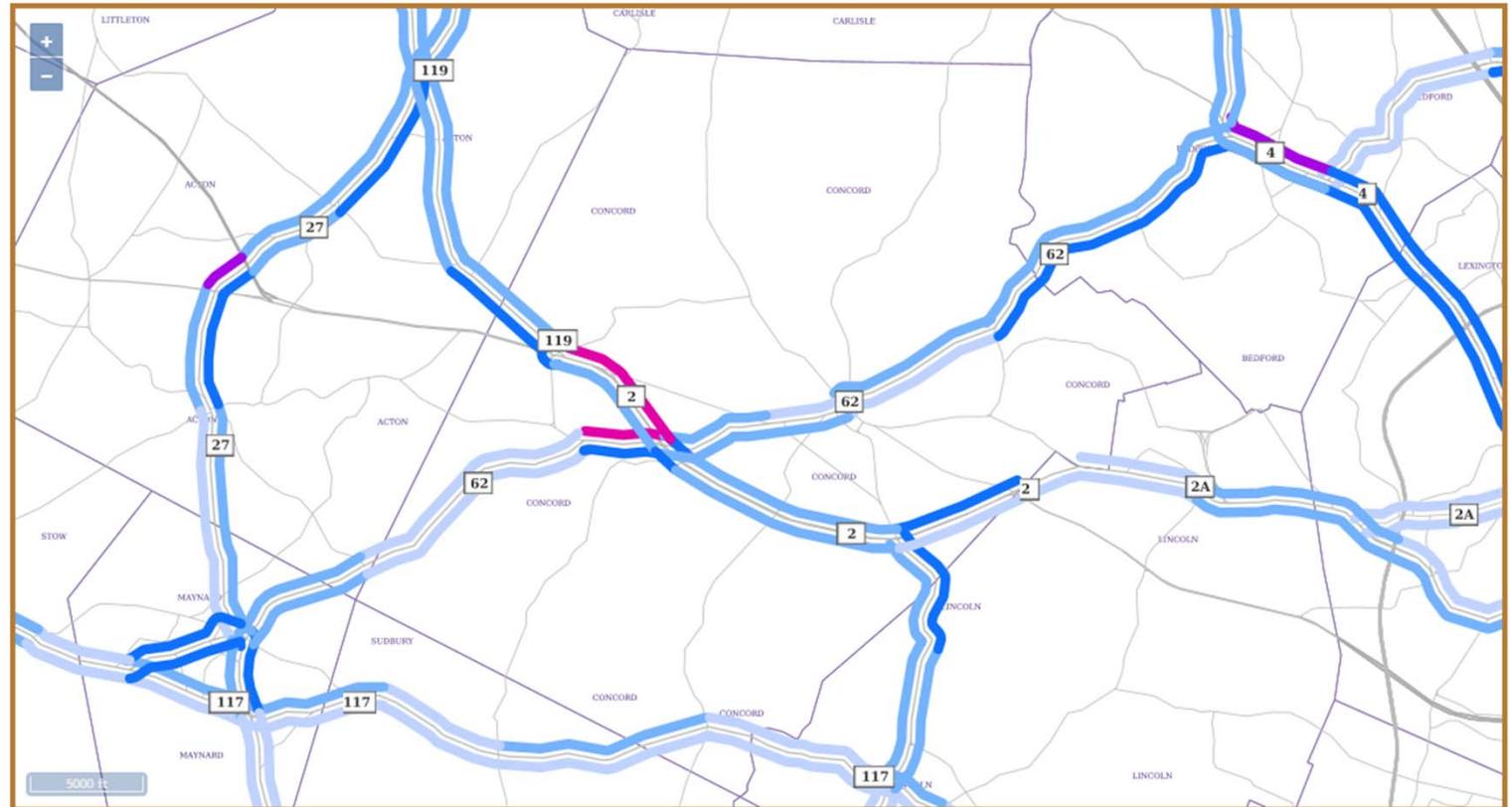
2015 Arterial Highway Performance Dashboard

[Regional Overview Map](#) [Data by Route](#) [Reset Application](#) [Download data](#) [Help](#)

PM Speed Index ▾

Speed Index
(Average speed/posted speed limit)

- Less than 40 percent
- 40.00-49.99 percent
- 50.00-69.99 percent
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- More than 90 percent



Traffic Pattern Analysis: AM Congested Time



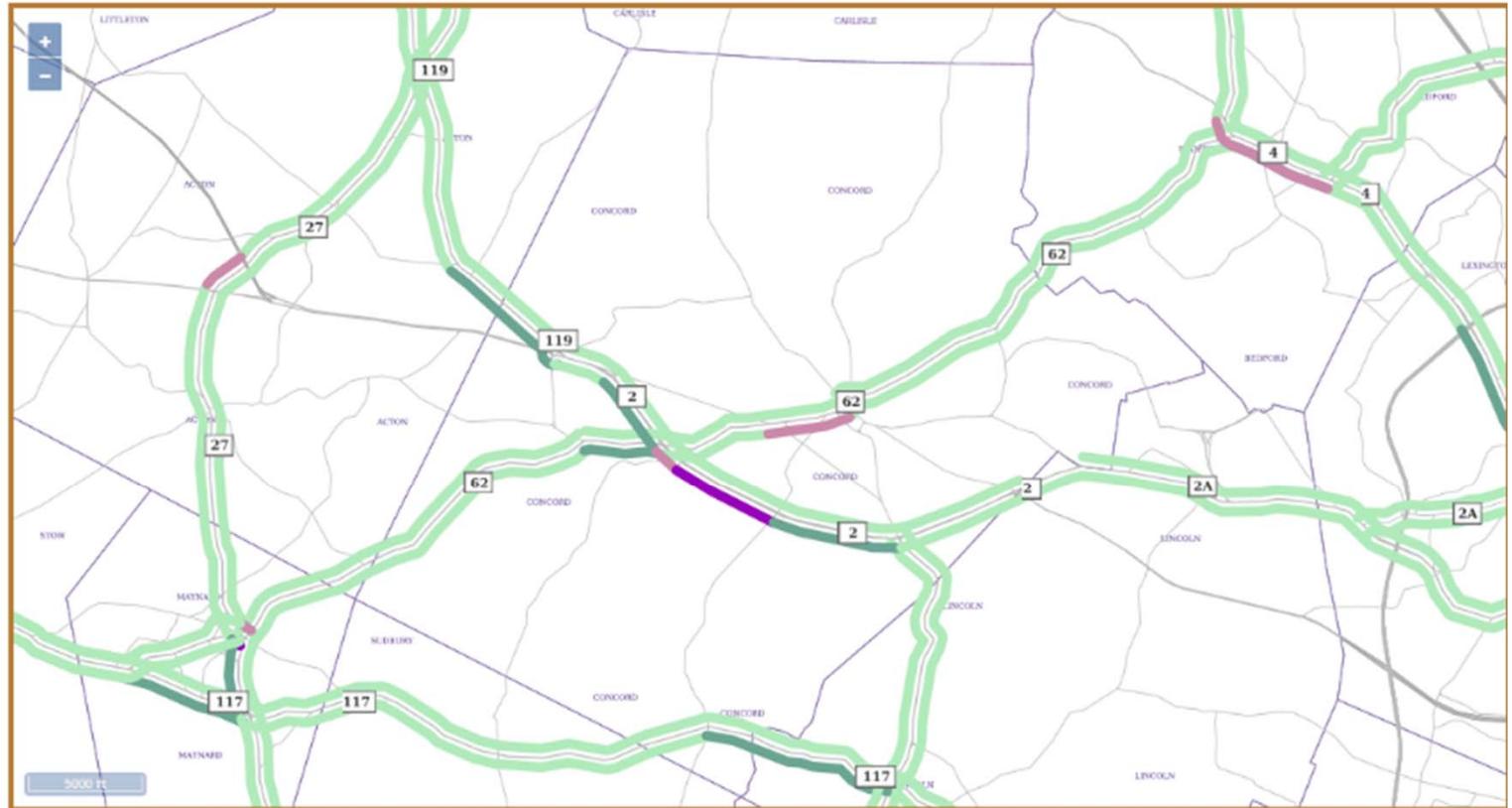
2015 Arterial Highway Performance Dashboard

[Regional Overview Map](#) [Data by Route](#) [Reset Application](#) [Download data](#) [Help](#)

AM Congested Time ▾

Congested Time
(Minutes per peak period hour under 19 MPH)

- More than 45 minutes
- 30-45 minutes
- 15-30 minutes
- Less than 15 minutes



Traffic Pattern Analysis: PM Congested Time

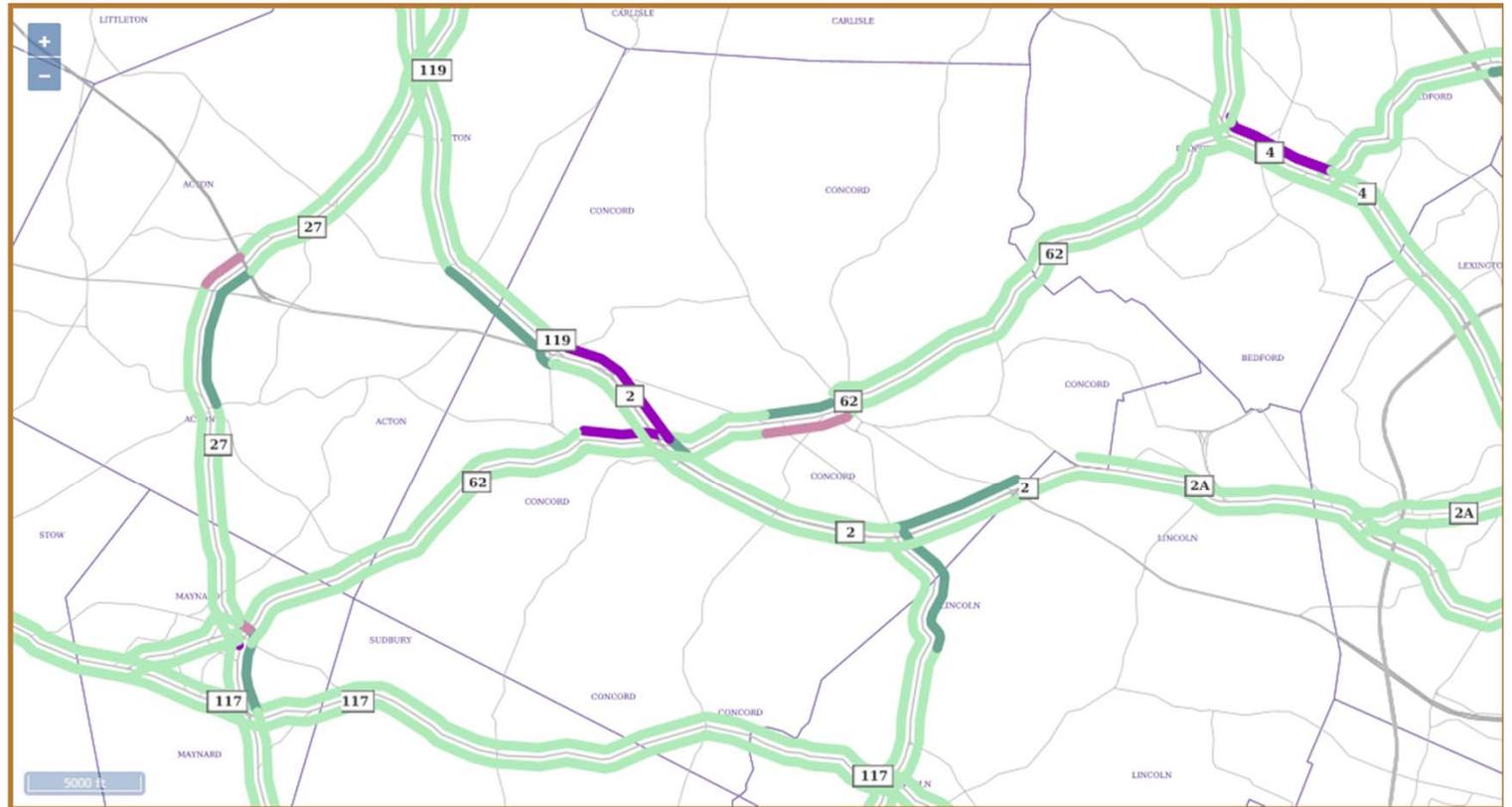


2015 Arterial Highway Performance Dashboard

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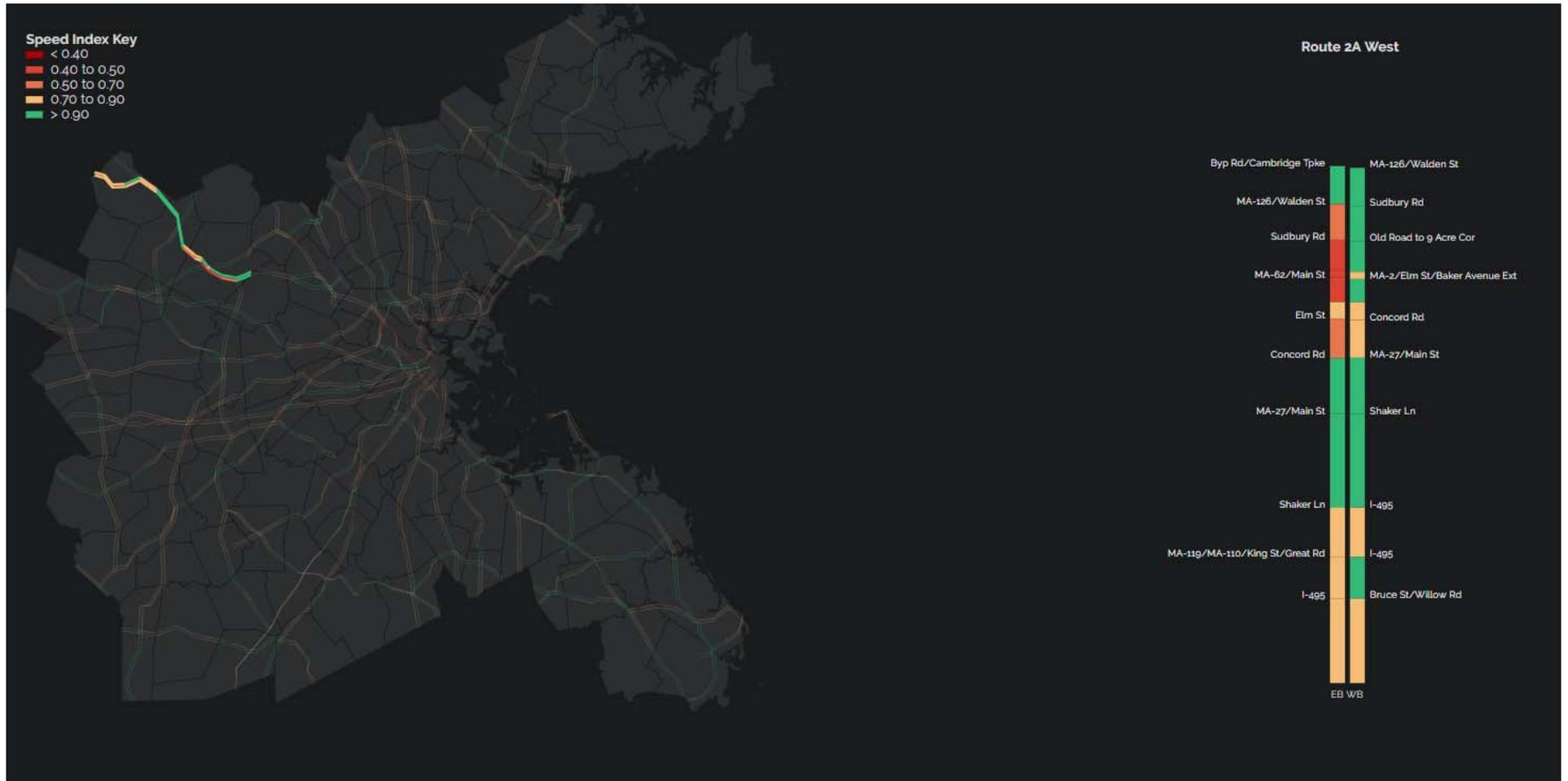
PM Congested Time ▾

- Congested Time**
(Minutes per peak period hour under 19 MPH)
- More than 45 minutes
 - 30-45 minutes
 - 15-30 minutes
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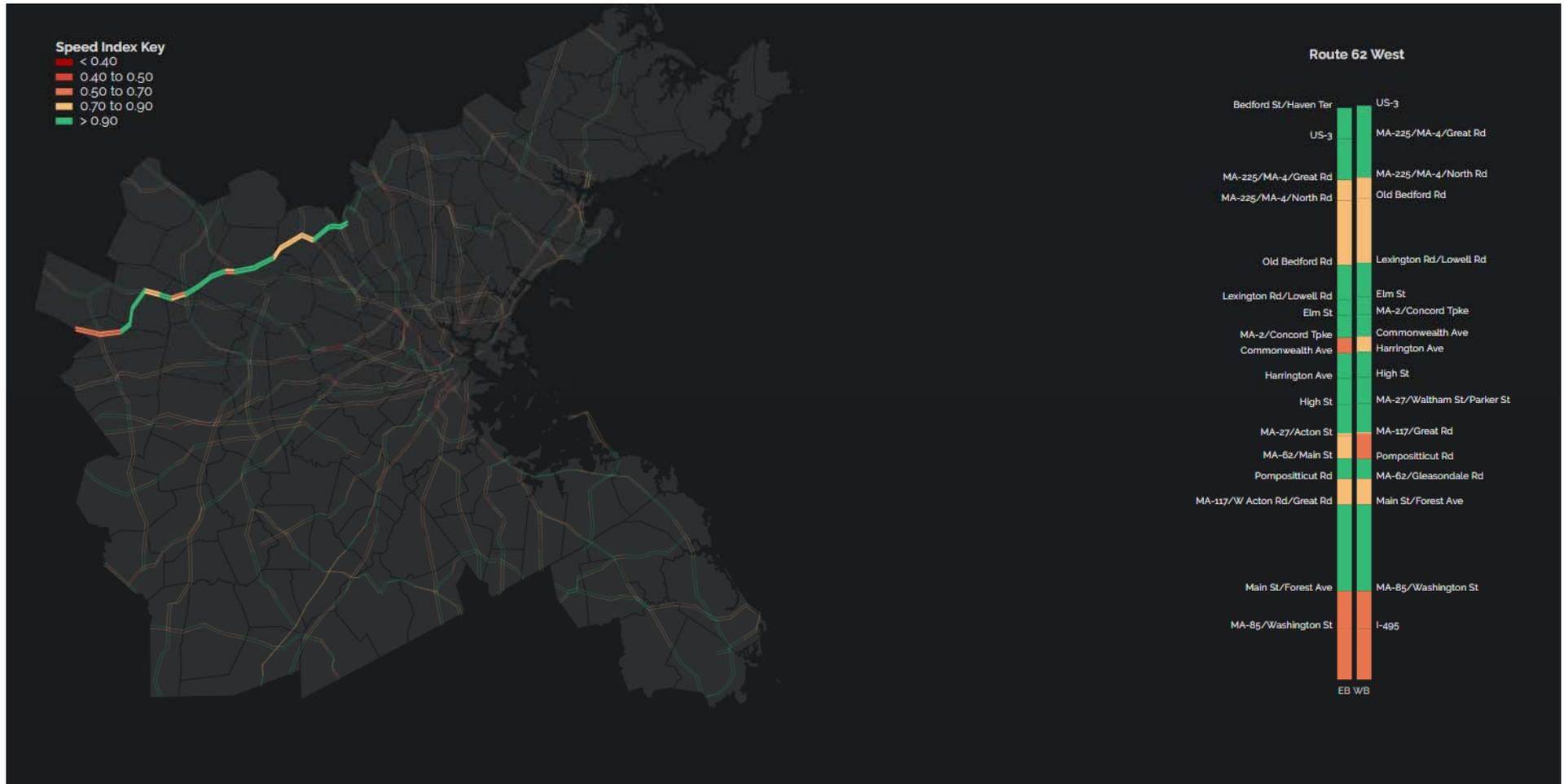
Traffic Pattern Analysis: Arterials

Route 2A



Traffic Pattern Analysis: Arterials

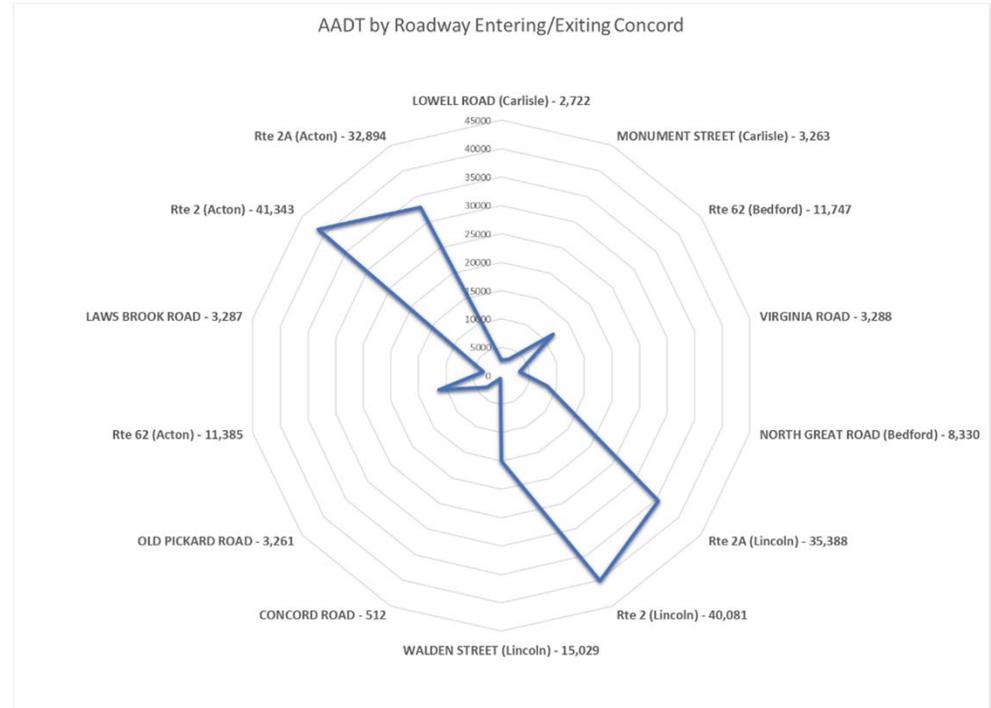
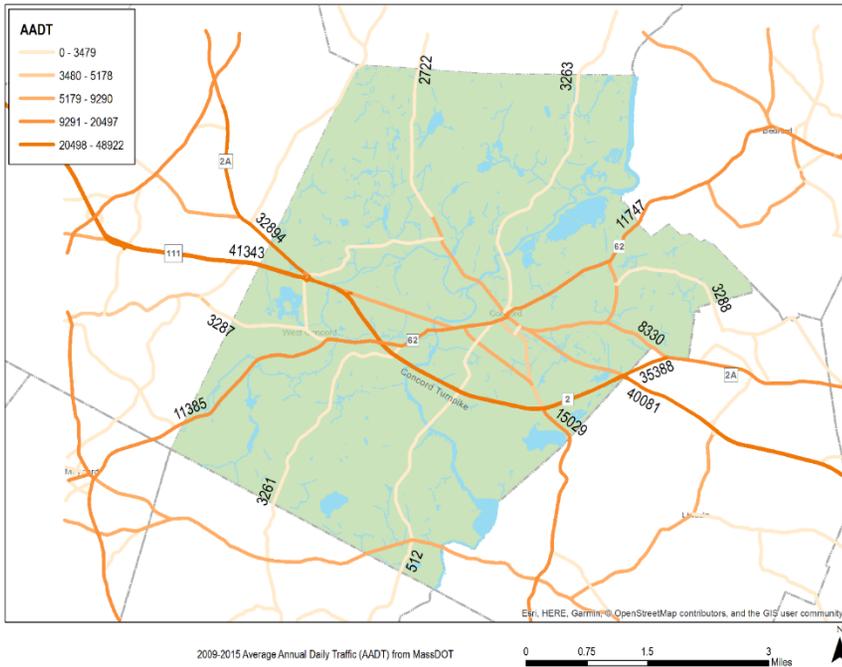
Route 62



Agenda

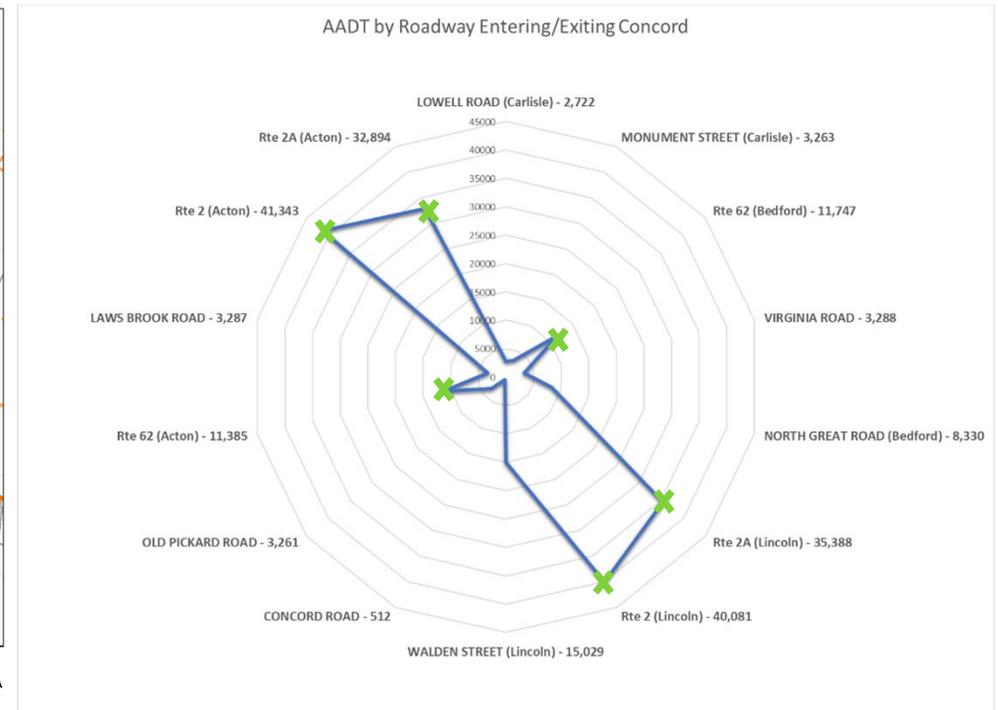
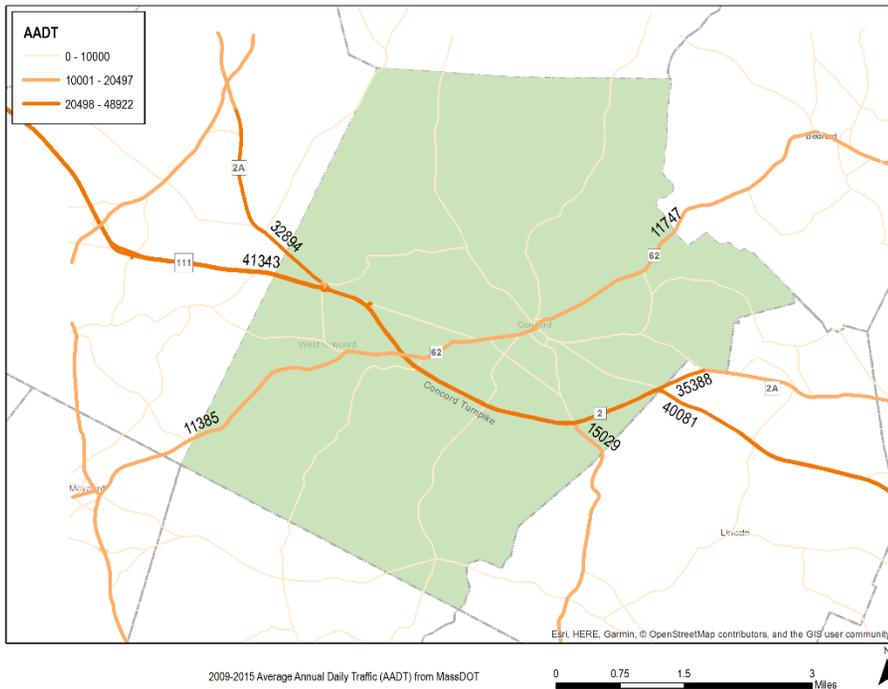
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Vehicle trips into and out of Concord on average day



Estimate of all vehicle trips into and out of Concord on average day = 212,500

Mostly on Routes 2, 2A, 62, and 126 (Walden Street)



88% (~188,000) of these daily entrances/exits are on four routes

Summary of Findings

- Cut-through traffic is a regional (and global) issue with which many communities have to grapple. Yet few have tackled it.
- Most communities have addressed the challenge of cut-through traffic through an overarching traffic calming program.
- Researchers have confirmed that wayfinding apps have greatly exacerbated the problem of cut-through traffic.
- *The approach of constructing or installing new infrastructure, which is often the only tool available to municipalities, is inadequate.*

Managing Cut-Through Traffic



Traffic Calming Measures

Benefits

- Discourage cut-through traffic by slowing it down

Trade-Offs/Challenges:

- Residents (and related service vehicles/ deliveries) are subject to measures as well.
- Even slowed traffic is sometimes faster than congested highway



Diverter/Partial Closure

Benefits

- Effectiveness

Trade-Offs/Challenges:

- Residents (and related service vehicles/ deliveries) are subject to measures as well

Managing Cut-Through Traffic

Close road to “local traffic only”

Benefits

- Potentially effective

Trade-Offs/Challenges:

- Not enforceable
- Legality is vague
- May need to coordinate with app developers



Turn Restrictions/ One-Way Patterns

Benefits

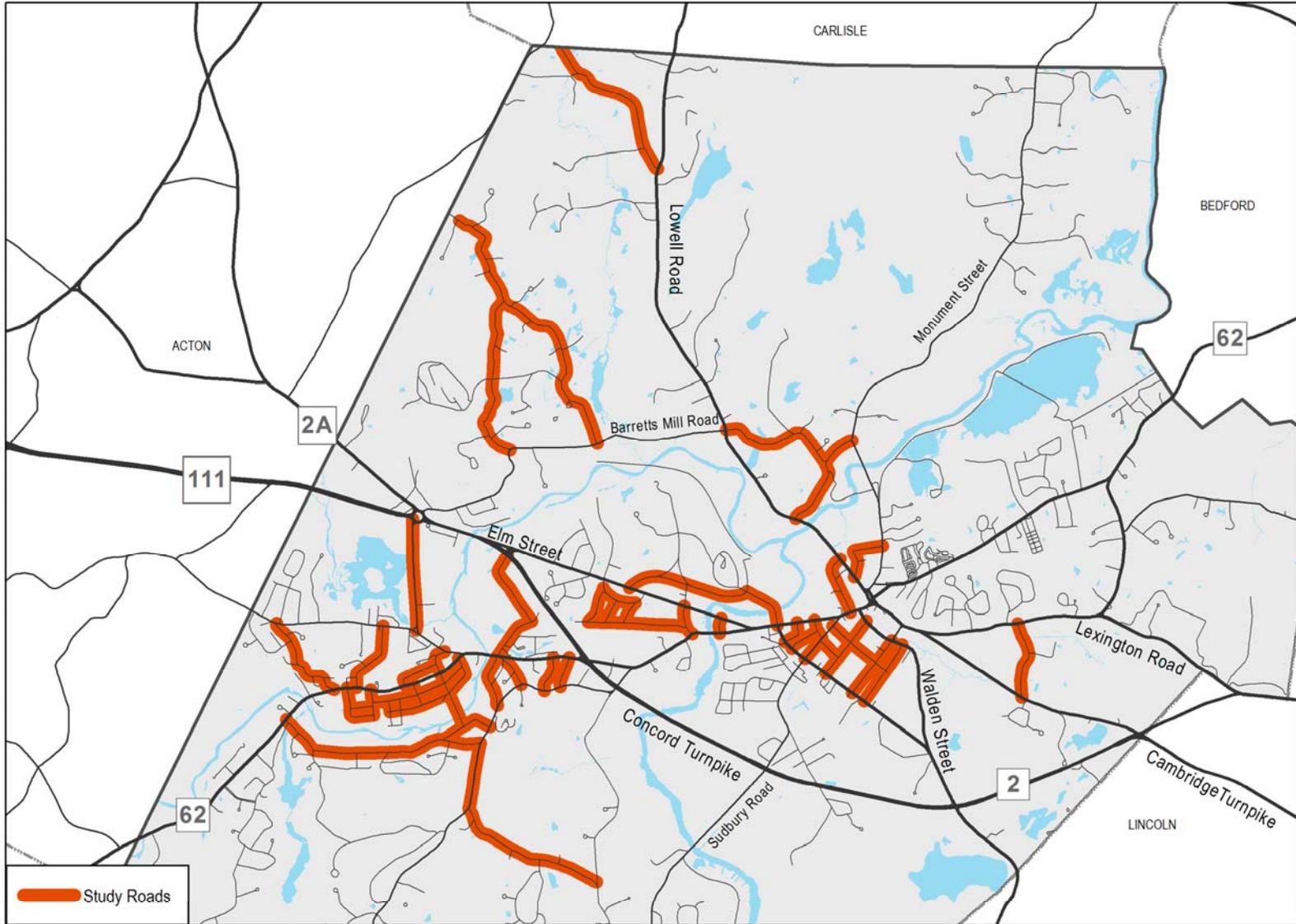
- Effectiveness

Trade-Offs/Challenges:

- Residents (and related service vehicles/ deliveries) are subject to measures as well

Concord Cut-Through Traffic Study Overview

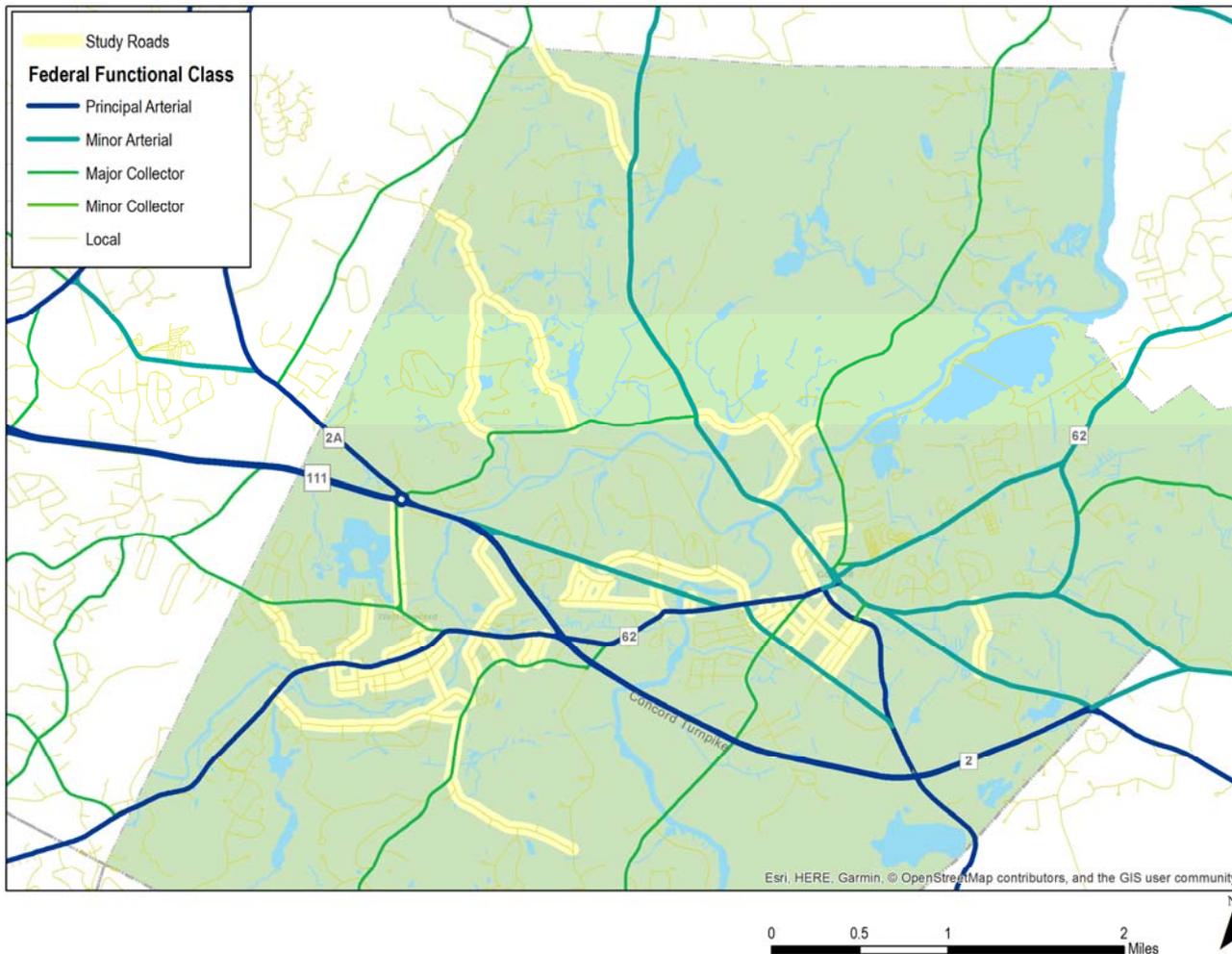
Study Streets



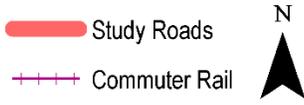
Concord Cut-Through Traffic Study: Progress to Date

1. Traffic Data Collection (in progress)
2. Traffic Pattern Analysis
3. Cut-through Location Identification and Analysis
 - A. Literature Review on Current State of the Practice for Cut-Through Reduction
 - B. Study Area Cut-Through Reduction Plans
4. Evaluation of Signalized Intersection Timing and Sequencing

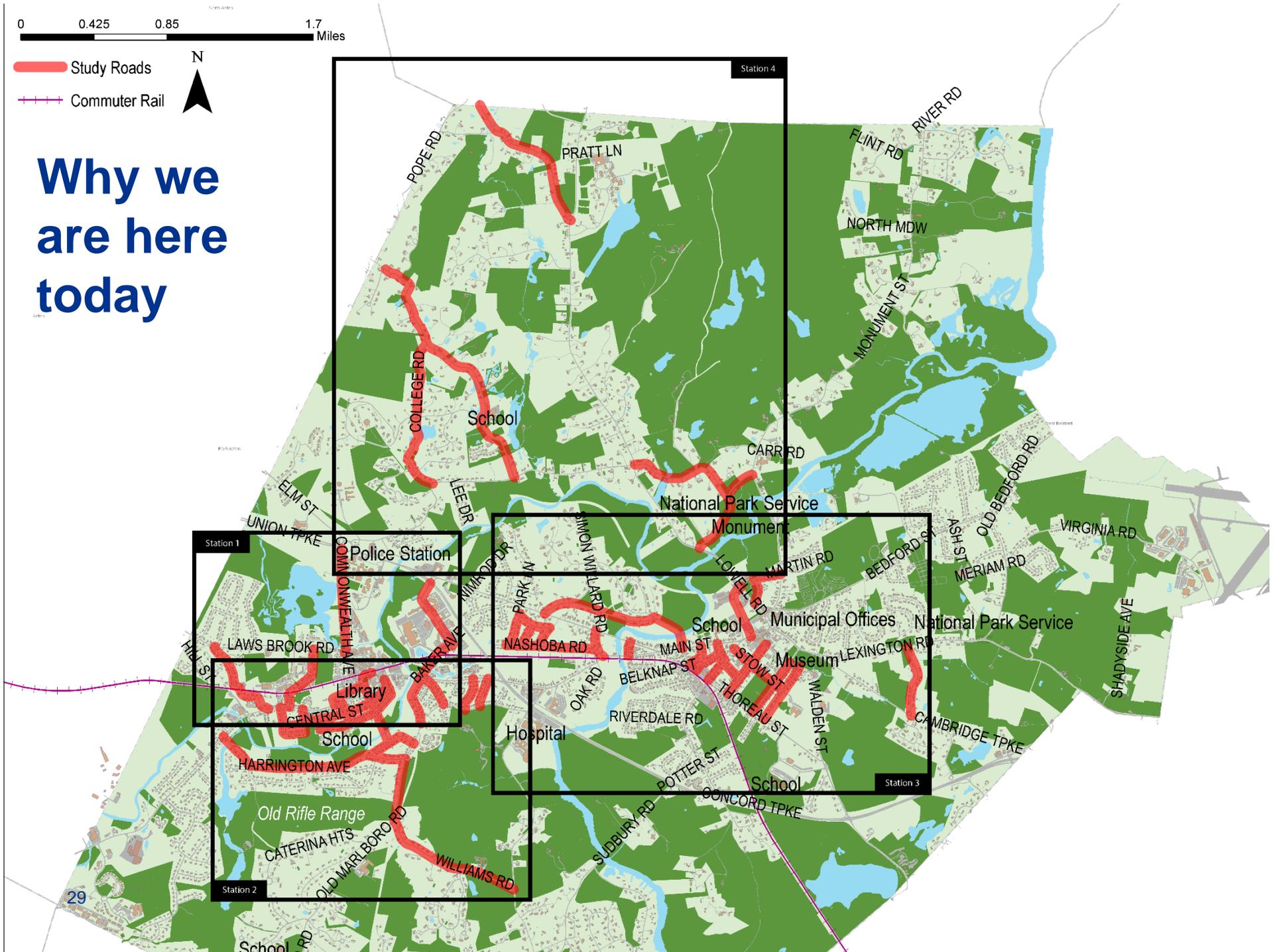
Roadway Functional Classification



This study focuses on residential, local streets because traffic should be on higher classification streets (collectors and up)



Why we are here today



Other Opportunities for Public Input

wikimapping.com/Overlay-Cut-Through-Traffic-Study-P.html

The Town of Concord Massachusetts

Town of Concord: Cut-through Traffic Study

Streets already identified by Town — **Streets of concern** —

Click "Specify cut-through issue" in the maroon banner below

Click "Identify street of concern" in the maroon band below

JACOBS

About & Help Specify cut-through issue (add point on red or blue line) Identify street of concern (add line)

View Options

- Turn On/Off layers
- Turn On/Off Other People's Responses
- Street of concern
- Cut through issue

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Cut-through Traffic Study

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The Town of Concord Massachusetts

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View Options

- Turn On/Off layers
- Turn On/Off Other People's Responses
- Street of concern
- Cut through issue

Next Steps

1. Input from you today
2. Complete traffic counts (week of April 29th)
3. Estimate expected amount of traffic on the study roads given density, adjacent land uses, etc.
4. Compare traffic count results to these estimates
5. Recommend cut-through reduction plans
6. Analyze intersection performance at
 1. Main Street and Nashawtuc Road
 2. Sudbury Road and Thoreau Street
7. Document methodology so that it can be applied to other streets of concern in the future

Thank You

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