



# Traffic Calming Study Lexington, Massachusetts

Presented by  
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October 6, 2015

# Agenda

- Purpose
- Existing Conditions
- Existing Volumes with Proposed Improvements
- Potential Mitigation to be Evaluated

# Purpose

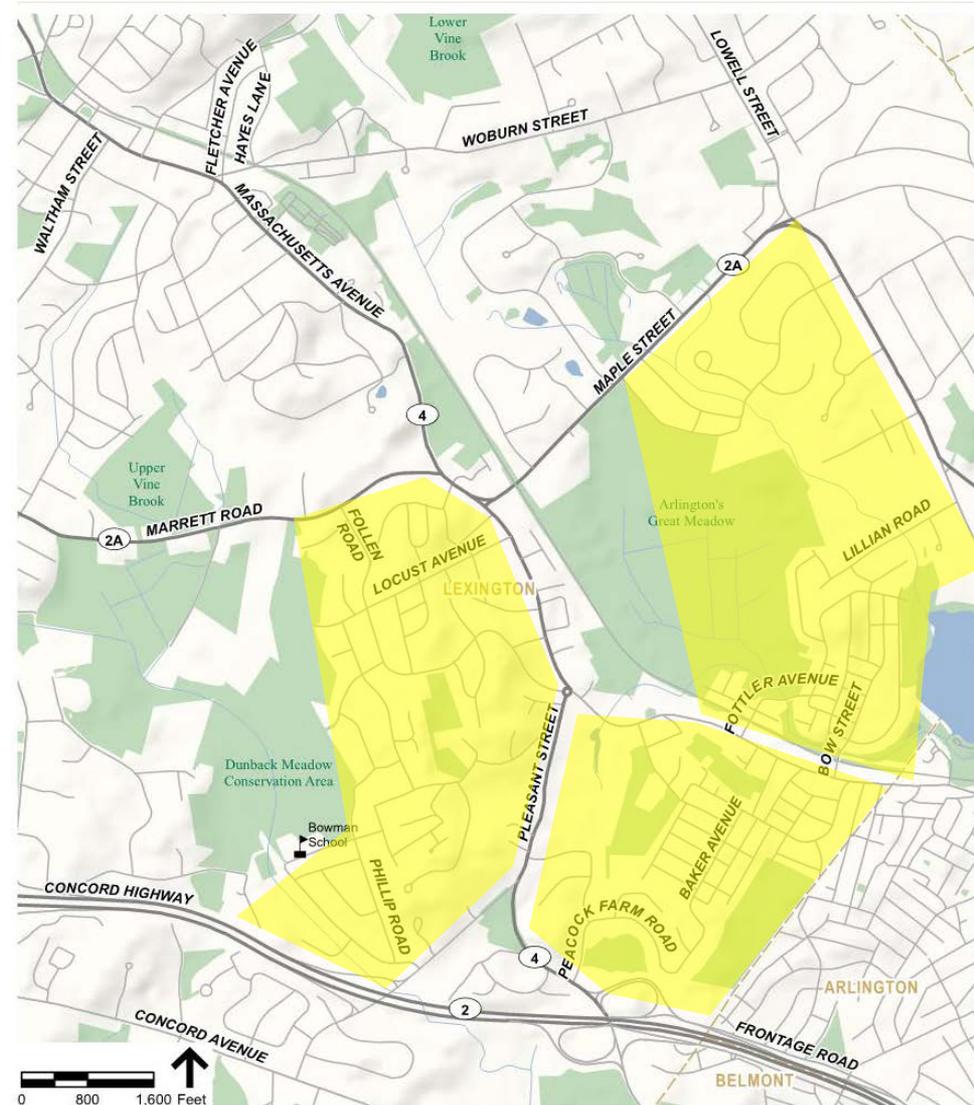
- NOT a critique of the proposed projects
- Conduct a review of existing conditions and existing volumes with proposed improvements in terms of:
  - Traffic mobility
    - Vehicle
    - Pedestrian
    - Bicycle
  - Potential for “cut-through” traffic associated with the recently proposed improvements
- Focus on neighborhood operations related to the proposed improvements

# Existing Conditions



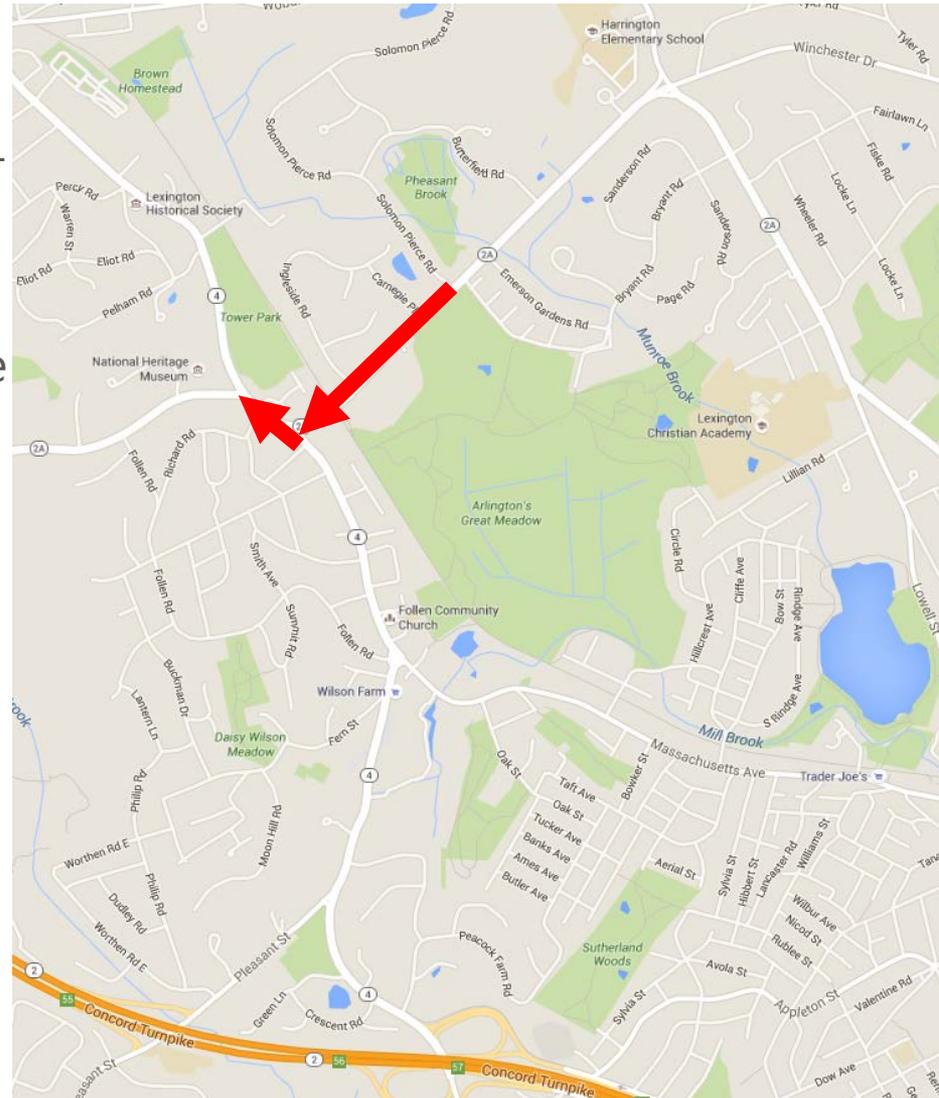
# Existing Conditions – Study Area

- Neighborhoods
  - Phillip Rd/Follen Rd: West of Mass Ave/Pleasant St bounded by Route 2 in the south and Marrett Rd in the north
  - Peacock Farm Rd: East of Pleasant St bounded by Route 2 in the south and Mass Ave in the north
  - Bow St/Reservoir: North of Mass Ave bounded by Mass Ave in the south and Maple St in the north



# Existing Conditions – Weekday Morning Traffic Conditions & Observations

- Primary Route
  - Mass Ave at Marrett Rd: NB left-turn queue extends to Maple St (~650 ft)
  - Mass Ave at Maple St: WB queue extends to Solomon Pierce Road (~2,200 ft)
- Neighborhood
  - Phillip Rd/Follen Rd: traffic associated with Bowman Elementary School
  - Peacock Farm Rd: negligible through traffic observed
  - Bow St/Reservoir: negligible through traffic observed



# Existing Conditions – Weekday Morning Travel Times

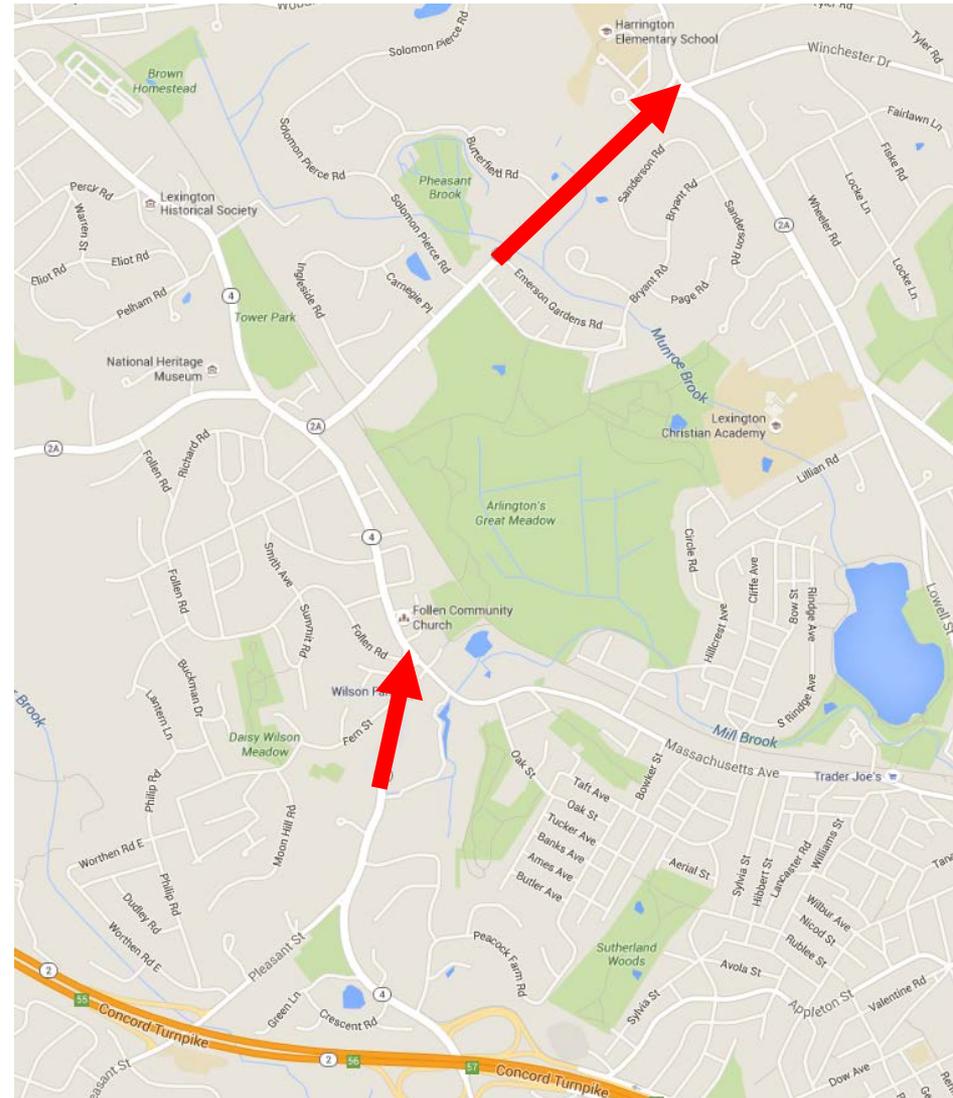
- Travel in the north to south direction
- Generally similar travel times between primary routes and neighborhood routes

Travel Time (min)								
Route	Run 1			Run 2			Average	
	Time	Primary Route	Neighborhood	Time	Primary Route	Neighborhood	Primary Route	Neighborhood
Phillip Rd/Follen Rd Neighborhood	7:37 AM	5:22:00	4:34:00	8:29 AM	3:13:00	4:45:00	4:17:30	4:39:30
Peacock Farm Rd Neighborhood	7:52 AM	2:16:00	3:29:00	8:41 AM	1:36:00	3:19:00	1:56:00	3:24:00
Peacock Farm Rd & Bow St/Reservoir Neighborhoods	8:09 AM	9:44:00	8:48:00	8:56 AM	11:14:00	6:50:00	10:29:00	7:49:00

Source: Field data collected in September 2015

# Existing Conditions – Weekday Evening Traffic Conditions & Observations

- Primary Route
  - Lowell St at Maple St: EB queue extends to Emerson Gardens Rd (~2,500 ft)
  - Mass Ave at Pleasant St: NB queue extends beyond Wilson Farms property (~1,800 ft)
- Neighborhood
  - Phillip Rd/Follen Rd: moderate through traffic observed
  - Peacock Farm Rd: moderate through traffic observed
  - Bow St/Reservoir: moderate through traffic observed



# Existing Conditions – Weekday Evening Travel Times

- Travel in the south to north direction
- Neighborhood routes have faster travel times than primary routes

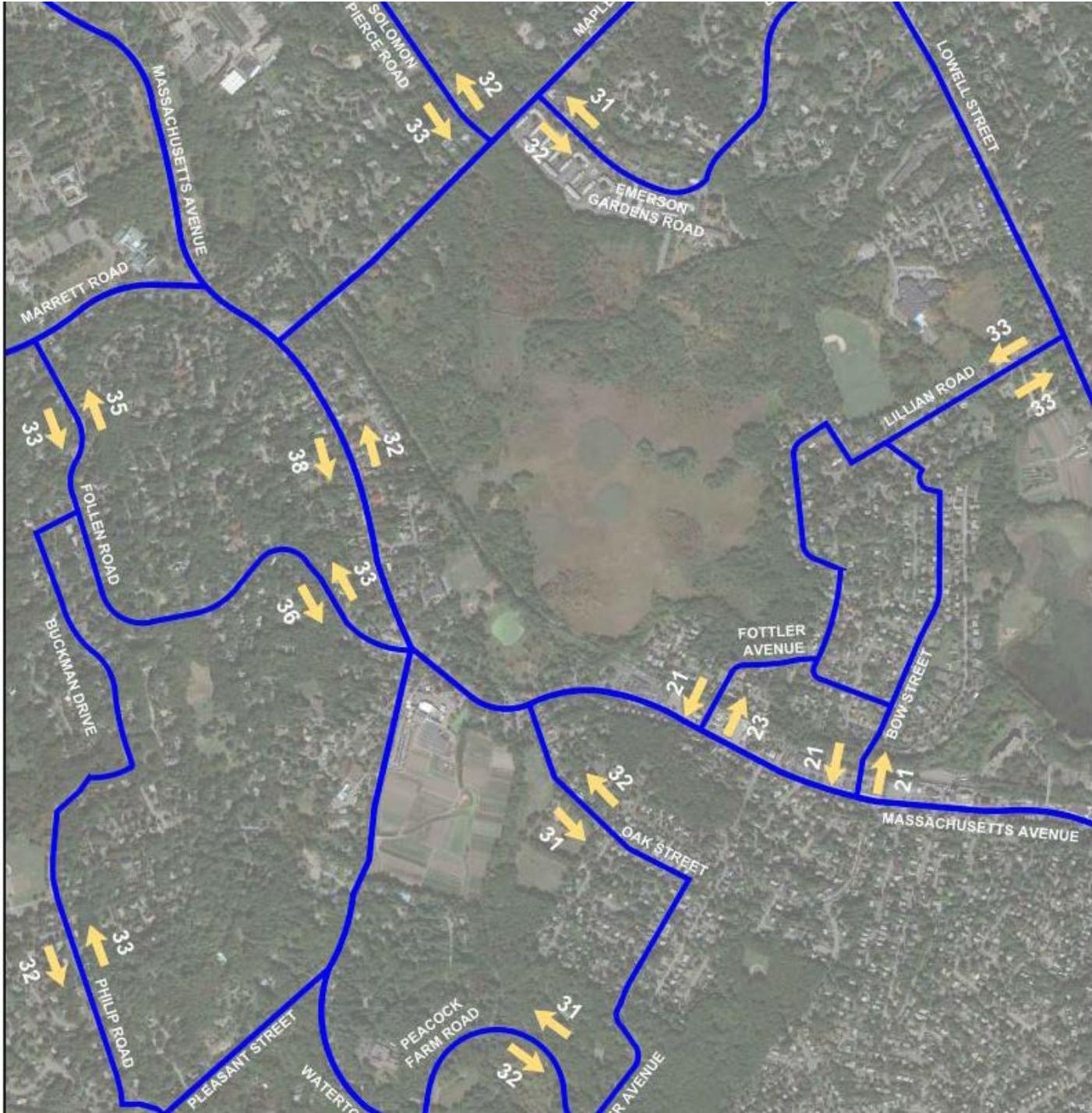
Travel Time (min)								
Route	Run 1			Run 2			Average	
	Time	Primary Route	Neighborhood	Time	Primary Route	Neighborhood	Primary Route	Neighborhood
Phillip Rd/Follen Rd Neighborhood	4:52 PM	12:14:00	4:56:00	5:46 PM	9:52:00	5:32:00	11:03:00	5:14:00
Peacock Farm Rd Neighborhood	5:13 PM	4:38:00	4:32:00	6:01 PM	5:36:00	3:51:00	5:07:00	4:11:30
Peacock Farm Rd & Bow St/Reservoir Neighborhoods	5:21 PM	16:25:00	8:42:00	6:12 PM	10:40:00	8:24:00 <sup>1</sup>	13:32:30	8:33:00

Source: Field data collected in September 2015

<sup>1</sup> Disruption in traffic added approximately 10-20 seconds to the total travel time

# Existing Conditions – Primary Concerns Expressed by Neighbors

- High travel speeds on neighborhood streets
- Improper placement and/or lack of intersection control at neighborhood intersections
- Limited pedestrian accommodations
- Increase in neighborhood cut-through traffic, particularly during construction



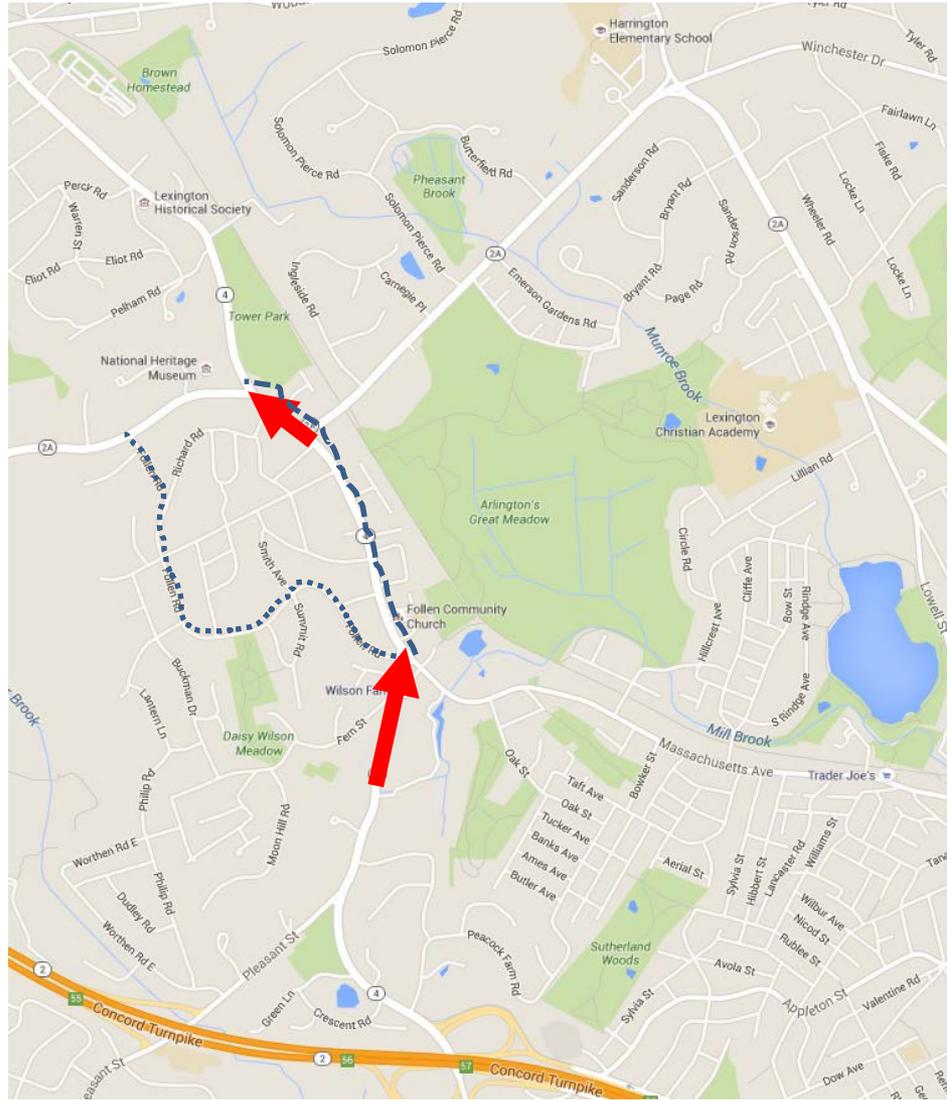
Source: BSC Group.

# Existing Volumes with Improvements



# Existing Volumes with Proposed Improvements – Phillip Rd/Follen Rd Neighborhood

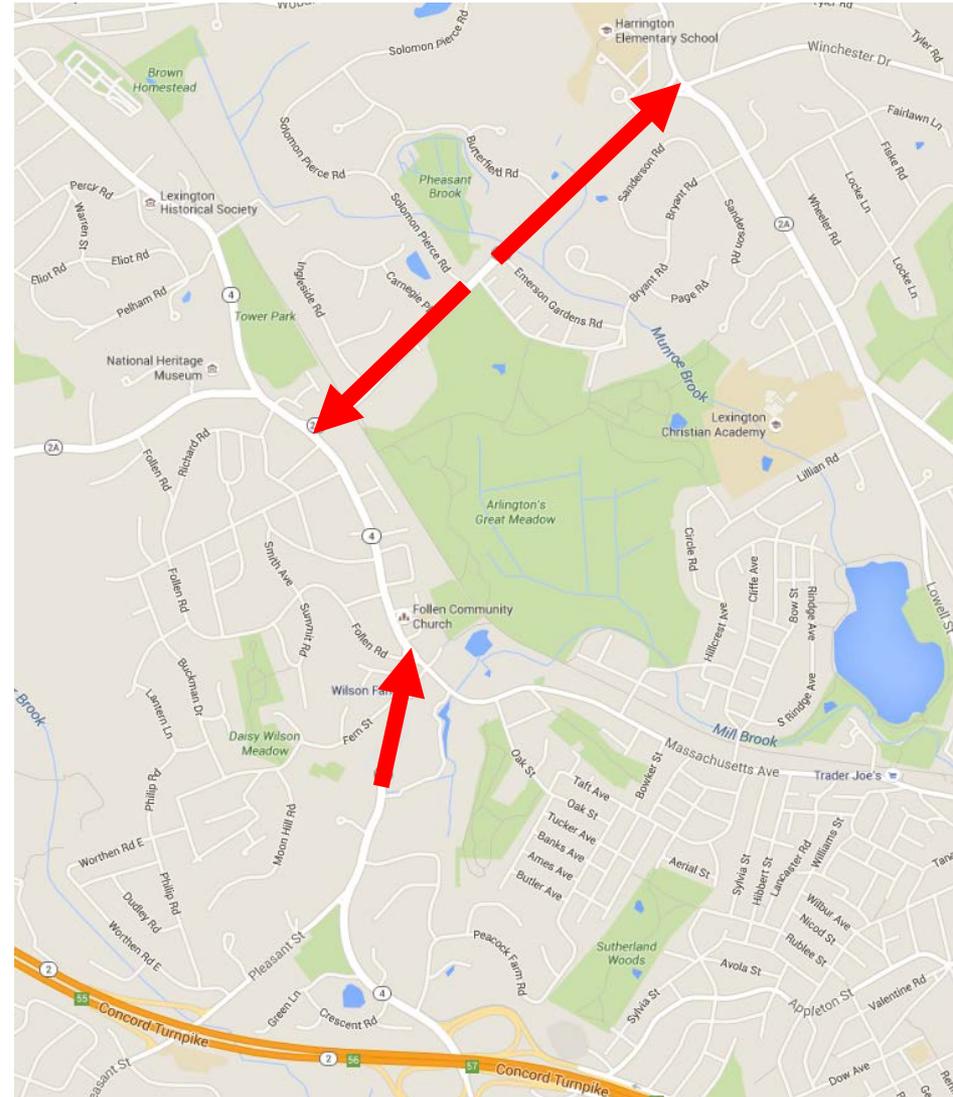
- Weekday Morning
  - No expected change to through traffic
  - Reduction in Mass Ave NB left-turn queue (~650 ft to ~325 ft) = further incentive to stay on primary route
- Weekday Evening
  - Reduction in Pleasant St NB queue (~1,800 ft to ~250 ft) = reduction in cut-through traffic
  - Potential increase in overall Mass Ave delay = vulnerability to Follen Road



# Existing Volumes with Proposed Improvements

## – Peacock Farm Rd & Bow St/Reservoir Neighborhoods

- Weekday Morning
  - Reduction in Maple St WB queue (~2,200 ft to ~350 ft) = reduction in cut-through traffic
- Weekday Evening
  - Reduction in Pleasant St NB queue (~1,800 ft to ~250 ft) = reduction in cut-through traffic for vehicles headed north
  - Vehicles headed northeast (towards Lowell St) may still utilize neighborhood(s) as cut-through

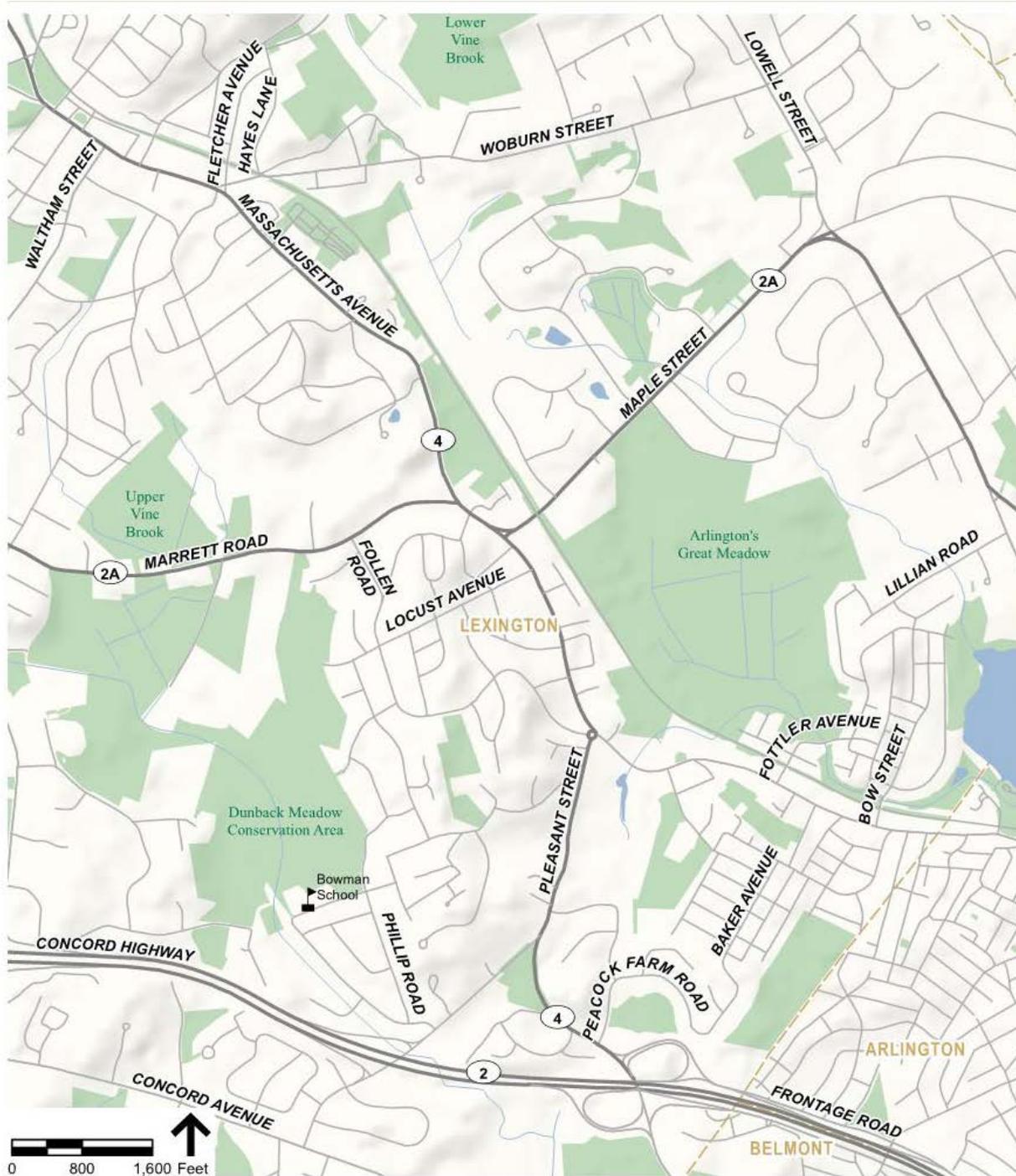


# Potential Mitigation



# Potential Mitigation

- Reduced queues along Pleasant Street can help reduce through traffic
- Where warranted and appropriate, consider:
  - Additional signage
  - Speed tables/humps
  - Road closures/turn restrictions/time restrictions
  - Curb extensions/chicanes
  - Pedestrian accommodations
- Pros/cons of each will be evaluated
  - Reduced travel speed/volume
  - Geometric and drainage challenges
- Speed control is a concern regardless of signalization
- Include Lowell Street/Maple Street in mitigation evaluation



# Potential Mitigation – Construction Impacts

- Construction Mitigation Plan to address temporary neighborhood impacts during construction
  - Certain construction activities limited to off-peak hours
  - Temporary signage
  - Police details
  - Regular coordination meetings

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Offices located throughout the east coast