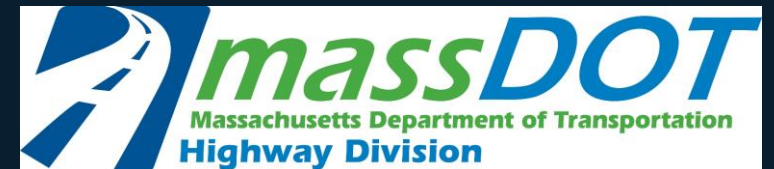


# Public Information Meeting

## Bridge Replacement & Interchange Improvements at Rt 27 (North Main St) over Rt 9 (Worcester St)

NATICK, MA | PROJECT FILE NO. 605313

JUNE 12, 2019



# MEETING OBJECTIVES:

1. Describe Conceptual Plans
2. Obtain Feedback
  - Open House Format
  - Feedback Forms
  - Project Email





# PROJECT BACKGROUND:



Rutledge Road

Lakeshore Road

Route 9

Route 27

Bacon Street

Rt 9 ADT 56,000  
Rt 27 ADT 29,400

Note Adjacent Proj. 605034



# PROJECT BACKGROUND:



# PROJECT BACKGROUND:

## Project Needs & Goals

1. Increase Safety
2. Improve Mobility for All Users
3. Bridge Replacement
4. Improve Operations









# PROJECT BACKGROUND:





# PREVIOUS 25% DESIGN:





## PREVIOUS 25% DESIGN:

## Public Feedback at 25% Design Public Hearing:

1. Safety
  - Pedestrian Facilities
  - Bicycle Facilities
2. Traffic Congestion
  - U-Turns
  - Diverted Trips
3. Traffic Signals Could Worsen Traffic





# PREVIOUS 25% DESIGN:

## Since the 25% Design Public Hearing

- Process Feedback
- Think Outside the Box
- Report Back and Solicit Feedback
- Advance Toward 25% Design

## Guiding Principles

- Improve **SAFETY** for all Users
- Provide **MULTI-MODAL** Accommodations
- Enhance **MOBILITY** for all Users
- Replace Bridge Structure
- Improve Operations
- Support Natick's Quality of Life
  - Context Sensitive



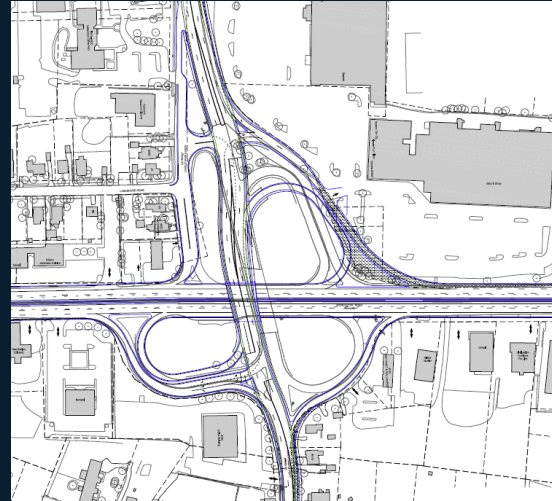


# OPTIONS CONSIDERED:

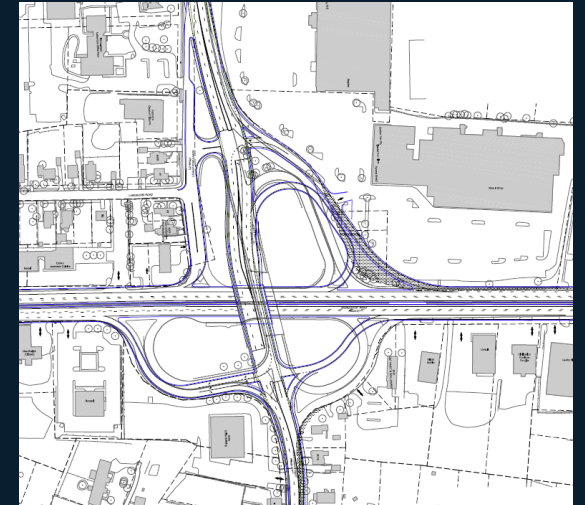
## Dismissed

- Excessive ROW impacts and/or unacceptable operations
- Did not meet project needs and goals

## Partial Cloverleaf Interchange Ver 1



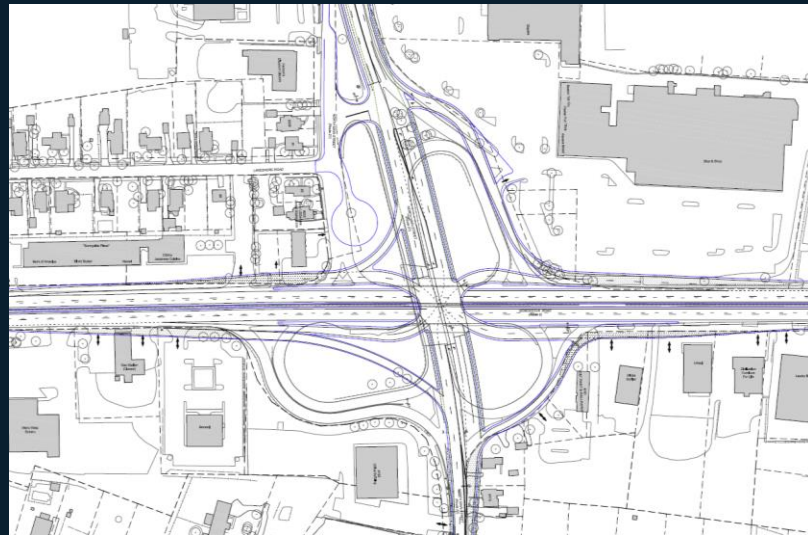
## Partial Cloverleaf Interchange Ver 2



## 'Teardrop' Interchange



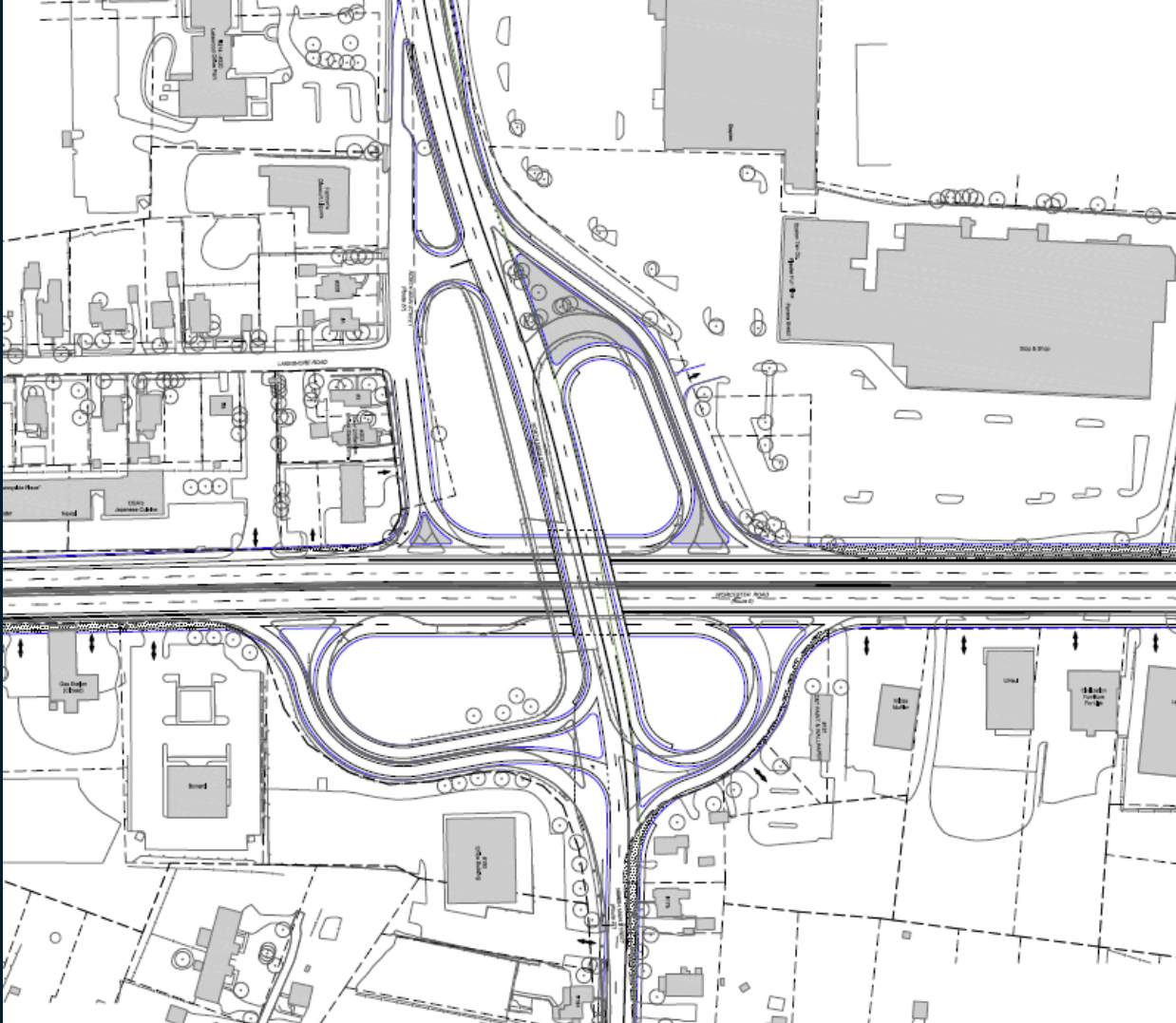
## Signalized 'Circle'





# OPTIONS CONSIDERED:

## Cloverleaf w/ Frontage Road



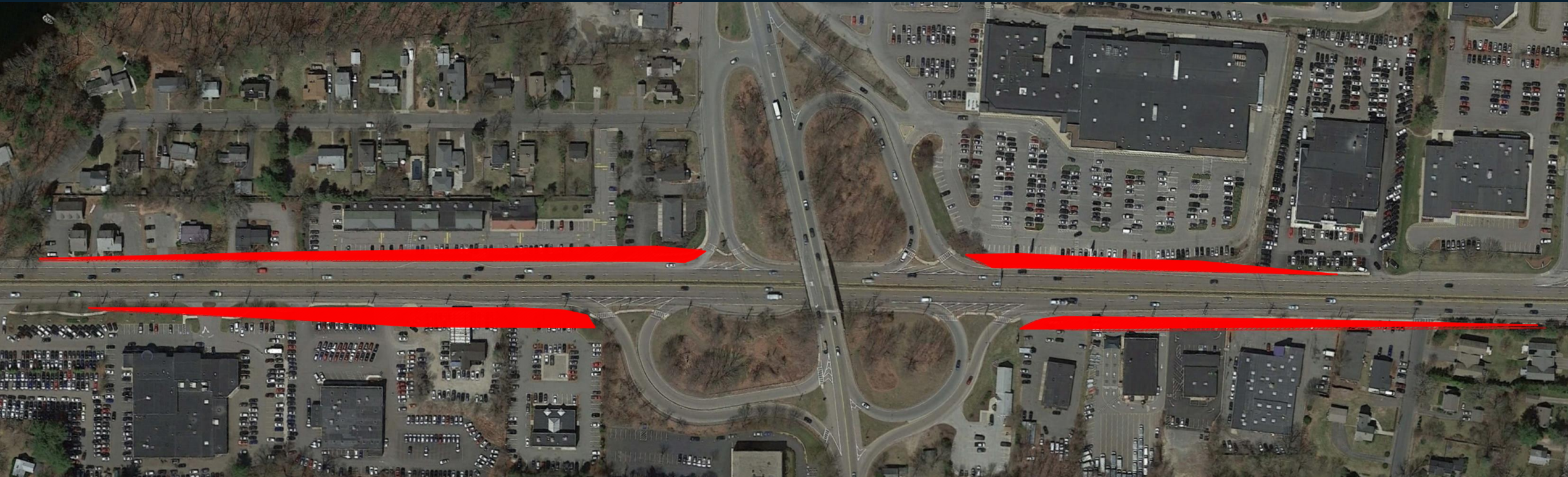
### Dismissed

- Excessive ROW Impacts
- Does not address safety along Rt 27 or bike/ped issues
- Excessive Bridge Span



# OPTIONS CONSIDERED:

## Cloverleaf w/ Frontage Road



ROW Impacts = 







# CONCEPT 1:



- Traffic Calming
- Less Severe Crashes
- FHWA Proven Safety Countermeasure





Route 9

Route 27

Lakeshore Rd

- Shared Use Path =
- Sidewalk =
- Bus Stop =

# Bicycle/Pedestrian Network





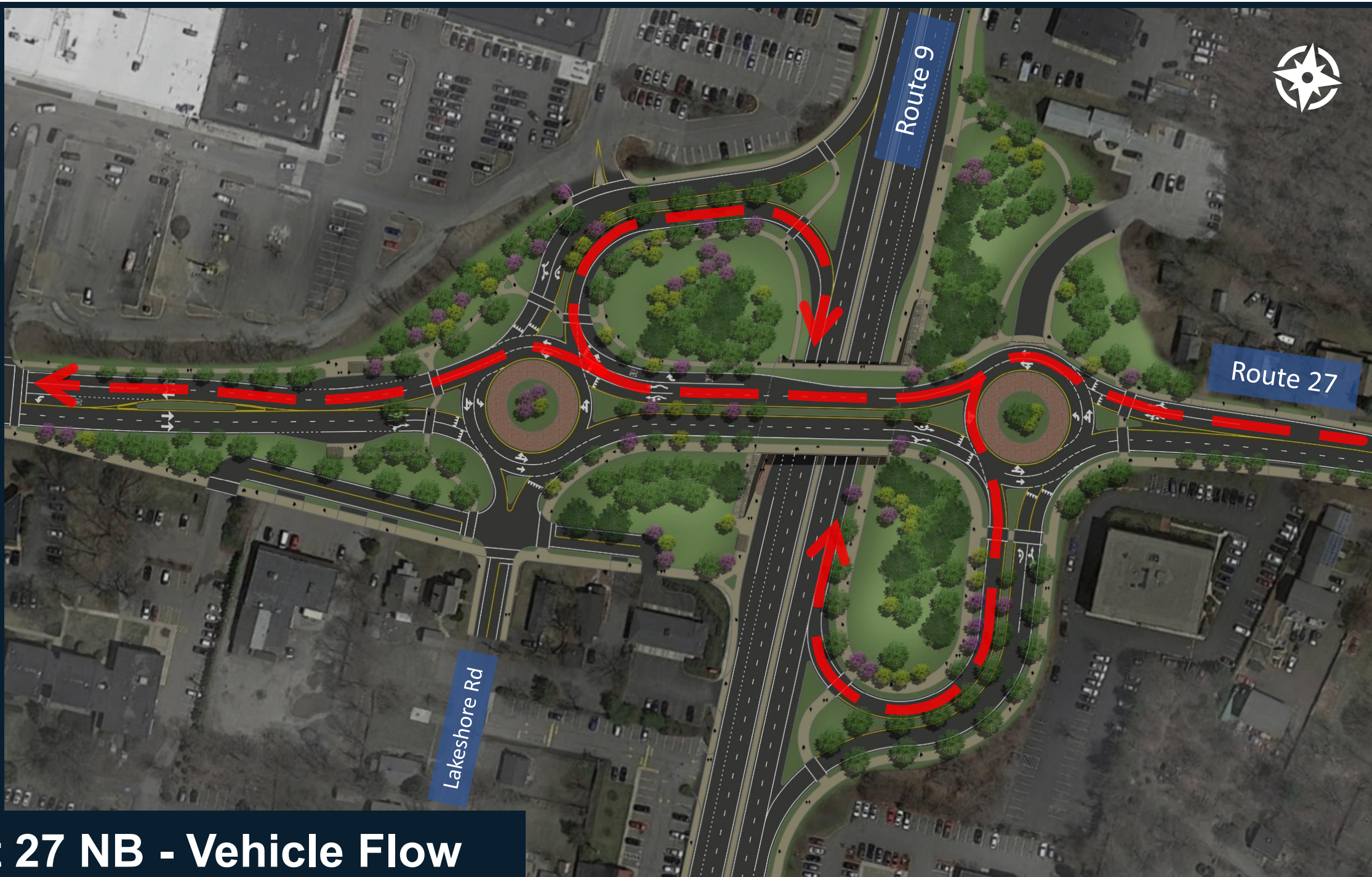


Route 9

Route 27

Lakeshore Rd

Rt 27 NB - Vehicle Flow





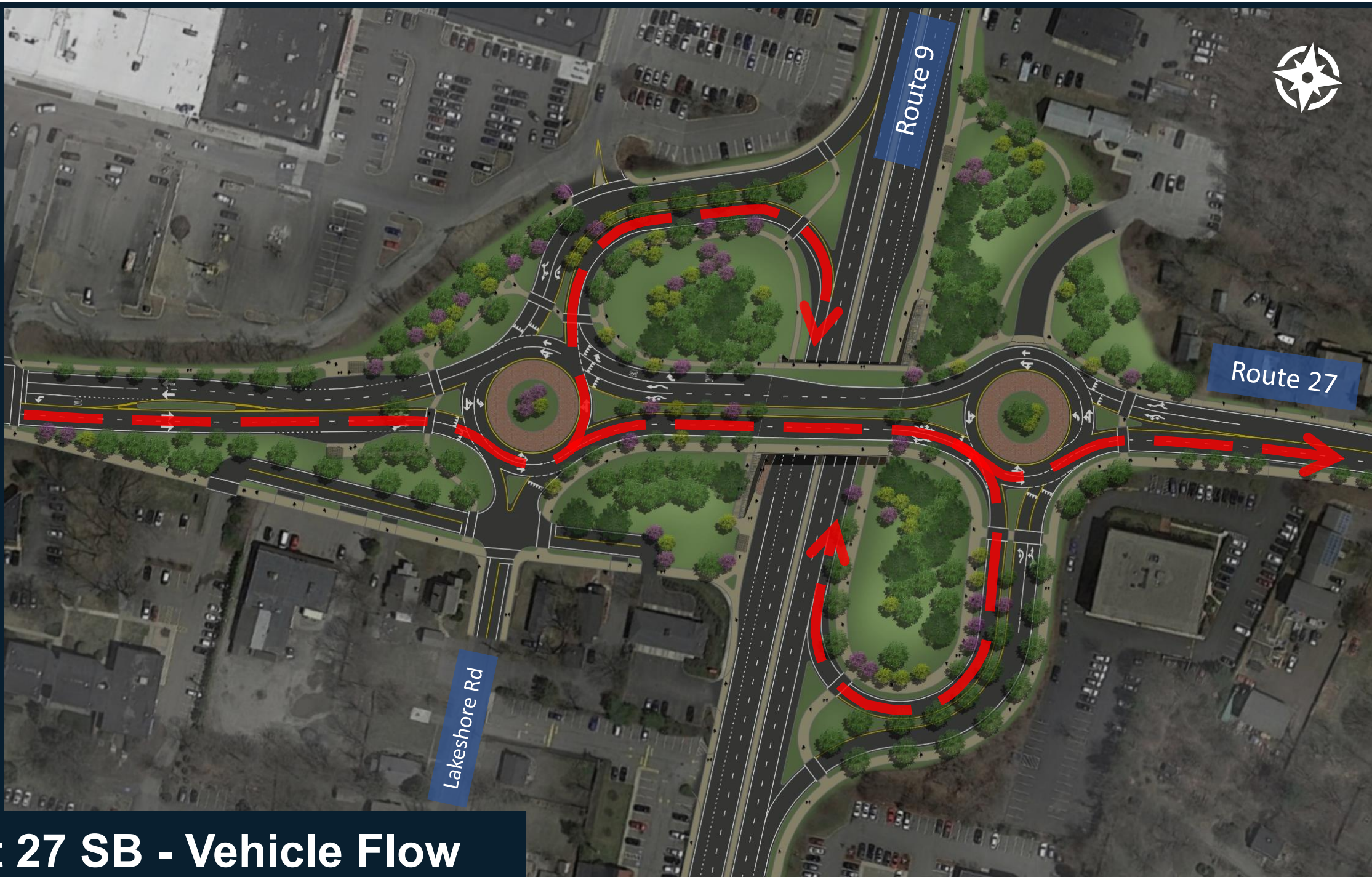


Route 9

Route 27

Lakeshore Rd

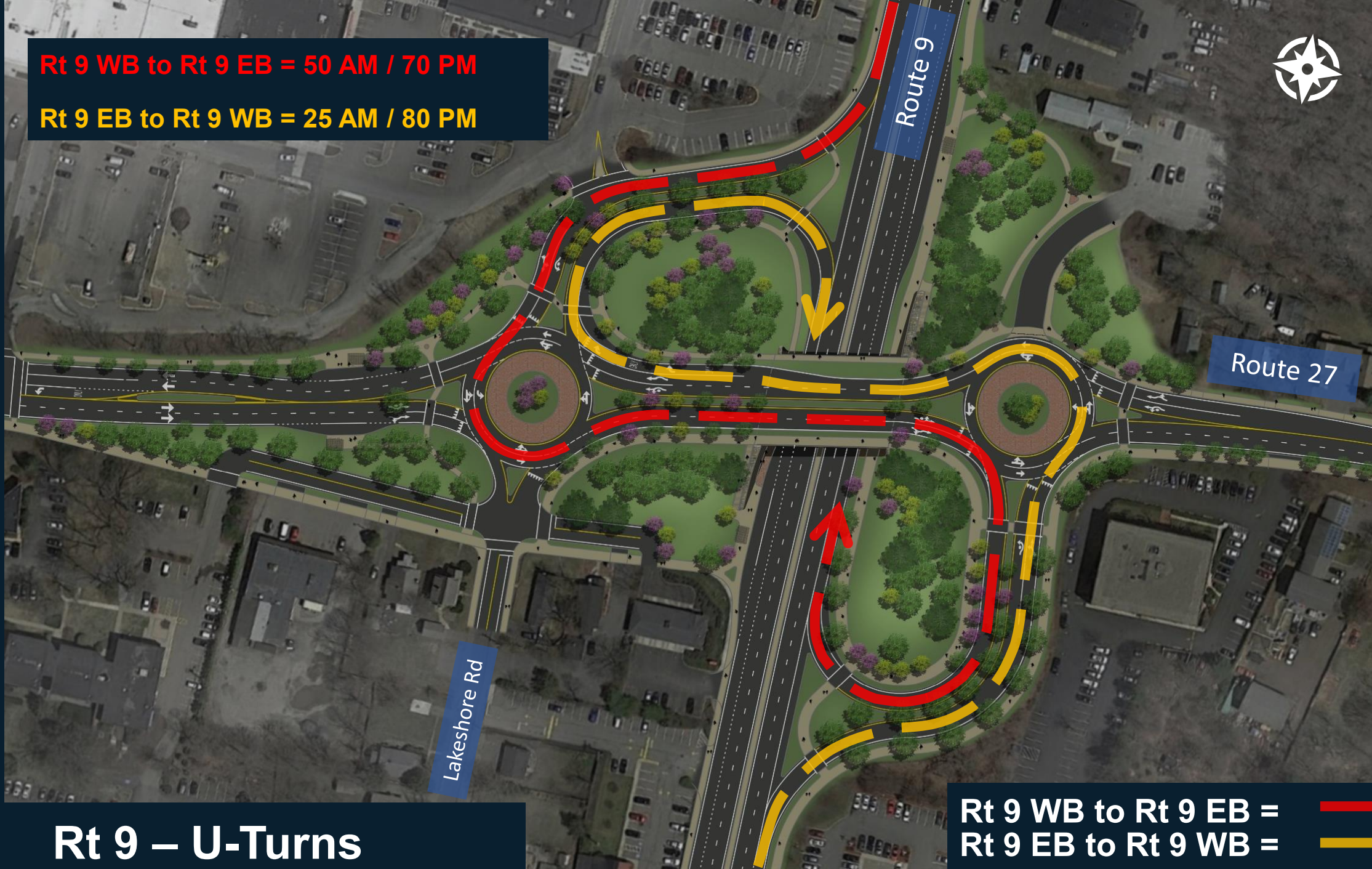
Rt 27 SB - Vehicle Flow







**Rt 9 WB to Rt 9 EB = 50 AM / 70 PM**  
**Rt 9 EB to Rt 9 WB = 25 AM / 80 PM**



# Rt 9 – U-Turns



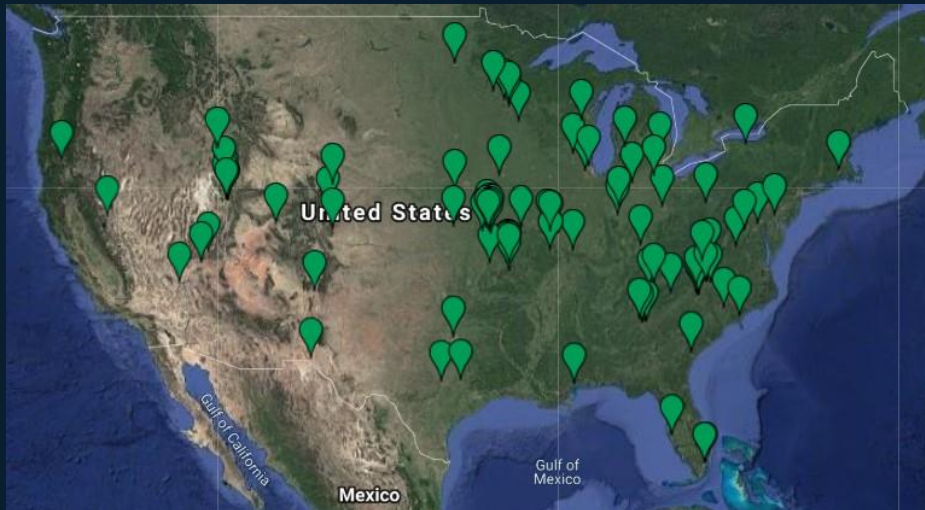




# CONCEPT 2:

## Concept 2...Modified Diverging Diamond

- “An innovative, Proven Solution for Improving Safety and Mobility at Interchanges”  
(<https://safety.fhwa.dot.gov/intersection/innovative/crossover/brochures/ddi/>)
- Eliminates left turn crashes
- Significant reduction in conflict points from traditional diamond interchange
- Integrates all users safely



### In Northeast:

- Brighton, NY, 2012
- Being Considered
  - Colchester, VT
  - Lebanon, NH

### In U.S.A.:

- First built in 2009
- 105 operational
- 23 in construction













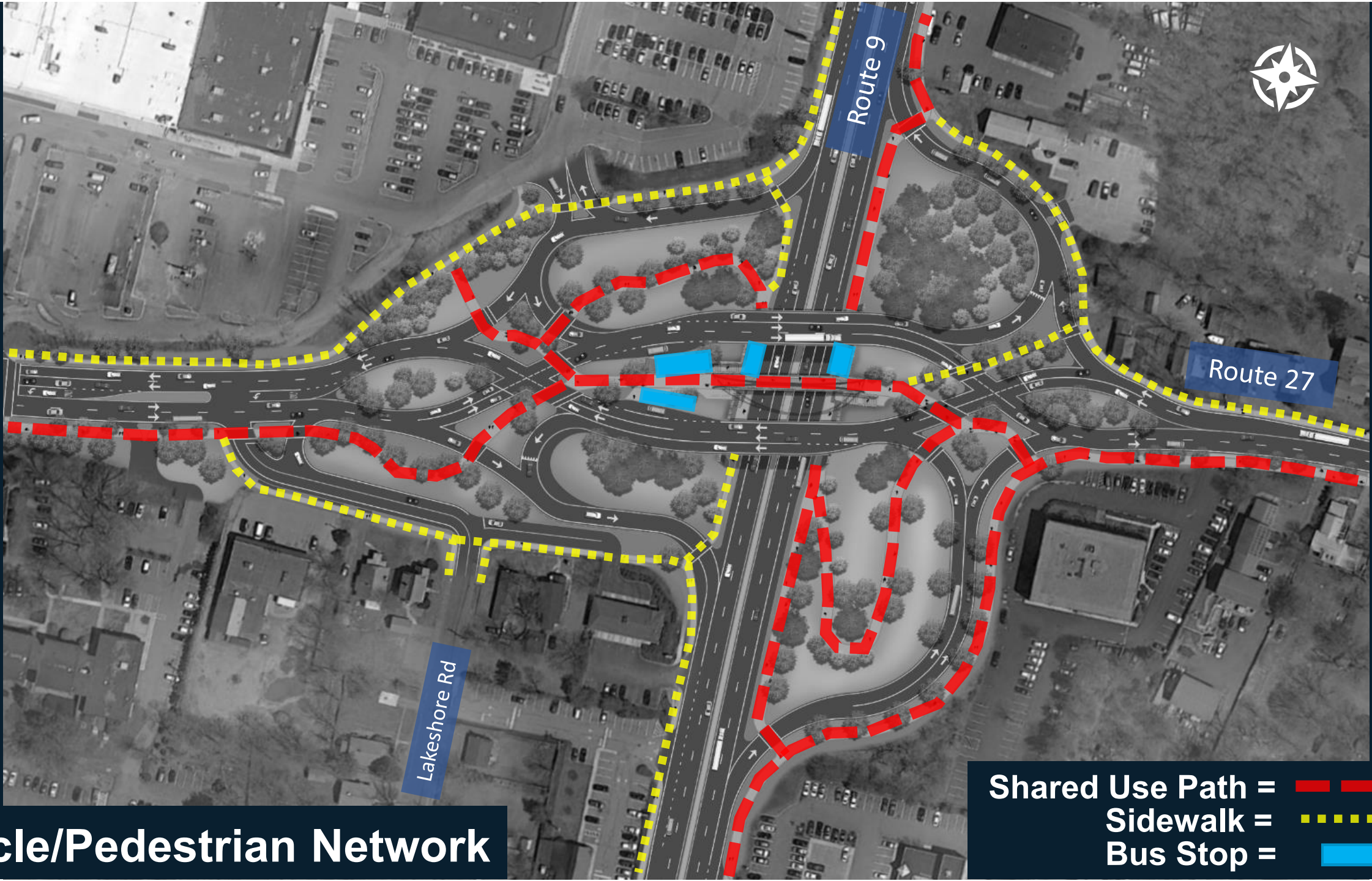


# CONCEPT 2:



- Simplified Signal Operations
- Signalized Bike/Ped Crossings
- Shorter Crossings
- Fewer Conflict Points





Route 9

Route 27

Lakeshore Rd

- Shared Use Path = 
- Sidewalk = 
- Bus Stop = 

# Bicycle/Pedestrian Network



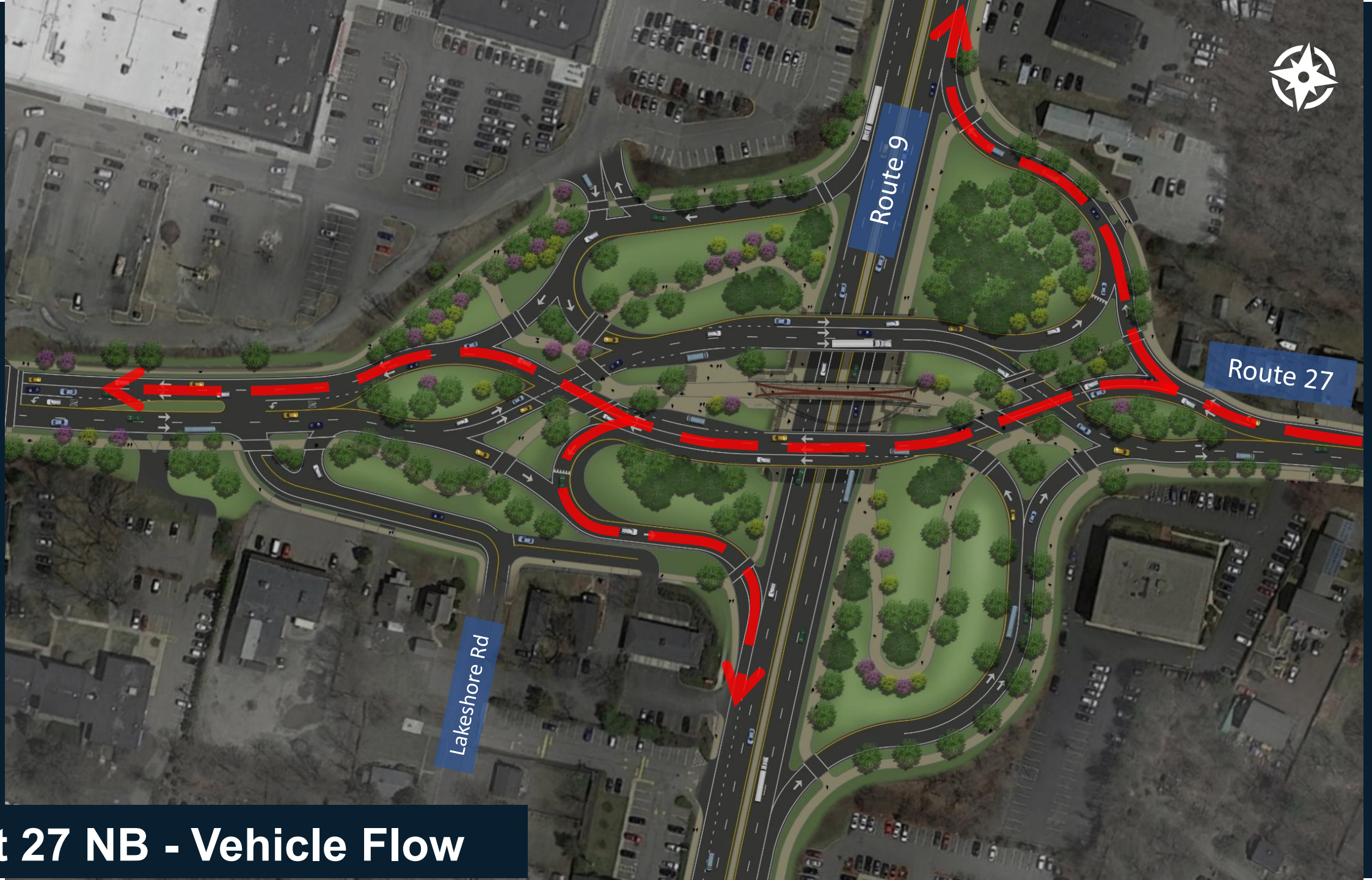


Route 9

Route 27

Lakeshore Rd

Rt 27 NB - Vehicle Flow





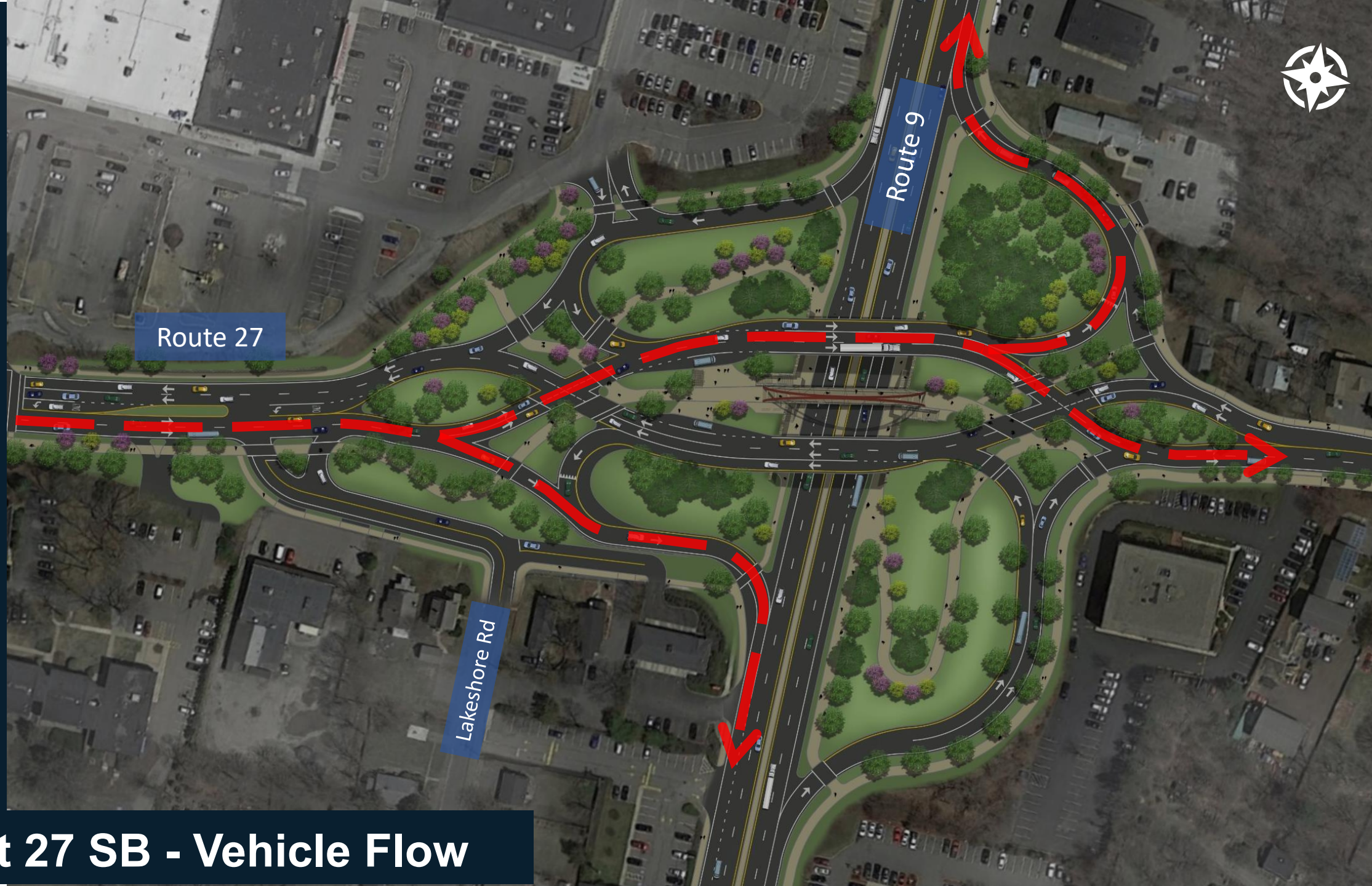


Route 9

Route 27

Lakeshore Rd

Rt 27 SB - Vehicle Flow







Rt 9 WB to Rt 9 EB = 50 AM / 70 PM

Rt 9 EB to Rt 9 WB = 25 AM / 80 PM

Route 9

Route 27

Lakeshore Rd

Rt 9 – U-Turns

Rt 9 WB to Rt 9 EB =  
Rt 9 EB to Rt 9 WB =









# CONCEPTS 1 & 2:

## Both Options will Accomplish the Following:

- Increase Safety
  - Eliminate STOP controlled Rt 9 on-ramps
  - Lengthen acceleration lanes along Rt 9 / eliminate substandard weaving
- Improve Mobility for All Users
  - Provide a Shared Use Path and connections to Cochituate Rail Trail / Bacon St / Rutledge Rd
  - Provide improved MWRTA transit stops
- Replace the Bridge
- Improve Operations
  - For the on/off ramps
  - At the 9/27 Exchange shopping center traffic signal
- Provide Landscaping
- Have comparable ROW impacts



# CONCEPTS 1 & 2:

## Concept Strengths

### Concept 1 - Roundabouts

- Traffic Calming
- Off-Peak Efficiency
- More Familiar Intersection Design
- More Direct Lakeshore Rd Access to Interchange

### Concept 2 - Modified Diverging Diamond

- Signalized Bike/Pedestrian Crossings
- Shared Use Path Bridge Over Rt 9
- Simplified Signal Design
- Fewer Conflict Points
- Transit Interconnectivity / No Rt 9 Acceleration Lane Conflict
- Constructability Benefits
- More Direct Ability for Rt 9 Traffic U-Turn



# OPEN HOUSE:

Bridge Replacement & Interchange Improvements at  
Rt 27 (North Main St) over Rt 9 (Worcester St)

NATICK, MA | PROJECT FILE NO. 605313

1. Review and Discuss Conceptual Designs

2. We Want To Hear From You...

- Comment Sheets
- Project Email Address

[Rt27Rt9Natick@dot.state.ma.us](mailto:Rt27Rt9Natick@dot.state.ma.us)

THANK YOU!

