

Route 128, Exit 19 at Brimbal Avenue Interchange Improvements

Overview of Brimbal Avenue Improvements for Planning Board & City Council

September 19, 2013



Route 128, Exit 19 at Brimbal Avenue
Interchange Improvements



Traffic Presentation Agenda

- Review of project history
- Traffic Study Overview:
 - Describe problems & deficiencies of existing conditions
 - Describe how future travel demand was estimated
 - Explain role of existing commercial expansion on project design
- Proposed Improvements:
 - Describe in detail the Phase 1 improvements
 - Describe the longer-term Phase 2 study process
- Answer questions

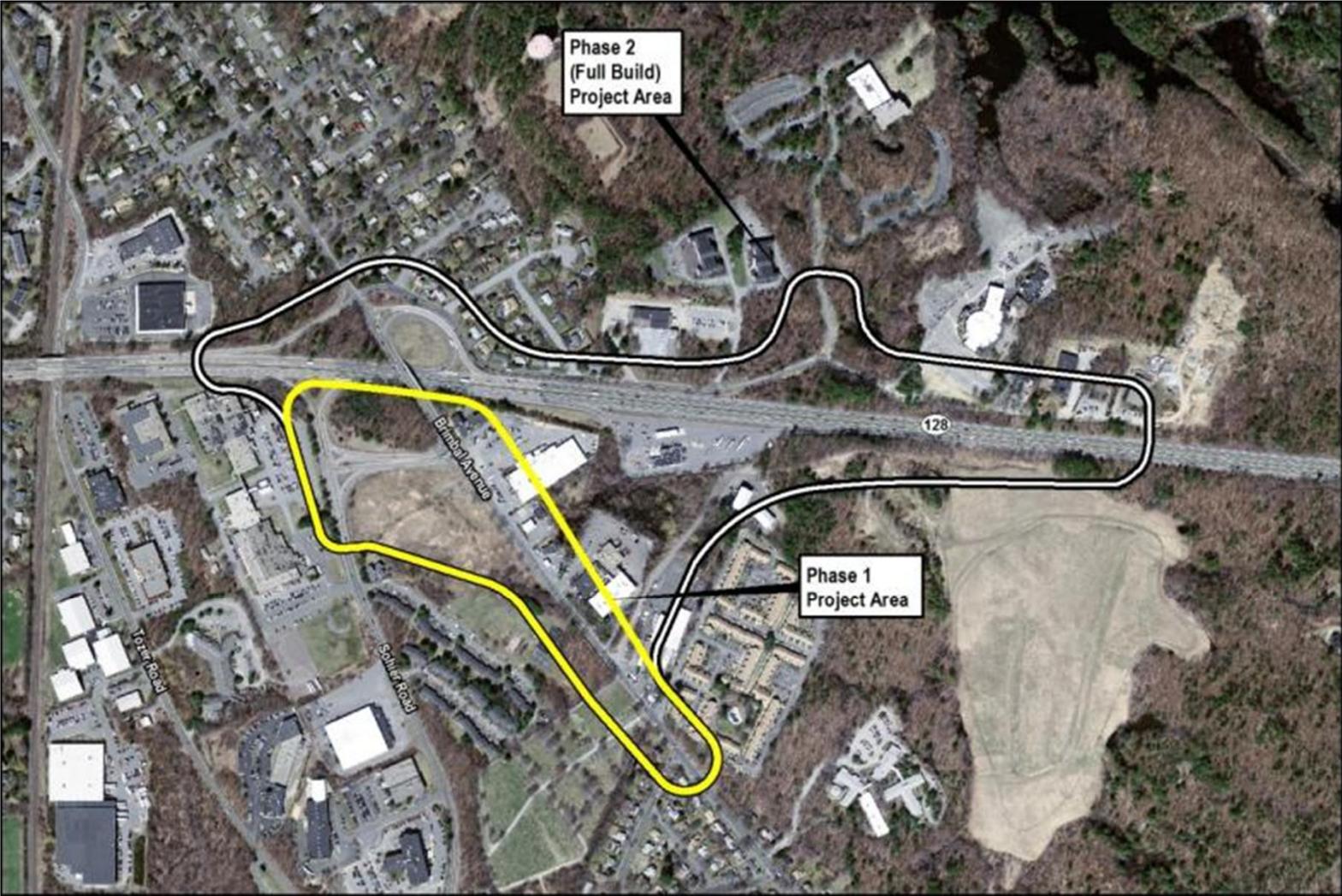


Roadway Project History

- Since 2003 Interchange area has been identified for improvement
- Environmental Notification Form filed with State – project did not advance
- Regional and State economic development policy support development around Exit 19
- MassWorks funding secured for interchange improvements



Project Area



Route 128, Exit 19 at Brimbal Avenue Interchange Improvements

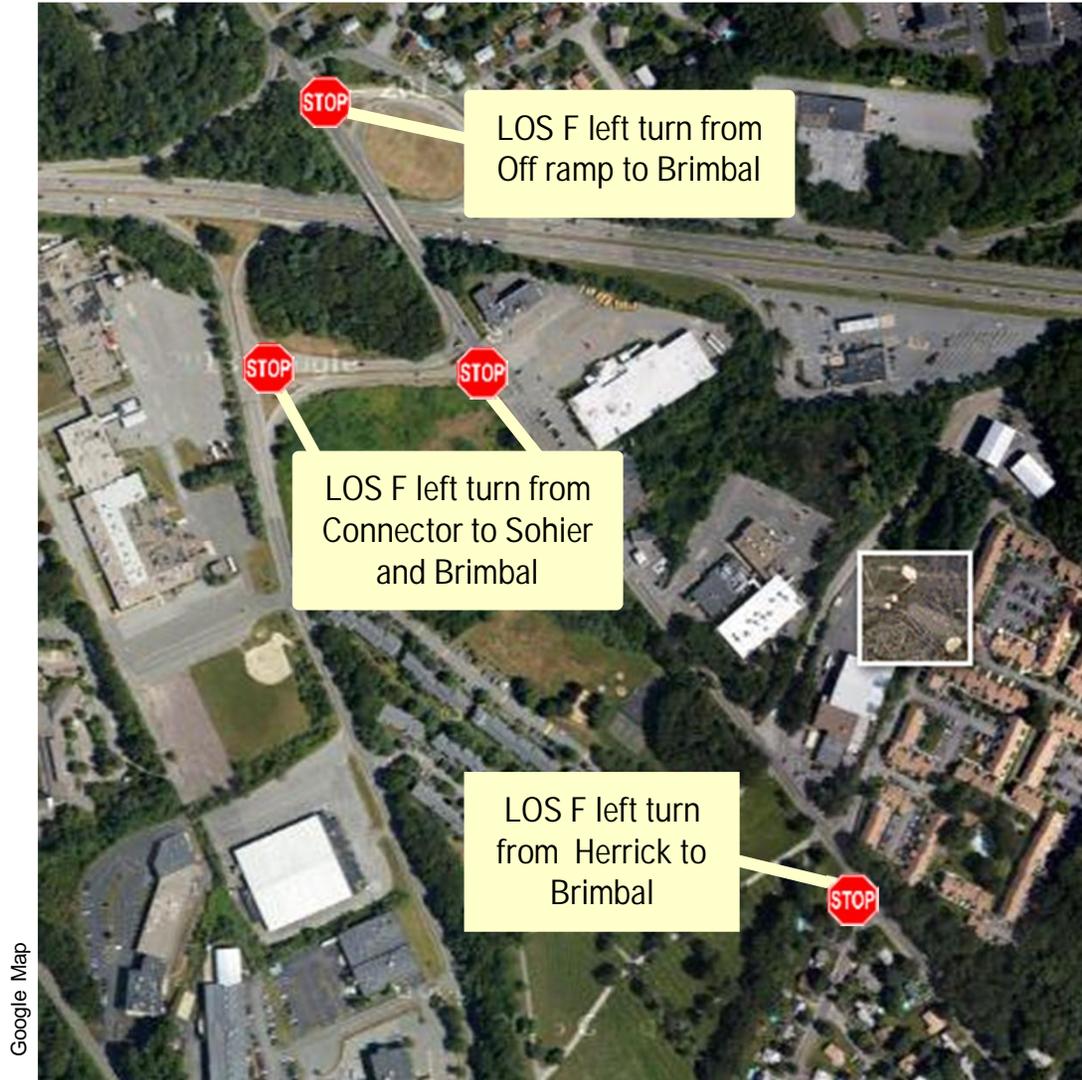


What Are the Problems to Address?

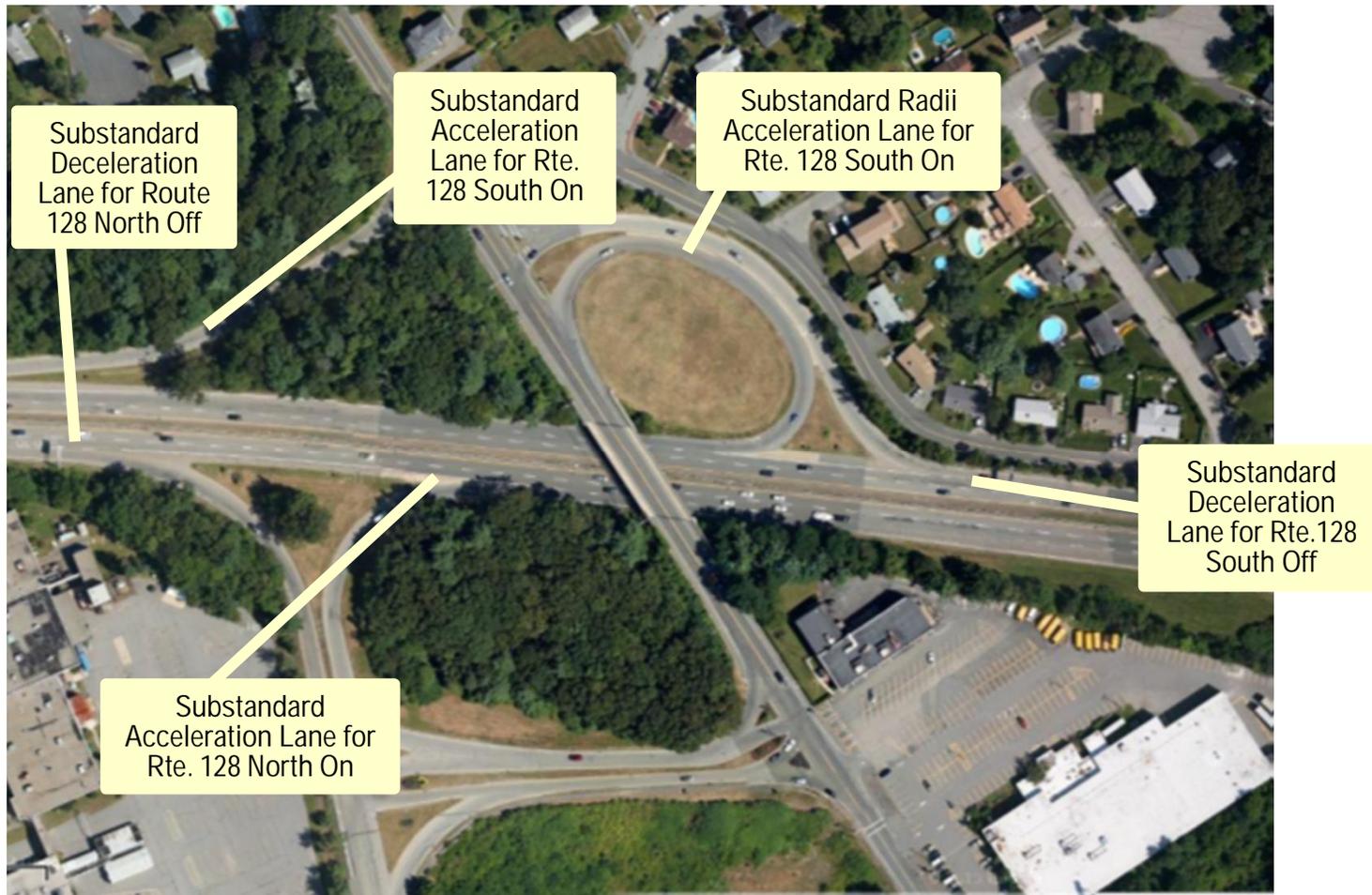
- Congestion and impacts on traffic operations
- Spill-back from Sohier Road onto Route 128
- High crash rate
- Lack of adequate pedestrian and bicycle facilities



Existing Level of Service at Intersections

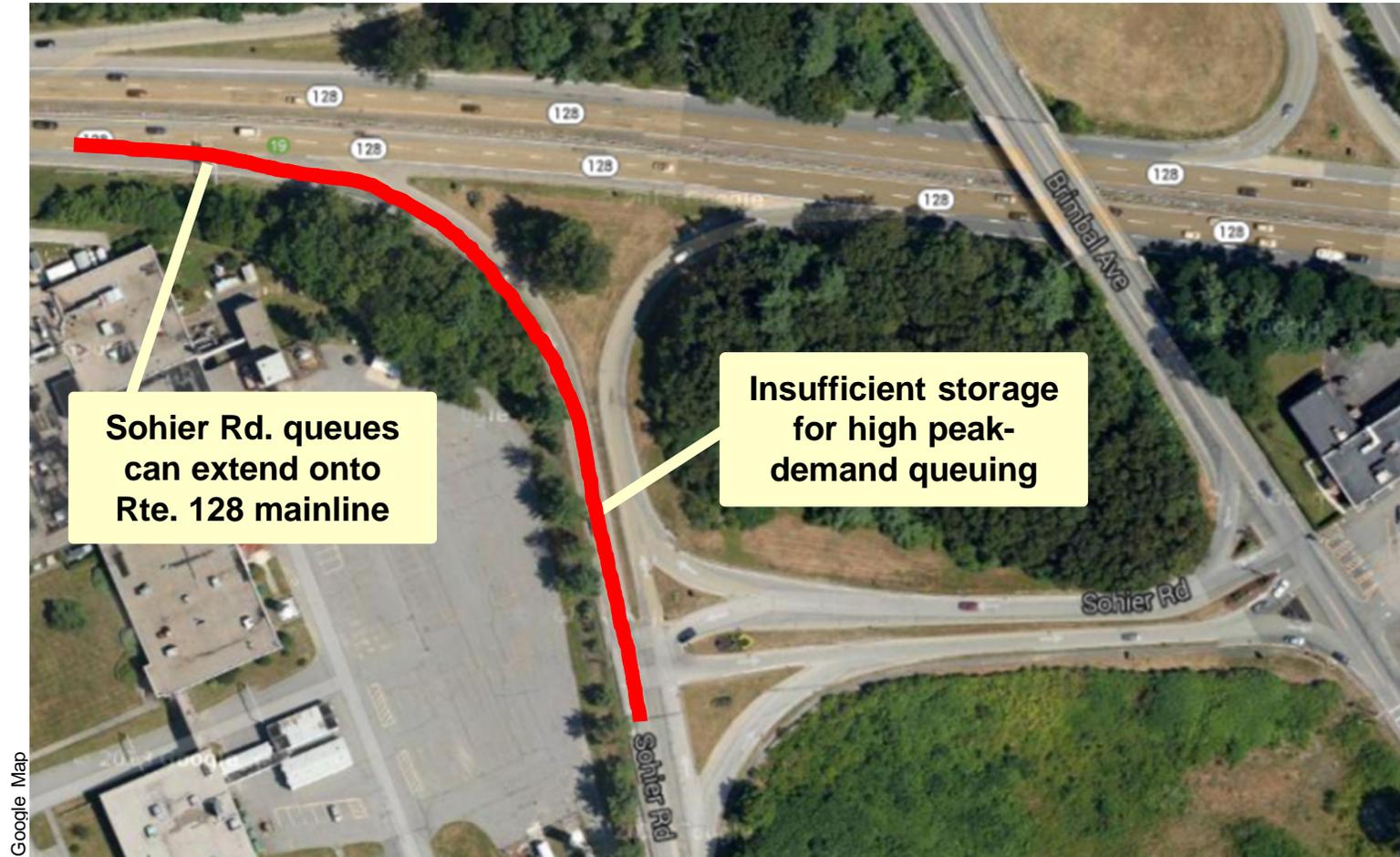


Substandard & Inadequate Ramp Conditions



Spill-back from Sohier Road onto Route 128

Backups occur during non-recurring congestion



Crash Rate is Higher than State Average

- Crash analysis focused on:
 - Route 128
 - Brimbal Avenue
 - Sohier Road
 - Dunham Road
 - Herrick Street
- Five locations have crash rates that are higher than Massachusetts State average crash rate



Sidewalks and Bike Accommodation Are Poor



Brimbal Avenue lacks bike lanes and continuous sidewalks

How Is Traffic Analyzed?

- Establish base traffic flows (2012)
- Estimate future travel demand
 - Regional (background growth)
 - Planned projects in the project area
- Estimate the “distribution” of new trips—where they are coming from and going



How Much New Traffic Will There Be?

- Future land use estimates provided by the City plus 0.5% annual background growth
- MAPC regional planning agency 2011 study estimates were similar
- Phase 1 traffic assumed four specific developments would be contributing traffic by 2020
- Phase 2 analysis will rely on CTPS long-range forecasts of trips



Phase 1: How Much New Traffic Will There Be on Brimbal Avenue?

2020 Brimbal Avenue (two-way traffic)		
	AM peak (vph*)	PM peak (vph*)
2012 (Existing)	1,300	1,319
2020 (Background)	53	52
Proposed Shopping Center	8	30
Existing Commercial Expansion	59	60
Totals	1,420	1,461

* vehicles per hour

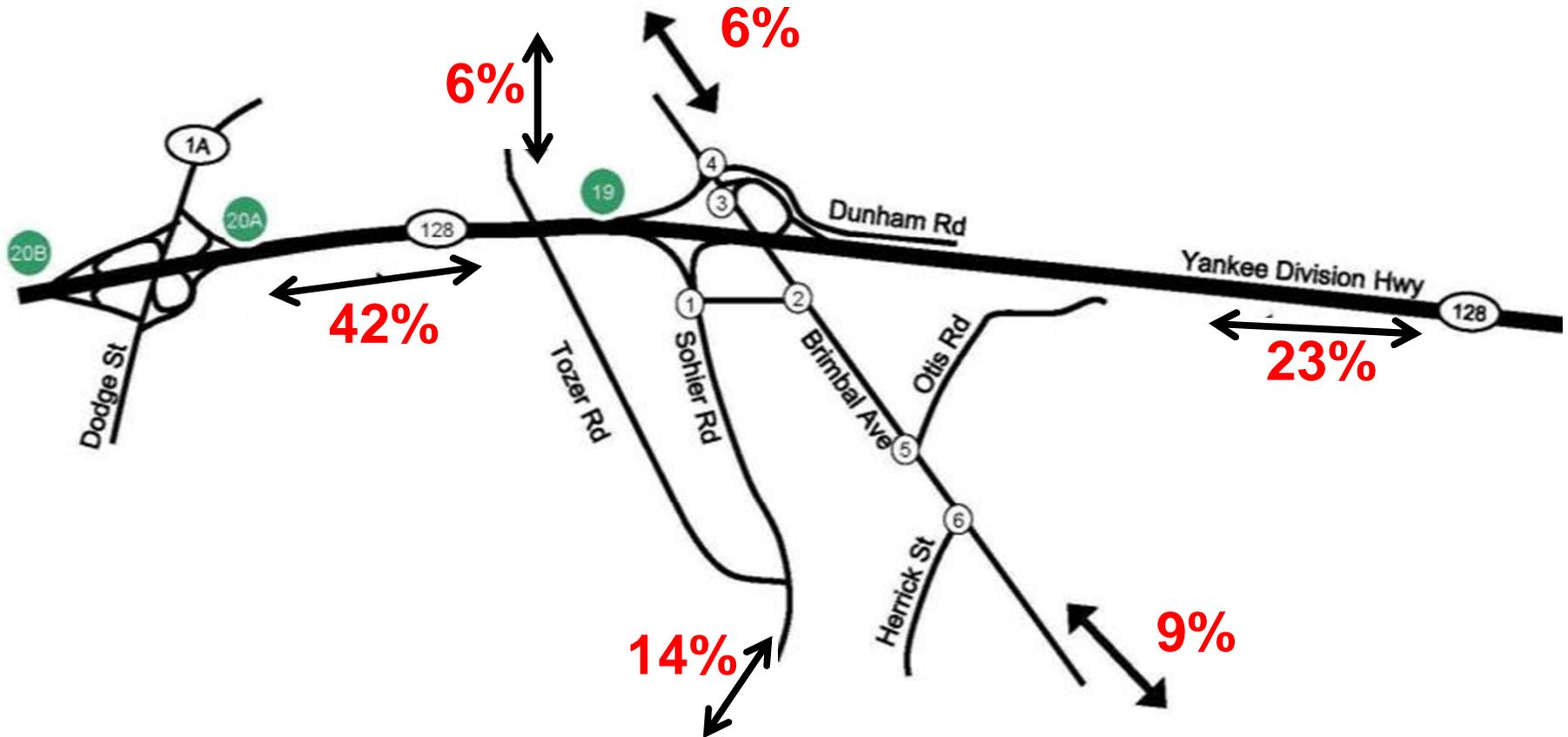


Route 128, Exit 19 at Brimbal Avenue
Interchange Improvements

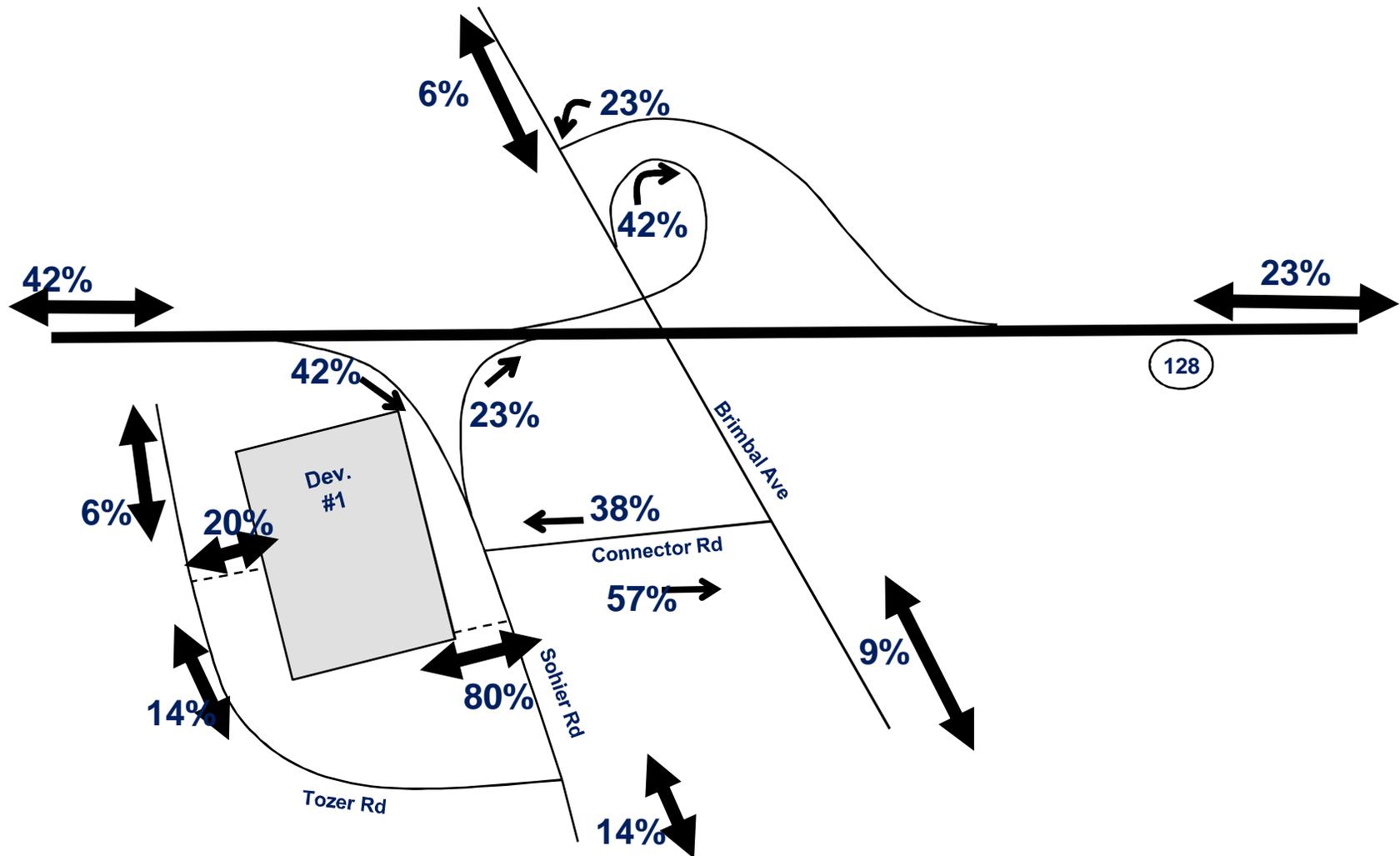


Phase 1: What Routes Does Traffic Take?

Most traffic uses Rte. 128 for access to area



Vehicle Trip Distribution for Development #1



Phase 1 Traffic Study Conclusions:

- Relocate Connector Road to allow larger storage bays to improve safety at the off-ramp
- Roundabouts are needed at Connector Road
- Implement “Complete Streets” for all users with sidewalks and bike lanes



Phase 1 Progress - Permitting

- Request for Phase 1 Waiver filed with the State Environmental Agency (MEPA)
- Waiver for Phase 1 improvements issued August 2013
- Beverly Conservation Commission will review Phase 1 project (wetlands & stormwater management) Fall 2013
- DEP Division of Solid Waste will review Phase 1 project (landfill soils) Fall 2013



Phase 1 Progress – Construction Documents

Submitted to MassDOT in August 2013

- Preliminary Design plans
- Preliminary Right-of-Way plans
- Functional Design Report
- Pavement Design Report
- Utilities Design Package
- Traffic & Safety Checklist
- Cost Estimate



Route 128, Exit 19 at Brimbal Avenue
Interchange Improvements



Overview of the Rte. 128, Exit 19 at Brimbal Avenue Interchange Improvements Project



Route 128, Exit 19 at Brimbal Avenue
Interchange Improvements



Interchange Project Purpose:

The purpose of the overall project is to:

- Lessen backups at Rte. 128, Exit 19
- Improve travel times
- Lessen congestion at Exit 19, Brimbal Avenue and other roads in the project area
- Improve substandard geometrics at Exit 19
- Improve quality of life



Route 128, Exit 19 at Brimbal Avenue
Interchange Improvements



Design Goals:

- Safety
- Complete Streets
- Minimize right-of-way takings



Route 128, Exit 19 at Brimbal Avenue
Interchange Improvements



Project Will Be Done in Two Phases: Phase 1

Phase 1 Improvements:

Roadway and intersection improvements to Brimbal Avenue, Sohier Road, and the Connector Road.

Phase 1 Results:

- Improved safety and intersection performance
- Travel times improved



Project Will Be Done in Two Phases: Phase 2

Phase 2 preferred alternative includes:

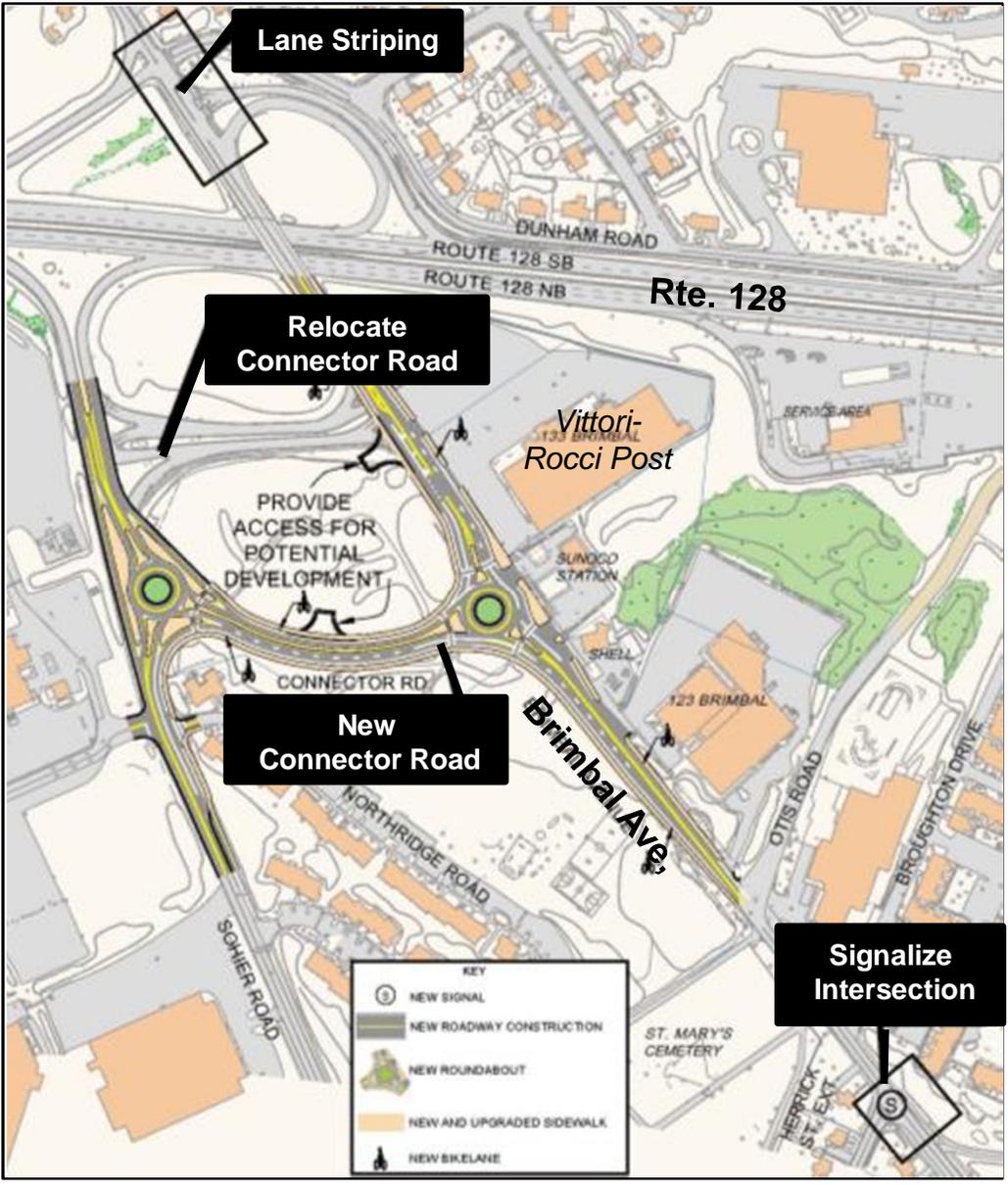
- An expanded interchange with additional bridge over Route 128 with on- and off-ramps
- Removal of substandard ramps from existing interchange

Phase 2 Results:

- Redistribution of vehicle trips away from Sohier Road and Brimbal Avenue
- New trips confined to Interchange



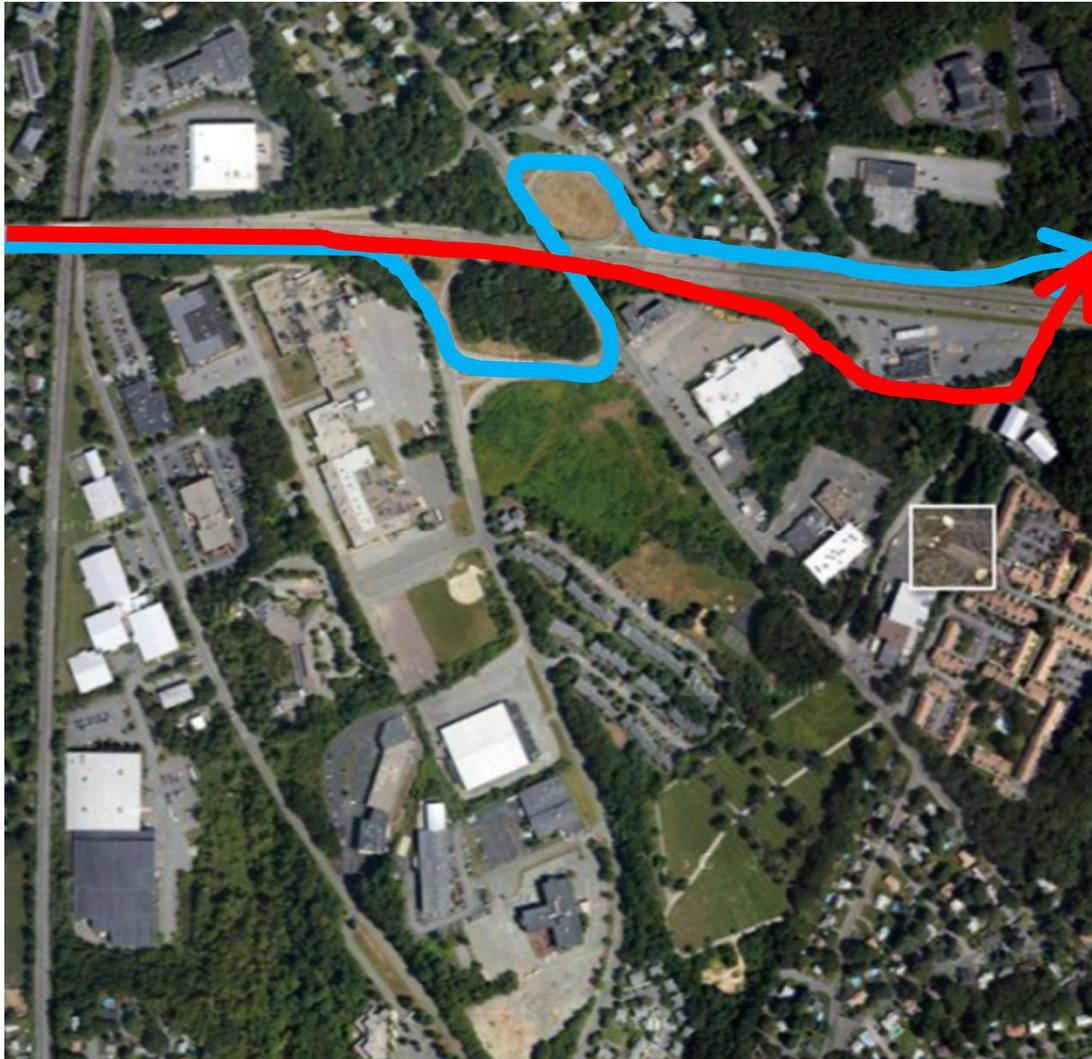
Phase 1 Improvements



Route 128, Exit 19 at Brimbal Avenue Interchange Improvements

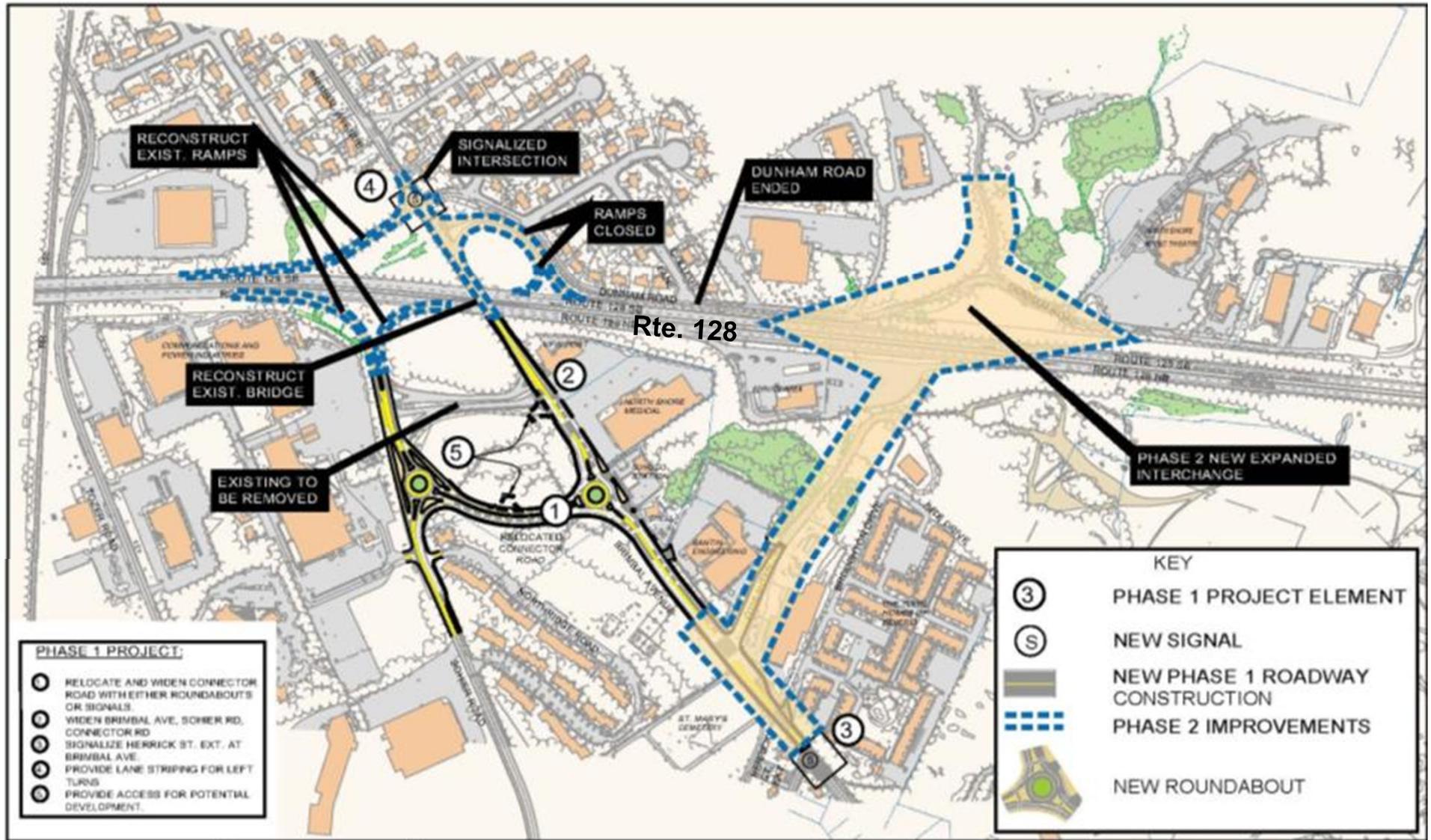


Trips to 50 Dunham Rd.



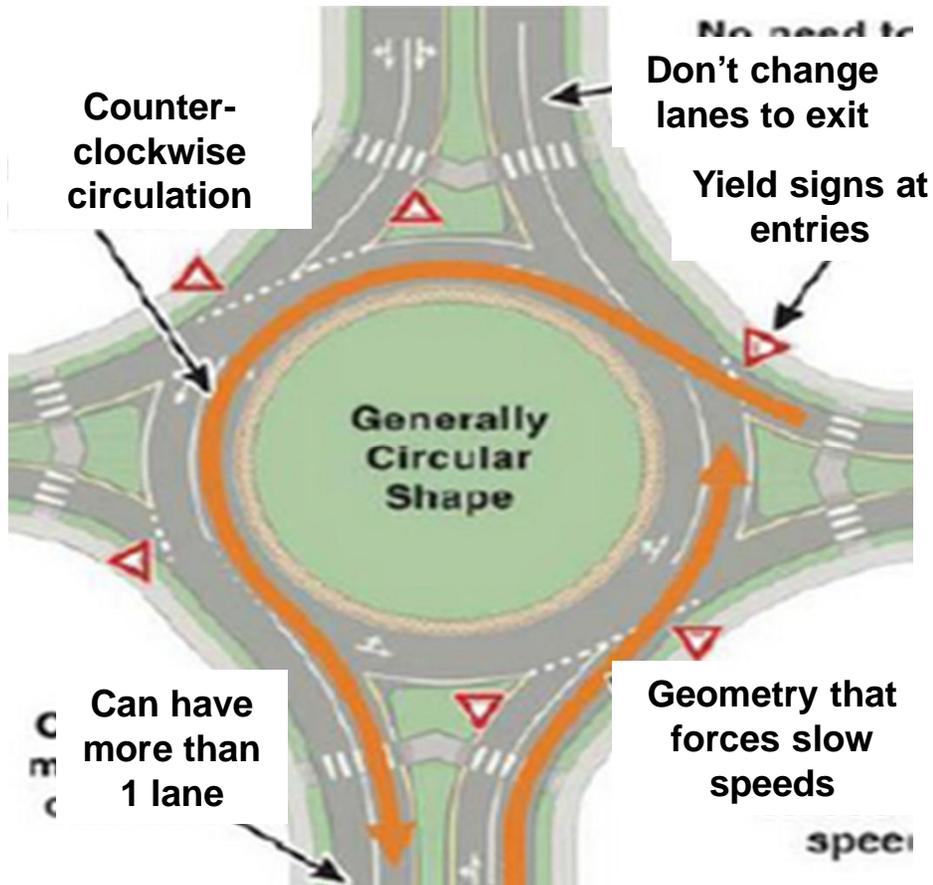
Existing & with Phase 1 improvements	
With Phase 2 improvements	

Phase 1 and Phase 2 (Full Build) Project



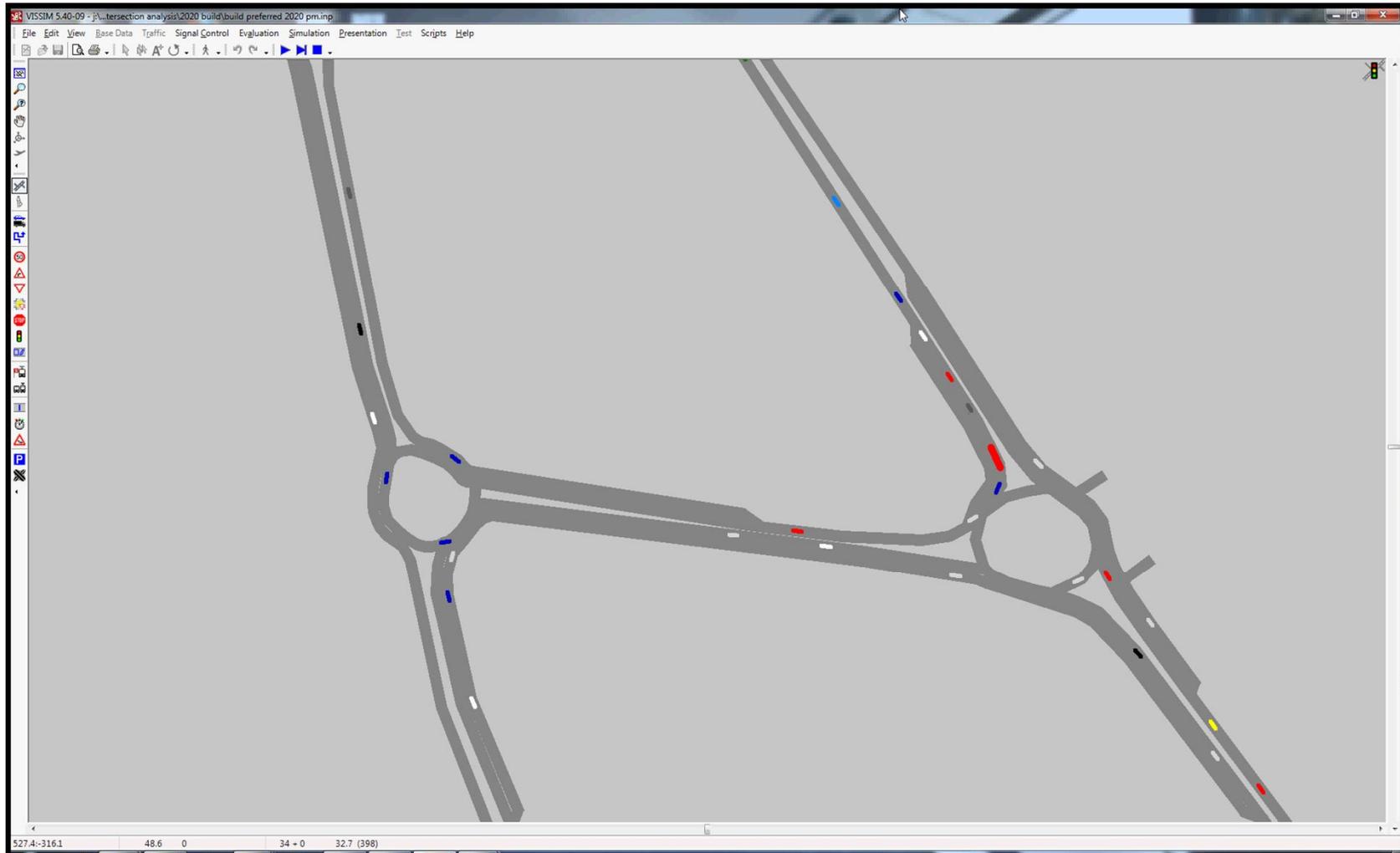
What is a Roundabout?

It's different from a rotary



Union Square, Worcester

VISSIM Roundabouts simulation



Questions & Answers

10/2/2012 11:28



Route 128, Exit 19 at Brimbal Avenue
Interchange Improvements



Current Zoning & Proposed Change

