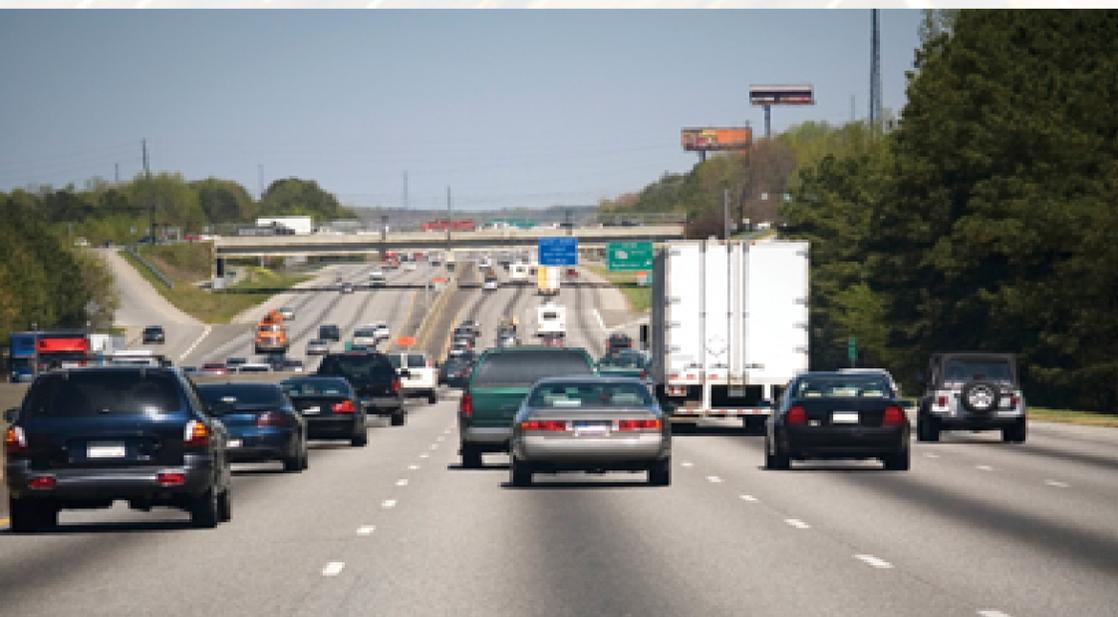


Sandy Springs - City Council Meeting

July 15, 2014

I-285 Ramps @ CR 209/Riverside Drive

Offices of Innovative Delivery and Traffic Operations



Agenda

- 1. Safety**
- 2. Roundabout Technical Information**
- 3. Project Management/Coordination Details**



❖ **Safety**

Scott Zehngraff, P.E., GDOT Traffic Operations

Why Are We Here?

1. Safety



Source: Google Images

Angle



Rear End



Side Swipes

Roundabout Advantages

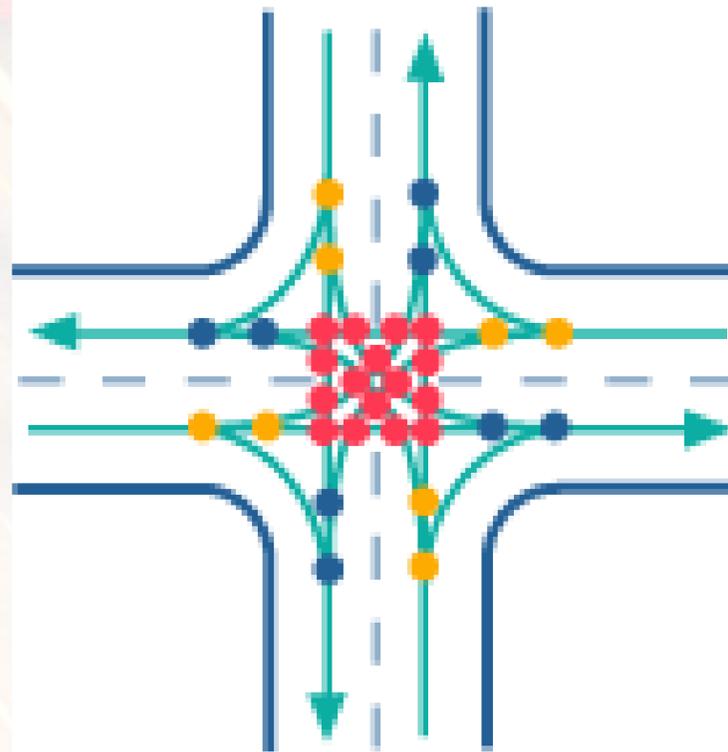


Source: Google Images

With roundabouts, head-on and high-speed right angle collisions are virtually eliminated.

Source: FHWA Safety

Traditional Intersection

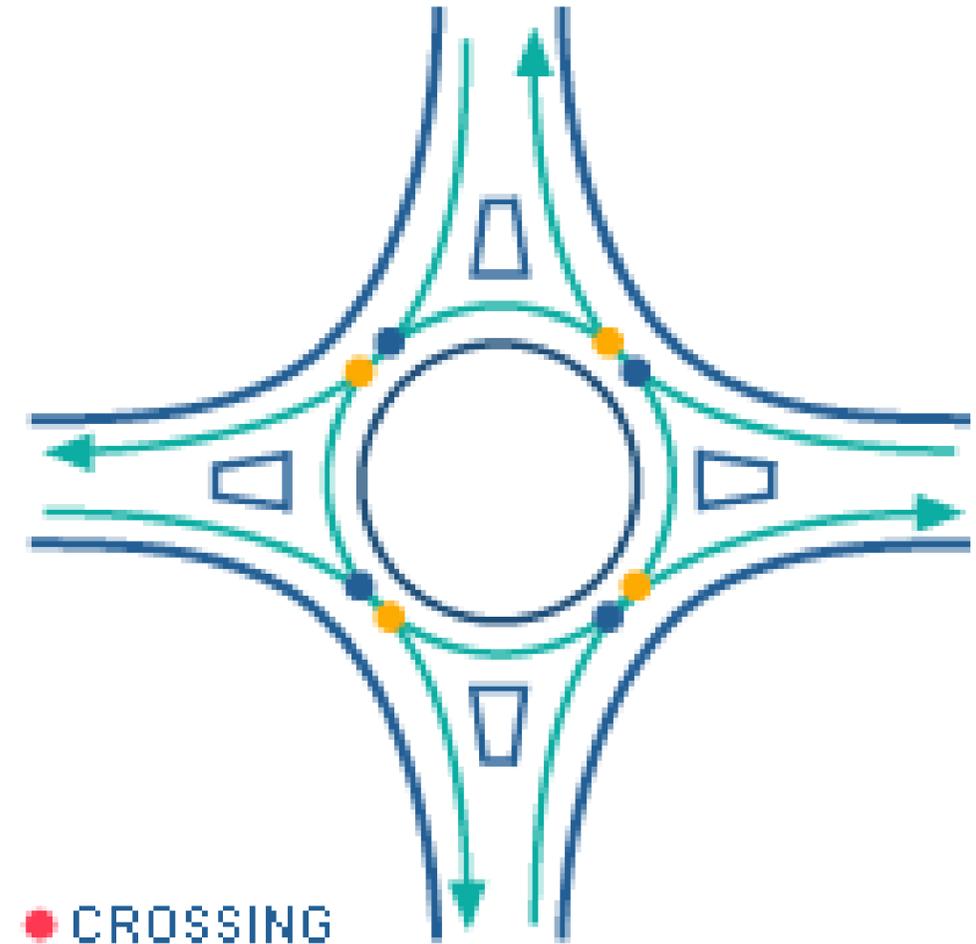


● DIVERGING ● MERGING ● CROSSING

32 Conflict Points

Source: <http://www.ci.lacey.wa.us/>

Roundabout Intersection



8 Conflict Points

Intersection Safety

Riverside Drive		Statewide Average Crashes	2008	2009	2010	2011	2012
			Actual Crashes				
WB Ramps Intersection	Total Crashes	10.0	12	10	6	9	5
	Injury Crashes	2.1	1	0	1	2	2
	PDO Crashes	7.9	11	10	5	7	3
EB Ramps Intersection	Total Crashes	6.1	6	5	7	4	9
	Injury Crashes	1.4	1	3	3	1	2
	PDO Crashes	4.7	5	2	4	3	7

Source: GDOT Crash Database (2008 – 2012)

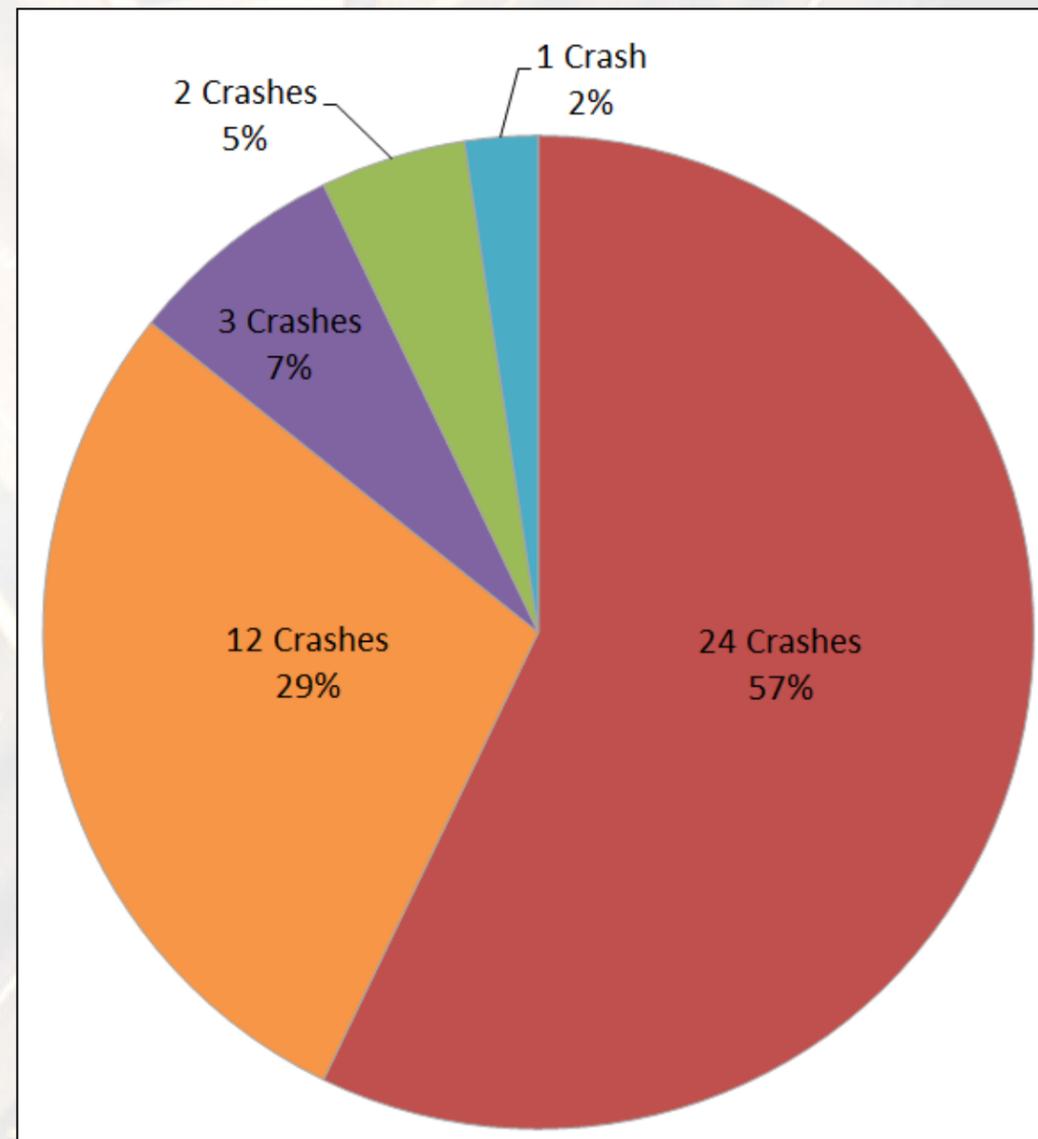


Crash Rates at or above statewide average

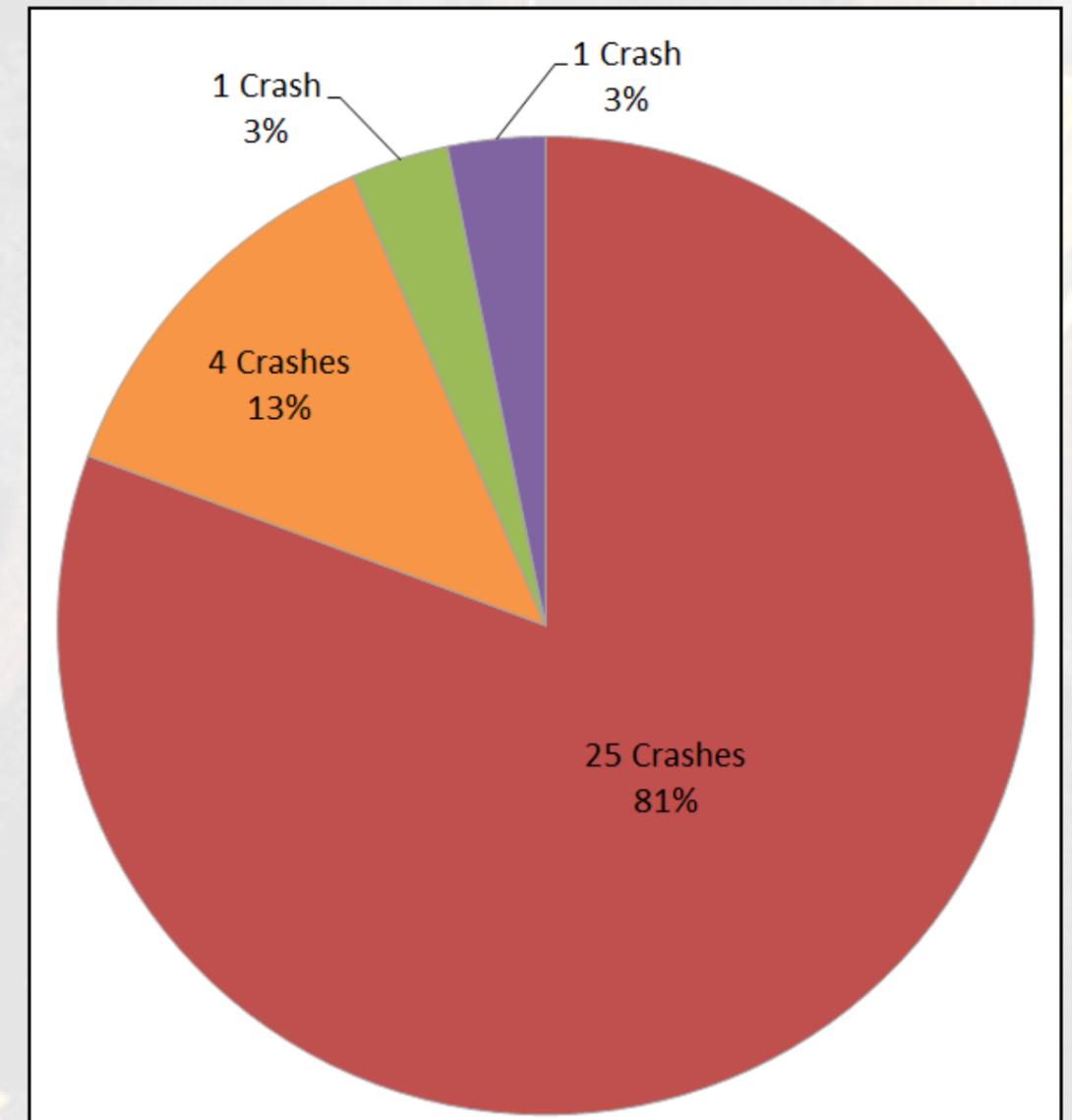
- Total crashes at each intersection have exceeded the statewide average between 2008 and 2012
- Injury crashes have exceeded the statewide average at both of the ramp intersections
- 20 injury crashes occurred at the three study intersections between 2008 and 2012

Crash Frequency by Crash Type (2008 – 2012)

I-285 Westbound Ramps Intersection



I-285 Eastbound Ramps Intersection



- Rear End
- Angle
- Not A Collision with Motor Vehicle
- Sideswipe-Same Direction
- Head On

Predicted Crash Reduction

Design Year (2035)

Crash Type	I-285 Westbound Ramps Intersection			I-285 Eastbound Ramps Intersection		
	No-Build	Build	Percent Reduction	No-Build	Build	Percent Reduction
Total Predicted Crashes	10.90	5.67	48%	7.27	3.78	48%
Predicted Injury Crashes	3.53	1.84	48%	2.21	1.15	48%
Predicted Property Damage Only Crashes	7.37	3.83	48%	5.06	2.63	48%

Cost of Accidents

- Average cost/injury crash = \$955,500
- Average cost/PDO crash = 27,300

Approximately **\$52.4 million** in crash savings over the 20-year project life



❖ **Technical**

Shamir Poudel, P.E., ARCADIS

Computer Visualization of GDOT Roundabouts



Other Roundabout Interchanges

I-70 Grand Junction, Colorado



Source: Google Images

I-70 Vail, Colorado

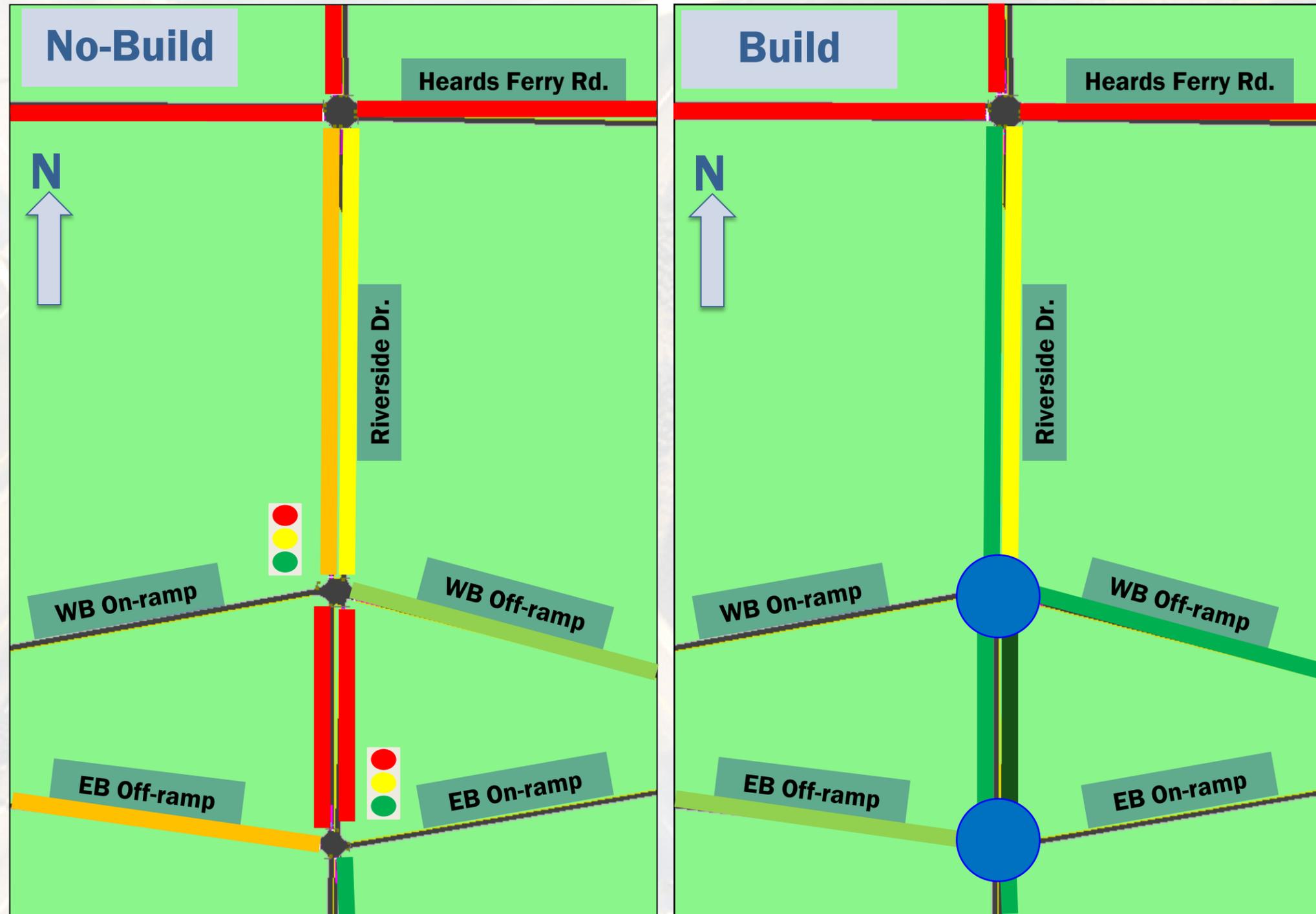


Source: Google Maps

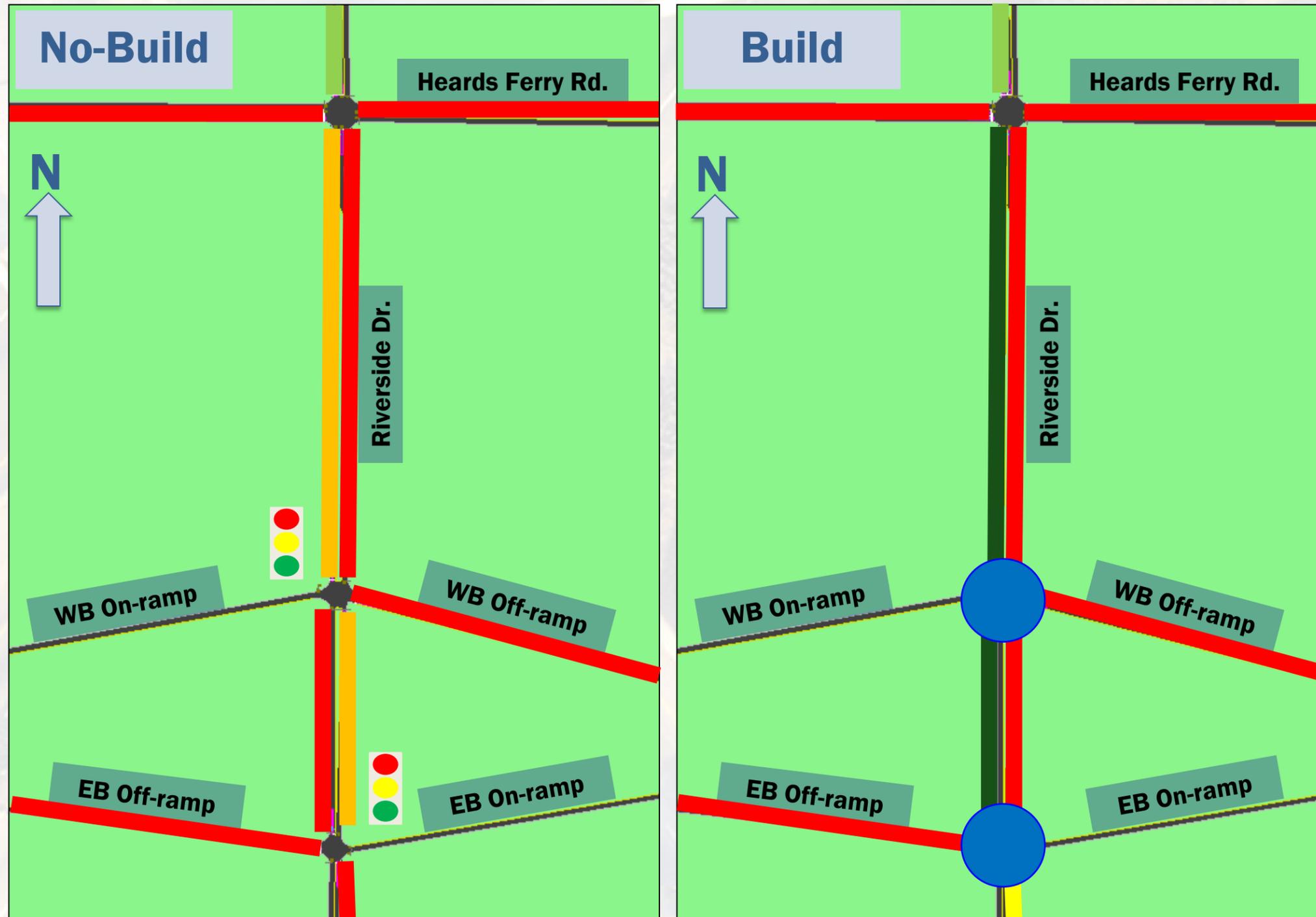
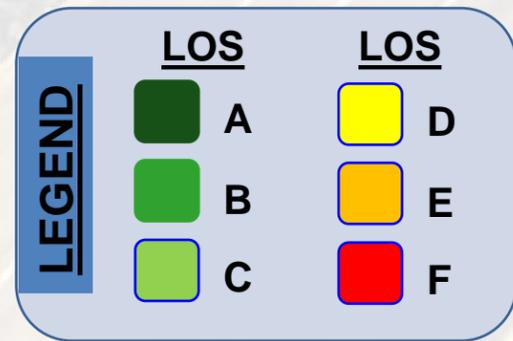
Approximately 200 Roundabouts have been constructed at freeway ramps throughout the United States.

Open Year AM Peak Corridor LOS

LEGEND	
LOS	LOS
 A	 D
 B	 E
 C	 F

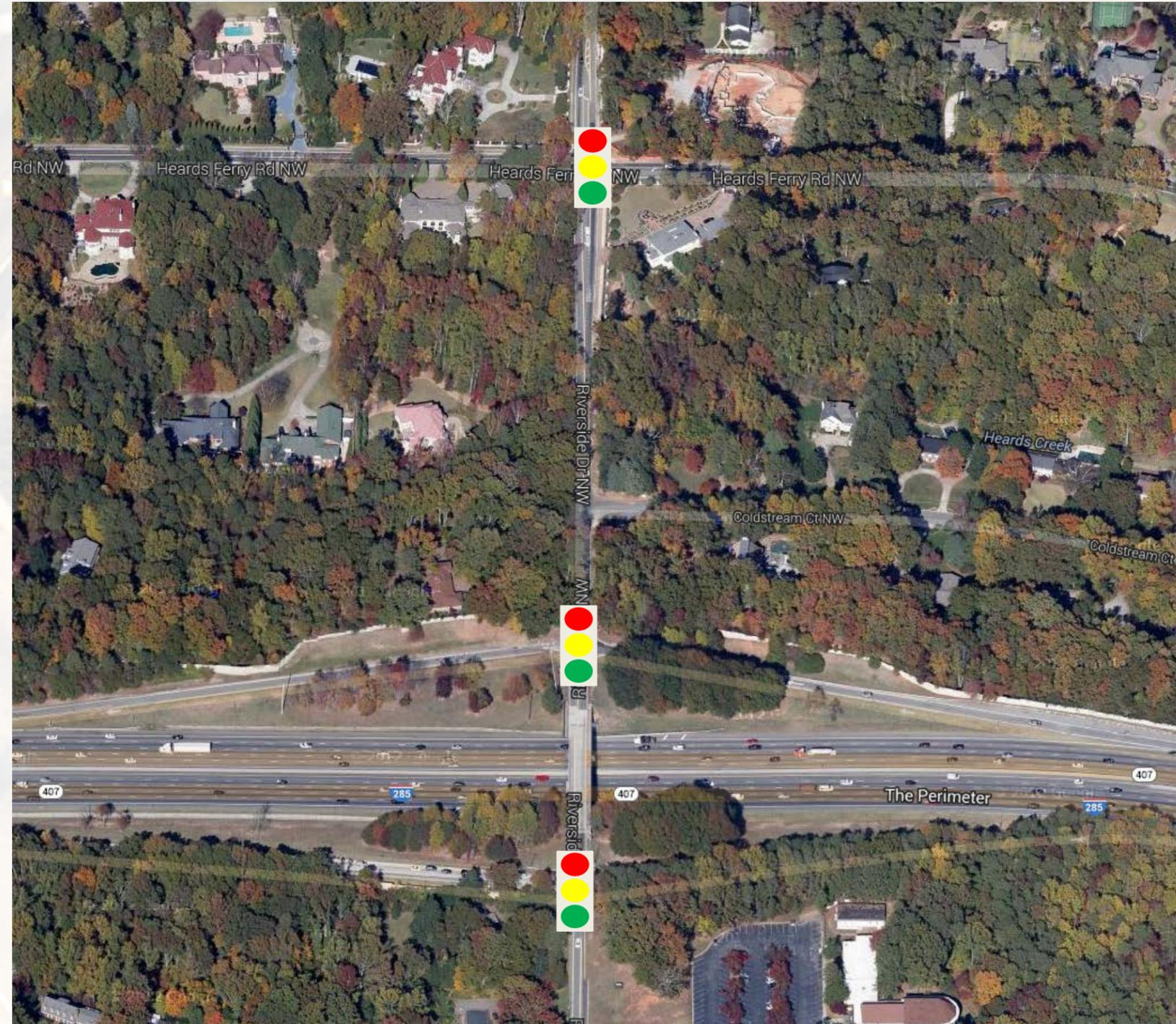


Open Year PM Peak Corridor LOS



Off-Peak Operations (Existing Conditions)

- Most motorists wait at one or both intersections during off-peak hours
- Proposed project would allow motorists to continue moving if there are no opposing vehicles



Off-Peak Operations (Build Conditions)

- Most motorists wait at one or both intersections during off-peak hours
- Proposed project would allow motorists to continue moving if there are no opposing vehicles





❖ **Project Management/Coordination**

Marlo Clowers, P.E., GDOT Innovative Delivery

Coordination with regional projects

Coordination with Revive285

- Roundabout is Interim Project
- Long term project will require a longer bridge to accommodate future I-285 improvements
- Long term project currently unfunded

Impacts of Braves Stadium Relocation

- It's in the regional plan
- Additional traffic expected on the southbound (SB) Riverside Drive to westbound (WB) I-285 movement during weekday PM Peak Period
- Delay will likely increase during PM Peak with or without the roundabouts
- With the roundabout, SB to WB traffic will be able to utilize the proposed right turn slip lane

Delivery

Schedule

- Low-Bid, Two Phase, Design-Build
- Federal Funding Uncertainty - Delayed Original October Let Date
- Post-Let Final Design - 6 to 9 Months
- Construction Duration - 12 to 18 Months
- Open to Traffic in 2016

Contact Information

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