



# **County of Lennox and Addington Schedule B Class Environmental Assessment**

## **County Road 1 (Bridge Street) and County Road 2 (Dundas Street) Intersection Redesign**

Public Information Centre

September 12, 5:30-7:00 p.m.

Napanee Town Hall

124 John St, Napanee

# Study Background



The County of Lennox and Addington Transportation Master Plan (2014) recommended improvements at the intersection of County Road 1 (Bridge Street) and County Road 2 (Dundas Street). The purpose of the changes are to:

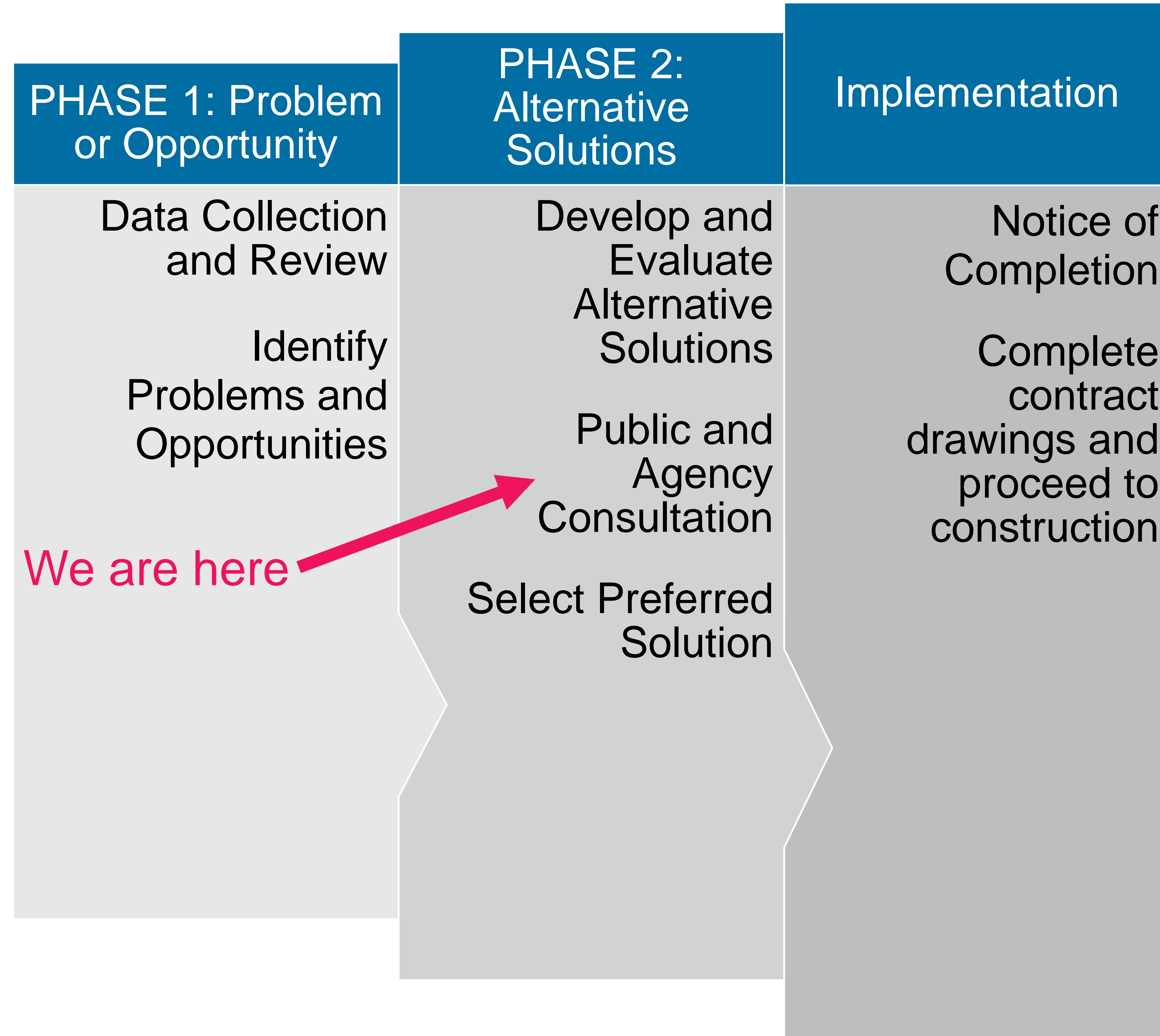
- Improve safety
- Reduce delays for vehicles
- Improve operations and driver expectancy



# Municipal Class EA Schedule B Process



- The Municipal Class Environmental Assessment (EA) is an approved process under the *Ontario Environmental Assessment Act*



# Project Need and Opportunity

## Needs

- Unconventional layout may cause confusion regarding right-of-way
- Vehicle delays
- Limited pedestrian crossings
- Substandard design elements

## Opportunities

- Improve road safety and driver understanding
- Create better pedestrian connectivity
- Improve traffic operations and reduce delay

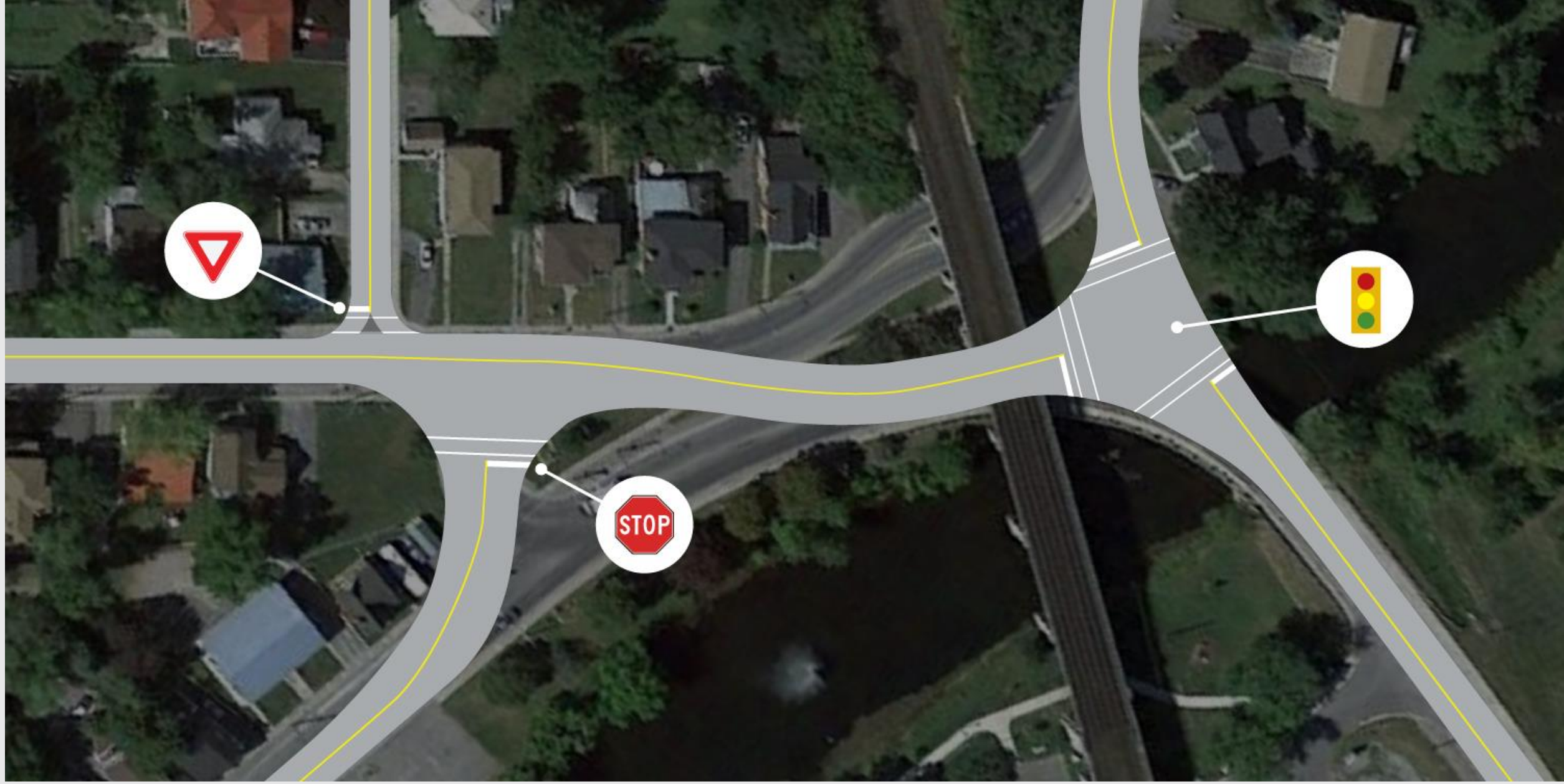



# Alternative Solutions

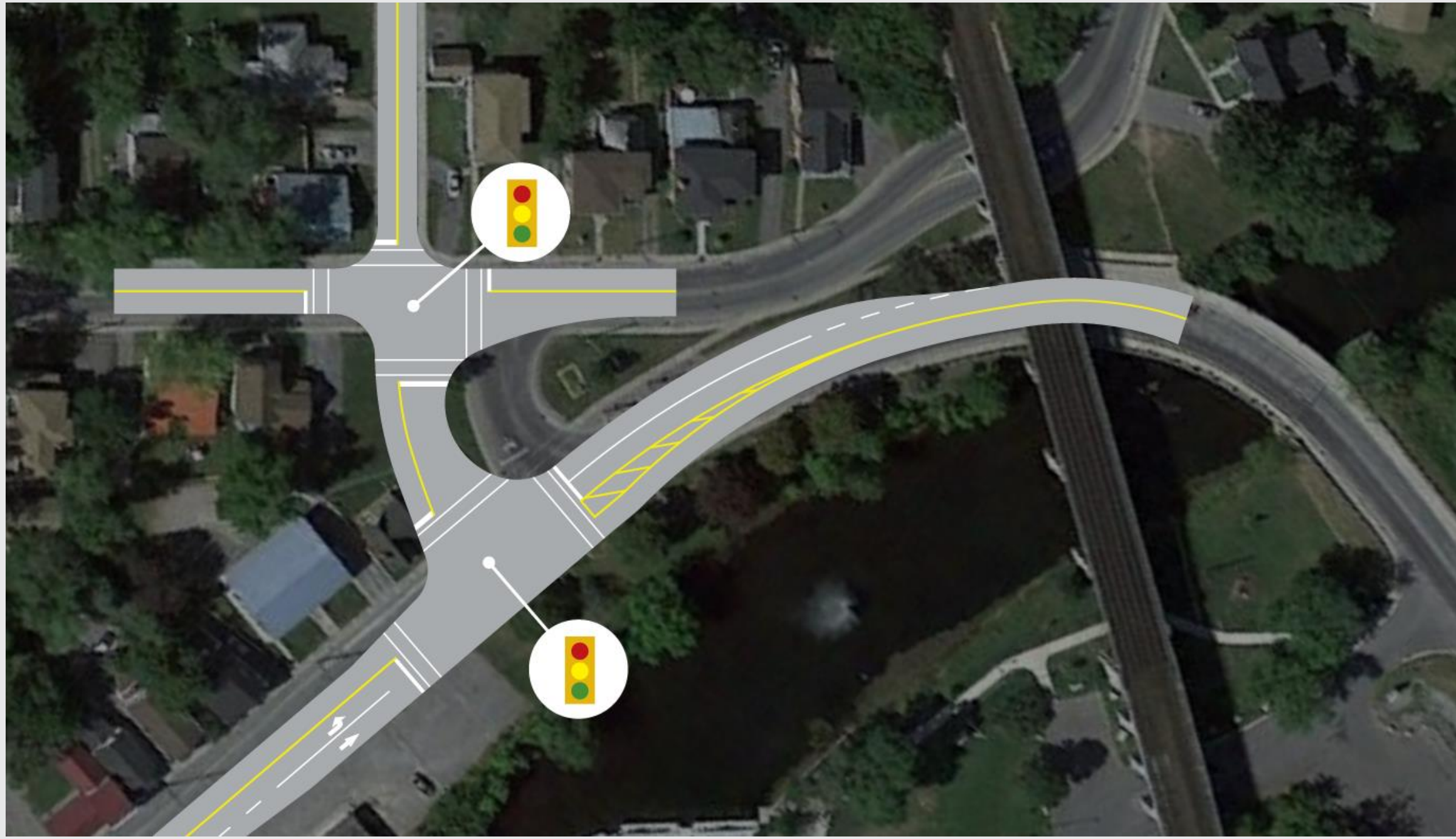

Six alternative solutions were evaluated based on their ability to resolve identified issues and their level of impact.

Option	Description	Map
Option 1: Rehabilitate Existing Configuration	Road rehabilitation is completed but existing layout is retained.	


# Alternative Solutions

Alternative	Description	Map
Option 2: T-intersection	<ul style="list-style-type: none"> <li>• New signalized T-intersection between CR1 and CR2 east of the bridge.</li> <li>• Alma Ave is converted to a right-in/right-out.</li> </ul>	
Option 3: 4-way Alma	<ul style="list-style-type: none"> <li>• Same T-intersection design as Option 2</li> <li>• Offset intersection at Alma Ave is realigned to form a 4-way intersection.</li> </ul>	

# Alternative Solutions

Alternative	Description	Map
<p>Option 4: New Couplet</p>	<ul style="list-style-type: none"> <li>Couplet is realigned to eliminate the offset with Alma Avenue.</li> <li>Traffic signals added on CR1 (Bridge Street)</li> </ul>	
<p>Option 5: New Couplet with Slip Lane</p>	<ul style="list-style-type: none"> <li>Same couplet design and added signals as Option 4.</li> <li>Additional slip lane east of the bridge connects CR2 with CR1 (one-way lane).</li> </ul>	

# Alternative Solutions

Alternative	Description	Map
Option 6: Elongated Roundabout	<ul style="list-style-type: none"><li>• Elongated roundabout replaces all the existing intersections in the study area.</li><li>• A new roadway joins CR1 and CR2 to the east of the bridge.</li></ul>	

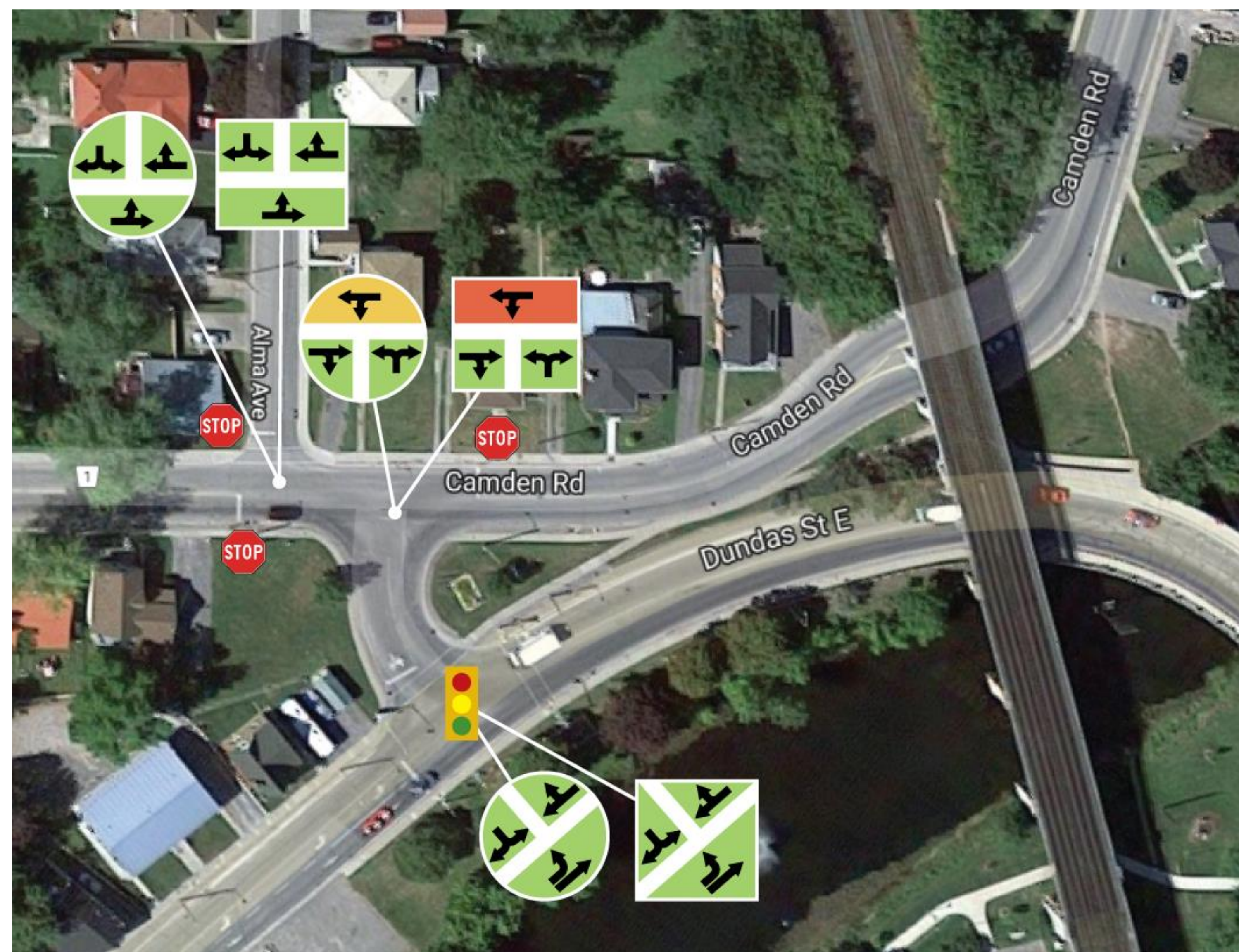


# Traffic Operations & Levels of Service (LOS)

## LOS in Existing (2018) and Future (2028) Conditions

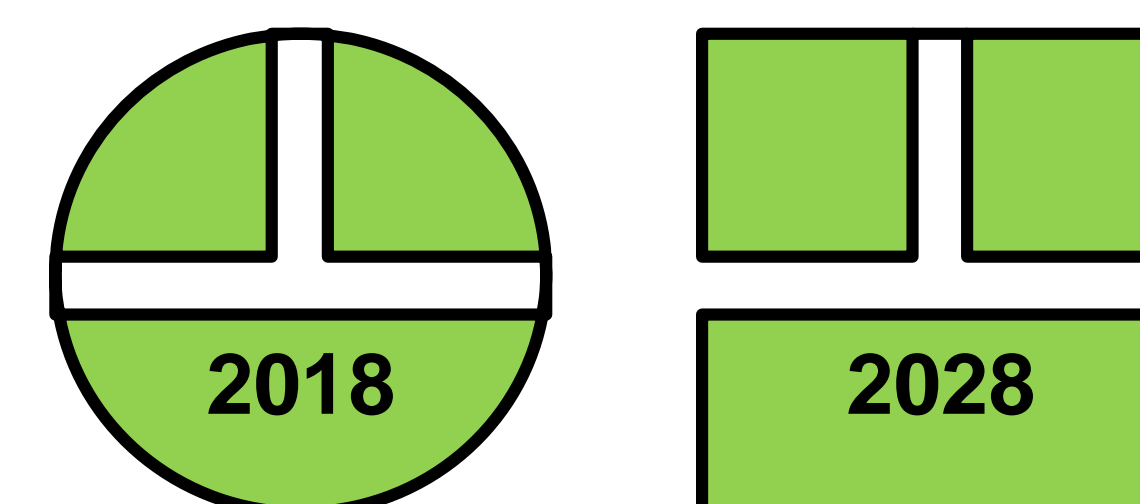
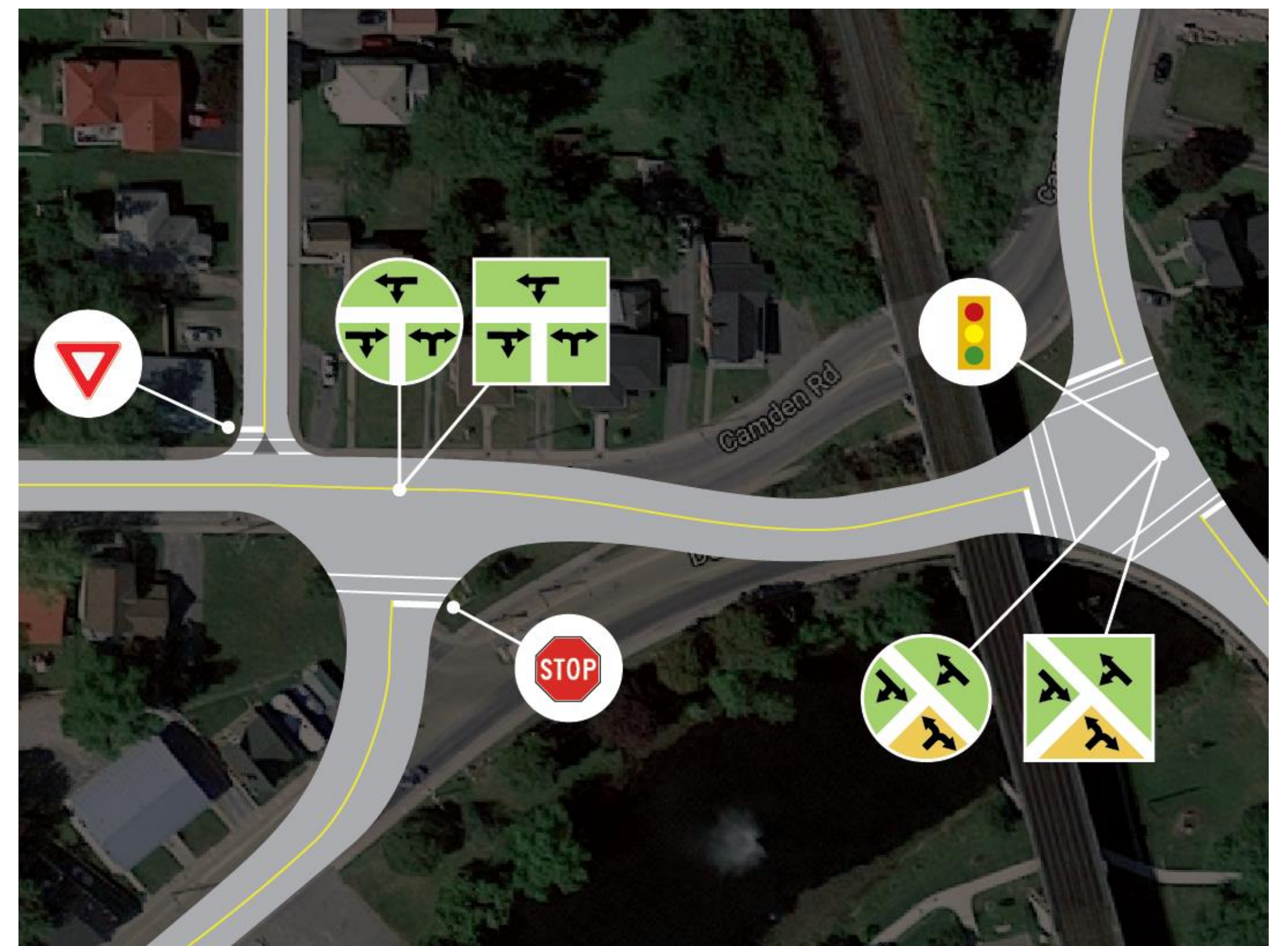
Option 1

Rehabilitate Existing Configuration



Option 2

T-Intersection

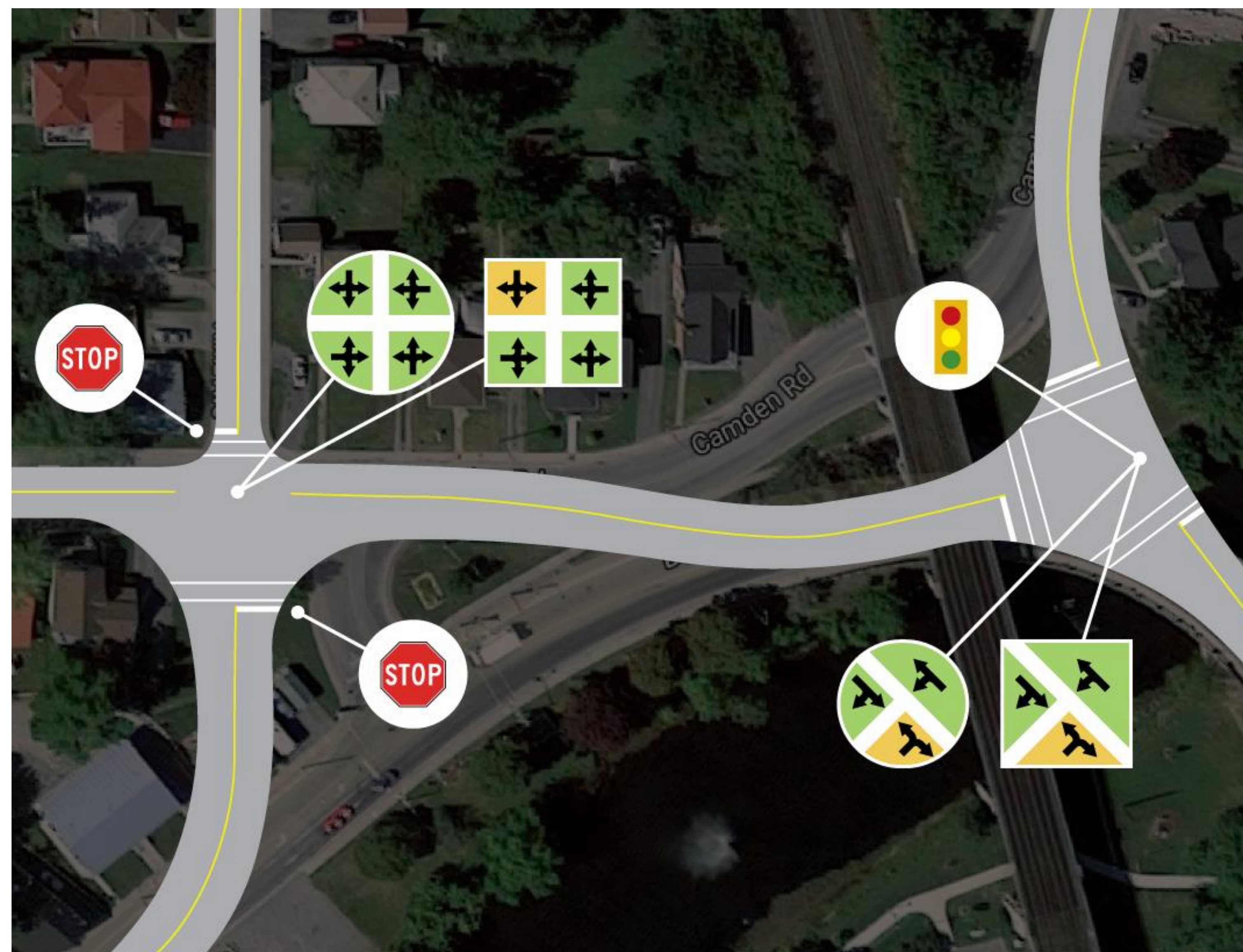


Levels of Service	
	LOS A, B & C: Minor delays
	LOS D & E: Moderate delays
	LOS F: Major delays

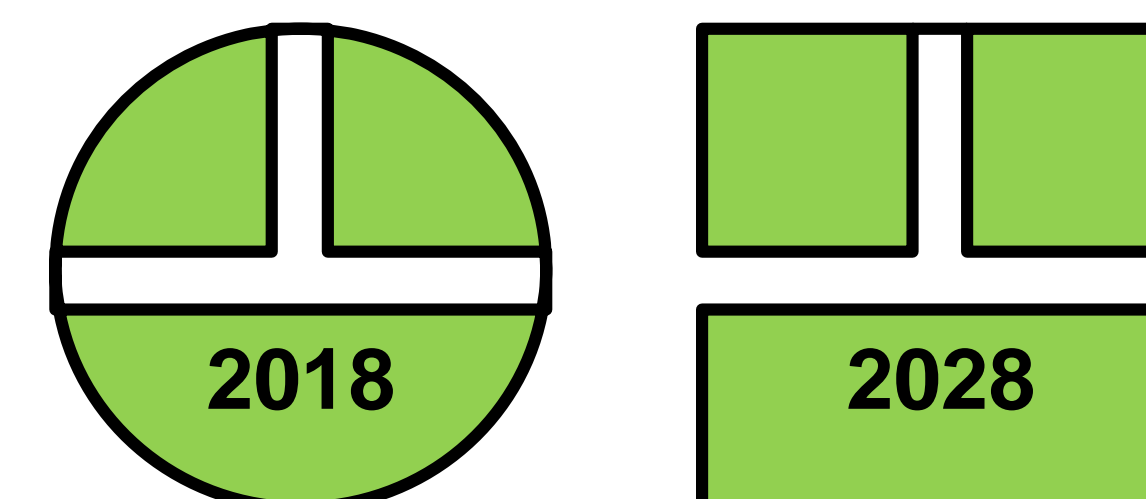
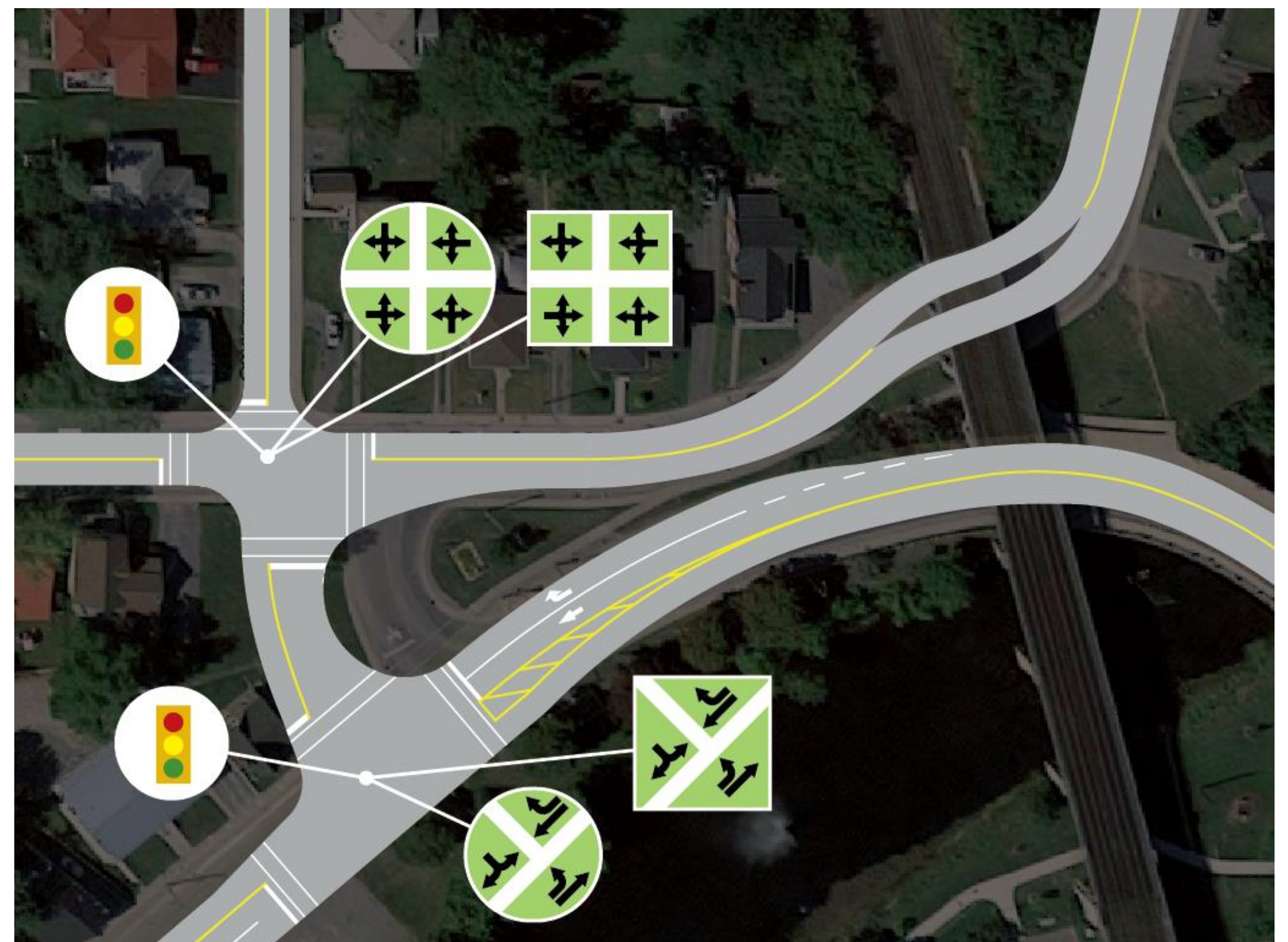
# Traffic Operations & Levels of Service (LOS)

## LOS in Existing (2018) and Future (2028) Conditions

### Option 3 4-way Alma



### Option 4 New Couplet



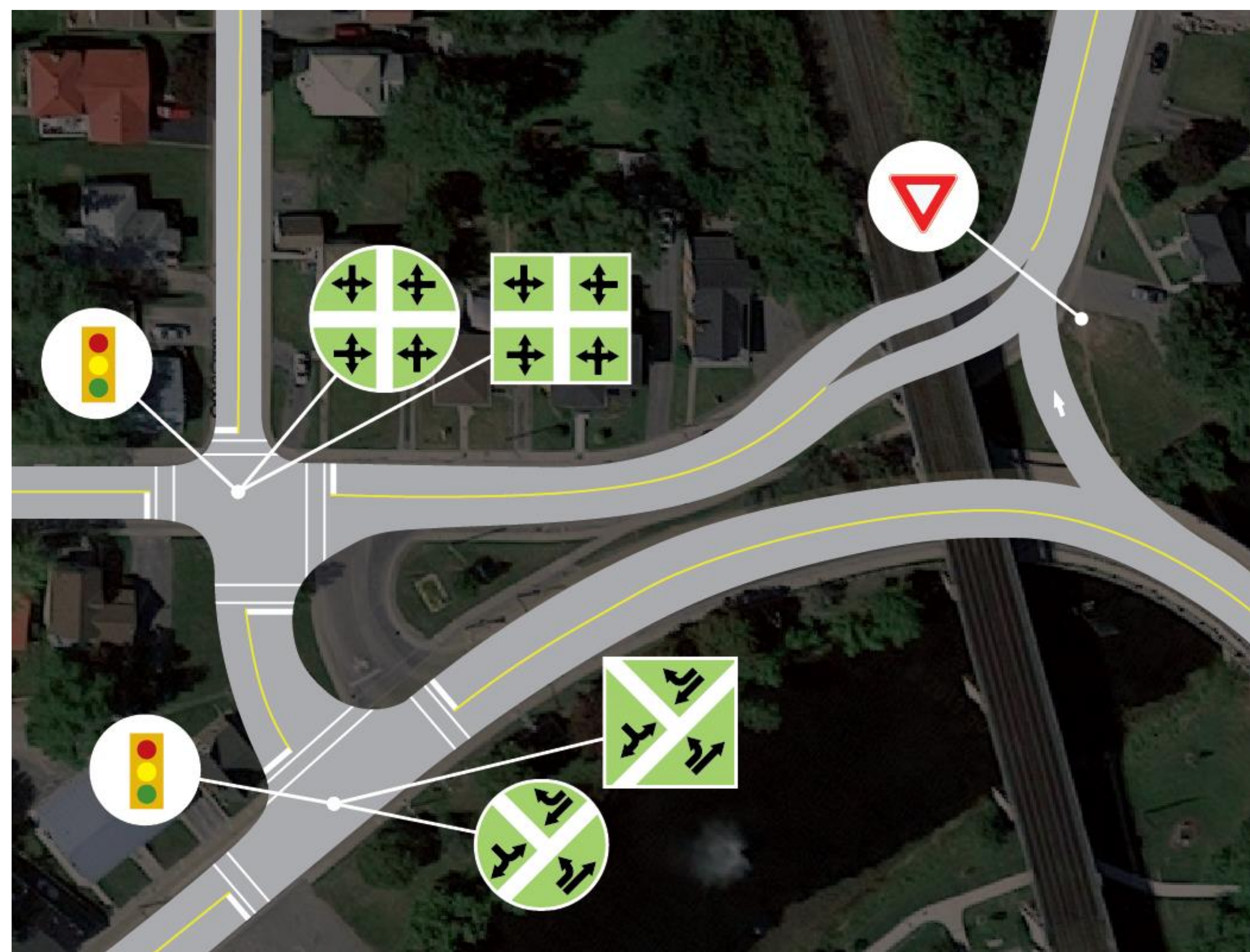
Levels of Service	
<span style="color: green;">■</span>	LOS A, B & C: Minor delays
<span style="color: yellow;">■</span>	LOS D & E: Moderate delays
<span style="color: red;">■</span>	LOS F: Major delays

# Traffic Operations & Levels of Service (LOS)

## LOS in Existing (2018) and Future (2028) Conditions

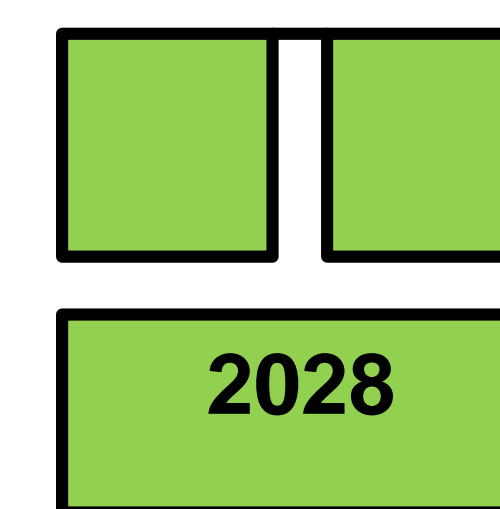
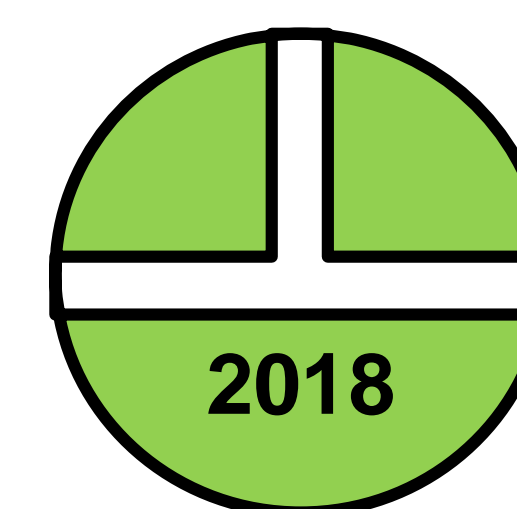
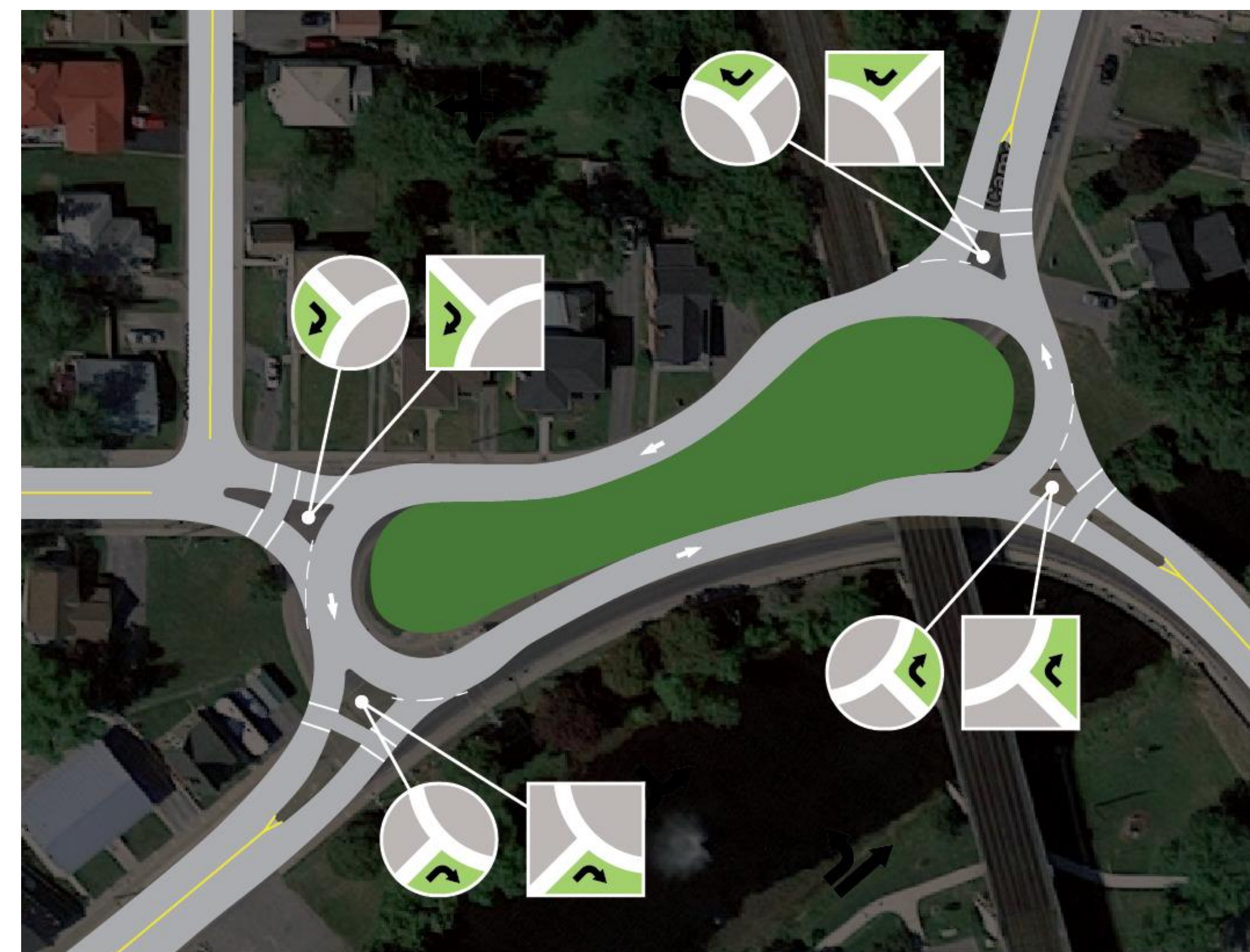
### Option 5

### New Couplet with Slip Lane



### Option 6

### Elongated Roundabout



**Levels of Service**

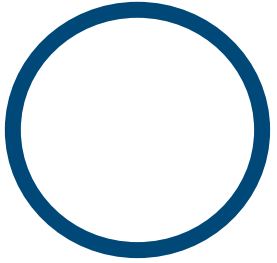
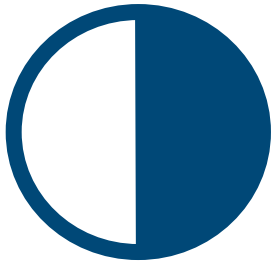
	LOS A, B & C: Minor delays
	LOS D & E: Moderate delays
	LOS F: Major delays

# Evaluation Factors and Methodology



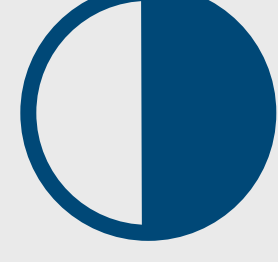
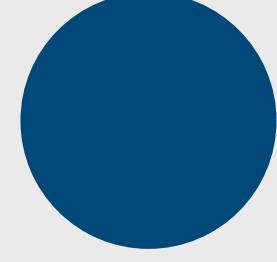
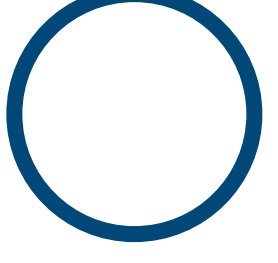

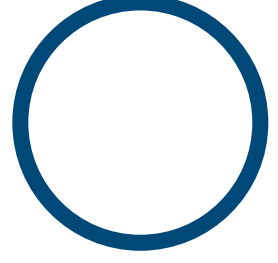
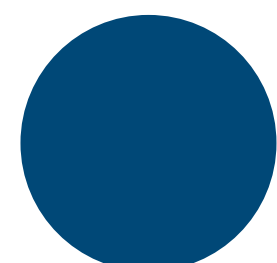
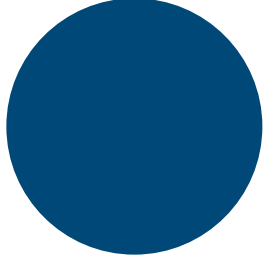
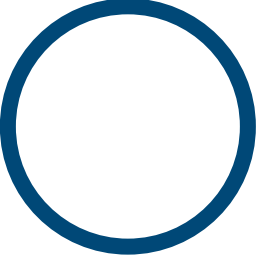
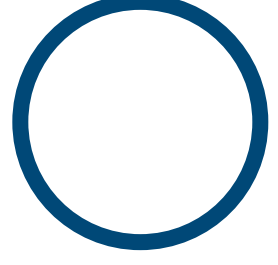
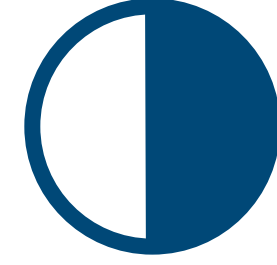
Option 2 (T-intersection) and Option 3 (4-way Alma) were eliminated from further assessment due to poor traffic operations. The remaining four options were evaluated based on the following criteria.

Safety	Transportation	Economic
<ul style="list-style-type: none"> <li>• Pedestrian Accommodation</li> <li>• Design Safety</li> </ul>	<ul style="list-style-type: none"> <li>• Levels of Service/Capacity</li> <li>• Accommodation of 95<sup>th</sup> Percentile Queue</li> <li>• Road Geometry</li> </ul>	<ul style="list-style-type: none"> <li>• Property Impacts</li> <li>• Construction Costs</li> </ul>

# Evaluating the Options

 Not preferred  
 Less preferred



Criteria	Rehabilitate Existing Configuration	New Couplet	New Couplet with Slip Lane	Elongated Roundabout
<b>Safety</b>	 <ul style="list-style-type: none"> <li>Lack of pedestrian crossings</li> <li>Confusing road layout</li> <li>Road design based on 40 km/h driving speed</li> </ul>	 <ul style="list-style-type: none"> <li>Discontinuous pedestrian paths, increased walking distances across intersection</li> <li>Road design based on 40 km/h and 50 km/h driving speed</li> </ul>	 <ul style="list-style-type: none"> <li>Discontinuous pedestrian paths, increased walking distances across intersection</li> <li>Road design based on 40 km/h and 50 km/h driving speed</li> </ul>	 <ul style="list-style-type: none"> <li>Shortest pedestrian crossing distances</li> <li>Road design based on 60 km/h driving speed</li> </ul>
<b>Transportation</b>	 <ul style="list-style-type: none"> <li>High traffic delays.</li> <li>Insufficient space for vehicle queues.</li> <li>Trucks have difficulty navigating the intersections</li> </ul>	 <ul style="list-style-type: none"> <li>Some traffic delays.</li> <li>Insufficient space for vehicle queues.</li> <li>Trucks have difficulty navigating the intersections</li> </ul>	 <ul style="list-style-type: none"> <li>Some traffic delays.</li> <li>Insufficient space for vehicle queues.</li> <li>Trucks have difficulty navigating the intersections</li> </ul>	 <ul style="list-style-type: none"> <li>Low traffic delay.</li> <li>Sufficient space for vehicles.</li> <li>Trucks can manoeuvre adequately</li> </ul>
<b>Economic</b>	 <ul style="list-style-type: none"> <li>No property impacts</li> <li>Construction cost \$1.5 M</li> </ul>	 <ul style="list-style-type: none"> <li>Requires removal of one house.</li> <li>Construction cost \$1.6 M</li> </ul>	 <ul style="list-style-type: none"> <li>Requires removal of one house</li> <li>Construction cost \$2.8 M</li> </ul>	 <ul style="list-style-type: none"> <li>Impacts one driveway</li> <li>Construction cost \$2.9 M,</li> </ul>

**Recommendation: Elongated Roundabout**



# Thank you for Attending!

## Questions? Contact Us!

Please fill in the feedback form or you can email your comments to the contact information below by **September 26, 2019**. These comments will be considered as part of the design process.

Material from this presentation will be on the County website [www.lennox-addington.on.ca](http://www.lennox-addington.on.ca)

### Contact Information

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