

DIVERGING DIAMOND INTERCHANGE FACT SHEET

The Highway 400 / Mapleview Drive Interchange

A Class Environmental Assessment and Preliminary Design Update Study is being undertaken to examine the nature of improvements required to address traffic operations, capacity, and safety needs along a 30 km section of Highway 400 from 1 km south of Highway 89 to the junction at Highway 11. Traffic at Highway 400 and Mapleview Drive is currently operating at low levels of service and modifications to the existing diamond interchange are required to address projected future capacity and operational needs. The traffic conditions and heavily developed nature of the area surrounding the Highway 400 and Mapleview Drive interchange make it a desirable location for a Diverging Diamond interchange configuration.

What is a Diverging Diamond Interchange?

- **Diverging Diamond Interchanges** are an innovative type of interchange where the two directions of traffic on the crossing road (i.e. Mapleview Drive) cross to the opposite side of the road, to provide direct / free-flow ramps for entering the Highway in place of left turn lanes at traffic lights.
- Diverging Diamond Interchanges, although relatively new in Canada, are being considered in various projects across Ontario and have been constructed in many locations throughout the United States (e.g. Georgia, New York, Pennsylvania, Ohio, Michigan, Virginia, North Carolina, etc.).
- They are often the **most desirable interchange configuration in tight urban areas with high volumes of traffic** (similar to the Highway 400 / Mapleview Drive Interchange) for the following reasons:
 - They require **less property** and result in fewer impacts to the surrounding area than most other types of interchanges;
 - They can **improve traffic** operations relative to Diamond Interchanges as they offer free-flow movements at on and off-ramps; and,
 - They **improve operational safety for pedestrians and vehicles** throughout the interchanges as they minimize conflict points (left-turn movements).



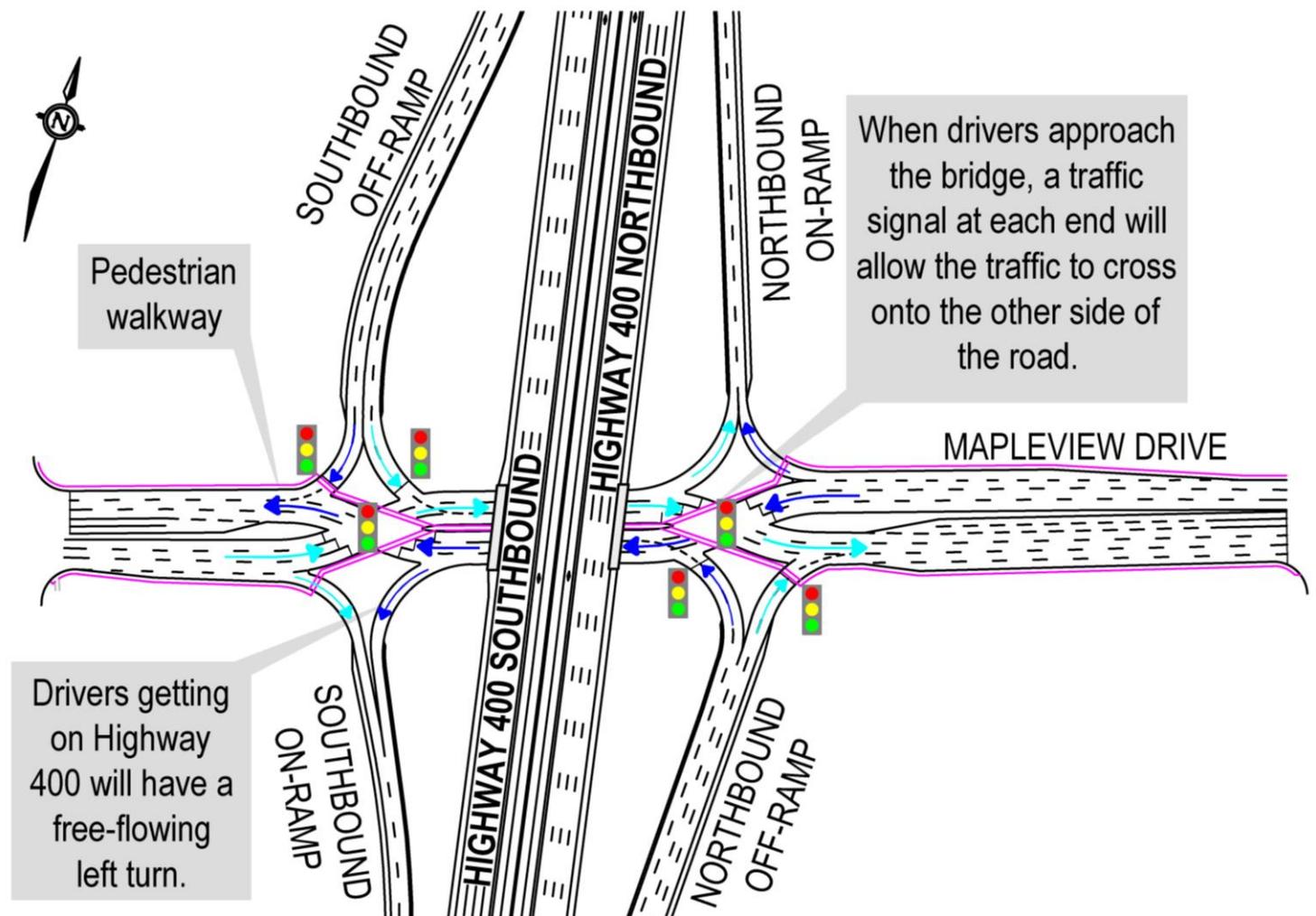
Images: Pleasant Hill Road over I-95 Diverging Diamond Interchange – Constructed in 2013
Gwinnett County, Georgia

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Navigating Through a Diverging Diamond Interchange

The traffic signals, signs, and lane markings make navigating through a **Diverging Diamond Interchange** very straightforward and easy for everyone:

- **Vehicles (Cars, Trucks, Motorcycles, Large Vehicles):** Will be guided through the interchange using large arrows and median dividers to direct them through the free-flow movements of the interchanges. Vehicles crossing at the structure will be temporarily directed onto the left-hand side of the roadway where they will be directed either onto the highway or can continue through.
- **Pedestrians:** Pedestrians will cross at the islands at the ramp terminals into the barrier-protected median of the interchange and cross back to the islands and the sidewalks on the shoulders on the other side of the bridge.
- **Cyclists:** Cyclists have the opportunity to ride through the interchange or can dismount and walk through the interchange as a pedestrian.



If you have any accessibility requirements in order to participate in this project, please contact Tim Sorochnsky, AECOM Consultant Senior Project Manager at 905-882-4401 or Robert Vandenberg, Ministry of Transportation Project Manager at 416-235-5483.
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