



Intersection and Interchange Geometrics

PROJECT CASE STUDY

Georgia's First DDI Improves Safety and Travel Time

The transformation of the Ashford Dunwoody interchange at I-285 into Georgia's first Diverging Diamond Interchange (DDI) opened in 2012 and has been successful in improving travel time and reducing crashes. The Ashford Dunwoody Road/I-285 interchange had been the subject of many traffic studies and design concepts for more than 20 years. Carrying 54,000 trips a day, it was operating above capacity and causing safety and operational issues.

To address these problems, the Georgia Department of Transportation (GDOT) implemented the DDI as an alternative that eliminated the need to replace the existing bridge, at a tremendous cost savings over other options that were considered.

The interchange was previously studied on numerous occasions and complete reconstruction alternatives were estimated at costs of up to \$172 million. The DDI at the Ashford Dunwoody Road/I-285 interchange, at a cost of \$6.4 million, has improved traffic flow and safety at a major gateway into the Perimeter area of Dunwoody, Georgia. Additionally, a comprehensive public information campaign educated stakeholders and the driving public about the new interchange design, increasing confidence in and awareness of the project.



BENEFITS OF DDI

Safety

- ▶ Fewer potential conflict points between left-turning vehicles and oncoming arterial traffic.
- ▶ Pedestrians use signalized crossings with a protected pedestrian pathway in the middle of the interchange.

Operations

- ▶ Improves traffic flow without needing more lanes.
- ▶ Better signal network synchronization.

Cost

For a Retrofit

- ▶ Existing bridge can usually be used.
- ▶ Additional right-of-way is rarely needed.
- ▶ Construction time is reduced.

For a New Interchange

- ▶ Typically fewer lanes and less bridge structure than other interchange forms.

Supporting Data

- ▶ In the year following completion of the Ashford Dunwoody DDI, there were about 20 percent fewer crashes near the interchange than were reported in the same time period before the DDI project began.

- ▶ Traffic observations before and after the Ashford Dunwoody DDI show fewer stops and improved travel times through the interchange area.

- ▶ By using the DDI design, the project retained the existing Ashford Dunwoody Road Bridge, saving significant cost without precluding any future interchange improvements that may arise from improvements to I-285.

KEYS TO SUCCESS

The success of the Ashford Dunwoody DDI was predicated by a comprehensive public information campaign spearheaded by the Perimeter Community Improvement Districts (PCID). Focused on combating concerns about the proposed change in traffic patterns, PCID used creative communications and outreach methods—such as ongoing media campaigns and public and private stakeholder participation in town hall meetings—to promote acceptance of the innovative design.

The PCID's campaign included the eye-catching graphic and slogan, "Can You DDI? Arrive, Crossover, Drive." Because of the efforts of the PCID to engage all who might be affected by the project's implementation, the Ashford Dunwoody DDI was not only successfully implemented, but the GDOT projects that it could become a model for congested interchanges throughout the State.

ADDITIONAL RESOURCES

- ▶ Ashford Dunwoody/I-285 DDI Visualization Video, <http://www.youtube.com/watch?v=gY8xU-UAQWs>
- ▶ PCID "Can You DDI?" website, <http://www.perimetercid.org/canyouddi/>
- ▶ FHWA Public Roads Magazine, "Design at the Crossroads," <http://www.fhwa.dot.gov/publications/publicroads/13julaug/01.cfm>
- ▶ FHWA TechBrief, "Drivers' Evaluation of the Diverging Diamond Interchange," <http://www.fhwa.dot.gov/publications/research/safety/07048/index.cfm>

Keys to Success

- ▶ Media campaigns and transparency to inform and educate the public and stakeholders on the new initiative.
- ▶ Active and ongoing participation in town halls and meetings.
- ▶ Active and ongoing stakeholder engagement, buy-in, and promotion.
- ▶ The presence of partnership champions including state officials and key local and large businesses.



For additional information, please contact:

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Every Day Counts (EDC), a State-based initiative of FHWA's Center for Accelerating Innovation, works with State, local and private sector partners to encourage the adoption of proven technologies and innovations aimed at shortening and enhancing project delivery

