

## Diverging diamond interchanges touted as successes

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Vehicles cross through the diverging diamond intersection as they drive over the bridge at I-85 and Jimmy Carter Boulevard in Norcross a day after its diverging diamond interchange opened in March. The intersection joined a similar interchange at Pleasant Hill Road as the county's only diverging diamonds. (File Photo)



Cars cross over the diverging diamond interchange on the Pleasant Hill Road bridge over I-85 a day after it opened in this June 2013 file photo. Officials said they have seen a 51 percent reduction in traffic stops and a 20 percent drop in accidents since the interchange opened. (File photo)

Joe Allen didn't need fancy studies four years ago to tell him that traffic on the Pleasant Hill Road interchange at Interstate 85 was bad.

The Gwinnett Place Community Improvement District's executive director felt drivers' pain every time he had to cross the bridge to get to a meeting by the mall. That was all of the proof he needed that improvements to the interchange were needed.

Ultimately, changes were made. In 2011, CID and county transportation officials announced Pleasant Hill would get Gwinnett County's first diverging diamond interchange.

"People would avoid Pleasant Hill Road just to avoid going across what I call 'The River,'" Allen said. "It could take me, just getting across from my building in the Gwinnett Commerce Center over to the mall, some days at lunch, 10 to 15 minutes because it was so backed up ... Now you can get across just like that."

It's been more than two years since the Pleasant Hill diverging diamond interchange opened and officials are now sharing data on its effect on traffic in the area.

Those figures include a 20 percent drop in accidents and a 51 percent drop in the number of times cars had to stop between Club Drive and Satellite Boulevard, according to Allen and Gwinnett County Transportation Director Alan Chapman. There's also been at least a 40 percent decrease in delays, they said.

"That is a huge improvement," Chapman said.

Diverging diamond interchanges operate by having traffic switch sides as cars cross a bridge. That lets travelers who want to turn left onto an interstate do so without waiting on a traffic light. Cars then cross back to their normal side of the road as they leave the bridge.

As the Pleasant Hill conversion was underway, county officials also worked with another CID, the Gwinnett Village Community Improvement District, to prepare the Jimmy Carter Boulevard interchange on I-85 for conversion as well.

The Jimmy Carter diverging diamond opened earlier this year. Related construction to finish pedestrian pathways on that bridge is just finishing up and Chapman said the continued work means accurate figures on that interchange's effect are not yet available.

Gwinnett Village CID Executive Director Chuck Warbington said district members have responded favorably to the new interchange at Jimmy Carter Boulevard. He said that corridor faced similar issues to what Gwinnett Place CID officials had to deal with on Pleasant Hill.



Cars travel through the diverging-diamond interchange on Pleasant Hill Road at Interstate 85 in this January 2014 file photo. Officials recently said the interchange led to a 51 percent drop in traffic stops in the Gwinnett Place area. (File Photo)



A construction barrel sits on the bridge at I-85 and Jimmy Carter Boulevard in Norcross a day after that road's diverging diamond interchange opened in March. (File Photo)



Cars get off the highway and enter the new diverging diamond interchange at Jimmy Carter Boulevard and I-85 in Norcross as seen in this file photo from August. (File Photo)

"It was to the point where businesses were leaving and commuters were finding alternate routes to miss the area, which then led to other issues in the CID where we were having traffic issues where we shouldn't have had traffic issues," Warbington said.

The Gwinnett Village CID members responded to the diverging diamond interchange's opening with a chorus of "it's about time," Warbington said.

The county couldn't be happier with either interchange. They were two of the first three diverging diamonds in Georgia, behind the first one at Ashford-Dunwoody Road over Interstate 285. In all, there are 53 diamond interchanges in operation across the U.S., according to [www.divergingdiamond.com](http://www.divergingdiamond.com), a website run by consulting group Advanced Transportation Solutions.

Pleasant Hill was the first eight-lane diverging diamond in the U.S., and its design earned it and its construction crews accolades from Georgia Partnership for Transportation Quality and the American Council for Engineering Companies.

The diverging diamond interchange movement in Gwinnett County came about as a cost-saving measure as CID and county officials looked for ways to ease traffic in the area. Chapman and Allen both said the alternative to a diamond interchange would have been tearing out the existing bridge and building an entirely new interchange, which would have been more costly.

"\$58.5 million to replace the bridge and do a (single-point urban interchange)," Allen said. "You had good infrastructure there and so the good thing with the DDI is you are able to keep that and just reconfigure things."

The diverging diamond conversion cost about one-tenth of that, Chapman said. About \$2 million of the final cost was paid for with money put up by the CID and a grant from the State Road and Tollway Authority.

Warbington said the Jimmy Carter conversion cost about \$6 million, whereas bridge reconstruction at that exit would have cost about \$78 million. He warned that the bridge will still have to be replaced in about 10 to 15 years because it has a low state efficiency rating after years of road work and changing federal road regulations.

"From a structural standpoint, it's not about to fall down so I don't want there to be a public outcry, but from an efficiency rating that DOT puts on bridges, this fits in that category that within the next 10 to 15 years it will have to be replaced," Warbington said.

The conversion bought all of the parties involved time to ease backups while still planning long-term for a bridge replacement.

Warbington said the CID found the diverging diamond option appealing in the short-term because "We needed immediate relief. We couldn't wait another 10 to 15 years to find \$78 million."

Once the final touch-up work is done on the interchange later this year, the CID will begin looking at what processes it must go through to replace the bridge with at least some federal funding for a long-term solution.

"This gave us immediate impact and relief that we need now ... especially as we begin to try to do some redevelopment work in the area" Warbington added. "We needed to have assurances for the business owners and the investors that are coming into the area, that there was going to be immediate relief."

In the years since the diamond conversions were announced, there has been talk of converting interchanges in metro Atlanta, including some in Cobb County and south Fulton County. In July, Georgia Department of Transportation officials announced plans to convert the Highway 20-Interstate 75 interchange in McDonough to a diverging diamond format.

Chapman said there are no plans on the drawing board at this time to convert any other interchanges in Gwinnett County to a diverging diamond. He added "it's something we'll definitely look at" in the future as the county continues to grow because of how the county's two existing interchanges have performed.



"Our two have been successful and, from what I've heard, the one at Ashford-Dunwoody has been successful as well, so I think its something we're going to see more of in the future," Chapman said.

Directional signs at the new diverging diamond interchange at Jimmy Carter Boulevard and I-85 in Norcross are seen in this file photo from August. (File Photo)



The diverging-diamond interchange for the Pleasant Hill Road bridge over Interstate 85 is doing its job in limiting delays across the bridge, officials say. (File Photo)

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