

Divergababout



Description

A challenge at many interchanges across Missouri is closely-spaced frontage (aka “outer”) roads. Often times interchange jobs relocate these frontage roads to achieve better operations. Diverging Diamond Interchanges (DDI) have been a useful innovation for Missouri. When a DDI is a good fit at an interchange with a closely-spaced frontage road, instead of signaling the crossover point of the DDI, a five-legged roundabout is built for the intersecting arterial, frontage road, and ramps. The resulting “Divergababout” (aka “crossover roundabout”) functions as any other roundabout, except connects to an arterial roadway with travel directions “flipped” on one side. This innovation deals with these closely-spaced frontage roads without needing to relocate them. Operational and safety benefits of typical roundabouts apply to divergababouts; no new driver behaviors need be learned. Micro simulation and cost estimations showed the concept to have merit; divergababouts can combine the best attributes of DDIs and roundabouts.

Benefit

The innovation essentially combines the benefits of DDI and roundabouts into one interchange. One of the biggest cost-savings comes from not having to relocate outer roads. Without the need to relocate these roads, MoDOT can save money in design staff requirements, right-of-way staff impacts, physical right of way costs, utility staff impacts, and physical utility costs. Since this innovation has high traffic capacity, it can also be expected to save MoDOT money in the future (by moving more traffic the chances of congestion and a desired rebuild is reduced). With a reduced number of signalized intersections in need of timing and coordination, the traffic department can focus on other areas. Divergababouts provide time savings not only to MoDOT but also to the travelling public: the innovation results in reduced delays/travel times as compared to other interchange designs. Like both DDI and roundabouts, divergababouts reduce the number of conflict points present at an interchange. For non-motorized users, pedestrian accommodations at a divergababout are handled just as they are within DDI and roundabouts.

Materials and Labor

According to the “Meet MoDOT” document, traditional traffic signals cost between \$100,000 to \$150,000 to install and about \$4,100 a year to maintain.

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Additional information, photos or videos can be seen by accessing Innovations Challenge SharePoint page at: <http://sharepoint/systemdelivery/TP/Documents/InnovationsChallenge.aspx>