

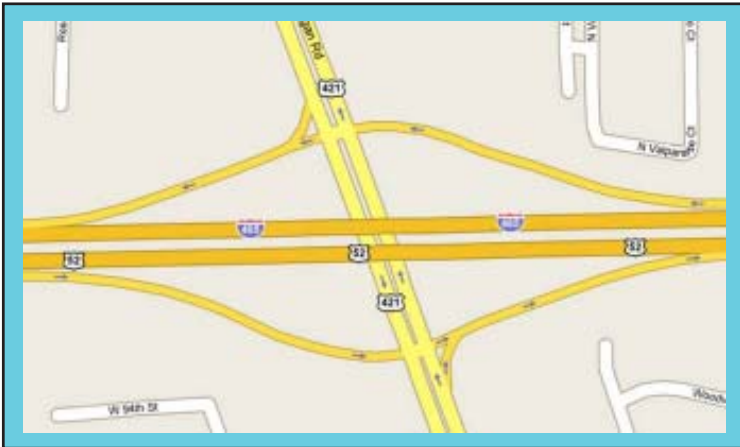
MAJOR
MOVES

THE NEW US 31 HAMILTON COUNTY

100 North Senate, Room N955
Indianapolis, IN 46204
ph: 317.232.6601
US31HamiltonCounty.in.gov

INTERCHANGE OPTIONS

DIAMOND INTERCHANGES:



The **Diamond Interchange** is the simplest and perhaps the most common type of interchange used. They are used when a freeway crosses a road and one-way diagonal ramps are provided in each quadrant with two at-grade intersections provided at the minor road. The diamond interchange is less expensive to design, makes more efficient use of space than most types of freeway interchanges. They also avoid interweaving traffic flows.

Tight Diamond Interchanges: Tight diamond interchanges tighten the space between the ramps, typically within 250 ft [76 m] to 400 ft. [122 m] of each other, with side-by-side left-turn lanes on the minor highway that extend beyond the first ramp intersection. Special signal phas-

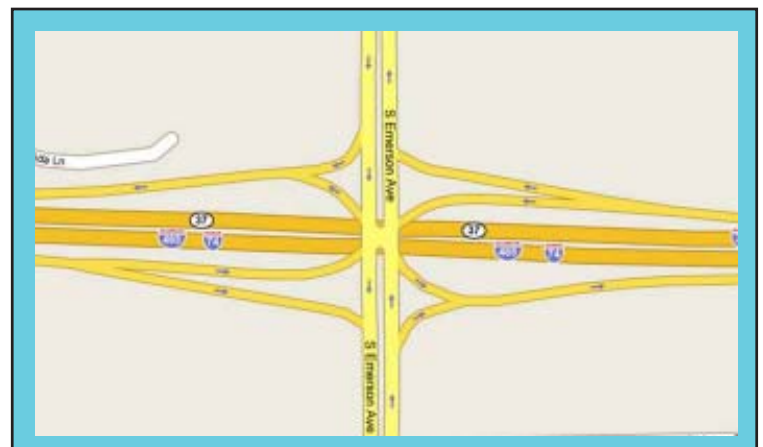
ing allows queuing of vehicles outside the ramp intersections and minimizes queuing of vehicles between the ramp intersections.

Folded Diamond Interchange: Folded diamond interchanges operate essentially the same as standard diamonds, except that all of the ramps are located on the same side of the minor highway. This gives the appearance that 2 of the ramps have been “folded” onto the opposite side of the minor highway. The folded diamond option is utilized at locations where a right-of-way or environmental constraint is present on one side of the minor roadway, such as a railroad running parallel to the minor highway.

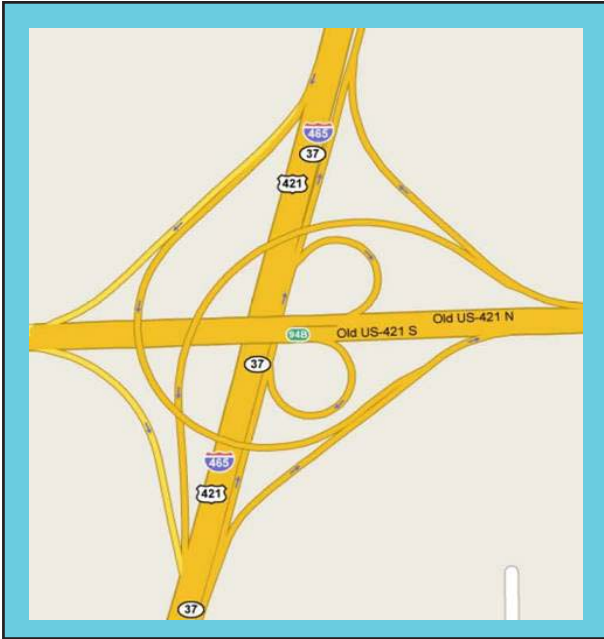
A **Single Point Interchange**, a special type of diamond interchange, is an interchange where all legs of the interchange meet at a single point. The right-turn movements are typically free-flow movements and usually include an additional lane on the cross street beginning at the right-turn lane for at least 200 ft before being merged. Free-flow right turns from an exit ramp to an arterial crossroad may not be desirable where the nearest intersection on the crossroad is within 500 ft, because of weaving.

A single point interchange can significantly increase the interchange capacity by alleviating the operational problems of having two closely spaced at-grade intersections on the minor road. In particular, it overcomes the left-turning lane storage problem for drivers wishing to enter the freeway. In addition, it reduces cross-street delays, only requires one signal instead of two, and reduces right-of-way needs. Single point interchanges can also be used in rural areas where use of adjacent right of way is not desired due to environmental or other constraints.

SINGLE POINT URBAN INTERCHANGES



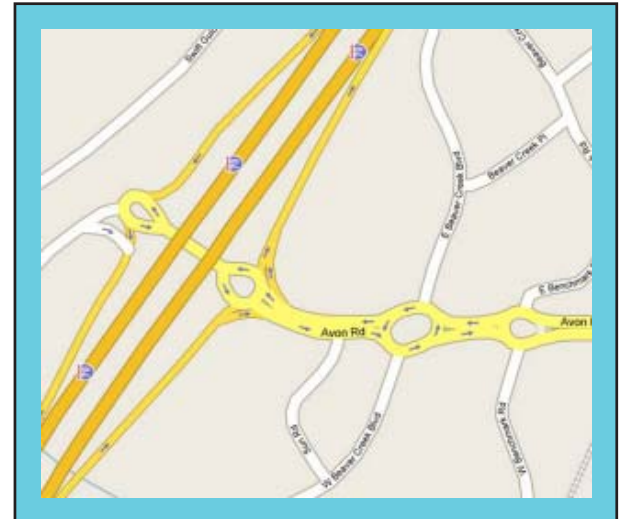
SYSTEM/SYSTEM INTERCHANGES



System/System Interchanges (Directional Interchanges) permit vehicles to move from one major freeway to another major freeway at relatively fast and safe speeds. These ramps are used for heavy left-turn movements to reduce travel distance, increase speed and capacity, and to eliminate weaving. These types of connections allow an interchange to operate at a better level of service than is possible with cloverleaf interchanges.

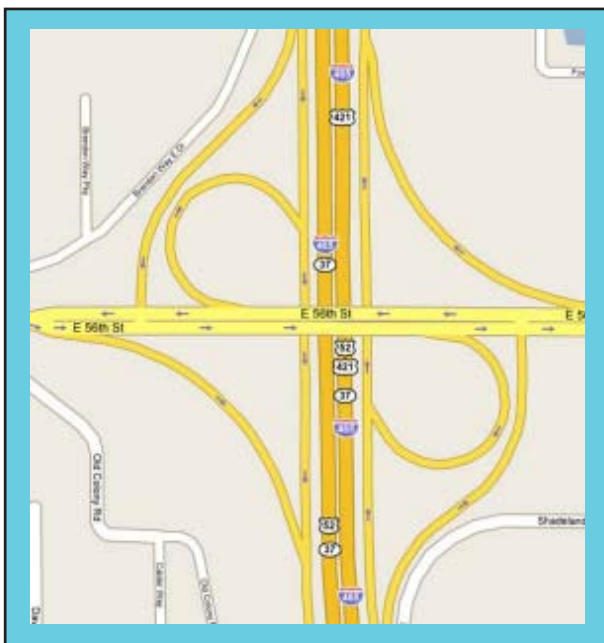
Directional or semi-directional interchanges are most often warranted in urban areas at freeway-to-freeway or freeway-to-arterial intersections. They provide the highest possible capacity and level of service. Interchanges involving two freeways will almost always require directional layouts. These types of interchanges are the most complex and are the most expensive.

ROUNDAABOUT INTERCHANGES



Roundabout Interchanges, a type of diamond interchange with roundabout intersections at the ramp termini, are becoming more prominent throughout the country. It is a freeway-to-street interchange or a street-to-street interchange that follows the “yield-at-entry” rule, in which approaching vehicles must wait for a gap in the circulating flow before entering the circle. Since roundabouts eliminate stop signs and/or stoplights, traffic backups are minimized. The safety of passengers is maintained because of low speeds for entering and circulating traffic. In addition to improved safety and fewer delays, roundabouts also increase traffic capacity and improve the aesthetics.

PARTIAL CLOVERLEAF INTERCHANGES



Cloverleaf or partial cloverleaf designs may be used in lieu of a diamond interchange when development or other physical conditions prohibit construction in a quadrant, or where heavy left turns are involved. These interchanges are used at 4-leg intersections and employ loop ramps to accommodate left turn movements. Full cloverleaf interchanges are those with loops in all four quadrants; all others are partial cloverleaves. Where two access-controlled highways intersect or a continuous flow design is required, a full cloverleaf is the minimum type of interchange design that will suffice.