

Interchanges are an important part of any modern freeway. They make it possible for motorists to drive virtually the entire length of most 400-series highways in Ontario without ever having to stop at a traffic signal or stop sign while on the highway. The Highway 427 Expansion will feature several types of interchanges that reflect best practices in highway design and traffic engineering.

What is an Interchange?

An interchange allows two or more roadways to cross each other without intersecting at the same ground level while still allowing motorists to move between them. Instead of using traffic lights or stop signs like when two roads meet at an intersection, a bridge or tunnel and system of ramps is used to facilitate safer movement between the intersecting roadways.

Physical land constraints, budget, and projected traffic volumes are all factors that influence the configuration of the ramps and the number of bridges or trenches that need to be built at an interchange. Together, these design elements determine the type of interchange design used.

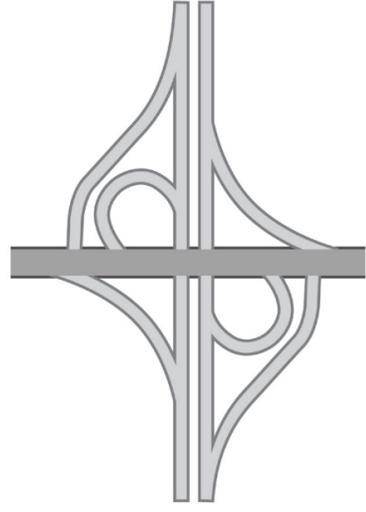
The Highway 427 Expansion will feature three newly built interchanges at Langstaff Road, Rutherford Road, and Major Mackenzie Drive, and ramp modifications at the existing interchanges at Finch Avenue West, Highway 407 ETR, and Highway 7.

Types of Interchanges on the Highway 427 Expansion

Partial Cloverleaf Interchange (Parclo)

Partial cloverleaf interchanges (frequently shortened to “parclos”) are among the most common interchanges along 400-series highways in Ontario and are often used where a freeway intersects a local arterial road at roughly a perpendicular angle. On the Highway 427 Expansion, all interchanges will be parclos except at Highway 407 ETR and Major Mackenzie Drive.

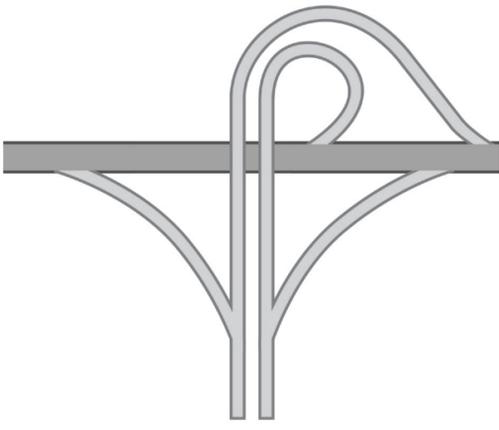
The parclo is a popular interchange design because it requires the construction of only one bridge or trench, and has safety and traffic flow advantages compared to its predecessor, the full cloverleaf interchange.



A graphic showing a partial cloverleaf interchange structure. For illustration purposes only.

Did You Know?

The Ontario Ministry of Transportation (MTO) was one of the early pioneers in the widespread adoption of partial cloverleaf interchanges in North American highway design.



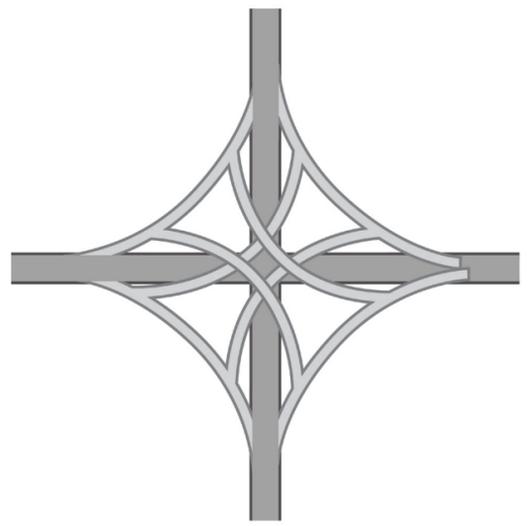
A graphic showing a trumpet interchange structure. For illustration purposes only.

Trumpet Interchange

Trumpet interchanges, like their name suggests, resemble the shape of a trumpet when viewed from above. They are commonly used when a highway terminates at another highway or a local arterial road perpendicularly in the shape of a “T”. Motorists will find a newly built trumpet interchange on the Highway 427 Expansion at the Major Mackenzie interchange.

Stack Interchange

Stack interchanges are among the most dramatic and impressive of freeway interchanges. These multilevel structures feature soaring flyover ramps and are used in contexts where two high-volume freeways intersect. Stack interchanges generally have fewer loop ramps than would be found in a parclo or cloverleaf interchange. Drivers can see a stack interchange on the Highway 427 Expansion at the Highway 407 ETR interchange.



A graphic showing a stack interchange structure. For illustration purposes only.

Did You Know?

The Albion bridge slide that LINK427 performed in June 2019 (and showcased in a [timelapse video](#) on the Highway 427 Expansion project website) was actually a realignment of some of the ramps at the Highway 407 ETR stack interchange in preparation for the widening of Highway 427.

What is the Highway 427 Expansion Project?

The Highway 427 Expansion project will extend the highway 6.6 km, from Highway 7 to Major Mackenzie Drive and widen the existing highway to 8 lanes between Finch Avenue and Highway 7.

Who is LINK427?

LINK427 is the consortium selected by the Ministry of Transportation (MTO) and Infrastructure Ontario (IO) to design, build, finance, and maintain the Highway 427 widening and extension.

Des renseignements sont disponibles en français en composant 1-888-595-3152.