

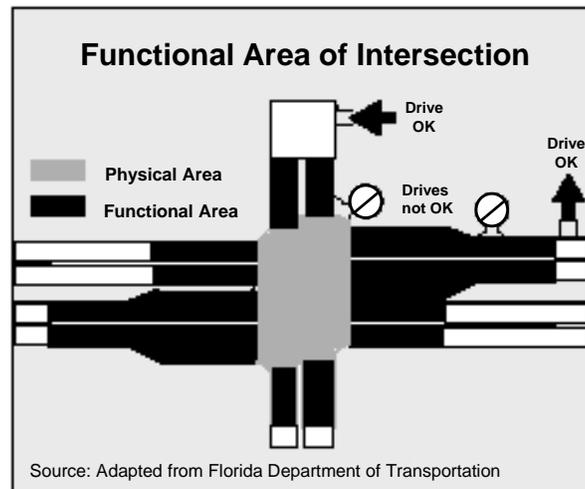
Functional Areas of Intersections

It is important to protect the functional area of an intersection from driveway access. Driveways located within this area may result in higher crash rates and increased congestion.

What is the functional area of an intersection?

The functional area of an intersection is that area beyond the physical intersection of two roadways that comprises decision and maneuvering distance, plus any required vehicle storage length. The functional area includes the length of road upstream from an oncoming intersection needed by motorists to perceive the intersection and begin maneuvers to negotiate it. The upstream area consists of distance for travel during a perception-reaction time, travel for maneuvering and deceleration, and queue storage. The functional area also includes the length of road downstream from the intersection needed to reduce conflicts between through traffic and vehicles entering and exiting a property.

Driveways should *not* be located within the functional area (see figure below).



The functional area includes the area beyond the physical intersection that comprises decision and maneuvering distance, plus any required vehicle storage length. For safety and operational reasons, driveways should be located outside the functional area. This area can be protected through corner clearance, driveway spacing, and intersection spacing requirements.

Why is the functional area important?

Crashes at intersections are about three times more frequent than those between intersections (*Best Practices in Arterial Management*, New York State Department of Transportation, 1996), and crash rates increase dramatically as the number of driveways per mile increases. Driveways located within the functional area create too many conflict points within too small an area for motorists to safely negotiate. In addition, corner properties typically attract businesses that generate higher volumes of traffic, such as convenience stores, gas stations, and fast food restaurants. Vehicles stopped in the travel lanes waiting to turn into a corner property may, and often do, block traffic on the roadway.

How can the functional area of intersections be protected?

The integrity of functional areas of intersections can be protected through corner clearance, driveway spacing, and intersection spacing requirements. Intersections should be spaced far enough apart so that functional areas do not overlap. This will leave room for an “access window” between intersections.

Approaches for retrofitting existing intersections include (1) consolidating driveways through shared drives and cross access, (2) providing alternative access by relocating driveways to the cross road or a frontage or backage road, and (3) installing raised medians, which eliminate left turns into and out of driveways. Median openings (“breaks”) should never be located within the functional area.