

intersecting legs, topography, traffic patterns, and desired operation. Intersections within a basic type vary greatly however, the general application of at-grade intersection design is common to all. Traffic volume, design speed, and the roadway classification are the principal factors used to determine intersection type.

Three-Leg Intersection - The three-leg intersection has three intersecting legs which form a “T” or a “Y”. Operationally three-leg and four-leg intersections are preferred and multidirectional “Y” intersections and intersections with more than four legs should be avoided.

Four Leg Intersections - Four-leg intersections may be right angled, oblique, or offset. The right-angled crossing is easily signed and signalized, provides good visibility, and is the safest to negotiate. The oblique crossing creates problems with visibility, pedestrian safety, and vehicle-turning angles. The offset intersection has low capacity, is difficult to comprehend and negotiate, and is difficult to sign and signalize.

Multileg Intersections - These intersections have more than four legs and can have several configurations. Multileg intersections are confusing, have poor visibility, poor turning angles, and are difficult to sign, mark, and signalize. This type of intersection should be avoided if possible.

Roundabout Intersections - Roundabout designs generally have three or four legs joining a circular roadway. All traffic turns right to merge with traffic in the roundabout. Traffic continues to turn right through the circle to eliminate through and left turn movements. Roundabout designs are characterized by light traffic volumes and slow speeds through the intersection. The roundabout intersection is a design that can be used in lieu of the traditional three or four leg intersections. For further descriptions and types see Part 2, Section 407, Roundabout Design.

404 CHANNELIZATION

Channelization is the separation of traffic into definite travel paths using pavement markings or raised islands. Channelization should be used to:

- Give preference to major traffic movements.
- Reduce areas of conflict.
- Cross traffic at right angles (75-90° desirable - skew no more than 60°.)
- Separate points of conflict.
- Provide speed-change lanes and separate turning lanes where appropriate.
- Restrict undesirable movements.
- Provide adequate width to shadow turning traffic.
- Enhance signal control.

404.01 PREFERENCE TO MAJOR MOVEMENTS

Whenever possible, preference should be given to the major traffic movements. This usually requires stopping, funneling, or eliminating minor movements. Controlling measures should conform to natural movement paths and be introduced gradually to promote smooth and efficient operation.

404.02 AREAS OF CONFLICT

Large multilane undivided intersection areas are undesirable because drivers cannot predict the other vehicles movements. By separating traffic movements into definite travel paths channelization reduces these conflicts. Channelization also separates points of conflict within the intersection and clearly defines vehicle pathways.

404.03 INTERSECTION ANGLES

A 90° intersection provides the shortest crossing for intersecting traffic and provides the most favorable condition for drivers to judge the relative position and speed of approaching vehicles. The minimum desirable intersection angle is 75 degrees. Intersection angles less than 60 degrees should be realigned.

404.04 POINTS OF CONFLICT

Points of conflict occur when drivers paths cross. The highest number of conflicts occur at intersections. For example, a driver making a left turn on to a roadway must cross right-bound traffic and merge into the left-bound traffic