

TRAFFIC CALMING SOLUTIONS FOR A SAFER COMMUNITY



DUBLIN'S NEIGHBORHOOD TRAFFIC-CALMING PROGRAM

This program focuses on local and collector residential streets with a posted speed limit of 25 mph or less. The following is a list of major streets in Dublin that do not qualify for the Neighborhood Traffic-Calming Program. The list was developed in conjunction with the Washington Township Fire Department and the City of Dublin Police Department.

- Avery-Muirfield Drive
- Avery Road
- Blazer Parkway
- Brand Road
- Bright Road
- Coffman Road
- Cosgray Road
- Dublin Road
- *Dublinshire /Earlington Parkway
- Emerald Parkway
- Frantz Road
- Glick Road
- Hard Road
- Innovation Drive
- Memorial Drive
- Muirfield Drive
- Perimeter Drive
- Post Road
- Rings Road, from Frantz to Woerner- Temple, and west of Avery
- Riverside Drive
- SR 161
- *Sells Mill Drive
- Shier-Rings Road
- Summit View Road
- Tuttle Crossing Boulevard
- Tuller Road
- Woerner-Temple Road
- Wyandotte Woods Boulevard

*These streets will receive no additional traffic-calming measures.

WHY STOP SIGNS AND CHILDREN AT PLAY SIGNS ARE NOT USED FOR TRAFFIC CALMING

A common request to address speeding in neighborhoods is the installation of stop signs. This may seem like an easy way to reduce vehicle speeds but can actually create a less desirable situation.

Stop signs can cause high incidences of drivers intentionally violating the stop and other traffic-related issues. When vehicles do stop, the speed reduction is often only effective in the immediate area, since drivers may then increase their speed to make up for lost time. This can result in increased mid-block speeds. There is also often an increase in rear-end collisions near the inappropriate stop sign.

Another common request in neighborhoods is the installation of "Children at Play" signs. National and statewide traffic studies have shown that "Children at Play" signs are not effective in increasing a driver's attention to the point of reducing vehicle speeds or reducing pedestrian accidents. In fact, placement of these signs can increase the potential for accidents by conveying to children and parents that the area is safe for children. For these reasons, the City of Dublin does not use "Children at Play" signs and we encourage parents and/or guardians to find alternative play areas for children, such as a backyard or local parks.

WHO SETS SPEED LIMITS?

Speed limits are under the jurisdiction of the state government. The Ohio Revised Code (ORC) establishes general speed limits for different types of roadways in section 4511.21. Some examples of the ORC applied to municipal areas are listed below:

- 15 mph on an alley
- 20 mph in a school zone (during restricted hours on school days)
- 25 mph on a local (non-through) street or on a street within a business district
- 35 mph on through routes
- 55 – 65 mph on freeways





MEDIANS

A center island narrowing is a raised island located along the centerline of a street that narrows the travel lanes at that location. Center island narrowings are often landscaped to provide a visual amenity. Placed at the entrance to a neighborhood, and often combined with textured pavement, they are often called “gateway islands.” Fitted with a gap to allow pedestrians to walk through at a crosswalk, they are also referred to as “pedestrian refuges.”

Application:

- Entrances to residential areas.
- Wide streets where pedestrians need to cross.

Advantages:

- Increase pedestrian safety.
- Can have positive aesthetic value.
- May reduce traffic volumes.

Disadvantages:

- Speed reduction effect is somewhat limited because vehicles do not have to alter their path.
- May require the elimination of some on-street parking.

Cost Estimate:

\$15,000 - \$55,000

Source: www.safety.fhwa.dot.gov/speedmgt/ePrimer_modules/module3.cfm#mod31

CHICANES

Chicanes are curb extensions that alternate from one side of the street to the other, forming S-shaped curves. Chicanes can also be created by alternating on-street parking, either diagonal or parallel, between one side of the street and the other. Each parking bay can be created either by restriping the roadway or by installing raised, landscaping islands at the ends of each parking bay.

Application:

- Locations where speeds are a problem but noise associated with speed humps and related measures would be unacceptable.

Advantages:

- Discourage high speeds by forcing a change in path or direction.
- Easily negotiable by large vehicles (such as fire trucks).

Disadvantages:

- Must be designed carefully to discourage drivers from deviating out of the appropriate lane.
- Curb realignment and landscaping can be costly, especially if there are drainage issues.
- May require the elimination of some on-street parking.

Cost Estimate:

\$8,000 - \$25,000

Source: www.safety.fhwa.dot.gov/speedmgt/ePrimer_modules/module3.cfm#mod31





CHOKERS

Chokers are curb extensions at mid-block locations that narrow a street by widening the sidewalk or planting strip. If marked as crosswalks, they are also known as safe crosses. Two-lane chokers narrower than the normal cross section. One-lane chokers narrow the width to allow travel in only one direction at a time, operating similarly to one-lane bridges.

Application:

- Areas with substantial speed problems and no on-street parking shortage.

Advantages:

- Easily negotiable by large vehicles (such as fire trucks).
- Can have positive aesthetic value.
- May reduce both speeds and volumes.

Disadvantages:

- Speed reduction effect is somewhat limited because vehicles do not have to alter their path.
- May require bicyclists to briefly merge with vehicular traffic.
- May require the elimination of some on-street parking.

Cost Estimate:

\$10,000 - \$25,000

Source: www.safety.fhwa.dot.gov/speedmgt/ePrimer_modules/module3.cfm#mod31

DIVERSION

Diversion is a physical barrier of some type such as a straight curb, bollards or a landscaped area placed across a roadway to create two distinct sections of street. Diversion is often used to remove a through movement on a lower functional class road traveling to a higher functional class road, discouraging non-local traffic while maintaining access for local residents.

Application:

- Inner neighborhood locations with non-local traffic volume problems.

Advantages:

- Maintains access for local traffic while decreasing non-local volumes.
- Able to maintain full pedestrian and bicycle access.
- Will reduce traffic volumes.
- Provides landscaping opportunities.

Disadvantages:

- Create circuitous routes for local residents and emergency vehicle services.
- May be expensive.
- May require reconstruction of corner curbs.
- May increase traffic volumes on adjacent streets.

Cost Estimate:

\$85,000 - \$100,000

Source: www.safety.fhwa.dot.gov/speedmgt/ePrimer_modules/module3.cfm#mod31





PROTECTED PARKING

Protected parking consists of parking spaces and centerline striping used to narrow the perceived roadway width from curb to curb.

Application:

- Areas where vertical traffic-calming measures would be unacceptable because of noise considerations.

Advantages:

- Perceived narrow driving width reduces speeds.
- Creates protected on-street parking bays.
- Inexpensive to install.

Disadvantages:

- Effectiveness is limited by the absence of physical obstacles.
- Inclement weather (i.e. snow, rain, etc.) may block the visibility of pavement markings.
- May encourage school-related parking.
- Requires continual maintenance to maintain visibility of markings.

Cost Estimate:

\$1,000 - \$6,000

Source: www.safety.fhwa.dot.gov/speedmgt/ePrimer_modules/module3.cfm#mod31

REALIGNED INTERSECTIONS

Realigned intersections are changes in alignment that convert T intersections with straight approaches into curving streets that meet at right angles. A former "straight-through" movement along the top of the T becomes a turning movement. While not commonly used, intersections, because the straight top of the T makes deflection difficult to achieve, as needed for traffic circles.

Application:

- T-intersections.

Advantages:

- Realigned intersections can be effective in reducing speeds and improving safety at a T-intersection that is commonly ignored by motorists.
- Provides landscaping opportunities.

Disadvantages:

- Curb realignment can be costly.
- May require some additional right-of-way to cut the corner.

Cost Estimate:

\$200,000 - \$400,000





RUMBLE STRIPS

Rumble strips are textured pavement which use stamped pavement or alternate paving materials to create an uneven surface for vehicles to traverse. They may be used to emphasize either an entire intersection or a pedestrian crossing, and are sometimes used along entire street blocks.

Application:

- "Main street" areas where there is substantial pedestrian activity and noise is not a major concern.

Advantages:

- Can reduce vehicle speeds over an extended length.
- Can calm two streets at once when placed at an intersection.

Disadvantages:

- Can make crossings more difficult for wheelchair users and the visually impaired when used on a crosswalk.
- Very loud and aesthetically unappealing.

Cost Estimate:

\$1,000 – \$5,000 each

SPEED HUMPS

Speed humps are rounded, raised areas placed across the roadway. They are generally 10 to 14 feet long (in the direction of travel), making them distinct from the shorter "speed bumps" found in many parking lots, and are 3 to 4 inches high. The profile of a speed hump can be circular, parabolic or sinusoidal. They are often tapered as they reach the curb on each end to allow unimpeded drainage.

Application:

- Locations where very low speeds are desired and reasonable, and noise and fumes are not a major concern.

Advantages:

- Relatively inexpensive.
- Relatively easy for bicycles to cross if designed appropriately.
- Very effective in slowing travel speeds.

Disadvantages:

- Cause a "rough ride" for all drivers, and can cause severe pain for people with certain skeletal disabilities.
- Force large vehicles, such as emergency vehicles and those with rigid suspensions, to travel at slower speeds.
- May increase noise and air pollution.
- Have questionable aesthetics.
- Spaced between 300 – 500 feet apart, so there may be several on a roadway.

Cost Estimate:

\$5,000 - \$8,000 each

Source: www.safety.fhwa.dot.gov





TRAFFIC CIRCLES

Traffic circles are raised islands, placed in intersections, around which traffic circulates.

Application:

- Calming intersections, especially within neighborhoods where large vehicle traffic is not a major concern, but speeds, volumes and safety are problems.

Advantages:

- Traffic circles are very effective in moderating speeds and improving safety.
- Can have positive aesthetic value.
- Can calm two streets at once.

Disadvantages:

- Difficult for large vehicles (such as fire trucks) to circumnavigate.
- Must be designed so that the circulating lane does not encroach on the crosswalks.
- May require the elimination of some on-street parking.
- Landscaping must be maintained, either by the residents or by the municipality.
- Expensive to install.

Cost Estimate:

\$30,000 - \$50,000

DEFINITIONS

AFFECTED AREA

The area in which the placement of traffic-calming measures will have an effect. This shall be determined by defining the area significantly affected by street modifications. At a minimum, this will include the households located on the affected street and any households located on cul-de-sacs attached to the affected street.

AFFECTED STREET

The street on which traffic-calming measures are being requested.

COLLECTOR STREET

A street that provides both access to property and traffic circulation within residential neighborhoods and commercial or industrial areas. This system collects traffic from local streets, penetrating the residential neighborhoods, and disperses it to the arterial system. The collector street system may also carry local bus routes.

CUL-DE-SAC

A street having only one end open to traffic and the other end being permanently terminated with a vehicular turn-around provided.

LOCAL STREET

A street that provides direct access to abutting land and connects to the higher order street system. These offer the lowest level of mobility and usually contain no bus routes. Service to through-traffic movement usually is deliberately discouraged.

LOOP STREET

A street that has both of its termini on the same street.

TRAFFIC VOLUMES

The number of vehicles traveling both directions on a street within a 24-hour period.

85TH PERCENTILE SPEED

The speed below which 85 percent of vehicles travel.

ACCIDENT SEVERITY RATIO

The ratio of the number of injury accidents to the total number of accidents, calculated on a yearly basis. The average three-year, citywide accident severity ratio is 0.28.

NON-LOCAL TRAFFIC

Traffic that uses local or collector streets to travel through a residential neighborhood without having an origin or destination within the neighborhood.

