TEMPORARY TRAFFIC CONTROL ZONE

A temporary traffic control zone is an area of a highway where the normal roadway conditions are changed because of the presence of a work zone. The work zone may include signs, channelizing devices, work vehicles, pedestrian workers, equipment and materials. It extends from the first warning sign, truck mounted changeable message sign or high intensity rotating, flashing, oscillating or strobe light on a vehicle to the "End Road Work" sign, last temporary traffic control device or the last work vehicle encountered by a motorist passing through the zone.

COMPONENTS

Advance Warning Area -

The advance warning area is the section of roadway where motorists are informed about a forthcoming work zone. The advance warning area of a stationary work zone usually includes a series of advance warning signs.

During mobile operations, the advance warning area may consist of a vehicle supplemented with a high intensity rotating, flashing, oscillating or strobe light, a truck mounted changeable message sign and/or a flat sheet advance warning sign.

Transition Area -

The transition area is the section of roadway where motorists are redirected out of their normal travel path. The transition area of a stationary work zone usually includes a merging taper, a shifting taper or a one-lane two-way traffic taper.

During mobile operations, advance warning regarding the presence of a mobile work area is provided to motorists through the operation of amber or yellow colored high intensity rotating or strobe type flashing auxiliary warning light devices, truck mounted advance warning arrow panels, truck mounted changeable message signs or flat sheet advance warning signs. However, the motorist shall maintain responsibility to determine when to alter or redirect their travel path during mobile operations.

Activity Area -

The activity area is the section of roadway where the work activity takes place. This area consists of the work area, the travel way for traffic and the buffer space.

The work area is the portion of the roadway closed to motorists and reserved for workers, equipment and material. This area is typically delineated and separated from the travel way by a series of traffic control devices or longitudinal barriers.

The travel way is the portion of the roadway which motorists are routed onto for passage through the activity area.

The buffer space is a longitudinal area between the downstream end of the transition area and the work area that may provide some recovery space for an errant vehicle. The buffer space shall remain absent of personnel, tools, equipment, materials, work vehicles, etc. The presence of personnel, tools, equipment, materials, work vehicles, etc., within the limits of the buffer space is PROHIBITED.

Termination Area -

The termination area is the section of roadway where the motorists are returned to the normal travel path. The termination area extends from the downstream end of the activity area to the last traffic control device or "End Road Work" sign or last work vehicle encountered by a motorist.

TAPERS

Tapers may be used in transition and termination areas. The length of a taper may require field adjustments due to field conditions such as hills, curves, intersecting roads, etc. A taper within a transition area provides notice to motorists the subsequent area is closed to travel and redirects the motorists onto a different travel path. A taper within a termination area provides notice to motorists the area closed to travel has ended and may provide guidance to motorists to return to the original travel path. A taper placed on a shoulder area provides notice to motorists that the subsequent shoulder area is closed and encroachment onto that portion of the shoulder is not allowed.

Tapers are developed through utilization of a series of traffic control devices. Taper lengths are determined by the legal posted regulatory speed limit of the roadway prior to beginning the work. See *Table 1, Formulas for Determining Taper Lengths.*

Table 1 Formulas for Determining Taper Lengths

Speed (S)	Taper Length (L) in Feet
40 mph or Less	$L = WS^2 / 60$
45 mph or more	$L = WS$

Where: L = taper length in feet
W = width of offset in feet
S = posted speed limit prior to work starting

There are various types of tapers which include merging tapers, shifting tapers, shoulder tapers, one-lane two-way traffic tapers and downstream tapers. For determination of taper lengths according to the type of taper, see *Table 2.*

A merging taper precedes the closure of a travel lane or travel path and requires motorists to merge into a common road space with motorists from an adjacent travel lane.

A shifting taper precedes a change in the roadway alignment and requires motorists to negotiate a lateral shift in their normal travel path.

A shoulder taper precedes a shoulder work area. A shoulder taper precedes a shoulder work area and provides notification to motorists that encroachment upon the subsequent shoulder area is not permitted.

A one-lane two-way traffic taper precedes a flagging operation that requires motorists from opposing directions on a two-lane two-way roadway to share a common travel lane as directed by the flagger(s).

A downstream taper follows the activity area to provide a visual cue to the motorist that access to their original travel path is available. Installation of a downstream taper is optional. See *Table 2, Taper Types and Taper Length Criteria.*

Table 2 Taper Types and Taper Length Criteria

Type of Taper	Taper Length
Merging Taper	at least 1 L
Shifting Taper	at least 0.5 L
Shoulder Taper	at least 0.33 L
One-Lane Two-Way Traffic Taper	50 feet minimum, 100 feet maximum
Downstream Taper	50 feet minimum, 100 feet maximum

Note: Use Table 1 to calculate L.