Fulton County Driveway Manual

Adopted May 2005

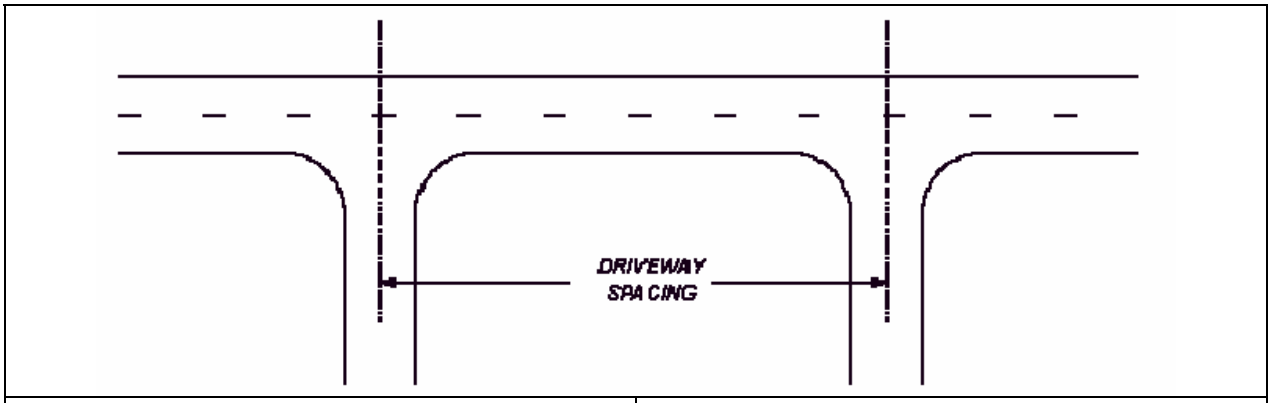
1. PURPOSE

This document is intended to clearly define the process of constructing a legal access point or any other work in the right of way of County Roads in unincorporated Fulton County. To accomplish this we are modifying sections three through five of the Georgia Department of Transportation document "Regulations for Driveway and Encroachment Control" and adopting this modified version. Any variance to the standards set forth in this manual must be in the form of a written appeal to the Director of Public Works, along with the appropriate studies to support the variance request.

2. DRIVEWAY SPACING

As drivers approach each intersection along a roadway, they are often presented with decisions and may be required to stop or make various maneuvers. When exiting the roadway, it is necessary to decelerate and in some cases, to change lanes. It may also be necessary to adjust speeds in reaction to other vehicles entering into the arterial traffic stream. Driveways should be spaced so that drivers can perceive and react to the conditions at each intersection in succession. Spacing between driveways should be at least equal to the distance traveled, at the posted speed limit, during the normal perception and reaction time plus the distance traveled as the vehicle decelerates to a stop. Each intersection also requires a certain amount of storage space for vehicles waiting to enter. The distance between intersections should be great enough to provide this storage, allowing each intersection to have its functional boundary separated from those of the next intersection. Crash data also indicates that as the number of driveways along a roadway increases so do accident rates. **Meeting the spacing criteria is not, in itself an indication that driveways will be allowed.**

Guidelines for driveway spacing, associated with the construction of new driveways, are provided in Table 3-1. Driveways should be separated from any other facility, which accesses a County roadway, whether it is another driveway or a public street. Minimum spacing requirements also apply to driveways on the opposite side of undivided roadways. **Requirements for the length of right and left turn lanes, as shown in Table 11 and Table 13, may increase the minimum allowable spacing shown in Table 1.**



POSTED SPEED, MPH	DRIVEWAY SPACING MINIMUM FT
25	200
30	250
35	300
40	300
45	300
50	300
55	350

Table 1: Driveway Spacing Criteria

Spacing of One-Way Driveways

Figure 1 shows a typical layout of one-way driveways. The spacing criteria presented in Table 1 does not apply to the distance between the two one-way driveways (driveway pair).

A driveway pair must be separated from another driveway pair by the distance as shown in Table 1. A driveway pair must also be separated from an adjacent two-way driveway in accordance with the spacing criteria in Table 1.

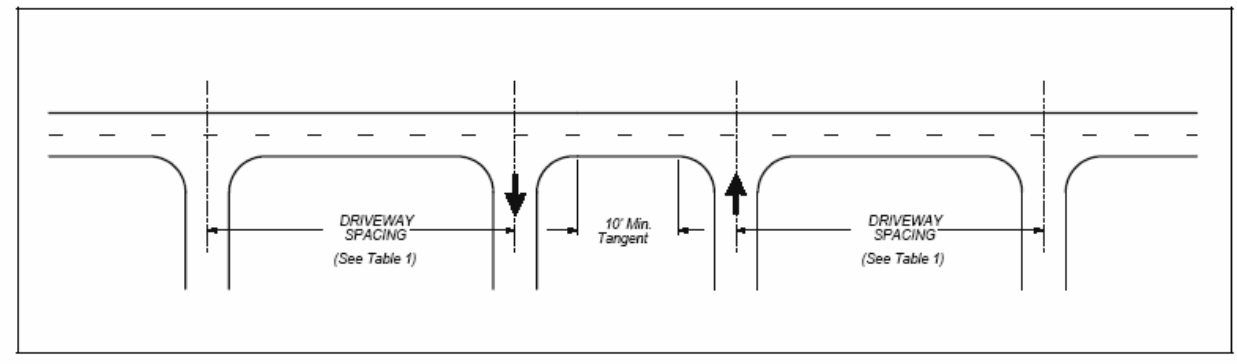


Figure 1: Spacing Criteria for One-Way Driveways

Placement of Driveways

Not only must driveways be spaced from other driveways as provided above, they must also be located a minimum distance from the property line. The radius return must be a minimum of 5' from the property line.

When driveways are to be jointly used by two or more property owners, the property line separation requirements given in the above paragraph can be waived. However, a joint use agreement signed by the affected property owners must be provided to the Access Management Engineer. Either property owner may apply for the driveway permit.

Driveway Spacing

Driveways should align with other driveways located on the opposite side of the roadway. If offset driveways cannot be avoided, the same driveway spacing criteria as given in Table 1 should be provided, to provide space for left turns. Figure 2 shows how the spacing is measured for locating offset driveways on undivided roadways. Spacing is from Center to Center.

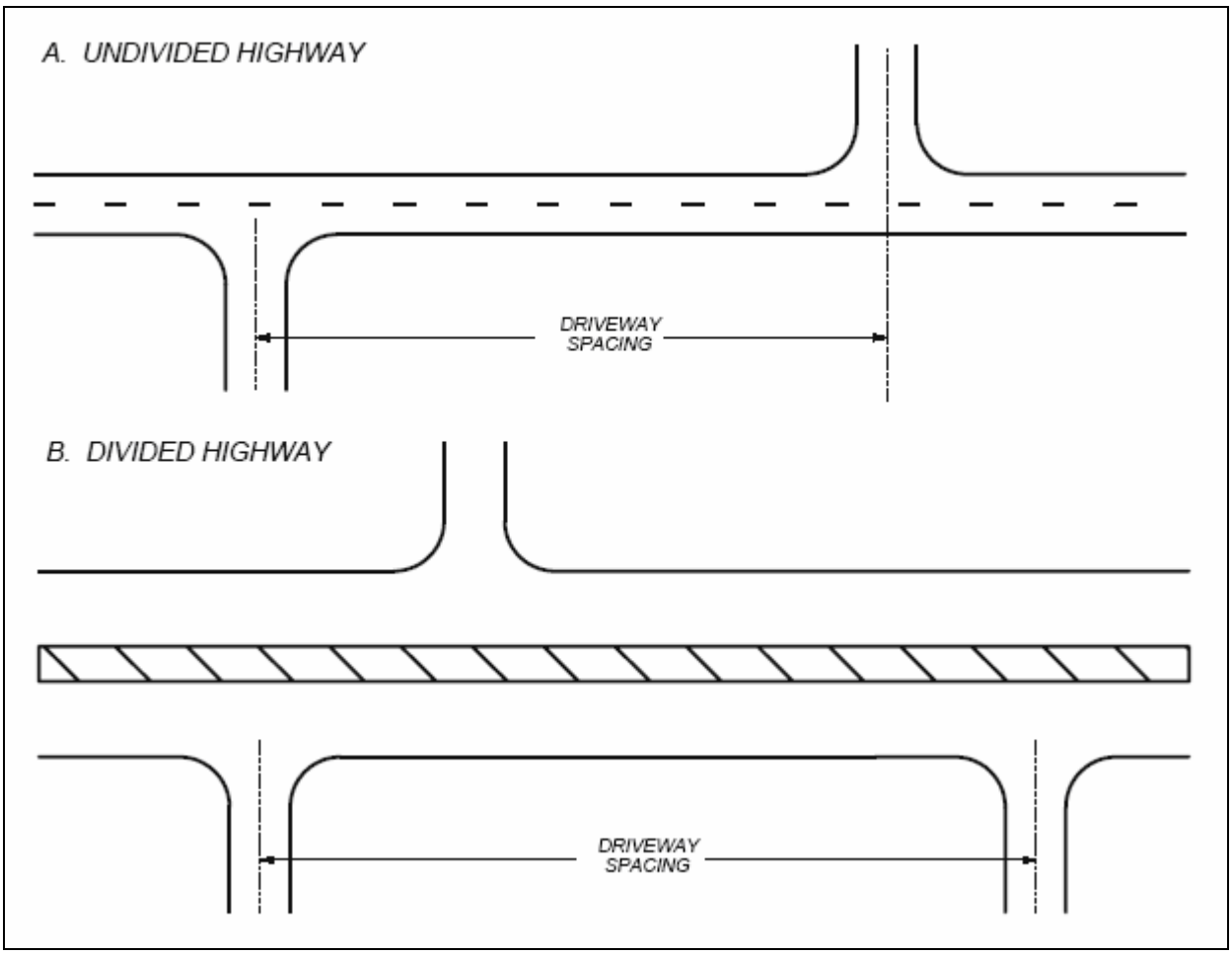


Figure 2: Spacing of Offset Driveways

If the County roadway involved is a divided facility and the driveways do not align with a median crossover, the driveway spacing would only apply to the adjacent driveway located on the same side of the roadway as shown above in Figure 2.

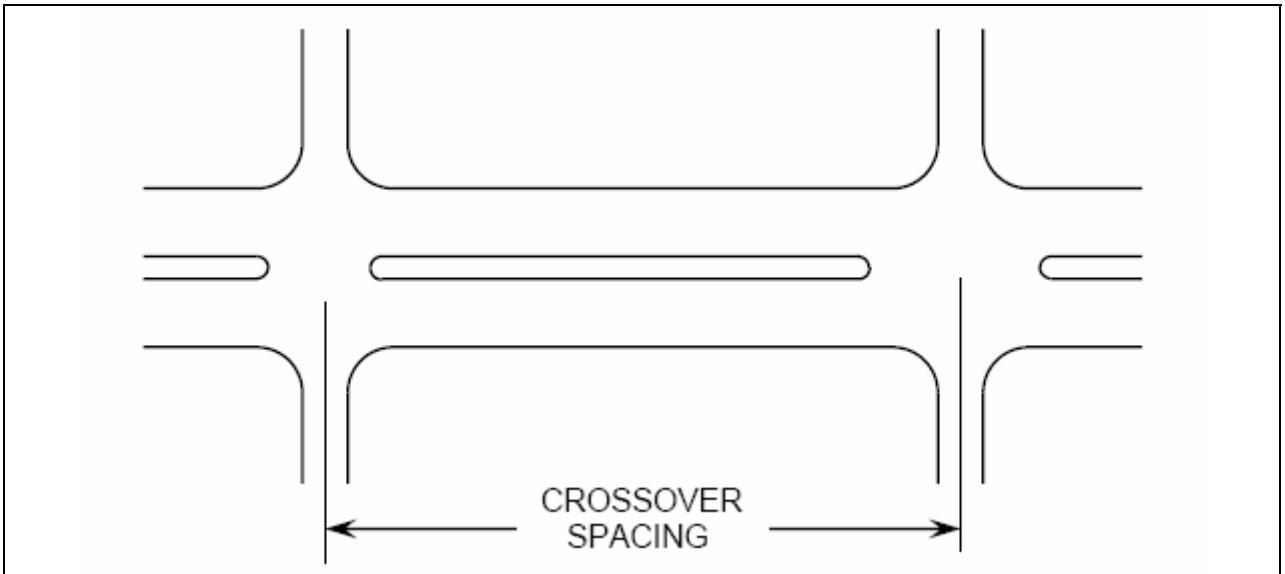
Residential Driveways

Driveways serving single family residential homes or townhouses do not have to adhere to the standards set forth in the previous sections, as they have a less significant impact than a new street or commercial driveway. Not more than two private curb cuts may be located on any one street frontage for any one dwelling. When there are two curb cuts on any one street frontage, there shall be a safety zone between the cuts not less than ten feet, as measured along the curbline. In no case shall the curb cut be less than five feet from the side property line as measured along the right-of-way line. The curb cut shall not encroach upon the radius of the curb at a street corner.

Not more than one private curb cut may be located on any one street frontage for any one dwelling where the street is classified as a Collector or higher order street. If a lot has access to more than one frontage, it may not have any private curb cuts on a street that is classified as a Collector or higher order street. If both frontages are classified as Collector or higher order streets, then the curb cut may be on the frontage with the lowest classification, or as designated by the Public Works Department.

Spacing of Median Crossovers

When the applicant is requesting a median crossover on a divided roadway, the spacing standards shown in Table 2 apply.



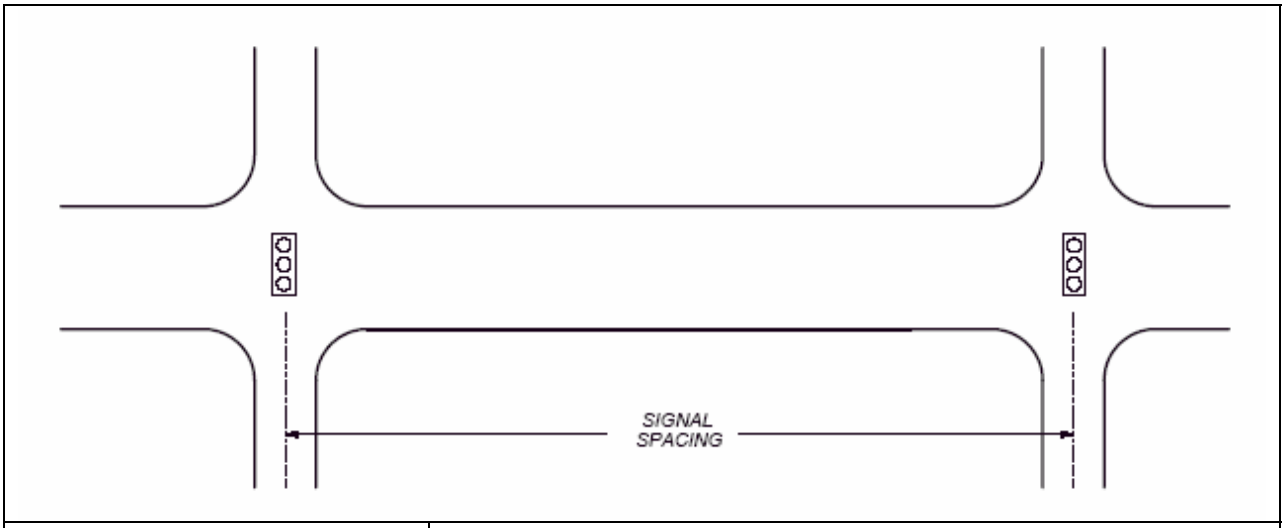
CONDITION	CROSSOVER SPACING IN FEET	
	Desirable	Minimum
RURAL	2640	1320
URBAN	1320	660

Table 2: Spacing of Median Crossovers

Other factors will also be considered, such as distance to other median openings, adjacent land use, expected traffic volumes, and the resulting volume of U-turns that are likely to occur without the median opening. **Meeting the spacing criteria is not, in itself, an indication that median openings will be allowed.**

Spacing of Signalized Intersections

This section is provided to assist the applicant's engineer in designing sites that may need signalized points of access to the County roadway. Table 3 contains guidelines for the spacing that should be provided between signalized intersections.



CONDITION	SIGNAL SPACING IN FEET	
	Desirable	Minimum
RURAL	2640	1320
URBAN	1320	1000

Table 3: Spacing of Signalized Intersections

The spacing guidelines provided above are indicative of conditions that normally offer better signal progression for arterial traffic flow. It is recognized that under certain conditions, better operation may result from the introduction of signals with less spacing if the alternative forces high volumes of traffic to an adjacent intersection.

When the applicant can show, through an alternatives analysis, that better operations can be achieved with less spacing, the Department of Public Works will consider an exception to the provisions of Table 3.

3. DESIGN CRITERIA

The design of driveways shall comply with the guidelines of AASHTO's A Policy on Geometric Design of Highways and Bridges, current edition. However, this manual provides a summary of the minimum design constraints that will be checked during the plan review process.
The geometric design of an intersection is a collection of various elements such as radius, width, grade, angle of intersection, etc. that, in combination, provide for satisfactory operation of the vehicles that will use the intersection. Since the operating characteristics vary dramatically for different types of vehicles, the designer must first establish the design vehicle on which to base the driveway design. The designer should also check the final design to ensure the design vehicles can operate satisfactorily.

Design for Trucks

The design criteria given in this chapter has more stringent requirements for trucks. Even though the general use of such guidance would result in more desirable operations for all vehicles, it is neither practical nor necessary to design all facilities to accommodate trucks. The designer must use judgment in selecting the proper design vehicle.

When semi trailer combination trucks are expected to use the intersection on a regular basis and in numbers more than just an occasional vehicle, then the intersection should be designed to accommodate the truck movements. This includes most driveways designed for industrial use and many commercial driveways.

For commercial uses such as shopping centers, the preliminary site plan should indicate where heavy duty pavement would be provided to accommodate truck access to loading docks. Any driveway associated with access/egress for the loading docks should use the truck radii. Minor movement driveways, particularly those that allow only right turns will generally only be used by passenger cars.

Driveway Width

When traffic impact studies are required, the driveway shall be designed to provide the number of lanes recommended in the study. The findings within the study supersede the standards set forth in Table 4. Standard lane widths are 12'.

When the need for multiple lanes is not established from a traffic impact study, the minimum and maximum driveway widths are as set forth in Table 4.

DRIVEWAY USE	WIDTH IN FT.	
	MINIMUM	MAXIMUM
Current Residential GA Std.	14	18
Current Commercial (One Way) GA Std	16	20
Current Commercial (Two Way) GA Std	24	40

Table 4: Driveway Widths

Corner Radii

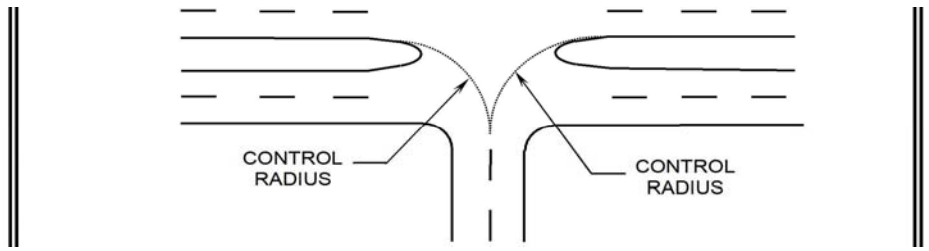
Corner radii are generally established by the minimum path of the inside wheels of the design vehicle when making a right turn. The minimum corner radii to be used for driveways are given in Table 5.

DRIVEWAY USE	MINIMUM RADIUS IN FEET
Residential	30
Commercial	35
When Designed For Trucks	75

Table 5: Minimum Corner Radii

Left Turning Control Radii

The path of the inside wheels during left turns is also important for the design of median openings and intersections with dual left turn lanes. Table 6 contains guidelines for minimum left turning radii.



Driveway Use	Control Radius in Feet
Residential	40
Commercial	50

Table 6: Left Turning Control Radius

Median Crossover Design

Driveways onto divided County roadways where full access is to be provided shall be designed in accordance with Georgia DOT Construction Details for Median Crossovers. The detail has two types of designs (See Figure 3) that are applicable in different situations in unincorporated Fulton County. Type A median crossovers will not be permitted.

Type B Median Crossover

Type B median crossovers are required when the projected volume of the left turn movement exceeds *50* vehicles per hour per direction and/or when the median width is sufficient to offset the left turn lane from the adjacent through lane. This design provides better sight distance for vehicles in the left turn lane. This is important for unsignalized intersections and when unprotected turns are allowed at signalized intersections.

Type C Median Crossover

Type C median crossovers are typically used in urban areas where the median width is limited to approximately 24’ or less. With this type of crossover, it may be necessary to add pavement to the opposite edge in order to accommodate u-turns.

Table 7 illustrates the minimum pavement width that is required for vehicles to make u-turns. The required width is given for passenger cars and for *WB-50* trucks. However, provisions for u-turns at median openings are normally based on passenger cars.

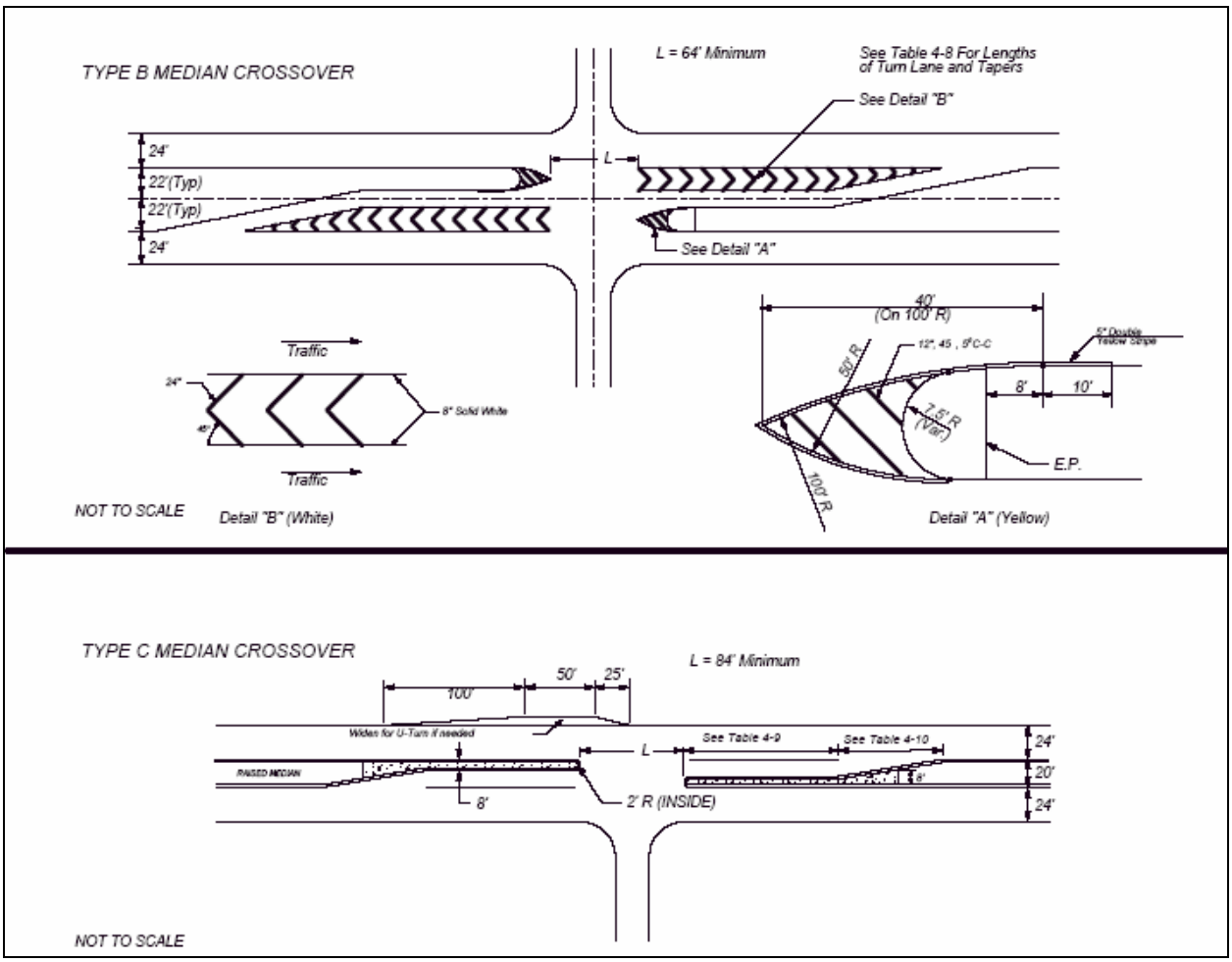
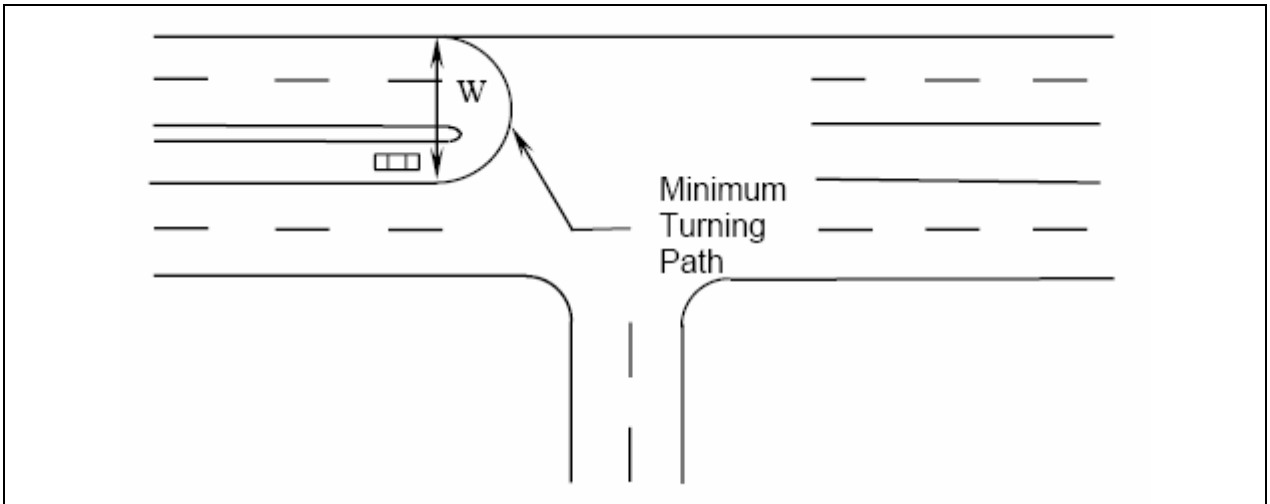


Figure 3: Median Crossover Design

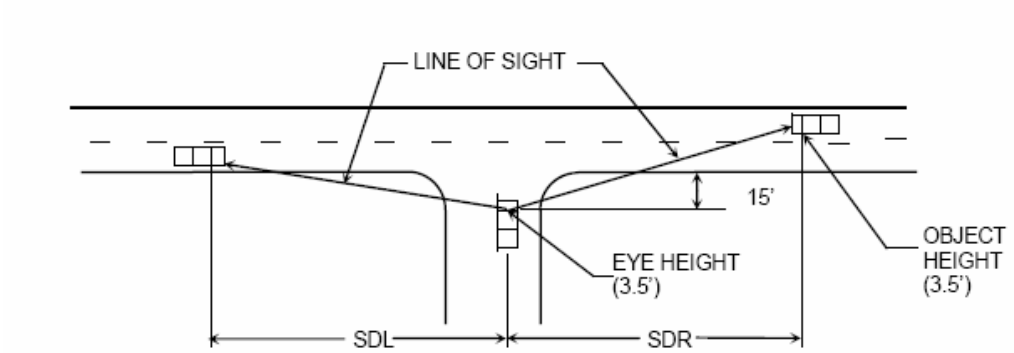


Driveway Use	Minimum Width in Feet
Passenger Car	48
WB - 50 Truck	90

Table 7: Minimum Road Width for U-Turns

Sight Distance

Driveways should be located to provide adequate sight distance. Minimum intersection sight distance criteria are provided in Table 8. The line of sight establishes the boundary of a sight triangle, within which there should be no sight obstruction. Any location where the sight line leaves the right-of-way, a permanent maintenance easement must be filed, and the area must be graded and landscaped such that sight distance is not compromised.



ARTERIAL SPEED (MPH)	SIGHT DISTANCE IN FEET				
	2 Lane	3 and 4 Lanes		*5* and 6 Lanes	
	SDL=SDR	SDL	SDR	SDL	SDR
30	335	350	375	400	420
35	390	410	440	465	490
40	445	470	500	530	560
45	500	530	560	595	630
50	555	590	625	660	700
55	610	650	685	730	770

Table 8: Intersection Sight Distance Requirements

The sight distance criteria are based on the time required for a vehicle to make a left turn from a stop-controlled approach to the County roadway (AASHTO Case B1). The time to execute the maneuver is based on recommendations contained in NCHRP Report 383, *Intersection Sight Distance*. The sight distances, for a two-lane road, are the distances traveled at the arterial speed during *7.5* seconds. The time is increased by *0.5* seconds for each additional lane to be crossed.

The sight distances given in Table 8 are for undivided roadways. If the roadway is divided, the effect of the median should be considered in determining the required sight distance. Based on the conditions, it may be feasible for the crossing maneuver to be done in two stages with a stop in the median. However, the intersection should only be treated in this manner if the signing and marking is accordingly provided. Otherwise, the sight distance requirements should be increased to account for the additional width that must be crossed. See AASHTO Green Book, Chapter 9 Intersections, for adjustments due to grades greater then 3% and design vehicles other than passenger cars.

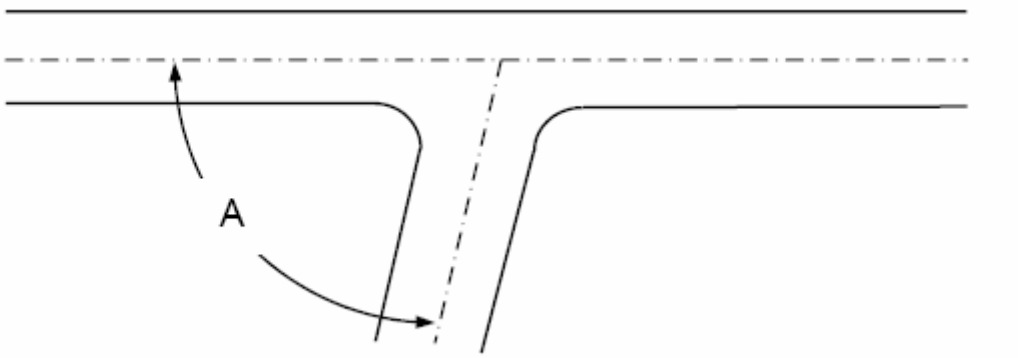
Horizontal Alignment

In general, the horizontal alignment of driveways should be designed using a tangent section from the centerline of the County roadway and extending to the property line. Horizontal curves should be sufficient to provide safe operations at speeds that would normally occur in the areas where they are constructed.

Angle of Intersection

Intersecting driveways and roads should generally meet at or nearly at right angles. Driveways and roads intersecting at acute angles create sight limitations that should be avoided.

In some cases, a more suitable overall design can be achieved by allowing intersecting angles other than 90 degrees. Table 9 gives the minimum angle of intersection that will generally be allowed for driveways designed to accommodate two-way traffic flow.



Driveway Use	Minimum Angle of Intersection (A) in Degrees
Residential	80
Commercial	85
When Designed for Trucks	88

Table 9: Minimum Angle of Intersection for Two-Way Driveways

Alignment of Approach and Departure Lanes

Driveways should be designed and constructed so as to align with driveways or streets on the opposite side of the roadway. The alignment of through movements crossing the roadway should be such that abrupt shifts in the travel pattern are not required.

Auxiliary Turn Lanes

When any auxiliary turn lane that extends beyond the applicant property frontage, the applicant will be responsible for acquiring the necessary rights of way and easements in order to accomplish the necessary frontage improvements.

Minimum Requirements for Deceleration Lanes

The provisions of this section shall generally apply to auxiliary lanes installed on the approach to an intersection that provide for deceleration and storage of vehicles waiting to turn right or left. Such lanes are always beneficial and will be required in conjunction with commercial driveway permits when projected traffic volumes exceed minimum levels as provided in the sections below.

Right turn deceleration lanes must be constructed at no cost to the County if either the Average Daily Traffic (ADT) or right turning volumes shown in Table 10 are met. Passing lane sections fall under the criteria for two or more lanes.

	Two lanes on main road		More than two lanes on main road	
	35-40 mph	> 40 mph	35-40 mph	> 40 mph
Main Roadway ADT	8,000	4,000	12,000	10,000
Daily Right Turning Volume	150	75	150	75
Peak Hour Right Turning Volume	15	7	15	7

Table 10: Minimum Volumes Requiring Deceleration Lanes

In the event the Fulton County Traffic Engineer feels that field conditions or other factors indicate that it would be in the best interest of the County to waive the decel lane requirement, the County Traffic Engineer must document the recommendations. The recommendations shall be approved by the Director of Public Works and be attached to the Permit. The County Traffic Engineer may also require the addition of a right turn lane, even when the conditions in Table 10 are not met, if roadway geometry or field conditions indicate that the safety of the traveling public would be improved. The recommendation must be documented and approved by the Director of Public Works for inclusion with the Permit.

The right of way for deceleration lanes may be dedicated in fee simple to the County for the County to maintain or the applicant must sign an agreement with the County to maintain the lane to the County's standards and to hold harmless the County in the event that section of roadway is identified in any liability action. A Limited Warranty Deed is not acceptable when right of way is donated to the County.

The pavement specifications for deceleration lanes must be Georgia DOT Standard Specifications for Construction of Roads and Bridges, except as approved by the Director of Public Works in cases where a lesser design may be acceptable or where a proposed project is expected to tie in.

Deceleration Lane Design

This section provides the design guidelines that should be used to establish the lengths of turn lanes if they are required. Turn lanes should provide a full-width lane that is long enough to allow for vehicles to decelerate from the operating speed to a full stop in addition to the length of full-width lane that is needed to store vehicles waiting to turn. Table 11 contains guidelines for lengths of tapers and full-width turn lanes for deceleration right turn lanes.

Speed, mph	Full Width Storage, ft	Taper, ft
35	100	50
40	150	50
45	175	100
50	225	100
55	250	100
60	300	100
65	350	100

Table 11: Minimum Deceleration Lane Lengths

When traffic studies are conducted, the length of full-width lane needed for storage should be determined. If the length of full-width storage is greater than the length of full-width storage shown in Table 11, the longer length should be provided.

At signalized intersections, the amount of storage for both right and left turns can be based on the number of vehicles arriving during 1.5 signal cycles.

For unsignalized intersections, a commonly used rule of thumb is that left turn storage should accommodate vehicles arriving during a two-minute period. Minimal storage is required for right turn lanes at unsignalized intersections.

Minimum Requirements for Left Turn Lanes

Left turn lanes must be constructed at no cost to the County if either the ADT or left turning volumes shown in Table 12 are met. Passing lane sections fall under the criteria for two or more lanes.

	Two lanes on main road		More than two lanes on main road	
	35-40 mph	> 40 mph	35-40 mph	> 40 mph
Main Roadway ADT	6,000	4,000	10,000	8,000
Daily Left Turning Volume	300	200	300	200
Peak Hour Left Turning Volume	30	20	30	20

Table 12: Minimum Volumes Requiring Left Turn Lanes

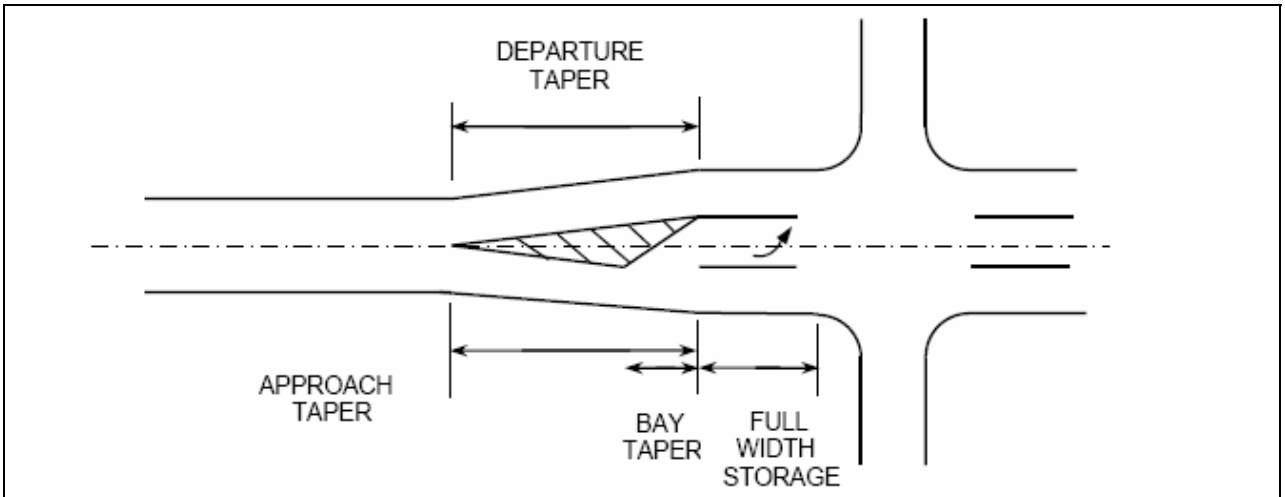
In the event the Fulton County Traffic Engineer feels that field conditions or other factors indicate that it would be in the best interest of the County to waive the left turn lane requirement, the County Traffic Engineer must document the recommendations. The recommendations shall be approved by the Director of Public Works and be attached to the Permit. The County Traffic Engineer may also require the addition of a right turn lane, even when the conditions in Table 12 are not met, if roadway geometry or field conditions indicate that the safety of the traveling public would be improved. The recommendation must be documented and approved by the Director of Public Works for inclusion with the Permit.

Left Turn Lane Design

The design of left turn lanes should consider the intended function and the characteristics of the roadway. In many cases, it is necessary to widen the existing roadway to introduce the left turn lane. All vehicles approaching the turn lane are shifted to the right. The left turning traffic is then

shifted back into the lane. Through traffic is returned to its original lane beyond the intersection. When the roadway has a median that is at least 20 feet wide, the left turn lane can be developed out of the median, avoiding the need for transitions. If a proposed driveway aligns across the main street with another driveway, and the proposed driveway must provide a left turn lane and left turn storage, then adequate storage and tapers must also be provided for the driveway across the main street.

The basic design elements of left turn lanes are illustrated in Table 13. This example shows symmetrical widening, which basically requires the through traffic on each side to shift by one half of the lane width. Some circumstances may dictate that all widening be achieved on one side, which requires a full lane shift for through traffic on the side where the additional width is developed. Table 13 provides guidelines for selecting the proper length of approach taper.



Posted Speed Limit (MPH)	Approach Taper in Feet		Bay Taper in Feet	Full Width Storage
	6' Shift	12' Shift		
35	125	180	50	See Table 14
40	160	250	50	See Table 14
45	270	320	100	See Table 14
50	300	540	100	See Table 14
55	330	600	100	See Table 14

Table 13: Minimum Design Elements of Left Turn Lanes

The example shown in Table 13 has straight-line tapers. These are acceptable but other designs may also be used, including the following: partial tangent tapers, symmetrical reverse curve, and asymmetrical reverse curve. See latest edition of AASHTO green book for details.

The required length of full-width storage is based on the peak hour traffic volumes. This should be determined in the traffic study. The amount of storage is dependent on the type of traffic control in effect. For signalized intersections, the storage should be sufficient to accommodate the 95th percentile peak hour queue. At yield-controlled intersections, the storage is based on the number of vehicles as designated in Table 14.

		Speed Limit of Road			
Peak Hour Left Turn Volume	Equivalent Nieghborhood Size (# of lots)	35 mph Queue Feet	40 mph Queue Feet	45 mph Queue Feet	55 mph Queue Feet
30 to 36	80 to 104	95	95	95	95
37 to 84	to 268	115	115	115	115
85 to 100	to 325	135	135	135	135
101 to 125	to 417	135	135	155	175
126 to 150	to 511	155	155	175	190
151 to 175	to 607	175	175	190	210
176 to 200	to 704	190	190	210	210

Table 14: Left Turn Storage Requirements

Raised Islands

Islands are an important form of intersection channelization that is often needed to prohibit undesirable movements, define the paths of allowed movements, and provide a refuge area for pedestrians. Any location where two outbound lanes are proposed for a driveway at an unsignalized location, the right line must be for right-out only movement, and separated from the other lane by a raised island.

Painted lines are an effective means to direct the paths of vehicular movement. However, raised islands are more effective during times when visibility is reduced. When islands are to serve as pedestrian refuge areas, they should be constructed as raised islands. All sign posts to be placed within concrete area must have hole through pavement structure. The hole may be either formed, drilled or sawed.

Raised islands should be large enough to command attention and accommodate wheelchairs. The smallest raised island should have an area of 50 square feet in urban areas and 75 square feet in rural areas. However, 100 square feet is desirable in both cases. (Refer to revised ADA standards)

When multiple crosswalks are required to pass through islands, the required size may exceed the 100 square feet mentioned above. The additional area may be required to install wheelchair ramps. As an alternate to ramps, the pedestrian travel way can be “slotted” through the island, remaining on the grade of the roadway.

Figure 4 shows a typical design for a raised corner island at a two-lane driveway. This design uses a radius of 65’ and provides an island of sufficient size for wheelchair ramps and level landings.

Figure 4 also contains a median island along the driveway. This drawing does not imply that median islands or corner islands are required for all driveways. However, large painted islands may not serve the intended channelization purpose and the type island to be used should be based on the actual circumstances of the site.

Raised islands should be offset from the edge of the adjacent travel lane on all sides. The amount of offset shall be a minimum of 18” as measured from the edge of the travel lane to the face of

the curb. When raised islands are adjacent to roadways with posted speed limits of 50 MPH or greater, the island shall be offset from the edge of the roadway by a minimum distance of 10’.

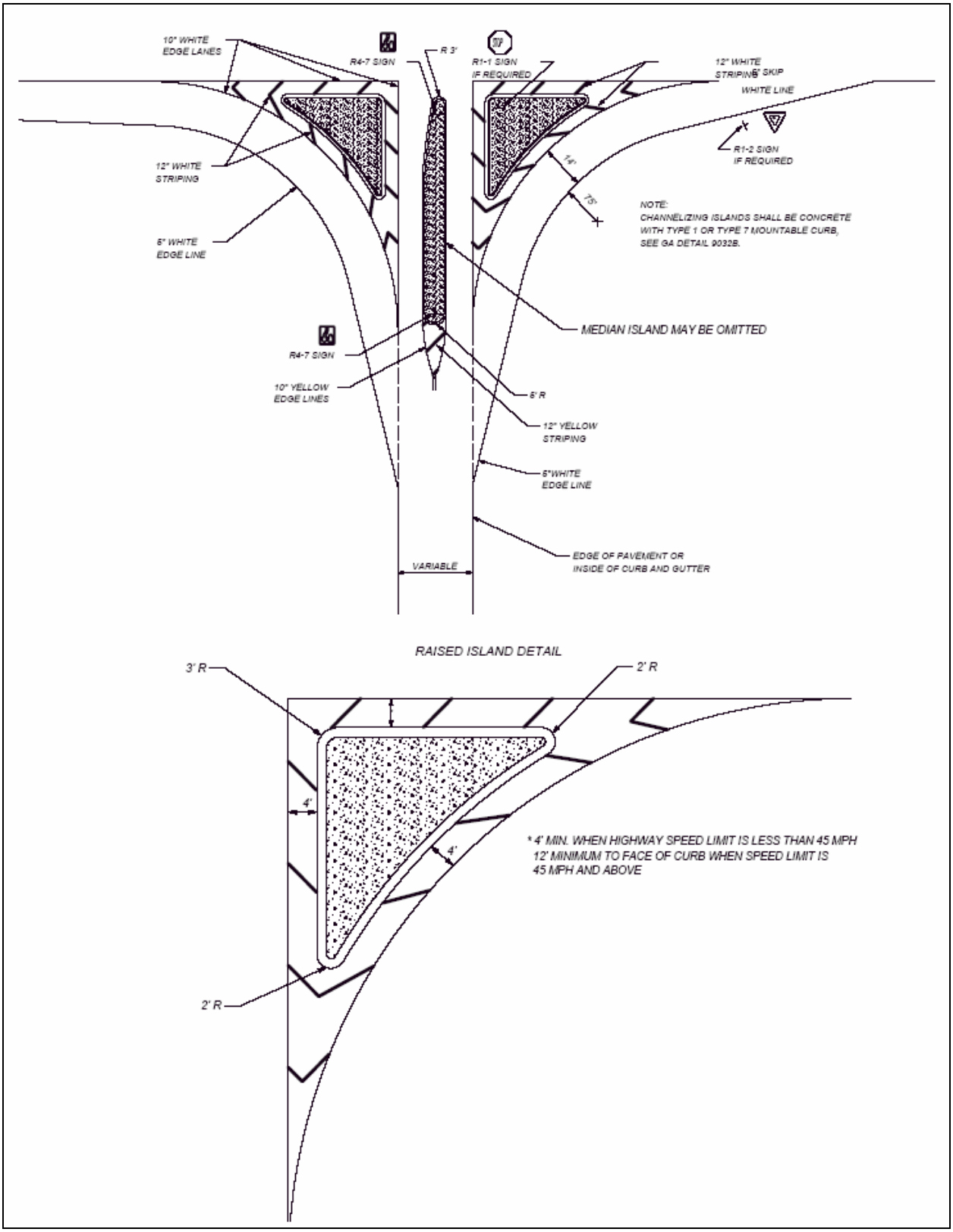


Figure 4: Design of Raised Islands

Right-In, Right-Out Driveways

Raised islands are also typically used to channelize the movements at a driveway where only right turns are allowed. The raised island is an effective means of preventing left turns. All right-in, right-out islands must have a radius that is 70', or a compound curve that approximates 70'. Right-in, right-out driveways are not intended for truck traffic, so the exit and entrance lanes must be 12' in width as measured from face of curb to face of curb. The island must be constructed from mountable curb (3" vertical, 45 degree face, 3" flat) to accommodate emergency vehicles. The edge of the island should be offset 18" to 24" from the edge of the travel lane.

Pavement Design

All construction, within the right of way, of surfaces intended for travel by motorized vehicles shall be paved. The pavement specification of auxiliary lanes on County roadways shall be the Georgia DOT Standard Specifications for Construction of Roads and Bridges, or as designated in Fulton County Standards, whichever is more restrictive.

New developments are required to widen the road along their frontage to a uniform lane width of twelve feet. If the widened area is two feet or less in width, a concrete sub-base should be provided per the current standards. The developer must then either pave the entire width of the road, or mill to the centerline and pave to match the existing road. Any deviation from this standard requires a waiver from the Director of Public Works or his designee.

Pedestrian Considerations

When driveways are constructed in areas where pedestrian activity is not prohibited, the design should adequately provide for pedestrian movement and interaction with vehicular traffic. Pedestrian features that should be considered include sidewalks, crosswalks, traffic control features, and curb ramps are required. The Americans With Disabilities Act Accessibility Guidelines must be utilized where pedestrian traffic is expected.

Figure 5 contains typical locations for curb cut ramps. Ramps are required at all pedestrian crosswalks where curb is constructed or replaced. The required crosswalk detail is also shown in Figure 5. See current GDOT Construction Details for the appropriate treatment.

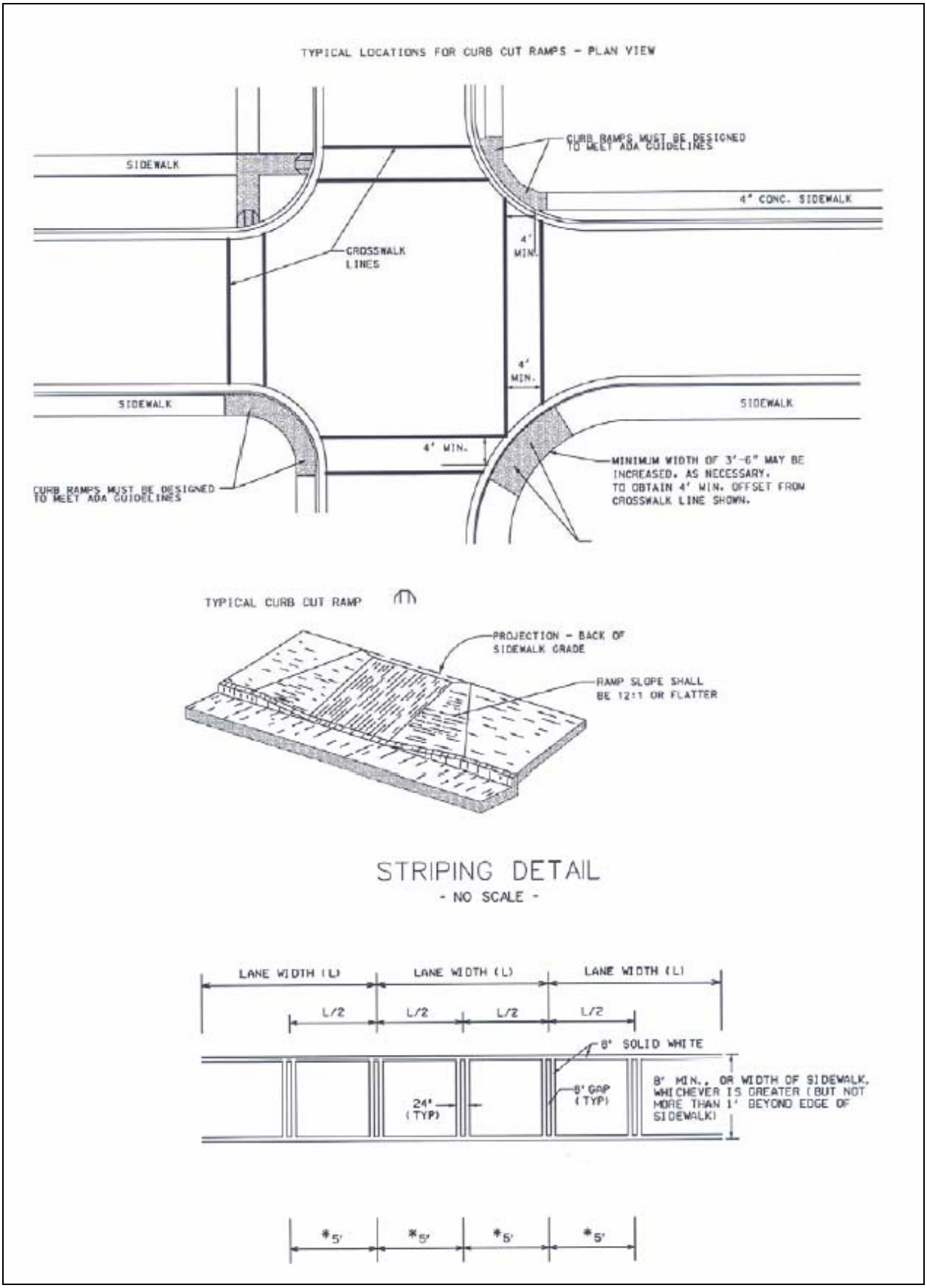


Figure 5: Typical Crosswalk Details

Clear Zone Requirements

Experience has shown that motorists occasionally run off the roadway and providing a traversable recovery area can lesson serious injury. AASHTO publishes a Roadside Design Guide that should be used as a reference when designing driveways.

Table 15 provides the clear zone distances as contained in the Roadside Design Guide. Driveways must be designed so that all areas within the roadway right of way have clear zones as defined in Table 15.

(from AASHTO 2002 Roadside Design Guide)

DESIGN SPEED	DESIGN ADT	FILL SLOPES			CUT SLOPES		
		6:1 or Flatter	5:1 to 4:1	3:1	3:1	5:1 to 4:1	6:1 or Flatter
40 or Less	Under 750	7-10	7-10	**	7-10	7-10	7-10
	750 – 1500	10-12	12-14	**	10-12	10-12	10-12
	1500 – 6000	12-14	14-16	**	12-14	12-14	12-14
	Over 6000	14-16	16-18	**	14-16	14-16	14-16
45 – 50	Under 750	10-12	12-14	**	8-10	8-10	10-12
	750 – 1500	12-14	16-20	**	10-12	12-14	14-16
	1500 – 6000	16-18	20-26	**	12-14	14-16	16-18
	Over 6000	18-20	24-28	**	14-16	18-20	20-22
55	Under 750	12-14	14-18	**	8-10	10-12	10-12
	750 – 1500	16-18	20-24	**	10-12	14-16	16-18
	1500 – 6000	20-22	24-30	**	14-16	16-18	20-22
	Over 6000	22-24	26-32*	**	16-18	20-22	22-24
60	Under 750	16-18	20-24	**	10-12	12-14	14-16
	750 – 1500	20-24	26-32*	**	12-14	16-18	20-22
	1500 – 6000	26-30	32-40*	**	14-18	18-22	24-26
	Over 6000	30-32*	36-44*	**	20-22	24-26	26-28
65 - 70	Under 750	18-20	20-26	**	10-12	14-16	14-16
	750 – 1500	24-26	28-36*	**	12-16	18-20	20-22
	1500 – 6000	28-32*	34-42*	**	16-20	22-24	26-28
	Over 6000	30-34*	38-46*	**	22-24	26-30	28-30

Table 15: Clear Zone Distances (in Feet from Edge of Traveled Way)

Notes:
* Clear zones may be limited to 30’
** Fixed objects should not be present in the vicinity of the toe of these slopes. The width of the recovery zones should consider a number of factors including right of way availability, economic factors, safety needs, and accident history.

All areas located within the clear zones should remain clear of obstructions such as bridge abutments, poles, trees, etc. If obstructions are unavoidable, the design should include appropriate protection such as break-away design, guardrail installation, safety end treatments on culverts, etc. The Roadway Design Guide includes a table for horizontal curve adjustments, where the clear zone correction factor is applied to the outside of curves only. Curves flatter than a 2860 foot radius do not require an adjusted clear zone.

Right of Way Requirements

In order to construct driveways, it is often necessary to construct improvements to the County roadway. These improvements typically include the addition of lanes along the County roadway such as a deceleration lane.

If sufficient right of way exists, improvements to the County roadway may be permitted without the requirement of additional right of way. In urban sections, the right of way should be no closer than 14' from the face of curb along State Routes and 11' from the face of curb along all County roads. In rural sections, the point located one-half way up the back slope should be on or within the right of way line. Sufficient right of way should be donated to the County for the deceleration lane/commercial driveway. Paving specifications to match existing pavement or better should be full-depth to the right of way line. Depths may be reduced, if field conditions warrant, as approved by the Director of Public Works and as recommended by the County Traffic Engineer.

If additional right of way is required in order to construct the required improvements, the applicant must dedicate the right of way. The applicant must follow the procedures established in the Department of Environment and Community Development.

4. SIGNING AND MARKING

All signing and pavement marking must be designed and installed in conformance with the latest edition of the Manual on Uniform Traffic Control Devices.

Signing

All sign posts to be placed within concrete area must have 6" wide diameter space through substructure.

The traffic control signs must be installed per the most recent edition of the Manual on Uniform Traffic Control Devices (MUTCD) with relation to the installation height, size, distance from curb, etc. In general, signs should be installed at least seven feet but no more than ten feet from the ground to the bottom of the sign, and at least two feet from the face of curb to the closest edge of the sign, or as required by the MUTCD.

The signs shall be new die cut anodized aluminum (at least .080 inches thick) and installed on a single square post with standard hardware. This post should be installed to break-away standards with a slip base. The back of the installation bolts should be bent to discourage theft. The face of the sign shall be Type III (High-Intensity) sheeting or better. If the road intersects a state route, all warning signs, red series regulatory signs, including Stop, Yield, and Do Not Enter signs shall be fabricated from Type VI (Wide Angle Prismatic) reflective sheeting. No two signs shall be mounted on the same post. Should the applicant wish to use decorative poles, a custom sign permit will need to be applied for in the Department of Public Works.

As part of the Land Disturbance Permit Process, the Department of Environment and Community Development will identify the number and location of signs. The minimum sign installation shall conform to the standards established below.

The applicant will be responsible for maintaining the signs from installation to final inspection. The County reserves the right to replace stop or yield signs if they have been down for more that 12 hours, to replace any regulatory signs if they have been down for more than 7 days, and to replace any other signs if they have been down for more than 14 days. This will be done at the cost to the applicant of two hundred and fifty dollars ($250.00) per sign.

The sign inspection shall be done by the Department of Environment and Community Development prior to acceptance of the final plat or as established by the Director of Environment & Community Development. The signs should be performance bonded at the same time as the pavement at a cost of one hundred dollars ($100.00) per sign or as established by the Director of Environment & Community Development. If the County needs to replace any signs at the time of the final inspection, the value would be forfeited.

The following signs shall be installed in all new subdivisions as applicable:

STOP Signs (R1-1)

The STOP sign shall be installed on the right side of the approach to which it applies. Stop lines, when used to supplement a STOP sign, should be located at the point where the road user should stop. Where there is a marked crosswalk at the intersection, the STOP sign should be installed in advance of the crosswalk line nearest to the approaching traffic.

STOP signs should be installed in a manner that minimizes the numbers of vehicles having to stop. In most cases, the street carrying the lowest volume of traffic should be stopped. A STOP sign should not be installed on the major street unless justified by a traffic engineering study as recommended by the MUTCD. If two streets with relatively equal volumes and/or characteristics intersect, typically the direction that conflicts the most with established pedestrian crossing activity or school walking routes or the direction that has the longest distance of uninterrupted flow approaching the intersection should be stopped.

No all-way stops may be installed in a new subdivision without the permission of the Director of the Department of Public Works.

Yield Sign (R1-2)

Yield signs shall be installed when there are right turns at an intersection that are channelized apart from the through and/or left turn movements with a striped or raised island. In addition, yield signs should be installed on each approach of a roundabout.

Right Lane Must Turn Right Sign (R3-7R)

Right Lane Must Turn Right signs shall be installed 25 feet from the back of the full width storage in the deceleration lane for the development, if applicable.

Speed Limit Sign (R2-1)

Speed Limit signs shall indicate a 25 mph speed limit for streets internal to residential subdivisions, unless it is a local collector road for the development, and then it should be no higher than 35 mph. For neighborhood settings, only one speed limit sign shall be installed at each project entrance or at the points of change from one speed limit to another. This sign

should be installed no less than 100 feet from the entrance of the subdivision, but no greater than 500 feet from the entrance.

Street Name Sign (D3-1)

Ground-mounted street name signs shall be installed at every intersection and shall conform to Fulton County Ordinance 01-0582 (§62 of the Fulton County Code of Law). Instead of ground-mounted signs, however, overhead street name signs shall be installed where a subdivision street intersects at any traffic signal. Overhead street name signs shall include the Fulton County "oak" logo.

Street name signs for public roads shall be green and street name signs for private roads shall be blue. The letter height must have at least 7-inch upper-case letters and at least 5-inch lower-case letters. The Letters should be in "Avantage Medium" font or as approved by the Department of Public Works. The street name sign shall be a combination of lower-case letters with initial uppercase letters. If the street has no outlet, a "No Outlet" legend should be put on the end of the street name sign blade closest to the main road. The "No Outlet" legend should have at least 3 inch high all-capital black letters on a yellow field that is no more than eight inches wide.

The street name sign should be constructed on flat blades and not extruded blades. They may be either riveted back-to-back or two-sided at the applicant's preference. The street name sign cannot be posted on the same post as the stop sign.

Roundabout Sign

Roundabouts must be signed and marked per Fulton County standards. This includes yield signs for every approach, as well as an advance roundabout sign as established by the Department of Public Works. The pavement marking shall include yield lines and channelization islands for each approach.

Stop Ahead Sign (W3-1) & Yield Ahead Sign (W3-2)

The Stop Ahead and Yield Ahead signs shall be installed on an approach to a primary traffic control device that is not visible for at least 250 feet. Please refer to Section Tables 2C.29 in the MUTCD for additional information.

Playground Sign (W15-1)

Playground signs shall be installed on any vehicular approach to an amenities area.

Additional Signs

Additional signs may be required as appropriate by the Department of Public Works or the field inspector.

Sign Information and Sizes

All signs shall be of the sizes as designated in Table 16. This table also included the appropriate reference sections of the MUTCD which explain the proper use and installation of each of the signs previously designated.

Sign	MUTCD Sections (2003 Ed.)	Size
Stop (R1-1)	2B.04 to 2B.07	30” x 30”
Yield (R1-2)	2B.08 to 2B.10	36” x 36” x 36”
Speed Limit (R2-1)	2B.13; 2B.18	24” x 30”
Right Lane Must Turn Right (R3-7R)	2B.21	30” x 30”
Roundabout and simple alignment warning signs	Review section 2C	30” x 30”
Stop Ahead (W3-1a) and Yield Ahead (W3-2a)	2C.29	36” x 36”
Playground Ahead (W15-1)	2C.42	30” x 30”
Street Name (D3-1)	2D.38	varies

Table 16: Sign Information and Sizes

Pavement Marking

Pavement markings are required to separate lanes of travel and should be used along all edges of pavement. The following guidelines are provided for designing and installing pavement markings for driveways:

- All pavement markings installed within the public right-of-way shall be thermoplastic material
- Lane lines are generally 5” (white); lane lines are not required where curb and gutter has been provided
- Stop lines should be 24” (white)
- Center lines should be 5” double yellow
- Deceleration and left turn lanes should have turn arrows (Type 2) spaced every 100’ and “ONLY” legends between every pair of Type 2 Arrows
- Crosswalks should use the current Georgia DOT standard (see Figure 5)