

pavement radius in the cul-de-sacs shall be forty-five feet (45') to the face of curb on edge of pavement.

- H. Show sidewalks where required in accordance with this Manual.
- I. Show traffic barricade signs where required.
- J. The following typical notes should be shown on all plans:
  - 1. Subbase depth is based on CBR value of 5. Soil tests of subgrade will be performed for actual determination of required subbase thickness prior to the placement of subbase.
  - 2. A smooth grade shall be maintained from centerline of existing road to proposed curb and gutter to preclude the forming of false gutters and/or the ponding of any water on the roadway.

#### 403.00 PRELIMINARY STREET PLANNING

403.01 General Requirements: All streets on preliminary subdivision plats and also any streets in apartment, commercial and industrial developments, which are to be dedicated for public use, shall be designed to comply with the geometric standards of this Manual and current VDOT geometric standards. These standards require that design be based on traffic usage.

- A. In order to determine the proper street cross-section to use and to facilitate review and approval of preliminary plats, the following information shall be provided for each street intersection:
  - 1. The number of vehicles per day entering and leaving the intersection shall be noted on each leg of each street in each direction.
  - 2. The proposed street right-of-way, together with the proposed width of street (face of curb to face of curb or edge of pavement to edge of pavement) for each block on every street in the subdivision, is to be shown.
  - 3. All street construction shall be within the dedicated street right-of-way. Easements shall not be accepted to make up the minimum required right-of-way if any construction is proposed thereon. Slope construction easements shall be provided where required.
- B. The following information shall be shown for all streets which intersect the exterior boundary of the subdivision and which will provide access

to adjoining undeveloped property:

1. Number of acres expected to contribute vehicles to this street;
  2. An indication of how the adjoining property is shown on the adopted comprehensive plan together with the number of units per acre residential density proposed;
  3. The total number of units expected to be contributing to the subject street; and
  4. The total vehicles per day expected to be using the street.
- C. For streets which intersect the exterior boundary of the subdivision and connect with existing, dedicated or proposed streets in adjoining subdivisions, the following shall be required:
1. The number of lots from the adjoining subdivision from which vehicles will be expected to use the subject street; and
  2. The number of vehicles expected to enter the subdivision over the subject street from said lots.

403.02 Trip Generation:

- A. The following 24 hour volume trip generation for the various zoning districts shall be used:

1. Development Type	Trip Gen. per Dwell. Unit
Single-family residential	10
Townhouse residential	8
Apartment residential	5

Trip generation per use

Schools:

Parochial	960 VPD
Elementary	750 VPD
Intermediate	950 VPD
High School	3,900 VPD
Industrial	90 - 160 VPD/Acre
Shopping Center	400 -1000 VPS/Acre

- B. The above figures for trip generation shall be used for determining

vehicle contribution on-site and from adjoining undeveloped acreage based on the number of units allowed or expected per gross acre. Traffic volume calculations must appear on each Preliminary Plat.

403.03 Traffic Flow Characteristics:

- A. In the determination of traffic flow calculations, all preliminary plats shall show traffic divides, in a manner similar to the way in which drainage divides are currently shown, for the traffic which will be generated by the subject subdivision and from the adjoining subdivision passing through it or from adjoining undeveloped property which will ultimately be subdivided with traffic passing through the subject subdivision.
- B. The following items shall be considered in the calculation of traffic volumes where appropriate:
  - 1. Will any of the proposed streets serve as principal or secondary access to any school, either existing or proposed?
  - 2. Will any of the streets provide access to existing or proposed parks?
  - 3. Will any of the streets provide access to a neighborhood or other shopping area?
  - 4. Will any of the streets provide access to a public or semi-public facility or institutional use, such as church, nursing home, lodge hall, community swimming pool, private school, fire station, library, etc.?
  - 5. Could any street in the subdivision serve as a bypass or shortcut for traffic with both origin and destination outside of the subject subdivision or the adjacent subdivision or undeveloped property?
- C. An allowance for additional traffic volume shall be included when any of the above traffic generators could affect the proposed subdivision streets or which reasonably may be expected to at some future date.

403.04 Street Cross Section Determination:

- A. When traffic volume falls off to indicate a reduced cross section in the middle of the block, no reduction shall be permitted in mid-block.
- B. Typical street cross section shall be determined using Plate IV-E, based on design traffic volume.

- C. Cross sections may be reduced at intersections and at entrances contributing high volumes of traffic, such as shopping centers and apartments.
- D. If a through street has a wide cross section on both ends and traffic volumes would indicate a reduction for only several hundred feet in the middle of the subdivision, the full width street section shall be continued for its entire length.
- E. Averaging of traffic volumes (e.g. averaging 6,000 VPD on one end of the street with 2,000 VPD on the other end to produce a 4,000 VPD volume and thus a lower cross section) shall not be allowed for the purpose of reducing cross sections.
- F. All calculations which indicate the number of vehicles per day for each portion of each street in the subdivision shall be shown to expedite the review for conformance of proposed typical sections with the VDOT standards. Lacking this information it shall be assumed that no estimates have been made and the plan shall be returned for inclusion of traffic data.

