Engineering Standards

Chapter 3
Streets

3-01 Super Elevation on Horizontal Curves

Minimum Horizontal Curve Design Criteria for low speed curves (design speed 40 MPH or less) are shown on Table 3-1 for different rates of super elevation (*e*). For design speeds above 40 mph, horizontal curve design must conform to Chapter 6 of the WSDOT Design Manual, current edition.

TABLE 3-1
MINIMUM HORIZONTAL CURVE RADII
For low speed curves

Design Speed	Max. Super	Minimum Radius for		
MPH	e	e =.06	e =.04	e =.02
20	N.A.	N.A.	N.A.	N.A.
25	N.A.	N.A.	N.A.	N.A.
30	0.04	N.A.	230	250
35	0.06	320	345	375
40	0.06	450	490	540

Notes for Table 3-1:

1. Additional pavement width may be required on horizontal curves to provide for vehicle maneuvers where no superelevation is provided and the minimum horizontal curve design criteria in Table 3-1 or the WSDOT Design Manual has not been met. The method of calculation for widening will be described in Chapter III, Elements of Design in the AASHTO Policy on Geometric Design of Highways & Streets or Chapter 6, Geometrics, of the WSDOT Design Manual.

2. All horizontal curve designs must provide at least the minimum stopping sight distance for the design speed at all portions of the road.

3. Maximum super elevation rates for arterial roads of up to 0.06 feet/foot should be used on City roads with design speeds of 35 mph or greater.

4. Super elevation is not recommended for use on non-arterials in urbanized areas with design speeds of less than 30 mph.

5. All roadway designs utilizing superelevation are subject to review by the Public Works Director.

6. Chapter 640 of the WSDOT Design Manual should be consulted for all super elevation designs.

3-02 Grades

Grades and vertical sight distance are subject to approval by the Public Works Director to ensure proper drainage and/or safety for vehicles and pedestrians. Grades of roads shall not be less than 0.5%. The maximum gradient on any new or reconstructed road shall not exceed the following:

Major Arterials Secondary Arterial, Collector Arterials	6% 8%
Neighborhood Streets *(Over 10% approved by Fire Marshal)* Cul-de-sac bulb areas	15% 6%

3-03 Side Slopes

a. Side slopes shall generally be constructed no steeper than 3:1 for fill slopes and 2:1 for cut slopes. For neighborhood streets, fill slopes may be 2:1. Steeper slopes may be approved by the Public Works Director upon showing that the steeper slopes, based on geotechnical analyses, will be stable. A guardrail is only needed with steep fore slopes. (Fore slope: the edge of the shoulder to the bottom of the ditch or to the bottom of the roadway fil).

b. Side slopes shall be stabilized with grass sod or seeding or by other planting or surfacing materials acceptable to the Public Works Director.

3-04 Intersections

1. Angles

Proposed public streets must intersect one another at as close to 90 degrees as topography permits (no less than 75 degrees).

2. Minimum Corner Curb Radii

At public road intersections, the following ranges of curb line radii are permitted:

Neighborhood-Neighborhood Intersection	25 feet inside
Neighborhood-Collector Intersection	30 feet inside
Arterial-Arterial Intersection	35 feet inside

Larger radii may be required to accommodate turning movements for larger design vehicles.

3. Cross Access Alignment

Minimum Center Offset for Adjacent Streets (either same side or opposite sides of primary street).

Neighborhood streets intersecting each other	125 feet
Collectors/neighborhood intersecting arterials	250 feet
Arterials intersecting arterials	300 feet

When high volume or commercial type driveways are sited across from each other, they shall be in alignment unless otherwise approved by the Public Works Director.

3-05 Road Width Transition Tapers

The need for road width transition tapers in conjunction with development proposals will be determined by the Public Works Director on a case-by-case basis.

Minimum 8:1 ratio required on Approach
Minimum 20:1 ratio required on Exit

See the WSDOT Design Manual for road width transition requirements.

3-06 Sight Distance

a. General

All street designs will be required to meet minimum sight distance criteria established in A Policy on Geometric Design of Highways and Streets, AASHTO.

For determining the adequacy of a particular road's vertical alignment to meet sight distance requirements, sight distance is always measured parallel to the horizontal alignment of the road.

b. Line of Sight at Intersections

At any intersection of a Private Road/Access Point with a City Road or a City Road with a City Road, there must be a sight distance triangle which provides an unobstructed line of sight from a point on the minor road 15 feet behind the edge of the traveled way (driver's eye location) to a point in the traveled way on the major road at least equal to the required site distance. For purposes of line of sight calculations, the driver's eye is assumed to be 3.5 feet above the minor road pavement and the height of object is assumed to be 4.25 feet above the major road pavement.

The driver's eye location may be reduced to a minimum of 10 feet behind the traveled way, at the discretion of the Public Works Director, where the reduction in driver's eye location will not adversely affect safety and/or operation. Some examples of situations where this discretion may be used are: an intersection on the outside of a horizontal curve; an intersection where one approach is in a cut or fill section; or where a bridge railing or abutment would obscure the line of sight from 20 feet back but not from 10 feet back.

The area within the sight distance triangle must be free from any sight obscuring objects with the line of sight at least 36 inches above the ground and/or the top of any proposed vegetation along the line of sight.

The sight distance triangle must be located completely within the right-of-way in order to ensure proper maintenance. The Public Works Director may require additional Right-of-Way as a condition of development approval to ensure the sight distance triangle is contained completely within the City Right-of-Way.

c. Special Circumstances

In circumstances that are different than those as presented in these Standards, the Public Works Director may establish sight distance standards and requirements, which generally conform with the intent of the sight distance guidelines as presented in the latest edition of AASHTO.

d. Documentation of Sight Distance

In order to verify acceptable sight distance including entering sight distance, the Public Works Director may require a developer to evaluate and document an existing site distance condition.

The evaluation and documentation of sight distance shall include adequate plan and profile drawings necessary to make a definitive determination. When the Public Works Director determines from the evidence presented that a location has insufficient sight distance, the developer may be required to provide a plan to improve the sight distance to at least the minimum acceptable standard. Photographic Evidence is allowed as approved by the Public Works Director.

3-07 Private Street Access

a. Private streets shall be built to City subdivision standards (Title 16 MVMC), including without limitation, width, sidewalk, curbs and gutters, drainage, street lighting, etc.

b. The minimum width of the access easement shall be 26-feet wide with a 20-foot wide paved surface.

c. Curbs, gutters and sidewalks are required when more than four lots are being accessed, or as deemed necessary by the Public Works director.

d. Streets providing fire hydrant access shall provide an approved driving surface not less than 26-feet wide.

e. No parking shall be allowed within the 26-foot easement. Parking may be allowed in portions of easements exceeding 26-feet in width.

f. Private streets shall be no longer than 150-feet in length and shall not serve more than four lots without an approved turnaround.

g. The grade shall not be more than 10 percent unless approved by the Fire Marshal.

h. Grass pavers on Fire Access roads will be allowed at the discretion of the Fire Department and will be evaluated before or during plan review.

i. Fire access roads shall be capable of supporting the imposed loads of fire equipment and apparatus of at least 75,000 pounds GVW and 45,000 pound point load.

3-08 Street Ends

All streets shall terminate in a cul-de-sac or a hammerhead as approved by the Fire Marshal and the Public Works Director.

Cul-de-sac	90’ diameter pavement width 100’ diameter right-of-way
Hammerhead	120 feet See Appendix A for Standard Detail

Minimum turning radius to allow for maneuvering:

Fire Apparatus	28’ inside 45’ outside
Garbage Truck	32.5’ inside 46.5’outside
Overhead Clearance	25 Feet

3-09 Survey Monuments

Monument, case and cover shall be set for all PC, PT, center of cul-de-sac, and intersection points. The point of intersection (PI) will be acceptable in lieu of a PC and PT for plat road curves, provided that such PI falls within the paved roadway or walkway. Monument case and cover installation shall be in accordance with WSDOT Standard Plans A -10.30-00, with monument and cover lettering approved by the Public Works Director. Surface monuments will not be allowed unless otherwise approved by the Public Works Director.

3-10 Curb Details

Cement concrete traffic curb and gutter, 18 inches wide, shall be used for all curbed roadways except as modified below:

a. Rolled Curb and Gutter, 24 inches wide will be allowed for cul-de-sac bulbs. All sidewalks poured behind rolled curb applications shall be 6 inches thick.

b. Cement Concrete mountable traffic curb as per WSDOT Detail Standard shall be used for edges of islands and medians where required.

c. Extruded Cement Concrete Curb (WSDOT/APWA F10-42-00 Type 6) may be used for parking areas, which will not become part of the public road system.

3-11 Sidewalks

a. Curb Ramps (Wheelchair Ramps)

- Curb ramps shall be provided at all pedestrian crossings and shall meet ADA (Americans with Disability Act) requirements.
- One ramp shall be used on each curb return on residential streets and un-signalized intersections.
- At signalized intersections, a curb ramp shall align with each crosswalk.

- Truncated domes shall be imbedded. Glued truncated domes are NOT allowed.
- Sidewalks will be designed to prevent run-off from flowing over the sidewalk.

See WSDOT Standard Plans Section F (Curbs, Sidewalks and Driveways).

b. Width

All sidewalks shall meet ADA requirements. Sidewalks minimum widths: 6 feet or match existing unless otherwise approved by the City Engineer.

1. Width of Sidewalk is measured from the back of the curb to the back of the sidewalk when the sidewalk is adjacent to the curb.

2. Sidewalks shall be designed and constructed to avoid physical obstructions such as utility poles and fire hydrants. Developer shall coordinate with utility company for pole and other utility relocations.

3. Meandering sidewalks shall maintain the full design width around obstructions. Additional right-of-way may be required to either relocate the obstruction or meander the sidewalk.

4. At bus stops, a landing pad at least 9 feet deep and 15 feet wide shall be provided for wheelchair operations.

5. The developer shall determine the location of all driveway entrances prior to approval of construction plans.

See WSDOT Standard Plans Section F (Curbs, Sidewalks and Driveways).
See Section 3-26 for driveway requirements.

3-12 Non-Motorized Bike/Pedestrian Paths

	Minimum Width	Maximum Grade	Minimum Curb Radii
Non-motorized Pedestrian Path	*10 feet	15%	10 feet
Maintenance Access Road	12 feet	15%	**25 feet
Public Access Easements	15 feet		

a. The City may allow isolated areas of less than 10 feet wide to accommodate topographic constraints.

**Maintenance access roads minimum curb radii shall allow for maintenance equipment turnaround and maneuvering.

b. Surfacing materials shall be as specified in these standards. (See Section 3-14).

3-13 Public Access Easements

a. Where it is necessary to facilitate pedestrian circulation between neighborhoods, schools, shopping areas, transit facilities or other activity centers, the City may require the dedication of a public access easement or tract.

b. Sidewalk, walkway or non-motorized bike/pedestrian path as well as diverters or bollards shall be installed when required.

3-14 Surfacing Requirements

The following are the minimum requirements for surfacing for specific facilities as described elsewhere in these Standards. The Public Works Director may specify additional requirements.

All materials and workmanship shall be in accordance with the WSDOT Specifications, these Standards, and as approved by the Public Works Director.

Facility	Minimum Surfacing Requirements
Arterials with Shoulders	4-inch - ½" HMA PG6422, (2) 2-inch lifts Asphalt Concrete Pavement (ACP) over 2-inch Crushed Surfacing Top Course (CSTC) over 12-inch Gravel Borrow over Geotextile
Non-arterials with Shoulders	4-inch - ½" HMA PG6422, (2) 2-inch lifts Asphalt Concrete Pavement (ACP) over 2-inch Crushed Surfacing Top Course (CSTC) over 12-inch Gravel Borrow over Geotextile
Concrete Sidewalks, Curb and Gutter	4-inch Portland Cement Concrete over 4-inch CSTC, 3000 PSI

Driveways and Behind Rolled Curbs	6-inch Portland Cement Concrete over 6-inch CSBC, 3000 PSI Broom Finished (no smooth troweled)
Alley	2-inch – ½" HMA PG6422, Asphalt Concrete Pavement over 2-inch CSTC 6" Gravel Borrow
Non-motorized Bike/Pedestrian Paths and	2-inch - ½" HMA PG6422 Asphalt Concrete Pavement over 4-inch CSTC
Private Street Access	2-inch - ½" HMA PG6422 Asphalt Concrete Pavement over 4-inch CSTC (or as recommended by Geotechnical Engineer)
Utility Maintenance Access Roads	2-1/2-inch ½" HMA PG6422 Asphalt Concrete Pavement, 2-inch CSTC, Geotextile, 8-inch Gravel Borrow

NOTE: All depths are compacted thicknesses

Commercial Driveway and Parking Lot

Private parking lot surfacing standards in locations and corridors used by public maintenance vehicles such as solid waste collection vehicles, sanitary and/or storm water facility maintenance equipment, and Public transportation equipment must be constructed to support the expected traffic impacts.

- All minimum surfacing requirements assume an acceptable, well-drained, stable, compacted subgrade. See Asphalt Acceptance section 3-22.

- Prior to placement of pavement, the City shall make a determination of sub-grade acceptance based on test results and the observations of a firm and unyielding surface.

- The City shall also establish test area boundaries. Additional measures may be required at the Public Works Director's discretion if evidence exists of unstable subgrade.

Pavement markings shall be hot applied, reflectorized, in accordance with WSDOT Standard Specifications Section 8-22.

3-15 Bollards

a. When necessary to access to an easement, tract, or trail, the point of access shall be closed by a line of bollards.

   This shall include fixed bollards on each side of the traveled way and removable, locking bollards across the traveled way to allow passage of maintenance and emergency vehicles. Pad-locks shall be provided as per City Standards.

b. Spacing shall provide one bollard on the centerline of the trail and other bollards spaced at 5-foot O.C. maximum intervals.

c. The Public Works Director may allow alternative bollard designs.

3-16 Roadway Barricades

Temporary and permanent barricades shall conform to the MUTCD, WSDOT Standard Plans.

3-17 Mail Boxes

The responsibilities for location and installation of mailboxes in connection with the construction or reconstruction of City roads are as follows:

1. Require road construction plans, for construction by a private developer to show clearly the designated location or relocation of mailboxes, whether single or in clusters.

2. Require with this information any necessary widening or reconfiguration of sidewalks with suitable knock-outs or open strips for mailbox posts or pedestals.

   The City may also require turnouts and ADA access be provided for roads classified as arterials or neighborhood collectors.

3. Require these plans to bear a statement on the first sheet that mailbox locations as shown on these plans have been coordinated with the appropriate local Postmaster. This will be prerequisite to plan approval.

4. Note on the plans the type of mailbox delivery: NDCBU (Neighborhood Delivery and Collection Box Unit), Wood Structure Cluster or individual type box.

5. When it becomes necessary to remove or otherwise disturb existing mailboxes within the limits of any project, install the boxes temporarily as directed by the

Postmaster. Reinstall boxes at locations in accordance with these Standards or as approved by the Postmaster. Use only existing posts or materials except where in conflict with these Standards.

6. When mailboxes are located in the sidewalk, sidewalks shall be widened to provide a minimum of 4 feet of clearance around the mailboxes.

3-18 Guardrails

Review the most current edition of AASHTO policy on Geometric Design of Highway and Streets.

3-19 Roadside Obstacles

1. WSDOT Clear Zone distances shall be used as a guide for evaluation and replacement of old, and placement of new, roadside features within the city right-of-way.

   For posted speeds greater than 35 mph, clear zone distances are contained within Chapter 710, Traffic Barriers, of the WSDOT Design Manual. The same distances are also included in Appendix 1, entitled "Control Zone Guidelines – Utilities" of the WSDOT Utility Manual.

2. In general, existing or new roadside features which could present a hazard to the public should be placed outside of clear zone areas unless justified to the Public Works Director's satisfaction by suitable engineering studies considering traffic safety, or where shielded by a barrier, placed in an area normally inaccessible to vehicles or utilize a breakaway design. EXCEPTION: Clustered Mailboxes or NDCBU Mailboxes placed along streets posted at 25 mph or less.

3. Locations of utility poles shall be compatible with driveways, intersections, and other roadway features (i.e. they shall not interfere with sight distance, roadway signing, traffic signals, culverts, etc.). Poles and other above ground appurtenances will not be permitted in sidewalks or walkways. Existing poles must be relocated unless otherwise approved by the Public Works Director.

4. Coordination and cost of relocating poles or obstacles to achieve these Standards are the responsibility of the developer.

3-20 Rock Walls (Rockeries)

Rock walls shall comply with WSDOT Standards Specifications recommendations per IBC and MVMC Title 15.16 Grading, Excavation and Fill. Rock walls are not allowed inside City right-of-way.

3-21 Asphalt Acceptance

1. The following conditions shall apply to all asphalt paving in the public right-of-way or on paved easements:

   a. A City representative shall be notified at least 2 full working days in advance of all paving operations, and shall be on-site during asphalt placement. Lack of proper notification or on-site inspection shall, at the discretion of the Public Works Director, require additional testing or removal, at the Contractor's expense.

   b. The contractor shall supply the City with a WSDOT approved mix design, at least 1 week in advance, including values for the theoretical maximum density of the asphalt being used on the project.

   c. Specification for minimum allowable density for asphalt is 92% of the theoretical maximum density as determined by AASHTO test method T 209. Minimum testing frequency shall be one test per 200 feet per lane. More frequent testing may be required if necessary, as determined by the Public Works Director.

   d. Failure to meet minimum compaction shall result in the removal of asphalt, as determined by the Public Works Director.

   e. The City shall supervise nuclear densometer readings at random locations. Sampling frequency for lab tests shall not exceed 300 tons of asphalt.

   f. Metal utility covers in the asphalt surface shall be raised after the asphalt has cooled sufficiently. The area shall be saw cut in a 45 degree diamond pattern centered on the utility lid. The diamond pattern shall be oriented parallel with the flow of traffic to minimize the effect of surface inundations on vehicular traffic as per standard plan.

See Appendix A for Standard Detail

3-22 Signs

All signs must conform to M.U.T.C.D. specifications and City of Mount Vernon standard details. See Appendix A for Street Sign Detail.

3-23 Street Cuts

1. All materials and workmanship shall be in accordance with the Standard/ Specifications for Road, Bridge and Municipal Construction prepared by the Washington State Chapter of the American Public Works Association and WSDOT and shall comply with the latest edition.

2. Temporary restoration of trenches on arterial streets and intersections, shall be accomplished by using a “cold mix” asphalt treated base or steel plates as approved by the Public Works Director.

3. Controlled Density Backfill may be used in lieu of Gravel Borrow where approved by the Public Works Director.

4. A Tack Coat shall be applied to the existing pavement at the edge of the saw cuts as specified in Section 5-04 of the Standard Specifications. All cold joints shall be sealed with AR 4000W paving asphalt or approved equivalent and sanded.

5. The final trench asphalt restoration shall be completed within 14 days of commencing trench work. The City may allow for time extensions due to weather or other adverse conditions.

6. Street cuts for exploring the location of adjacent utilities are not allowed unless permission is granted on a case by case basis.

7. Trench restoration widths shall be increased to prohibit constructing a patch within a patch. This may require removing and reconstructing existing patches that are adjacent to or contiguous to the proposed trench. Trench restoration widths shall also be increased to prevent the creation of isolated sections of pavement.

8. Asphalt surfaces within the trench restoration area shall comply with surface smoothness stated in Section 5-04.3(13) of the Standards Specifications.

9. The placing of the top or wearing course of the asphalt patch shall be continuous as possible. All joints shall be in compliance with Section 5 04.3(12).

10. Asphalt paving operations shall comply with the City of Mount Vernon’s Asphalt Acceptance Standards section 3-25.

11. Asphalt repair depths shall be a minimum of 4 inches. Asphalt repairs with excess of 4-inch must match existing thickness. Please refer to the Trench Restoration Detail in Appendix A.

TRENCH RESTORATION

1. The Public Works Director shall determine the necessity of a full lane width or full street width asphalt overlay after evaluation of the severity of the street cut.

2. Street cuts that are permitted within a period of 5 years after significant asphalt improvement shall be subject to lane width or full street width asphalt overlays based on the location and length of proposed trench in the roadway cross section.

3. The width of street cut restoration shall be a minimum of 1-foot wider, on each side of the trench. The minimum width of restoration shall be 5 feet. Trench restoration located within a 24" strip of existing curb shall be restored to the lip of the gutter or roadway edge.

4. The Public Works Director may determine, in the field, that wider trench restoration or lane width asphalt overlays are required due to changes in permit conditions such as the following:

    • Trenches need to be relocated in the field due to conflict with existing utilities.

    • Additional damage to the existing asphalt surface has occurred due to contractor's equipment.

    • The trench width was increased or the existing pavement was undermined.

    • There were other significant problems discovered during construction.

3-24 Telecommunication Standards

City Fiber Conduit Installation Standards and Guidelines:

a. General

    1. 4" diameter conduit minimum shall be required for all arterial roads,all other conduit installations shall be 2" diameter.
    Note: Some installations may require installation of two 4" conduits or two 2" conduits depending on the needs of the location. All conduits should be a rating of schedule 40 or better.

    2. All conduit ends shall terminate in a junction box/vault, unless otherwise approved by the City. Conduit sweeps at poles shall be capped and clearly marked as "MVCF".

3. The maximum allowable length of fiber optic conduit between junction boxes/ vaults shall be 500 feet.

4. All conduit shall require an approved pull string, such as mule tape or a jet line.

b. Typical Fiber Optic Conduit Installation Locations

1. Generally, fiber optic cable conduit will be installed at a minimum depth of 30" and located within and parallel to the right-of-way boundary.

2. Proposed conduit installation and locations within designated city arterials shall be coordinated with the Community and Economic Development Department.

3. Where existing facilities are in place, new facilities shall be compatible with the existing installations and conform to these Standards.

c. As-built Requirements for Typical Fiber Optic Conduit Installation Locations

1. An as-built drawing depicting the location of the fiber optic conduit shall be submitted to the Community and Economic Development Department.

2. As-built drawing should reflect the location of right-of-way line and property corners and show the location and offset dimensions of the fiber optic conduit and junction box/vaults, as well as the depth of installation.

d. Conduit

1. All conduit and pipe fittings used for fiber optic installations shall be solid wall polyvinyl chloride (PVC) pipe schedule 40 or better.

2. Schedule 40 PVC pipe shall be required for installation under roads or other high traffic locations, e.g. commercial parking facilities.

e. Conduit Marking

1. All conduit installations shall be marked with detectable marking tape.

2. Detectable marking tape shall consist of inert polyethylene plastic that is impervious to all known alkalis, acids, chemical reagents, and solvents likely to be encountered in the soil, with a metallic foil core to provide the most positive detection and pipeline locators.

3. The tape shall be color-coded and shall be imprinted continuously over its entire length in permanent black ink. The message shall convey the type of

line buried below and shall also have the word “Caution” prominently shown. Color-code of the tape shall be orange with the message “Fiber Optic”.

f. Vaults and Junction Boxes

1. The ends of conduit shall be terminated in minimum 13”x 24” junction box/vault with minimum interior depth of 24”.

2. Each Junction box/vault shall be of Polymer Concrete (HDPC), High Density Polyethylene (HDPE), or Polymer Composite (hybrid), or other City approved underground vault.

3. Junction box/vault shall meet appropriate traffic rating and lid shall be labelled “MVCF”.

3-25 Street Lights

During civil plan review the developer for the new subdivision will contact Intolight/Puget Sound Energy who will prepare a preliminary design. Intolight will submit a street light layout to the Community and Economic Development Department for review and approval.

Guidance documents: IESNA (Illuminating Engineering Society of North America)
ANSI (American National Standard Institute)
AASHTO Roadway Lighting Design Guide

1. Neighborhood Streets requirements for street lights:
   a. at intersections
   b. at mid-block cross walks
   c. at mailbox locations
   d. at school bus stops
   e. at sags (dips) in the road where vehicle headlights do not adequately illuminate the driving surface
   f. at mid-block when the block is more than 150 feet long
   g. at other locations as deemed necessary per Engineering Services Manager upon review of proposed layout

2. Luminaire type: LED (Light Emitting Diode).

3. Watt minimum: 73 W.

4. Approved Style Heads: Acorn Style or as approved by the Community & Economic Development Department.

5. Poles: Concrete or Fiber glass poles 15-18 feet in height.

6. Arterial Streets requirements for street lights: IES (Illumination Engineering Society):
    a. No further than 200 feet apart.
    b. Arterials require Cobra style heads with flat lens.
    c. Poles: Concrete or Fiber Glass 25'-30' in height.
    d. Approved Bulb type: LED (Light Emitting Diode).
    e. Watt minimum: 133 W (larger arterials might require 200 W).
    f. At intersections (lamp brightness to be 1 ½ times brighter).
    g. At areas with turning movements (i.e. driveways).

3-26 Access Management

a. Entrance Type

Driveway cuts in the sidewalk are required. The Public Works Director may approve street entrance type access at the request of the design engineer if adequate measures are taken to address pedestrian safety.

b. Corner Clearance

To provide adequate corner clearance, the minimum tangent curb length between the nearest edge of a driveway on an intersecting side street and an arterial / collector street, or a driveway on an arterial / collector street and an intersection with a cross street shall be 50 feet.

Where the intersection is signalized or is planned for signalization, driveways shall be limited to right-turn only movements, if located within 250 feet on minor and principal arterials, and 125 feet on collectors.

When the level of service (LOS) at the project location does not meet City standards or there is a safety concern the Public Works Director may restrict access to a right-in, right-out movement.

c. Driveway Standards

1. To maintain vehicular and pedestrian safety, the width of driveway access shall be minimized.

2. Residential driveway width minimum 20 feet as measured along the bottom section, and must be located no closer than 8 feet from the property line.

3. Commercial driveway width minimum 30 feet as measured along the bottom section, and must be located no closer than 8 feet from the property line.

4. To accommodate higher than usual volumes of commercial length traffic and to accommodate site-specific topographic constraints the Public Works Director or his designee may allow wider widths.

5. Multiple driveways are allowed provided they are separated by 30 feet and must be located no closer than 8 feet to the property line.

6. The City encourages parking lot cross access for improved circulation of adjacent commercial properties.

d. Second Access

The necessity of providing emergency response to residential development requires that multiple points of access must be provided for larger developments. The Fire Department in collaboration with the Community and Economic Development Department shall evaluate and condition development on a case by case basis, based on the following guidelines:

1. Development that generates 30 peak hour trips (peak hour of the generator) or more must have at least two accesses.

2. Cul-de-sac type streets (Dead End) have a maximum length of 750 feet.

3-27 Crosswalk Policy

Marked crosswalks shall be installed at all signalized intersections where pedestrian traffic is indicated. Marked crosswalks at other locations shall not be installed unless the Public Works Director determines there is compelling evidence that the crosswalk is in the best interest of public safety and the following conditions are met:

Stop-Controlled Intersections

At least one of the following conditions must be met:

- The intersection has more than four legs.
- Two or more of the intersection legs have three lanes or more.
- The intersection is located in the central business district.

Uncontrolled Intersections, Mid-Block Locations and Trail Crossings

All of the following conditions must be met:

- Average Daily Trip is between 2500 and 9000 and
- The speed limit is 35 miles per hour or less, and
- The crossing is less than four lanes, and
- The peak hour pedestrian count is at least 25, and

- In the case of mid-block crosswalks, the crosswalk is located in the middle of the block or at least 150 feet from the nearest source of traffic turning toward the crosswalk, and
- Additional Pedestrian Activated or Warning Devices as deemed necessary per the Public Works Director may be required

See the MUTCD. All pedestrian facilities shall meet ADA requirements as specified in these Standards.