

CHAPTER 9 – ACCESS REQUIREMENTS AND DESIGN CRITERIA
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Section 9.1 General

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This Chapter Does Not Contain Tables

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Figure 9-1

Access Spacing

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CHAPTER 9 – ACCESS REQUIREMENTS AND DESIGN CRITERIA

9.1 GENERAL

Access may occur as one of two types: (1) access for land use (driveways) and (2) public streets (street intersections).

9.1.1 Designing Placement of Accesses

A. Direct Access Restricted

Direct access to individual lots from Arterials is restricted. For City of Loveland (GMA and city limits) direct access to is restricted from Arterials and Collectors.

B. Avoiding Conflicts in Center Left Turn Lane

When establishing the placement of offset accesses (either driveways or intersections), ensure that traffic making left-hand turns into the accesses does not conflict or compete for the simultaneous use of a center left turn lane.

C. Separation Distances

The specific separation distances between accesses shall be as shown in **Table 7-3** or **Table 7-4**. Greater separation may be required to eliminate conflicts or overlaps of center left turn lanes as determined by TIS.

D. Access Control Plan

For a street controlled by an adopted Access Control Plan, the proposed access shall conform with the applicable Access Control Plan.

9.1.2 Review and Approval

A. Review Procedure

1. Advice Available. To determine the extent of technical justification required for all access requests, consult with the Local Entity Engineering staff. It is recommended that this advice be sought prior to submitting any application.
2. Access Permits. All access permits shall be reviewed and approved through the Local Entity, in Fort Collins (GMA and city limits) and in Loveland (GMA only). Loveland (GMA and city limits) does not issue or require a separate access permit. The requirements of this chapter are covered in the City of Loveland's design review of the right-of-way permit.
3. Permit Required. A permit must be requested by the Developer and approved by the Local Entity prior to the construction or reconstruction of any access. See Chapter 6, Permits.
4. CDOT Approval for State Highway Access. The Colorado Department of Transportation shall review and approve all State Highway access.

B. Approval

Access is granted through Local Entity approval of the final plat, final construction plans, or final site plan. The number and location of access points shall conform to

the criteria outlined in this section, unless an exception is approved by the Local Entity Engineer.

C. Approval for Existing Developments (City of Loveland only)

Zoning determines how to obtain approval for access from existing developed property to Local Entity streets.

1. **Planned Developments.** For planned developments, new or altered access shall be obtained through the Administrative Amendment Process. This involves applying through the Planning Department to amend the property Final Development Plan. The application shall be accompanied by appropriate plans for the proposed access and technical justification, including justification for the extent of improvements proposed at the access point.
2. **Conventionally Zoned Property.** For conventionally zoned property, application for access can be made using the Local Entity’s application form identified in Chapter 6, Permits. This application shall be accompanied by plans for the proposed access and technical justification for the access and associated public improvements.

9.2 CRITERIA FOR ACCESS ONTO ROADWAYS

9.2.1 State Highways

A. Access to State Highways

Access to state highways is governed by the State Highway Access Code, state highway access plans and these Standards. All access issues on state highways within the Larimer County Urban Area shall be submitted to the Colorado Department of Transportation and approved before access permits will be issued by CDOT. The proposed access points to a state highway shall be in accordance with **Tables 7-3 or 7-4.**

B. Access to Existing Frontage Roads

Proposed access to all frontage roads shall comply with the requirements of the Colorado Department of Transportation State Highway Access Code, any applicable access control plan and the requirements of these Standards. Refer to **Chapter 7, Street Design and Technical Criteria.** The proposed access points to a frontage road shall be in accordance with **Table 7-3 or Table 7-4.**

9.2.2 Freeways

All new freeway access in the Larimer County GMA shall meet the requirements of the Colorado Department of Transportation. All design issues must meet CDOT standards.

9.2.3 4-Lane or 6-Lane Arterials (Master Planned)

A. Access Approval

Access approval must be obtained from the Local Entity for any private access constructed to a 4- or 6-lane Arterial street. This approval must be granted during the

development review process (through plan approval) or by issuance of the Local Entity's right-of-way or access permit.

B. Conditions for Private Access

For any driveway or street access to a 4-lane or 6-lane Arterial, an Access Management Plan and a signal progression plan may be required by the Local Entity Engineer. Refer to **Chapter 4, Transportation Impact Studies**. Generally, no private direct access shall be allowed onto a 4- or 6-lane Arterial street. Private direct access may be permitted only when the property in question has no other reasonable access to the general street system and appropriate auxiliary turn lanes are provided. Access may be permitted when the alternative direct access to another roadway would cause unacceptable traffic operation and safety problems to the overall traffic flow of the general street system.

When private access must be provided, the following shall be considered:

1. **Temporary Nature.** Such access shall continue only until such time that some other reasonable access to a lower function category street is available and permitted. The Access Permit shall specify the future reasonable access location(s), if known, and what changes will be required under what circumstances.
2. **Limitations.** No more than one access shall be provided to an individual parcel or to contiguous parcels under the same ownership unless it can be shown that:
 - a. Allowing only one access conflicts with safety regulations (e.g., fire access), or
 - b. Additional access would significantly benefit safety and operation of the highway or street and is necessary to the safe and efficient use of the property.
3. **Right Turns Only.** An access shall be limited to right turns only (through signage and a raised median), unless
 - a. The access has the potential for signalization, in accordance with the general spacing requirements in Table 7-3 or Table 7-4,
 - b. Left turns would not create unreasonable congestion or safety problems and not lower the level of service, and
 - c. Alternatives to the left turns would not cause unacceptable traffic operation and safety problems to the general street system.
4. **Access Management Plan.** Private access must be included as part of the Access Management Plan if required by the Local Entity.
5. **Offset from Opposite Streets.** Intersections of streets with Arterial streets shall only align with streets intersecting on the opposite side of the Arterial street where a traffic signal or Roundabout will be permitted unless a raised median exists within the arterial roadway that restricts the access at the intersections to right-in and right-out turns only. All other intersections must be offset by the distances given in Tables 7-3 or 7-4.

C. Public Direct Access Requirements

Public direct access to a 4- or 6-lane Arterial, where left turns are to be permitted, must meet the signal spacing criteria and the Access Management Plan. Those that do not meet these requirements shall be limited to right turns only, unless they meet the requirements above. Local streets should not intersect 4- or 6-lane Arterials, except in Fort Collins (GMA and city limits), where local street intersections shall be spaced at a minimum of 460 feet. See **Table 7-3** for exceptions.

D. Spacing and Signalization Criteria

Full access to 4-lane or 6-lane Arterials shall be limited to one-half mile intervals, or one-quarter mile intervals in Fort Collins (city limits only), plus or minus approximately 200 feet, in order to achieve good speed, capacity, and optimal signal progression. However, to provide flexibility for both existing and future conditions, an approved engineering analysis of signal progression shall be made to properly locate any proposed access that may require signalization. The specifics of this analysis are detailed in **Chapter 4, Transportation Impact Studies**.

9.2.4 2-Lane Arterials

A. Approval for Private Access

Approval must be obtained from the Local Entity for any private access constructed onto a 2-lane Arterial. Generally, no private direct access shall be allowed onto a 2-lane Arterial except where no alternative access is available. The Local Entity Engineer may permit private direct access onto a 2-lane Arterial under ~~either of~~ the following conditions:

1. No Signalization Potential. The access does not have the potential for signalization as per the requirements of Section 9.2.3 B above, or,
2. Does Not Interfere. The access does have the potential for signalization, (by meeting the signal spacing requirements for intersecting public streets stated below) and does not interfere with the location, planning, and operation of the general street system and access to nearby properties in accordance with the Access Management Plan.
3. Movements May be Limited. Left turns may be prohibited, allowing right turns only. If left turns are restricted, raised medians will be required to prevent the left turn movements.

B. Public Direct Access Requirements

Public direct access to a 2-lane Arterial, where left turns are to be permitted, must meet the signal spacing criteria in **Table 7-3** or **Table 7-4**. Those that do not meet these requirements shall be limited to right turns only, unless they meet the requirements of **Section 9.2.3 B** above. No local streets should intersect 2-lane Arterials, except in Fort Collins(GMA and city limits), where local street intersections shall occur with a minimum spacing of 660 feet See **Table 7-3** for exceptions).

C. Spacing and Signalization Criteria

1. Limited Intervals. Non-signalized full access to 2-lane Arterials shall be limited to one-quarter mile intervals, plus or minus approximately 100 feet, in order to achieve good speed, capacity, and optimal signal progression. Signalized intersections shall still be spaced at one-half mile spacing.
2. Proper Locations. However, to provide flexibility for both existing and future conditions, an approved engineering analysis of signal progression shall be made to properly locate any proposed access that may require signalization. The specifics of this analysis are detailed in Chapter 4, Transportation Impact Studies.

9.2.5 Major and Minor Collectors

A. Private Access

Private access to Collectors shall be governed by the curb opening and driveway criteria in **Table 7-3** or **Table 7-4**. Single family residence access to Collectors is not permitted unless access to a lower function category street is not available. In Fort Collins (GMA and city limits), access to Minor Collectors should be shared access.

B. Intersections

Refer to **Tables 7-3** and **7-4**.

C. Offsets

Streets intersecting on opposite sides of a Collector Street shall be either directly across from each other or offset by the distances given in **Tables 7-3** and **7-4**.

9.2.6 Local Streets and Lanes

Private access to local streets shall be governed by the following curb opening and driveway criteria.

A. Spacing

Public streets shall meet spacing requirements of **Tables 7-3** and **7-4**.

B. Arrangement

Local streets shall be designed to divert traffic to Collector streets and provide for circulation and movement within the subdivision. In Fort Collins (GMA and city limits), new streets should be laid out so the streets interconnect with simple routes (not circuitous) and multiple routes provided for all locations in the development. In addition streets should be located to match Local Entity planning requirements.

9.2.7 Eyebrows

The spacing of eyebrows shall be consistent with the intersection spacing requirements given in **Tables 7-3** and **7-4**.

9.2.8 Alleys

The spacing of alleys shall be centered at half the distance between two intersections or not less than 150 feet from the nearest intersection.

9.3 BASIC PRINCIPLES FOR CURB OPENINGS AND DRIVEWAYS

9.3.1 General

Curb openings for driveways require minimum dimensions in some instances and maximum dimensions in other instances. Appropriate design will provide good driveway access operation and at the same time minimize interference to street traffic. The dimensions established in these Design Standards are derived from studies of the largest vehicles authorized on streets and highways.

Driveways, which serve properties adjoining the right-of-way, shall be served access by the street through a curb cut. The portion of the driveway within the right-of way is called the driveway approach.

9.3.2 Layout Criteria

The opening or driveway approach width shall be adequate to properly handle the anticipated traffic volume and character of traffic, as well as being within the limits specified for the type of property development. The controls established for curb openings and driveways shall apply to existing streets as well as new streets that may be developed in the future.

A. High Volume Access

1. Radial Access. A driveway shall have a radial access opening in accordance with Construction Drawings 707.1 or 707.2 (as applicable) and Tables 8-1 and 8-2 (as applicable) whenever any of the following conditions occur:
 - a. Access onto an arterial street
 - b. The driveway is for an adjoining commercial land use
 - c. The driveway has a volume of 350 or more trip ends per day and enters directly onto a Collector, Commercial Local, or Industrial street
2. Maximum Width. High volume driveways shall have a maximum width of 36 feet.
3. Median. If it is necessary to increase the maximum width, a median (minimum width of 6 feet) shall be provided to divide the inbound from the outbound traffic.
4. Turn Lanes. Additionally, the need for turn lanes will be evaluated in accordance with Chapter 4, Transportation Impact Studies, requirements and in accordance with the requirements of Chapter 8, Intersections.

B. Low Volume Driveways

~~C.~~ Any driveways not determined to be built with a radial access opening in accordance with the requirements set forth in 9.3.2.A, shall be designed and constructed as a standard driveway in accordance with Construction Drawings 706.1 or 706.2 (as applicable). Multi-Family Dwelling Unit Driveways

Multi-Family dwelling unit driveways (3 or more units) are acceptable with a minimum width of 24 feet. Driveways that serve 12 units or more shall have a minimum width of 28 feet (this width may be reduced to 24 feet on low traffic volume streets) and a maximum width of 36 feet.

9.3.3 Sight Distance - Driveways

A. Adequate Intersection Sight Distance

To the extent possible, all openings for driveways shall be located at the point of adequate sight distance along the street. Accesses to commercial, office and multifamily residential establishments shall have sufficient space reasonably clear of any obstructions to provide drivers entering the property sufficient sight distance for proper and safe movements.

B. Profile

The profile of a driveway approach and the grading of the adjacent area shall be such that when a vehicle is located on the driveway outside the traveled portion of the street the driver can see a sufficient distance in both directions to enter the street without creating a hazardous traffic situation.

9.3.4 Adjustments for Existing Structures

Any adjustments made to utility poles, street light standards, fire hydrants, catch basins or inlets, traffic signs and signals, or other public improvements or installations required for the curb openings or driveways shall be accomplished without cost to the Local Entity.

9.3.5 Entrance-Only and Exit-Only Approaches

Driveway approaches, where the driveway is to serve as an entrance only or as an exit only, shall be appropriately signed by, and at the expense of, the property owner. The property owner shall provide means to ensure that motorists will use the driveway as only an entrance or an exit only.

9.3.6 Access to Roadways with No Curb and Gutter

Private drive access to Local, Collector, or Arterial roadways that have no curb and/or gutter improvements shall be constructed to meet the following requirements:

A. Surface Requirements

The driveway shall extend from right-of-way line to edge of existing driving surface and shall be constructed with a minimum of 3.5 inches of asphalt or concrete in accordance with **Construction Drawing 901**.

B. Right-of-way

New driveway accesses from private property to existing pavement shall be paved within the right-of-way. On Local rural roads HBP or concrete pavement shall be installed from the right-of-way line to the edge of the traveled roadway. The width of the driveway within the right-of-way shall be 12 to 22 feet.

C. Culvert

A culvert shall be installed at the established roadside ditch flowline elevation beneath the private drive access in accordance with the requirements of **Construction Drawing 901** and the culvert diameter shall be specified by the approved storm drainage report or in absence of the report by the Local Entity. A culvert shall be installed in the flowline of the borrow ditch of a size necessary for the design storm

Commented [MR2]: Does it make sense to reference Green Book sight distance criteria?

Commented [JS3R3]: Driveway access is usually limited to local and maybe collectors. Maybe we can add "All designs must provide minimum safe stopping sight distance in accordance with Section 7.4.1.C and AASHTO"

Commented [SK4R3]: Reference AASHTO. Reference other LCUASS section instead. 7/12/19

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Section 9.3 Basic Principles for Curb Openings and Driveways

flow (15 inch minimum diameter). The pipe shall have flared end sections in accordance with **Construction Drawing 901**. The minimum cover over the culvert should be 1 foot. Additional cover may be required for heavy vehicles. Refer to **Chapter 7, Street Design and Technical Criteria**, for the improvement requirements to roadside ditches.

D. Sketch Plan

A drawing of the proposed driveway installation showing all dimensions shall be submitted with the right-of-way or Access permit application. Refer to **Construction Drawing 901** for driveway requirements.

9.3.7 Residential Approaches

All driveway approaches shall comply with **Construction Drawings 706.1, 706.2 or 707.1 or 707.2** and the following:

A. Width

Residential driveway approaches shall have a minimum width of 12 feet and a maximum width of 24 feet.

B. Driveway Frontage

No more than 50 percent of the street frontage of a lot shall be occupied with driveways except for cul-de-sacs and flag lots.

C. Adjacent Parking

Parking immediately adjacent to driveways shall meet the parking setback requirements. Refer to **Chapter 19, Parking**.

D. Off-Street Driveway Parking

Off-street parking provided off or along driveways shall meet parking setback requirements in accordance with **Figure 19-6**.

E. Continuous Sidewalks

All concrete sidewalks shall be designed with a uniform, continuous profile grade at driveway crossings. The maximum Cross Slope of $\frac{1}{4}$ inch per foot shall be maintained where the sidewalk crosses the driveway. Refer to **Construction Drawing 1601**.

F. Accessibility Alternatives

Pedestrian accessible driveways may be required in lieu of mid-block access ramps for residential areas. In those cases, the slope of the driveways shall be 1:12 or less. This access shall be provided at approximately 300-foot intervals on both sides of the street. The lot line locations shall be designated on the Construction Plans.

G. Three-Car Garage Driveway Width

Driveways serving 3-car garages shall have a maximum drive approach width of 30 feet unless otherwise approved.

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Commented [SK6R6]: Max. cross slope per ADA requirements. 7/12/19

H. Garage Door Location

Garage doors entering onto public or private streets shall be set back such that 20 feet of space is provided for a vehicle to park without blocking the sidewalk or encroaching into the driveway approach. In Fort Collins, Garage doors onto alleys shall be set back in accordance with Figures 7-9L, 7-10L, 7-11F or Figure 7-12F as applicable. In Loveland (City Limits and GMA), no garage door that faces an alley shall be located in the area that is between five feet from the edge of pavement of the alley and the area that is 20 feet from the edge of pavement of the alley.

Commented [JS7]: Need to modify Figures to remove garage door setback requirements or to be consistent with this change.

9.3.8 Commercial Approaches

A. Width

No single opening shall exceed 36 feet in width.

B. Driveway Footage

The total length of curb opening on a street for access to a commercial property shall not exceed 40 percent of the property frontage.

9.3.9 Maintenance Responsibility

Maintenance of the access and drainage improvements within the right-of-way described in **Section 9.3.6** of this chapter shall be the responsibility of the adjacent property owner or other designated private entity, including all improvements to driveways within right-of-way, including sidewalk, curb and gutter and parkway.

9.4 GENERAL REQUIREMENTS

9.4.1 Number of Openings

A. Single Family Residential

In general, each Single Family residential property should be limited to one access point. Multiple accesses may be provided as long as spacing, clearance, and percentage of lot frontage requirements are satisfied.

B. Multi-Family Residential

Access shall be determined by information provided by the Owner/Developer as specified in **Chapter 4, Transportation Impact Studies** and by comments generated during the review and acceptance of that study.

C. Commercial

In general, commercial property having less than 150 feet of frontage and located mid-block should be limited to one access point to the street. An exception to this may be where a building is constructed in the middle of a lot and parking is provided for on each side of the building.

D. Industrial

Access shall be determined on a case-by-case basis. The Local Entity shall consider good traffic engineering practice and the information provided by the applicant

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Section 9.4 General Requirements

(specified in **Chapter 4, Transportation Impact Studies**) accompanying their submittal.

9.4.2 Entrance Angle

In general, the entrance angle for all driveway approaches and intersections shall be as near 90° to the centerline of the street as possible. The minimum angle that will be permitted is 90° plus or minus 10° for a minimum of 25 feet measured perpendicular to the street and measuring from the curb or edge of pavement toward the private property served.

9.4.3 Minimum Space Between Openings

The minimum spacing between curb openings shall be the footage measured at the curb line. This spacing will apply to the distance between drives serving adjoining properties. This does not apply to residential projects using mountable curb, gutter, and sidewalks. Refer to **Table 7-3** or **Table 7-4**.

9.4.4 Slope

Driveways within the walk and parkway area shall slope toward the street. The driveway profile grade within 20 feet of flowline shall not exceed 8 percent unless otherwise approved by the Local Entity Engineer.

9.4.5 Intersection with Street

Driveways should intersect streets at right angles and shall in no case intersect at less than 80 degrees.

9.4.6 Pavement

A. **General**

All areas within the public right-of-way used for vehicular traffic shall be paved with Portland cement concrete (PCC) from the edge of pavement to the edge of right-of-way. PCC may only be required to extend to the back of sidewalk if approved by the Local Entity Engineer.

B. **Loveland (City Limits Only)**

In Loveland (city limits only) all driveway and parking areas used by vehicular traffic shall be paved with PCC or HMA. Outdoor storage areas subject to infrequent vehicular traffic may be surfaced with a dust free material approved by the Local Entity Engineer.

9.4.7 Shared Access

Whenever possible and feasible, shared entrances should be provided to serve two adjacent properties. Recorded, private access easements are required for all shared accesses.

Commented [DB8]: What is the purpose of this?

Commented [SK9]: Add clarification language that this applies to driveways. Modify RIRO pork chop drawing to be concrete pavement to the ROW.

9.4.8 Access Approaches

Access approaches shall not be approved for parking or loading areas that require backing maneuvers within the right-of-way except on Local Residential streets. All off-street parking areas on Collector and Arterial streets must include on-site maneuvering areas and aisles to permit user vehicles to enter and exit the site in forward drive. Refer to **Chapter 19, Parking**, for general parking information.

9.4.9 Abandoned Access

If a parcel of land with direct access has been in a state of non-use for more than one year, re-commencement of access use shall be considered a change in use. If the use of the access exceeds the design limitations of the access or does not conform with the present code, a new approval may be required through the development plan review process, access management plan, or the Local Entity's work in right-of-way permit.

9.4.10 Change in Use

If the use of an existing access to right-of-way changes, or there is a change in the use of the property, the change in access use must be approved through the development review process, access management plan, or the Local Entity work in right-of-way or access permit. Change in access or property use may include, but is not limited to, change in the amount or type of traffic (20 percent or more or more than 25-20 vph, whichever is less 100 total daily trips), structural modifications, remodeling, change in type of business, expansion in existing business, change in zoning, change in property division creating new parcels, etc. In Loveland (city limits only), refer to the Site Development Performance Standards and Guidelines for the percent change.

Commented [SK10]: CDOT SHAC code (Section 2.6) lists 20 percent or more or more than 100 total daily trips. 7/29/19

Commented [SK11]: Sean to check on the 20 vph with the SHAC.

9.4.11 Drainage

A. Drainage at Curb Cuts

Where curb cuts are allowed, concentrated storm water runoff from property adjoining the right-of-way shall not be discharged across the sidewalk. These flows must be directed elsewhere or directed to a sidewalk chase where storm water may pass under a sidewalk section.

B. Sheet Flow Drainage

Sheet flow drainage is allowed where it does not interfere with the pedestrian use of the sidewalk. (In Fort Collins) A maximum area of 750 square feet behind the sidewalk may sheet flow over the sidewalk.

9.4.12 Minimum Off-Street Parking Set Back Distance

Refer to Chapter 19, Parking, and **Figure 19-6**.

9.5 CONTROL DIMENSIONS

To accomplish the objectives of the basic principles stated earlier, certain control dimensions are necessary. There are many variables that affect these control dimensions. Some of the variables are as follows: type of street classification, type of private property development, volume and type of traffic, and width of right-of-way.

9.5.1 Width of Curb Opening (W)

The total width of curb opening for properties shall be in conformance with **Construction Drawings 706 or 707**.

9.5.2 Edge Clearance

Refer to **Table 7-3** or **Table 7-4**. Note that shared access with adjoining property is encouraged. Shared access shall be the only justification for reducing the minimum edge clearance dimension.

9.5.3 Corner Clearance

It is important to locate driveways away from major intersections. This constraint is as much for the ability to enter and leave the property as for the benefit of intersection safety and operations. Exiting a driveway during peak-hour conditions at traffic signals is difficult where the queue of standing or slow-moving vehicles never allows a sufficient gap for entry from the driveway. Corner clearances shall be as specified in **Table 7-3** or **Table 7-4**.

9.6 UNPERMITTED ACCESS

Any access, driveway, or curb-cut which is constructed within public right-of-way without a right-of-way or access permit issued by the Local Entity shall be subject to removal. Failure to remove the unpermitted access may result in the removal of said access by the Local Entity. The cost for removal shall be charged to the property owner from which the access originates.

9.7 REMOVAL

Any curb opening or driveway that has been abandoned shall be removed and restored by the property owner except where such abandonment has been made at the request of, or for the convenience of, the Local Entity.