



Frequently Asked Questions

The Access Management Regulations: 24VAC 30-73
and
The Road Design Manual Appendix F Access
Management Design Standards

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Land Development Section
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Table of Contents

NOTE: Ctrl+ Click on major headings below to go to their location in the document

	PAGE
INTRODUCTION	1
Overview of the regulations and standards; Web site; Effective dates; Enabling statutes	
BASIC CONCEPTS: ENTRANCES & INTERSECTIONS	1
Difference between an entrance and an intesection	
Four types of entrances; Table on entrance types and rules	
Coordinating entrance permit issuance with local land development approval	
Use of bonds to assure future conversion of entrance	
Private entrance permit rules and procedures	
BASIC CONCEPTS: FUNCTIONAL CLASSIFICATION OF HIGHWAYS	2
Difference between primary/secondary and functional classifications	
Web site for maps identifying functional classifications of highways	
Process for assigning functional classification to new road	
APPLICATION OF THE REGULATIONS AND STANDARDS	3
State maintained highways vs. locality maintained roads	
Private entrances; Subdivision street connections	
VDOT construction projects in localities that maintain their streets	
Urban mixed use settings	
Property owner's right to access to the highways; Access to more than one highway	
Application to: Roundabouts; Pedestrians and bicyclists	
Existing commercial entrances	
ACCESS MANAGEMENT REQUIREMENTS Section 120 of Regulations	7
The best way to assure compliance	
VDOT requirements vs. local land use regulatory conditions	
Why partial access entrances are emphasized	
Traffic engineering studies specified in the regulations to be signed/sealed by a PE	
Summary: The six access management requirements	
1. Functional Area of Intersections and Interchanges	
Requirement; Exceptions	
Importance of keeping entrances away from intersections and interchange ramps	
2. Shared Entrances	
Requirement; Exceptions	
Benefits from sharing entrances	
How are shared entrance agreements established; VDOT review of agreements	
Written evidence of inability to reach a reasonable agreement	
3. Spacing Standards for Entrances, Intersections, and Crossovers	
Requirement; Exceptions	

	PAGE
4. Vehicular and Pedestrian Circulation between Properties.....	9
Requirement; Exceptions	
Benefits of interparcel connections; How many to be provided; Maintenance responsibility	
Adjoining property owner to extend connection; Owner may still have entrance to highway	
Frontage roads	
Establishing cross access easements	
When are pedestrian connections appropriate	
5. Traffic Signals	
Requirement; Exceptions	
Contents of a study to justify a traffic signal spacing exception	
Signal warrants vs. the spacing standards	
6. Limiting Entrance Movements	
Requirement; Exception	
Examples of when entrance movements should be restricted	
ACCESS MANAGEMENT EXCEPTION PROCESS.....	12
Application process; Decision deadline; Difference from a Design Exception/Waiver	
APPENDIX F SPACING STANDARDS.....	13
Private entrance	
Spacing between different types of entrances/intersections; Spacing measurement	
Application to entrances on the opposite side of the highway	
Land owner doesn't have enough highway frontage to meet the spacing standards	
Median Crossovers - Entrance at existing crossover; New entrance at new crossover	
Directional medians	
Corner clearance vs. entrance spacing standards: Difference in measurement	
Interchange ramps: Spacing entrances and intersections from ramp	
Spacing for: Roundabouts; Entrances on local streets	
Existing entrances	
Application to: VDOT highway construction project; Entrance/intersection in city/town	
EXCEPTIONS TO THE SPACING STANDARDS: Section 120 in the Regulations.....	16
How problems with meeting the spacing standards can be avoided	
Rules for grandfathering the location of entrances and intersections	
Within higher density, mixed use traditional neighborhood developments	
On an older, established business corridor in a locality	
Locality/VDOT access management corridor plan	
State required (SSAR) 2nd or additional entrances to a subdivision	
Proposed signalized entrance cannot meet spacing standard	
Partial access entrance restricted turning movements: Exception for a full access entrance	

PAGE

APPENDIX F DESIGN STANDARDS.....18

- Entrance design standards not affected by highway functional classification
- Intersection and stopping sight distance: Commercial entrance vs. private entrance
- Intersection sight distance: Right (SDR), left (SDL)
- Intersection sight distance: impact of on-street parking
- District engineer may approve modifications to entrance design
- Traffic analysis studies specified in Appendix F to be signed/sealed by a PE
- Commercial entrance design on a local street
- Commercial entrance pavement; turn lane/taper design and maintenance responsibility
- Preventing entrance drainage on to the highway
- Commercial entrance design standards: Effective radius; Entrance throat; Partial access entrance
- Accommodating pedestrians at a commercial entrance; Midblock crosswalks
- Intersection sight distance reference to 18 ft medians

SUMMARY: ACCESS MANAGEMENT REQUIREMENTS & EXCEPTIONS.....21

Text highlighted in **blue** identify **hyperlinks** that allow the reader to go to **Internet websites** where additional information on the topic can be found.

INTRODUCTION

What are the name of the regulations and standards and where can I find them?

The **Access Management Regulations** 24VAC30-73 applies to all state highways and all functional classifications. Its *effective date* was December 5, 2013. The original effective date for the regulations applying to principal arterials was July 2008 and for all other highway classifications October 2009.

The **Access Management Design Standards for Entrances and Intersections** is **Appendix F** in VDOT's Road Design Manual. The manual is generally updated January 1 and July 1 of each year.

The Regulations and Standards apply to commercial entrances, median crossovers, intersections, and signalized intersections. The documents are available on the **VDOT access management web site**: http://www.virginiadot.org/info/access_management_regulations_and_standards.asp

What is the legal authority for the access management regulations and standards?

Code of Virginia Sections 33.2-241 and 33.2-245 were enacted by the 2007 General Assembly to require VDOT to adopt access management regulations/standards - "The General Assembly declares it to be in the public interest that comprehensive highway access management standards be developed and implemented to enhance the operation and safety of the systems of state highways . . . while ensuring that private property is entitled to reasonable access to the systems of state highways." § 33.2-245

BASIC CONCEPTS: ENTRANCES AND INTERSECTIONS

What is the difference between an entrance and an intersection?

An **entrance** is a connection to a highway for the movement of vehicles to or from the highway. A driveway to a home, business, or public use connects to a highway through an entrance. A private road connects to a highway via an entrance (See Appendix F Figure 4-8 private subdivision road entrance design).

An **intersection** for access management spacing purposes is:

- An at-grade crossing of two or more streets, roads, or highways in a "T" three leg intersection or four leg design,
 - A full median crossover (crossing movements, left turns and U turns are possible), or
 - Full access commercial entrances directly across from each other on an undivided highway. "Full" means left-in, left-out, right-in, and right-out movements. When directly opposite each other, crossing movements become possible and therefore a four leg intersection is created.
- Note: A partial access entrance prevents crossing movements.

So where two roads connect is an intersection, but a full access entrance connecting to a highway is not an intersection (unless directly opposite from another full access entrance allowing crossing movements).

A directional median opening is not an intersection for spacing purposes; crossing movements are not present.

What types of entrances are there?

Commercial Entrance serves any use of land that generates more than 50 vehicular trips per day or the trip generation equivalent of more than five individual private residences, or lots for individual private residences, using the Institute of Transportation Engineers (ITE) Trip Generation manual methodology.

- Although the term "commercial" is used, this entrance design applies to "non-commercial" uses such as schools, churches, and apartment complexes.
- A public street, e.g. new subdivision street, *connection* to the highway is a commercial entrance.
- A private road serving more than 5 lots will have a commercial entrance.

Low Volume Commercial Entrance serves 5 or fewer individual residences, or lots for individual residences, on a privately owned and maintained road; or for land uses that generate 50 or fewer vehicular trips per day according to the ITE Trip Generation manual - such as certain agricultural operations or a house with a home based business. It is essentially a private entrance by design that must meet the *stopping sight distance* standard.

Moderate Volume Commercial Entrance is a type of commercial entrance for highways *with shoulders* with certain site and design criteria reduced. Site requirements to qualify are:

- Maximum highway vehicles per day: 5,000
- Maximum entrance vehicles per day: 200
- Maximum entrance percent truck trips of vehicles per day: 10%

See Figure 4-15 in Appendix F for the entrance design details. The purpose of this design is to reduce construction costs for small businesses and other uses that do not generate significant traffic.

Private Entrance is for the occupants of up to two private residences (for example a residential driveway). A private entrance design also can be used for:

- An agricultural operation to gain access to fields (not its main entrance), and
- Civil and communication infrastructure facilities that generate 10 trips per day or less such as cell towers, pump stations, water towers, electrical substations, and storm water management basins.

Table on Entrance Types and Rules

<u>Type of Entrance</u>	<u>Sight Distance</u> <u>(see p. 18)</u>	<u>Access Management</u> <u>Requirements Apply?</u>	<u>Land Use</u> <u>Permit</u>
Commercial	Intersection	Yes	Commercial
Commercial: Moderate Volume	Intersection	Yes	Commercial
Low Volume Commercial	Stopping	No	Commercial
Private	Best possible	No	Private

How does VDOT coordinate issuing entrance permits with local land development approval?

Section 100 B in the regulations specifies that a commercial entrance permit will not be issued until the locality approves any associated site plan or subdivision plat as VDOT does not want to infringe on a locality’s authority to regulate land use.

How is a bond used to assure entrance conversion to a different type at a future date?

To make sure funds are available to convert a full access entrance to partial when additional access becomes available via a new side or rear access road, a dual obligation irrevocable surety for the benefit of the locality and VDOT could be established so it can’t be released without the other’s concurrence.

The bond can be based on 130% of an engineer’s sealed cost estimate (include traffic control), be reviewed every 3 years and adjusted using a published Construction Cost Index, such as by Engineering News Record. A detailed statement should be included to specify what will trigger the change to the entrance.

What are the private entrance permit rules and procedures?

Entrance Drainage Pipes: The property owner is responsible for the installation of the entrance culvert and stabilization of the road's shoulder (section 90 B of the regulations). VDOT may agree to install a property owner's pipe at the request of a property owner and bill the owner for the cost when finished.

Entrance Permit: The application fee is \$100. When VDOT does not install the drainage pipe, the applicant will need to supply a minimum \$500 guarantee fee, letter of credit, or surety bond to cover VDOT's costs to fix an incorrectly installed pipe. After inspecting the installation, the surety is returned or the bond is cancelled. See the Land Use Permit Regulation on the VDOT web site for more information.

BASIC CONCEPTS: FUNCTIONAL CLASSIFICATION OF HIGHWAYS**What is the difference between primary/secondary highways and functional classification?**

Primary and secondary highways are state administrative classifications designated by the Commonwealth Transportation Board (CTB). Primary highways are generally assigned route numbers under 600 and secondary highways route numbers 600 and above. The CTB determines funding for primary highways while local governing bodies participate in setting funding priorities for secondary roads.

Functional classification is based on the federal system of classifying groups of highways according to their purpose to serve through traffic movement, to provide access to property, or a combination of both.

Where do I find maps identifying the functional classification of highways?

VDOT's access management web site provides links to maps of highways by functional classification. Functional classification maps are also available on the VDOT web site under "Projects & Studies" and then "Transportation Planning".

What is the process for assigning a functional classification to a developer's new road?

Generally, new subdivision streets are assigned a "local street" functional classification. The Metropolitan Planning Organization (MPO) for the region or a county/city outside of an MPO can submit a request for the classification or reclassification of a road to the applicable VDOT District. A list of the MPOs in Virginia and the localities included within each is available on the VDOT web site by conducting a search for "Metropolitan Planning Organizations".

APPLICATION OF THE REGULATIONS AND STANDARDS**Do the regulations and standards apply to all roads in Virginia?**

No, they only apply to roads VDOT maintains and is responsible for entrance permit issuance. The regulations and standards do not apply to highways maintained by cities, towns of more than 3,500, and local roads in Henrico and Arlington Counties. They do apply on primary routes in these two counties. These cities, towns, and counties, though, can choose to apply the standards to the roads they maintain if desired. The regulations and standards also do not apply on a road that has been discontinued or abandoned (no VDOT responsibility).

However, if traffic from a proposed intersection or entrance in one of the above localities will back up onto and impact a VDOT highway, it is important that this issue be brought to the attention of the locality.

Do the access management requirements apply to private entrances?

The access management requirements in section 120 of the regulations only apply to commercial entrances, including the moderate commercial entrance subcategory.

The requirements do not apply to private *entrances* or low volume commercial entrances. However, the requirements do apply to a private *road's entrance* (connection) to the highway when the road serves more than 5 houses and/or lots for houses.

Note that section 90 of the regulations establishes the rules for constructing and maintaining a private *entrance* and Appendix F includes design standards for a private entrance and for a private subdivision road entrance to a state highway with shoulders.

Do the regulations and standards apply to subdivision street connections?

Yes, a subdivision street connection to a VDOT highway is a commercial entrance so the regulations and Appendix F design standards including spacing apply, **except** that Appendix B.1, Subdivision Street Design Guide in the Road Design Manual establishes the standards for the following:

- The radii, width, throat length, and angle for subdivision street and alley connections, and
- The spacing distance between two or more subdivision street connections to a road with a functional classification as a local street.

Do they apply to VDOT construction projects in localities maintaining their roads?

This depends on the agreement with the locality (cities, certain towns and counties) on which construction standards will be used: VDOT's, the locality, or a combination. If VDOT Road Design Manual construction standards will be used for a project administered by VDOT within the locality, then the standards include those in Appendix F.

Do they apply in urban mixed use settings?

Optional roadway geometric design criteria, including reduced intersection and commercial entrance spacing standards, have been added to the Road Design Manual in [Appendix B \(2\)](#) "Multimodal Design Standards for Mixed-Use Urban Centers" for use by interested localities. The intent is to provide design criteria for streets to enable safe access for all travelers regardless of travel mode, age and ability including pedestrians, bicyclists, and transit riders. Appendix B (2) explains the process for localities to follow to be able to apply these alternative standards to future road design in urban mixed-use contexts.

Can a property owner be denied all access to a highway?

No, section 60 B of the regulations establishes that VDOT will permit reasonably convenient access to a parcel that has been recorded (Deed Book and Page Number noted on the parcel's deed and plat), assuming the fronting highways are not limited access.

However, section 60 B also states that VDOT is not obligated to approve the owner's preferred entrance location or design and if a corner lot, can limit access to one of the streets. The number of entrances can be restricted "to prevent unsafe and inefficient traffic movements from impacting travel on the abutting highway" (section 70 of the regulations).

Is a property owner allowed access to more than one highway?

If a parcel has frontage on more than one road (such as a corner parcel), section 60 B of the access management regulations provides the District with the authority to determine on which road a proposed entrance will be allowed.

For example, generally access to the side road minor highway (less traffic or lower functional classification) is preferred to protect the traffic carrying capacity of the major highway. Or a full access entrance will be approved for the side road and a right-in and/or right-out entrance may be allowed on the major highway, again to protect mobility on the major highway.

Do the regulations and standards address roundabouts?

Appendix F in the Road Design Manual discusses the benefits, VDOT policy, and approval process for roundabouts. It includes information on their design and links to VDOT's web site on roundabouts, plan sheets for roundabouts, and a FHWA guide to roundabouts. See p. 15 on the *spacing* of roundabouts.

To promote the use of the roundabout design, when an exception to the signalized intersection spacing standards is requested, section 73-120.C.5 of the Access Management Regulations requires that the proposed signalized intersection location be evaluated for its suitability as a roundabout.

How do the regulations and standards affect pedestrians and bicyclists?

The access management regulations can benefit pedestrians and bicyclists in a number of ways. National research studies have found that fewer entrances improve pedestrian and bicyclist safety by reducing pedestrian-vehicle and bicyclist-vehicle conflicts.

The regulations require vehicular/pedestrian connections between adjacent properties. Entrance design must consider impacts on pedestrians and bicyclists. Sight distance for entrances assures that exiting motorists can see approaching bicyclists and pedestrians.

The Road Design Manual (RDM), Appendix F includes a chapter on pedestrians and bicyclists that offers web site links to VDOT's Bicycle and Pedestrian Program and its Bicycle Facility Guidelines.

What is their application to existing entrances?

The regulations and standards will not apply to existing entrances where there is no change in the land use as long as the existing entrances are maintained in a good, safe condition. That said, entrance permits are not guarantees of eternal as-is access.

If there will be a significant change in the type (large trucks) or amount of traffic that will access the site due to a new use, existing use expansion, or property redevelopment, VDOT may require consolidating, relocating, or reconstructing the entrances as well as improvements such as turn lanes (see section 110). More detailed information concerning existing entrances is provided on the next page.

Finally, entrances impacted by highway construction/repair projects may be consolidated or relocated to ensure safety and minimize traffic turning movements pursuant to §33.2-242 of the Code.

Access Management Regulations and Existing Commercial Entrances

Section 110 in the Access Management Regulations establishes VDOT's authority over existing commercial entrances. It provides the guidelines for when VDOT can require the reconstruction, relocation, consolidation or upgrading of existing entrances.

VDOT will normally examine the suitability of existing commercial entrances when there will be a change in the use of a property or an expansion of the use. Usually VDOT becomes involved during the locality's rezoning of the property or the site plan review process.

The key questions are

1. Will the use of the property change such that there will be a "significant" increase¹ in the trip generation of the property² (from auto parts store to restaurant),
2. Will there be a change in the type of vehicles that will access the site (e.g. new use will result in more tractor trailers entering the site) and/or
3. Is an existing entrance's design or location unsafe to the public (e.g. whole property frontage is entrance or there is a history of crashes)?

An evaluation may indicate that the new or expanded land use will generate: (i) significantly more traffic than the current land use, (ii) a change in the type of traffic, or (iii) that the existing access is unsafe either due to the number of entrances, its design or the site's crash history.

If the answer is "yes" to any of these questions, then section 110 applies allowing VDOT to require that the existing commercial entrance be upgraded, relocated, consolidated or reconstructed, as needed.

If not, VDOT staff can still work with the developer/property owner, and make advisory comments to the locality, to reduce the number of commercial entrances and encourage a safer design or location.

Section 110 is a continuation of the authority granted in the former Minimum Standards of Entrances to State Highways Regulation Section 140 "Tenure of Commercial Entrances."

¹ "Significant" increase sufficient to require entrance improvements can be based on whether the existing entrance design can accommodate the increased trip generation and turning movements (more left turns, potential for right turn vehicles queuing on the through lane) taking into account the characteristics of the highway.

² If a vacant building is to be occupied by the same type use as before, whether there is a "significant" increase due to the current absence of entrance traffic can depend on how long the building has been vacant – 1 month, 1 year, 4 years? By comparison, zoning vested rights (§15.2-2307 of the Code) establishes that a nonconforming sign is considered abandoned if the business has not been in operation for at least 2 years. On the other hand, if the locality considers the re-use of the property significant enough to require submittal of a site plan for review, this can trigger VDOT's evaluation of the existing entrance(s), regardless of the elapsed time.

ACCESS MANAGEMENT REQUIREMENTS Section 120 of the Regulations

Overview

What is the best way to assure compliance with the six access management requirements?

It is important to consider the requirements as early as possible in the land development review process so the development's design can be adjusted as needed to meet the requirements. VDOT review staff will evaluate a proposed rezoning or a development's site plan or subdivision plat and provide comments about access management in their review.

Can VDOT require improvements in addition to locality land use regulatory conditions?

Because VDOT controls connections to state highways, section 100 C of the access management regulations establishes that any transportation-related improvements specified by a locality through the land use regulatory process does not release the entrance applicant from improvements required by VDOT.

Why are partial access entrances emphasized in the regulations?

The reason is that a partial access entrance, right-in and/or right-out with or without left-in movements (not left out), is the safest type of entrance design. National Highway Institute research has shown that over 70% of traffic crashes at entrances involve left turns (having to cross lanes of on-coming traffic). Preventing left turns also reduces congestion by removing the potential for vehicles to back up while waiting for a motorist to make the turn.

Do traffic engineering studies specified in the regulations have to be signed/sealed by a PE?

Yes, traffic engineering studies, traffic engineering investigation reports and studies, and speed studies must be signed and sealed by a licensed professional engineer (PE). See TE-362.1 on the VDOT web page [Signing and sealing of plans](#), under Traffic Engineering.

Entrances/Intersections: The Six Access Management Requirements

1. Entrances are not permitted in the functional area of an intersection or interchange ramps.
2. Try to arrange an agreement to share the proposed entrance with adjoining property owner.
3. Comply with Appendix F spacing standards for entrances, intersections, median openings; for entrances/intersections near interchange ramps; for entrance corner clearance from an intersection.
4. Vehicular/pedestrian connections to boundaries with adjacent *undeveloped* properties. Required on a principal or minor arterial; may be required on a collector.
5. Insufficient spacing between a proposed signalized entrance and an adjacent traffic signal. A signal will not be approved and the entrance will be limited to right-in/right-out design.
6. Limiting entrance movements. VDOT may require an entrance to be designed and constructed to physically prohibit certain traffic movements.

1. Functional Area of Intersections and Interchanges:

Requirement: Entrances are not permitted in an intersection or interchange's functional area.

Exception: VDOT approval of a traffic engineering study documenting that highway operation and safety will not be adversely impacted by the location of the entrance.

Why is it important to keep entrances away from intersections and interchanges?

Entrances in close proximity to intersections and interchange ramps can cause conflicting and confusing turning movements, blocked entrance ingress and egress, and backups into the intersection or on the interchange off ramps. These problems can lead to traffic crashes, pedestrian injuries, and congestion.

Meeting the Appendix F spacing standards, a shared entrance, interparcel connection, and right-in/right-out entrance design can be used to provide access to a property to protect intersection or interchange ramp movements. The functional area of intersections is discussed in Appendix F of the Road Design Manual.

2. Shared Entrances:

Requirement: New commercial entrances should be shared with adjoining properties.

Exceptions:

1. Provide written evidence that a reasonable agreement could not be reached with the adjacent property owner to share the entrance, or
2. Provide documentation that there are physical constraints to creating a shared entrance such as topography, adjacent hazardous land use (e.g. heavy industrial, quarry, or petroleum/gas transmission facility), or environmentally sensitive areas such as a stream or wetland.

What is the purpose for requiring entrances to be shared?

It reduces the number of entrances on the highway. Fewer entrances prevent crashes and help reduce congestion. In some cases, by sharing, several properties can gain access to a traffic signal.

The neighboring property owner benefits by having an entrance established in advance that meets the spacing standards. A shared entrance is an excellent way for two properties with limited road frontage to be able to obtain an entrance and meet the spacing requirements.

How are shared entrance agreements established?

An agreement generally consists of a legal document with attached location identification plat that:

- Specifies the parcel owners agreeing to share an entrance and its right-of-way easement.
- Assigns responsibilities between parcel owners for maintenance of the shared entrance.
- Includes a plat identifying the dimensions of the entrance.
- The agreement and location plat are recorded (deed book, page number noted on the deed/plat).

Each property owner should protect their interests by having it drafted and recorded by a real estate attorney. For example, attorneys prepare access easement agreements between property owners for private roads and for outparcels within shopping centers.

Will VDOT be reviewing the shared entrance agreement between the property owners?

While VDOT does not have the legal resources to review the language of shared easement agreements, section 120 of the regulations does require a commercial entrance permit applicant to submit a copy of the recorded (deed book and page numbers stamped on it) agreement to share **and maintain** the entrance.

VDOT needs to know who is responsible for the maintenance of any commercial entrance in accordance with section 110 B: “VDOT will maintain the commercial entrance only within the normal shoulder of the roadway or to the flow line of the gutter pan. The owner shall maintain all other portions of the entrance, including entrance aprons, curb and gutter, culvert and drainage structures.”

What is considered “written evidence” of a developer’s inability to reach a “reasonable agreement” to share an entrance?

Written evidence will be in the form of correspondence (e.g. a letter, email, or affidavit) from the adjacent property owner stating their unwillingness to participate in the sharing of the entrance.

If the adjacent property owner agrees to share the entrance, but insists on conditions that the permit applicant believes are unreasonable, the permit applicant can bring this to the attention of the Area Land Use Engineer in the District and it will be considered on a case by case basis.

The *intent* of the shared entrance requirement is that the entrance applicant not be penalized if the neighbor refuses to cooperate.

3. Spacing Standards for Entrances, Intersections, and Crossovers:

Requirement: Section 120 requires proposed commercial entrances, intersections, and median crossovers to be separated by the distances in the spacing standards in Appendix F, which include:

- Table 2-2 spacing standards between signals, entrances, intersections, and median crossovers.
- Tables 2-3 and 2-4 spacing standards for entrances, intersections, and median crossovers near interchange ramps.
- Corner clearance spacing of entrances on a minor side street near its intersection with a major highway (in the Entrance Design chapter).

Exception: See Exceptions to the Spacing Standards discussion on page 16.

4. Vehicular and Pedestrian Circulation between Properties:

Requirement: Record a vehicular, and where appropriate pedestrian, cross access easement and construct a connection to the boundary with an adjacent *undeveloped* parcel; or if there is an *existing* connection on the adjacent property, extend the connection into the property. Applies on a principal or minor arterial, it does not apply on collectors unless the specified by VDOT.

Exception: Physical constraints preventing compliance. Provide documentation of topographical problems, environmental issues such as streams, wetlands, the presence of a neighboring hazardous land use such as heavy industrial or electricity/fuel transmission facility, zoning of the adjacent property for uses that may be incompatible.

Note: If an entrance permit applicant refuses to extend an *existing connection* into the subject property, that applicant’s entrance shall be restricted to right-in/right-out movements.

Why does VDOT encourage vehicular/pedestrian circulation between properties?

Traveling between properties reduces trips (traffic) on the highway. It offers the opportunity for several properties to benefit from having access to a signalized intersection.

A motorist can travel directly to the land use on the left without having to enter the highway and make a series of U turns. Existing and planned sidewalks can be extended to enhance pedestrian activity. More convenient access can attract more customers to each business, like within a shopping center.

Unless VDOT asks for it during the review of a rezoning, site plan, plat or an entrance permit, the developer does not have to provide such connections if located on a collector (section 120 C.4. of the regulations).

How many connections have to be provided?

At least one connection is expected. Connections are encouraged on opposite sides of the applicant's parcel to allow internal circulation parallel to the highway. There may be cases where the connection may be provided to the back property boundary based on planned development in the vicinity.

Does VDOT have any responsibility for maintaining an interparcel connection?

Keeping the connection or shared entrance in serviceable condition is the responsibility of the applicable landowners. For example, VDOT is not responsible for maintaining private roads or internal circulation routes between shopping center outparcels.

Will the adjoining property owner be required to extend the connection into their property?

A condition of the entrance permit for the adjoining property will be to extend any *existing* connections at the common boundaries into the adjoining property to provide cross parcel traffic circulation.

Will extending a vehicular connection prevent the applicant from getting an entrance?

No, the purpose is to reduce trips on the highway, **not to deny** an entrance to the property.

Are frontage roads required?

No, frontage roads are only referenced as one way to provide vehicular circulation between parcels. Where a frontage road is pursued, built to VDOT standards, and the land dedicated for public use, VDOT will accept responsibility for its maintenance (see the "Frontage Roads" chapter in Appendix F).

How is a cross access easement established?

An agreement generally consists of a legal document with attached location identification plat that is recorded at the Circuit Court. The general provisions can include:

- A parcel owner granting an easement (grantor) to the neighboring property owner (grantee) for the right to cross the grantor's property, usually through a parking lot, to the highway entrance.
- Specifies the easement is for the purpose of ingress and egress only.
- May prohibit construction vehicles from using the easement.
- Maintenance will be the responsibility of the grantor until the grantee commences use of the easement and then maintenance will be a joint responsibility.
- The rights and obligations run with the land and the grantor parcel owner retains the right to terminate the easement if any of the required terms or conditions are violated.

The grant of easement needs to be drafted by a real estate attorney. Attorneys prepare similar agreements between property owners for private roads and for outparcels within shopping centers.

When would a pedestrian connection be appropriate and need to be constructed?

If sidewalks *abut* the subject property, the sidewalks *are to be extended* into the property as a condition of entrance permit approval unless there is topography or other constraints.

If the adjoining parcel is *undeveloped*, sidewalks will need to be built to the subject property's boundary with the parcel *where appropriate*. Then when the adjoining parcel develops, that entrance permit applicant will be required to extend the sidewalks into the parcel (section 120 C. 4).

If sidewalks do not abut the subject property, building sidewalks to the property line **is appropriate** when:

- There are sidewalks along most of the corridor,
- There is evidence that pedestrians are or will be using the frontage where the entrance is being put in (worn path, pedestrians walking in the street, or other evidence of use),

- The existing R/W is of sufficient width to accommodate the addition of a pedestrian facility, and
- There is no physical constraint to a sidewalk crossing property boundaries.

Addressing this at the time of rezoning, site plan, and subdivision plat review allows vehicular and pedestrian connections to be included in the initial design of a project.

5. Traffic Signals:

Requirement: If there is insufficient spacing between a proposed signalized entrance and an adjacent traffic signal, the entrance shall be restricted to right-in and/or right-out movements.

Exception: Submit a traffic engineering study that shows acceptable operational levels can be achieved and motorist safety will not be jeopardized by the proposed signal. In addition, the study will need to evaluate the suitability of the entrance location for design as a roundabout.

What should be included in a study to justify a signal spacing exception?

A traffic engineering study should analyze a variety of factors to determine if the proximity of a proposed signal to adjacent existing traffic signals will adversely impact highway/corridor operation and safety.

Suggested Items to Evaluate in a Traffic Signal Spacing Exception Study

- Mainline arterial speeds
- Turn lane warrants/capacity
- Intersection through movement LOS
- Side street delays/queues
- Mainline arterial queues/progression
- Crashes
- Future corridor widening
- Sight distance – Median geometry/grade separation between lanes impact the sight line
- Future traffic generated with parcel development in both directions.

NOTE: A traffic signal warrant analysis also should be completed according to the procedures in the Manual of Uniform Traffic Control Devices or the ITE Manual of Traffic Signal Design.

Why is a traffic signal not allowed if signal warrants can be met but not spacing?

Fewer signals per mile can promote efficient traffic progression along the highway.

This will maximize safety, reduce stop and go traffic and congestion, improve the traffic carrying capacity of the highway, and lower fuel use and vehicle emissions.

6. Limiting Entrance Movements:

Requirement: To preserve the safety and function of the highway, VDOT may require an entrance to be designed and constructed so as to physically prohibit certain traffic movements.

Exception: Submit a study that contains documented reasons showing that highway operation and safety will not be impacted by allowing left turning movements in and/or out of the entrance.

When would entrance movements be restricted?

One example is when a proposed entrance *cannot meet the full access entrance* spacing standard. A partial access entrance (right-in and/or right-out with or without left-in movements) has a lower spacing standard.

When the property's main access point is on a minor side street, a restricted movement entrance may be a *reasonable way to provide access to the major highway*.

Where *a parcel has insufficient frontage* on a highway to meet the spacing standards because of the dimensions of the parcel or a physical constraint such as topography, a right-in/right out entrance will provide the property owner with reasonable access while protecting the public interests in a safe and efficient flow of traffic on the highway.

ACCESS MANAGEMENT EXCEPTION PROCESS**Why do the regulations provide exceptions to the access management requirements?**

The regulations were drafted to anticipate potential situations that might prevent compliance with the requirements and then to provide VDOT the flexibility to approve an exception to address the situation. The property owner benefits by knowing up front what the exceptions are to the rules, what information needs to be submitted, and the procedure for seeking approval. The exceptions help to assure the application of the requirements is reasonable and fair.

What is the process for requesting an exception to the requirements including spacing?

A request for an exception is submitted in writing to one of the District Area Land Use Engineers. An exception form application is available on the VDOT access management web site. Documentation to justify the request is specified in the regulations for each requirement (and on the exception form).

The exception is valid for as long as the details of the entrance location/design in the request do not change.

How do I apply for an exception to the access management requirements?

The exception request review and approval process is described in section 120 D of the regulations.

An Access Management Exception Request form is available (Form AM-E) on the VDOT [access management web site](#) and from the District Offices. It provides a list of all of the exceptions identified in the regulations and the documentation needed to justify each exception.

Contact the applicable Area Land Use Engineer in the District to discuss a possible exception.

How long will it take to receive a decision from VDOT on the exception request?

A decision will be made within 30 calendar days of receipt of the written request and all documentation specified in the regulations. Note: If the application is incomplete, it should be returned with items missing noted. The 30 days would start again upon receipt of a new application.

Some of the requests can be handled fairly quickly such as an exception to the shared entrance requirement while others that involve the review of a traffic engineering study may take the full 30 days.

What is the difference between an access management exception and a design exception?

Exceptions to the access management requirements are specified in section 120 of the regulations and discussed on pages 7 to 11 of this document. Access management exceptions are processed by the District Transportation and Land Use Director along with the Area Land Use Engineers.

A Design Exception or Design Waiver (LD-440, LD-448) is required for deviations from non-access management spacing related Appendix F standards, such as for sight distance and the length of a right lane. The District Location and Design Engineer is the point of contact for Design Exceptions/Waivers. For more information see [IIM-LD-229.1](#) on the VDOT web site.

APPENDIX F SPACING STANDARDS

Do the spacing standards apply to private entrances?

No, the spacing standards only apply to commercial entrances. They do not apply to private or to low volume commercial entrances.

How does the spacing for one type of entrance or intersection apply to the others?

The spacing distance in each Table 2-2 column applies to that column's entrance type and to the entrance/intersection/crossover columns to the left. So the partial access entrance spacing applies to other such entrances and all other types of entrances and intersections while the signalized intersection spacing only applies to other signalized intersections. See the Appendix F Table 2-2 "Notes".

How are the spacing distances measured?

Entrances/intersections are measured from their centerline to the centerline of the adjacent entrances/intersections both upstream and downstream, except for commercial entrance spacing on local streets (see question/answer below). A roundabout is measured from the outer edge of its nearest inscribed diameter. See the Table 2-2 spacing standards "Notes", Road Design Manual [Appendix F](#).

Do the entrance spacing standards apply to entrances on the opposite of a non-median street?

Commercial entrances on the opposite side of the road must comply with the spacing standards on that side of the road. The entrance spacing standards are linear applying along one side of the highway.

However, the issue of potential left turn conflicts for entrances on opposite sides must be considered. The entrance needs to be offset from those on the opposite side as much as possible to reduce conflict between left turns and to avoid "wrong-way" or "jog" maneuvers: drivers crossing the road at an angle to an entrance on the other side. Distinct left turning movements are the goal for entrances on opposite sides of an undivided road. See Appendix F "Entrance Connections on Opposite Sides of a Roadway".

Finally, a spacing exception can be approved even if the entrances on the opposite side of the street do not meet the spacing standards. The spacing standards will apply to the entrances on the opposite side when land uses there change or expand in the future.

What if a land owner lacks enough highway frontage to meet the spacing standards?

When an entrance proposed for a *recorded* parcel cannot meet the spacing standards due to parcel dimensions or a physical constraint such as topography or an environmentally sensitive area limiting access to the property, section 120 C.3.F of the regulations entitles the landowner to a right-in and/or right-out entrance that is located as far as possible from other commercial entrances. A spacing exception is not required in this situation.

This is the safest type of entrance. National Highway Institute research indicates that over 70% of traffic crashes at entrances involve left turns (crossing lanes of on-coming traffic). Crashes and congestion can be caused by vehicles backing up while waiting for a motorist to make a left turn into the entrance.

The land owner can request an exception for a full access entrance. The District's decision on the request should be based on an evaluation of the trip generation for the proposed use in conjunction with highway traffic volumes to determine how a full access entrance's left turn movements will affect entrance/highway safety.

If a median crossover does not meet the spacing standards, can entrances be located at it?

A commercial entrance can be approved without an exception request at an existing median crossover that does not meet the spacing standards and built prior to the adoption of the regulations.

The entrance permittee should be required to install a *left turn lane at the existing median crossover* to safely handle the new traffic that will be turning into the new entrance. Interparcel circulation – “record access easements and construct vehicular connection to the boundary of the property” (see 9) – should be considered to maximize the number of parcels that can use the crossover.

Districts can preserve the long term operation and safety of the highway by undertaking a corridor study to identify underutilized crossovers with inadequate separation for closure.

Why are directional median crossovers treated differently than full median crossovers?

Directional median crossovers only have one left turn movement (in or out). This greatly reduces left turn conflict points vs. a full crossover. So the lower *full access entrance spacing* applies to directional median crossovers **and** its associated left-in or left-out entrance.

Full crossovers have left turn movements in both directions. They will eventually have entrances on both sides leading to crossing movements and the potential for a signal. Directional crossovers won't. Full crossovers are separated from other full crossovers and intersections by the *full crossover spacing*.

Which spacing standard applies to a new entrance at a new full median crossover?

The *full median crossover spacing standard* applies to a new entrance that will be built *in conjunction with a new* median crossover, not the entrance spacing standard. The operational impacts of a new median crossover take precedence over those of the entrance to be located at it.

The Regional Traffic Engineer must review and approve a request for a new median crossover; see Appendix F “Crossover Location Approval Process”.

The new median crossover should be constructed with left turn lanes to safely handle the new turning movements and U turns that can impact the operation of the highway.

What is the difference between the corner clearance and entrance spacing standards?

Corner clearance separates commercial entrances from a minor side street's intersection with a major roadway. The intent is to prevent queued vehicles from backing up onto the highway or from blocking other entrances near the intersection. The major roadway will have the higher functional classification or if the same, the higher traffic volume. It does not apply to the intersection of two local roads.

The corner clearance distance of 225 ft. applies when it is greater than the Table 2-2 spacing standard separating entrances from intersections (see the Table's Footnote 8). While only two of the entrance spacing standards are less than the corner clearance 225 ft., it is important to remember that **corner clearance is measured differently than entrance spacing**.

Corner clearance is measured from *the edge* of the intersection to *the edge* of the entrance while *Table 2-2 spacing* is measured from the intersection's *centerline* to the entrance's *centerline*. Intersections can be fairly wide so the Table 2-2 spacing standard may result in a distance less than the corner clearance.

Note: Corner clearance for streets within subdivisions is addressed in the Subdivision Street Design Guide, page 22 in Appendix B (1) of the Road Design Manual.

Why are the spacing standards for entrances/intersections near interchange ramps not based on the road's functional classification?

National research studies recommend that spacing be based on the number of travel lanes on the highway crossing the interchange, not its functional classification. Spacing distances between ramp terminals and entrances/intersections are higher for multilane than two-lane highways because the motorist's maneuvers at multilane roads are more complex, such as crossing through lanes to reach a left turn lane at an intersection. Functional classification is not applied: arterials and collectors can be two lanes or multilane.

How is interchange ramp entrance spacing measured when a ramp leads to a full turn lane?

If the off and/or on ramp connects to a continuous auxiliary lane, the spacing distance is measured from where the AASHTO calculated acceleration or deceleration lane and taper would end if there were no continuous auxiliary lane. See the “Spacing Standards for Commercial Entrances/Intersections Near Interchange Ramps” in Appendix F.

What are the spacing standards for roundabouts?

Roundabouts are defined as a “circular intersection.” Roundabouts are *separated from other intersections* by the unsignalized intersection spacing standard. A roundabout design can offer an attractive alternative to a signalized intersection since the spacing distance is less.

Because roundabouts require less upstream approach and downstream exit areas, the partial access entrance spacing is used to *separate roundabouts from each other*.

What is the spacing standard for commercial entrances on a local street?

The primary function of local streets is to provide access to property and to other streets. So the spacing standard for commercial entrances on local streets is 50 ft., *measured between the ends of radii* of adjacent entrances. See the Figure 4-11 illustration in Appendix F.

However, the spacing standard distance between two or more subdivision street connections to a road with a functional classification as a local street is addressed in the Road Design Manual, Appendix B.1 “Subdivision Street Design Guide” page 22.

Can existing commercial entrances be affected by the spacing standards?

Section 110 of the regulations establishes that if the use of the property changes to one that generates more traffic, then entrance reconstruction, relocation, consolidation or upgrading may be required. Relocation or consolidation of the existing entrances on the property will be critical to improve motorist safety when the spacing standards cannot be met. For more information see page 5 and 6.

Do the spacing standards apply when in proximity to a city/town entrance or intersection?

A commercial entrance/intersection on a state highway needs to be separated from an entrance (intersection) on a non-VDOT maintained road in an adjacent city or town, e.g. in Petersburg. The intent is to assure a safe means of ingress and egress at entrances to be located on state maintained roads.

The ideal situation would be to move the proposed entrance as far as the property frontage will allow away from municipality located entrance/intersection. The regulations allow a right-in/right-out entrance where there is not enough property frontage (see bottom of p. 13).

When do the spacing standards apply to VDOT highway construction projects?

If the construction design plans were presented at a VDOT public hearing prior to the effective date of the regulations (see p.1), the spacing standards for commercial entrances, intersections, and median crossovers will not apply. Projects that were in the planning stage prior to this date such that the plans had not been made public by VDOT would need to comply with the spacing standards.

The spacing standards **do apply** to highway construction or reconstruction projects on roadways maintained by VDOT, or on roadways maintained by localities which will be designed using VDOT standards, just as any other applicable standard in the Road Design Manual. For such highway projects, VDOT staff can submit a request for a spacing standard waiver to the District Location and Design Engineer using Form AM-W, available on the VDOT On-Line Forms web page.

EXCEPTIONS TO THE SPACING STANDARDS

Section 120 of the Regulations

How can problems with meeting the spacing standards be avoided?

It is important for developers, their consultants, and local planners to consider the spacing of entrance and intersection locations when evaluating land use and design alternatives for a proposed development and during the preparation of zoning documents, site plans, and subdivision plats.

Grandfathering the Location of Entrances and Intersections:

What are the rules for grandfathering the location of entrances and intersections?

Rezoning: The specific location of the entrance identified in a proffered a plan of development or a written proffered condition that was approved by the locality prior to the effective date of the regulations (see p. 1) is exempt from the spacing standards in Appendix F. An exception request does not have to be submitted. The proffer would have to show or describe the location of the entrance using some type of measurement such as the distance from property boundaries.

Site Plan, Subdivision Plat: The specific location of the entrance or intersection is exempt from the principal arterial spacing standards if it is shown on a site plan, preliminary or final subdivision plat that was approved by the locality prior to July 1, 2008; the location is exempt from the minor arterial, collector, local street spacing standards if the locality submitted the site plan or plat to VDOT and VDOT received it prior to October 14, 2009. Again, an exception does not have to be submitted.

Do grandfathering entrance locations apply to conditional uses/special exceptions?

No, the regulations only reference rezoning proffered plans of development or written conditions.

Is an applicant entitled to a traffic signal if the location is grandfathered?

The location is be exempt from the Table 2-2 Appendix F intersection spacing standards, but whether the signal will be allowed depends on operational factors, such as meeting the signal warrants in the Manual on Uniform Traffic Control Devices, available on the VDOT web site under Business Center, Manuals.

Within Traditional Neighborhood Designed (TND) Developments:

Where does a TND development have to be located to receive a spacing exception?

Traditional neighborhood developments that meet certain criteria must be located within a designated urban development area as defined in § 15.2-2223.1 of the Code or in an area designated by the local comprehensive plan for higher density development. The spacing exception is for the entrances and intersections internal to the development. For more information on the characteristics and benefits of this design style, see the [Transportation Efficient Land Use and Design web page](#) on the VDOT web site.

On an Older, Established Business Corridor:

What would be considered an older, established business corridor in a locality?

This would be a section of a highway corridor in which most of the properties have been developed for business uses where the spacing pattern of the existing entrances and intersections along the corridor did not meet the spacing standards prior to the July 2008 (principal arterials) or October 2009 (minor arterials, collectors) effective dates of the regulations. Aerial photos can be used to identify them. VDOT approval of older, established business corridors and their boundaries are handled on a case by case basis.

On a Highway Identified in an Access Management Corridor Plan:

What are the advantages to a VDOT approved access management corridor plan?

Corridor access management plans offer flexibility in the application of the regulations and standards to meet the special needs of different areas of the state. Through the planning process, parcels with insufficient property frontage to meet the spacing standards can be identified. Opportunities for sharing entrances and vehicular/pedestrian circulation between adjoining properties can be identified as can physical constraints that would prevent their use.

Recommendations can be made about turn lanes, signal synchronization, closing median crossovers as well as locations for new crossovers. The plan can establish where the Appendix F spacing standards can be met, where they can be exceeded, and where shorter spacing distances are acceptable.

Can the spacing standards in a locality's corridor plan supersede VDOT's?

If the spacing standards in the corridor plan are lower than VDOT's, the plan must have been reviewed and approved by VDOT in order for the spacing standards to apply (see section 120 of the regulations). If the spacing is greater than VDOT's, the District will use those in the corridor plan.

What is the process for VDOT participation in an access management corridor plan?

Contact the Transportation Planner or an Area Land Use Engineer in the District for information on how to initiate the process for developing a corridor management plan.

For State Required Second or Additional Entrances:

What if a development must have more than one entrance for the streets to be eligible for state maintenance and the entrances can not meet the spacing standard?

The regulations recognize that this situation can occur. Either the state requirement for the multiple entrances can be waived or a reduced spacing distance can be approved. An exception request would need to be submitted with information on the development. See section 120 C. 3. e. in the regulations.

Proposed Signalized Entrance:

What are the options if a signalized entrance cannot meet the spacing standards?

Section 120 of the regulations specifies that in this situation the entrance will be restricted to right-in and/or right-out movements. The developer can request an exception to this requirement by submitting a traffic engineering study that shows acceptable operational levels can be achieved and motorist safety will not be jeopardized. In addition, the study will need to evaluate the suitability of the entrance location for design as a roundabout. For more information on the study, see page 11 in this document.

For an Entrance with Partial Access Restricted Movements:

If an entrance must have restricted turning movement to meet the spacing standards, can a property owner request an exception to allow a full access entrance?

A request for an exception to this requirement can be submitted, but must include a traffic engineering study that contains documented reasons showing that highway operation and safety will not be adversely impacted by allowing left turning movements out of the entrance (creating a full access entrance).

Information on daily and peak hour trips, percent truck traffic, current/projected traffic volumes on the road, distances to other entrances, etc. should be provided.

APPENDIX F ENTRANCE/INTERSECTION DESIGN STANDARDS

Why is the entrance design the same on principal/minor arterials and collectors?

The type or functional classification of the abutting highway is not relevant to many of the standards. Throat depth is based on the traffic generated by the land use. Turn lanes focus on the speed of the highway and the length of the auxiliary lane necessary to safely decelerate. Curb radii are designed to accommodate the design vehicle expected to use the entrance. Stopping sight distance is based on the distance it takes for a motorist to stop at a given speed.

How do commercial & private entrances differ in terms of meeting sight distance standards?

A **commercial entrance** (plus moderate volume commercial entrance, defined on page 2) is required by the Access Management Regulations Section 80 to meet the minimum intersection sight distance standards in Table 2-7 Appendix F. Intersection sight distance is necessary at any access point along a highway (entrance, street connection) to allow drivers of stopped vehicles a sufficient view of the highway in both directions to see approaching vehicles to avoid a collision while crossing the highway or making a left or right turn onto the highway.

If this sight distance can't be met, a Design Waiver Form LD-448 must be approved by the District Location & Design Engineer. *If the waiver from the intersection sight distance standard is approved*, then the entrance must then meet the minimum stopping sight distance from Table 2-6 in the Appendix F.

NOTE: If intersection sight distance is achieved, the entrance **does not** need to also achieve stopping sight distance, which can be problematic under some circumstances in rolling terrain. See "Exceptions/Waivers to the Design Standards" in Appendix F for more information.

A **low volume commercial entrance** (see p. 2) must meet the minimum stopping sight distance standard.

A **private entrance** is placed at a location along the property owner's highway frontage with *the best possible sight distance as determined by VDOT* (section 90 of the regulations). VDOT can deny the private entrance applicant's preferred location if it does not have the best possible sight distance and therefore is less safe for users of the entrance as well as motorists on the highway.

What is the difference between intersection sight distance right and left?

The intersection sight distance to the *right* of an entrance/intersection (SDR) is the sight distance needed to see vehicles approaching from the right when making a left turn. The intersection sight distance to the *left* (SDL) is the sight distance needed to see vehicles approaching from the left to make a right turn.

SDR is greater than SDL because the vehicle has to travel further to make a left turn than to turn right on to the intersecting highway. Similarly, as the number of lanes that will be crossed increases sight distance increases due to the distance the vehicle will travel. Only SDL is needed when making a right turn but both SDL and SDR are needed for a left turn. For more information, see Appendix F.

The minimum setback point for the sight triangle should be 14.5 feet from the near-side extended highway edge of pavement.

Does on-street parking impact meeting intersection sight distance?

According to "Designing Walkable Urban Thoroughfares: A Context Sensitive Approach - An ITE Recommended Practice", parking should be prohibited at least 30 feet from the approach (stop bar) of a signalized intersection and at least 20 feet from the curb return of unsignalized intersections. Intersection sight distance is extremely important and should not be compromised by the presence of parked vehicles.

Can a District engineer approve modifications to entrance design standards?

Yes, entrance design criteria can be modified by a District engineer to meet specific site requirements or for land uses with special characteristics. Appendix F entrance design Figures 4-8 to 4-15 and the Access Management Regulations offer flexibility in the matter:

1. Each design illustration states that a District engineer may approve modified entrance details to meet specific site requirements “based on sound engineering principles.”
2. Section 70 of the regulations makes it clear that it is the entrance permit applicant’s responsibility to demonstrate and justify to the District’s satisfaction that the design will not affect the safety, use, or operation of the highway.

Do traffic analysis studies specified in Appendix F have to be signed/sealed by a PE?

Yes, traffic engineering studies, traffic engineering investigation studies/reports, speed studies, signal warrant studies, and traffic safety and operational studies/reports must be signed and sealed by a licensed professional engineer (PE). See TE-362.1 on the VDOT web page [Signing and sealing of plans](#), under Traffic Engineering.

How does the entrance design differ for a commercial entrance on a local street?

The minimum two-way entrance width is 24 ft. compared to 30 ft. for a two-way commercial entrance on other functionally classified roads. See Figure 4-11 in Appendix F.

What are the details on the pavement for a commercial entrance, turn lane, and taper?

Asphalt, concrete, or pavers are required of a construction (e.g. sub-base and base) *comparable to the pavement* of the adjacent highway. See commercial Entrance Pavement in the Entrance Design chapter.

What is the purpose of taper “F” in the Figure 4-9 commercial entrance design?

In the Figure 4-9 commercial entrance design along highways with shoulders, the “taper” actually serves to tie-in the entrance to the edge of pavement. It is not provided for turning movements. The tie-in is produced at a 4 -1 ratio (entrance starting 12’ back from edge of pavement, taper to pavement 48’ long). Should the road be widened, the pavement would absorb this “taper” and the edge of pavement would be at the end of the “U” radius like the entrance in Figure 4-10. Note that the 2nd entrance design in Figure 4-9 does depict a taper for turning traffic.

Who is responsible for maintaining an entrance’s right turn lane?

A turn lane is located in existing right-of-way or dedicated right-of-way, constructed to VDOT Road Design Manual standards, and maintained by VDOT. Appendix F states:

Auxiliary Lanes and Tapers - When a land use will generate high traffic volumes, auxiliary lanes and tapers may be required. Auxiliary lanes and tapers shall be located within right-of-way.

What are the rules on preventing entrance drainage on to the highway?

Language dealing with mud and water washing onto the roadway is contained in the Land Use Permit Regulations subsection K.8 of 24VAC30-151-40: the entrance permittee must “Ensure that no debris, mud, water, or other material is allowed on the highways.”

Also, Access Management Regulations 24VAC30-73-130 (A) requires that “Entrances shall be constructed so as to not impair drainage within the right-of-way and so that surface water shall drain from the highway.”

What is the effective radius of an entrance?

The “effective” radius must be used where on-street parking is allowed near the entrance (typically the actual radius of the entrance curbing plus the width of the parking lane). The radius is where the edge of the entrance is rounded to permit easier entry and exit by turning vehicles.

What is the purpose of an entrance throat?

A potentially hazardous situation occurs when a vehicle turning into an entrance is blocked by a vehicle that has stopped due to on-site circulation within the parking lot, particularly when a vehicle is backing out of a parking space into the entrance. The entrance throat length, therefore, provides enough distance for turning vehicles to orient themselves and thereby avoid being rear-ended. The throat also helps keep the beginning of the entrance clear so that vehicles do not back up in the through lanes of the highway.

The reverse applies to vehicles exiting the property. The entrance throat seeks to keep the exit queue from interfering with on-site traffic movements.

The minimum length of the entrance throat is 35 ft.; 50 ft. where back-out parking spaces may block entry movements. See the entrance throat table and discussion in Appendix F, Entrance Design.

How are pedestrians accommodated at a commercial entrance?

“Entrance Pedestrian Accommodation” in Appendix F Entrance Design offers a web link to the entrance design criteria when sidewalks abut a commercial entrance (the pedestrian route across the entrance).

Do the design standards allow midblock pedestrian crosswalks?

Midblock crosswalks can be used to provide locations for pedestrians and bicyclists to cross the highway where pedestrian/bicyclist destinations are located on opposite sides of the road. The characteristics of the highway and the design of the crosswalk will need to be evaluated. The topic is discussed in the Accommodating Pedestrians and Bicyclists section of the Intersection Design chapter in Appendix F.

Where in Appendix F can I find information on designing partial access entrances?

The “Restricting Left Turn Movements at Commercial Entrances” section in the Entrance Design chapter of Appendix F provides a detailed discussion on designing entrances for partial access, right-in and/or right-out with or without left-in movements, to minimize the impact of the entrance turning movements on the safe progression of traffic on the highway.

Illustrations with design details for raised islands to channelize entrance turning movements to create a partial access entrance on undivided highways are also presented. NOTE: the minimum commercial entrance radius is 30 ft. when a channelization island used.

While such islands may not be as effective as medians, they can still prevent a majority of left turns.

Raised four foot wide medians or flexible traffic posts with reflective striping can be installed along the front of an entrance to serve as visual and physical barriers to prevent left turns at the entrance. The Medians section in the Turning Lanes chapter discusses directional median opening design.

Why is an 18 foot median referenced in the Table 2-7 Intersection Sight Distance?

The reference to an 18’ median applies to medians up to 18’ in width (18’ or less). For medians up to this width there is not sufficient room to stop and left turns must be made as one action so more sight distance is needed. For wider medians, there would be room to stop in the middle of the highway, allowing a turn to be made in two parts, so sight distance can be less.

Summary of the Six Access Management Requirements and Related Exceptions

1. Entrances are not permitted in the functional area of an intersection or interchange.

Exception: VDOT approval of a traffic engineering study documenting that highway operation and safety will not be adversely impacted by the location of the entrance.

2. Entrance to be shared with adjoining properties. Exceptions:

A. Adjacent property owner will not agree to share the entrance. Provide written evidence that a reasonable agreement could not be reached.

B. There are physical constraints to creating a shared entrance: topography, adjacent hazardous land use (e.g. heavy industrial, quarry, or natural gas transmission facility), a stream or wetland.

3. Compliance with Appendix F spacing standards for entrances, intersections, and crossovers; corner clearance; for entrances/intersections near interchange ramps. Exceptions:

A. The specific, measurable location of the entrance or intersection is identified on a:

i. Conceptual plan or in a rezoning proffered condition approved by the locality prior to the effective date of the regulations July 1, 2008 or October 14, 2009 (see page 1); or

ii. Site plan, preliminary/final subdivision plat, or SSAR conceptual sketch:

a. Approved by the locality prior to July 1, 2008 (principal arterials).

b. Received by VDOT prior to October 14, 2009 (minor arterial, collector, or local street).

B. Entrance located on a highway within the limits of a VDOT/locality approved access management corridor plan with different spacing standards.

C. Entrance located on an older, established business highway corridor where existing spacing did not meet the spacing standards prior to the effective date of the regulations.

D. Entrances to be located within a new urbanism, mixed use type development.

E. The development's second or additional entrance does not meet the spacing standards but are necessary for the streets to be accepted into the secondary system.

NOTE: If a parcel does not have sufficient highway frontage to meet the spacing standards, VDOT will allow a right-in/right-out entrance that is located to achieve the maximum separation possible.

4. Vehicular/pedestrian connections to boundaries with adjacent undeveloped properties. Required on a principal or minor arterial; may be required on a collector.

Exception: A physical constraint preventing such connections: topography, hazardous use, wetlands; or an incompatible neighboring land use.

NOTE: If the permit applicant is capable of providing such connections or extending existing connections, but refuses to, the proposed entrance shall be restricted to right-in/right-out movements.

5. Insufficient spacing between a proposed signalized entrance and an adjacent traffic signal. A signal will not be approved and the entrance will be limited to right-in/right-out movements.

Exception: VDOT approval of a traffic engineering study signed and sealed by a PE that (i) evaluates the suitability of the entrance location for an alternate design as a roundabout and (ii) documents that the proposed signalized entrance will not impair highway operation and safety.

6. Limiting entrance movements. VDOT may require an entrance to be designed and constructed to physically prohibit certain traffic movements (see page 11).

Exception: VDOT approval of a traffic engineering study signed and sealed by a PE that contains documented reasons showing that highway operation and safety will not be adversely impacted by allowing certain turning movements in and/or out of the entrance.