

CHAPTER 112
PRIMARY ROAD ACCESS CONTROL
[Prior to 6/3/87, Transportation Department[820]—(06,C) Ch 1]

761—112.1(306A) General information.

112.1(1) *Statement of policy.* The efficiency and safety of a highway depend to a large extent upon the amount and character of interruptions to the movement of traffic. The primary cause of these interruptions is vehicular movements to and from businesses, residences, and other developments along the highway. Regulation and overall control of highway access are necessary to provide efficient and safe highway operation and to utilize the full potential of the highway investment.

Accordingly, the department hereby establishes rules for control of access to primary roads.

112.1(2) *Considerations.* If the department determines that the literal application of these rules to a specific situation will create or result in an unsafe situation or an unreasonable design, the department shall use sound engineering practices to determine the appropriate design for the specific situation. This design shall address:

1. Safety to the traveling public.
2. Perpetuation of the traffic-carrying capacity of the highway.
3. The impact upon the economy of the state.
4. Protection of the rights of the traveling public and of property owners, including the rights of abutting property owners.

Justification for the design must be included in the permit or the highway project file, as applicable.

112.1(3) *Waivers.* The director of transportation may, in response to a written request or petition, waive provisions of this chapter. 761—Chapter 11 applies, with the following exceptions:

a. If a person is applying for an access permit under this chapter, the person shall submit a related waiver request as an addendum to the application, in lieu of petition for waiver. The request must include:

- (1) A description of and citation to the specific rule from which a waiver is requested.
- (2) The specific waiver requested.
- (3) The relevant facts and reasons the applicant believes will justify the waiver, if they have not already been provided to the department in the application. The applicant should address each of the following:

1. Why applying the rule will result in an undue hardship to the applicant.
2. Why waiving the rule will not prejudice the substantial legal rights of any other person.
3. Whether the provisions of the rule are specifically mandated by statute or another law other than the rule.

4. How substantially equal protection of the public health, safety, and welfare will be afforded by means other than those prescribed by the rule.

(4) The names of persons who may be adversely impacted by the grant of the waiver, if known.

b. In all other cases, a person requesting a waiver shall submit a petition for waiver in accordance with 761—11.5(17A). The petition shall be submitted to the district engineer.

c. Rescinded IAB 10/12/05, effective 11/16/05.

d. Rescinded IAB 10/12/05, effective 11/16/05.

112.1(4) *Waivers involving interstate highways.* The department shall not waive these rules in access situations involving the interstate highway system, including its ramps, without the approval of the Federal Highway Administration.

112.1(5) *Contact information.* Information and forms regarding primary road access control may be obtained from any of the department's six district offices or from the Office of Traffic and Safety, Iowa Department of Transportation, 800 Lincoln Way, Ames, Iowa 50010. Forms are available on the department's Internet Web site at the following address: <http://www.dot.state.ia.us/forms/index.htm>.

761—112.2(306A) Definitions. The following terms, when used in this chapter, shall have the following meanings unless the context otherwise requires:

“Access.” A means of ingress or egress between a primary highway and abutting property or an intersecting local public road or street.

“Acquisition.” To receive title by gift, purchase or condemnation.

“Bridge.” Any structure, including supports, that is erected over a depression or obstruction, has a track or passageway for carrying traffic or other moving loads, and has a length measured along the center of the driveway of more than 20 feet between undercopings of abutments or extreme ends of openings for multiple boxes.

“Built-up area.” An area adjacent to a primary road that meets the following general criteria:

1. The lots or area abutting the primary road does not have sufficient setback for the construction of a frontage road, and the development in depth precludes the establishment of a frontage-type road to the rear of the lots or area.

2. When a “built-up area” exists on one side of a primary road, the other side of the road is also considered to be “built-up” for the purpose of determining access requirements.

“Clear zone.” The roadside border area, starting at the edge of the traveled way, available for use by errant vehicles.

“Concrete box culvert.” A concrete structure not classified as a bridge, that provides an opening under a roadway or driveway, is either precast or cast in place, and has vertical sidewalls, a top slab and a floor.

“Controlled access highway.” All primary highways are controlled access facilities.

“District representative.” A department employee who processes requests for access in an assigned geographical area.

“Entrance.” A physical connection between a primary highway and abutting property or an intersecting local public road or street.

“Entrance type.” Entrances are divided into the following three classes according to their normal usage:

1. Type “A” entrance. An entrance developed to carry sporadic or continuous heavy concentrations of traffic. Generally, a Type “A” entrance carries in excess of 150 vehicles per hour. An entrance of this type would normally consist of multiple approach lanes and may incorporate a median. Possible examples include racetracks, large industrial plants, shopping centers, subdivisions, or amusement parks.

2. Type “B” entrance. An entrance developed to serve moderate traffic volumes. Generally, a Type “B” entrance carries at least 20 vehicles per hour but less than 150 vehicles per hour. An entrance of this type would normally consist of one inbound and one outbound traffic lane. Possible examples include service stations, small businesses, drive-in banks, or light industrial plants.

3. Type “C” entrance. An entrance developed to serve light traffic volumes. Generally, a Type “C” entrance carries less than 20 vehicles per hour. An entrance of this type would not normally accommodate simultaneous inbound and outbound vehicles. Possible examples include residential, farm or field entrances.

“Entrance width.” See subrule 112.4(7).

“Fringe area.” A suburban-type area adjacent to a primary road that meets the following general criterion: The layout of the lots or area abutting the primary road, including intermittent or unrelated development, permits construction of a frontage road in front of, or a frontage-type road to the rear of, the development.

“Frontage.” The length along a public road right-of-way of a single property tract. A corner property at an intersection of two public roads has separate frontage along each roadway.

“Frontage road.” A public road or street auxiliary to and usually located alongside and parallel to a primary highway for maintaining local road continuity and for control of access.

“Fully controlled access highway.” A highway for which the rights of ingress and egress from abutting properties have been legally eliminated by the roadway jurisdiction. Permanent access to the facility is allowed only at interchange locations. No permanent at-grade access is allowed.

“Highway,” “street” or “road.” A public way for the purpose of vehicular travel, including the entire area between the right-of-way lines.

“Interchange.” A system that provides for the movement of traffic between intersecting roadways via one or more grade separations.

“Median.” The portion of a divided highway or divided entrance separating traffic moving in opposite directions. Medians may be depressed, raised or painted. Openings in the primary highway median to accommodate entrances are governed by the following:

1. New median openings should not be permitted except to accommodate intersecting local public roads or streets or large traffic-generating facilities such as large shopping centers or industrial plants. Median openings may be permitted in these instances if satisfactorily justified and in the public interest.
2. If a median opening exists prior to the construction of a driveway or local public road or street, the opening may be modified to accommodate the turning movements of the traffic expected.
3. Costs incurred for adding or modifying median openings shall not be borne by the department.
4. The department reserves the right to close an existing median opening when the department deems it is necessary.

“Normal peak hour traffic.” The highest number of vehicles found to be entering and leaving an entrance during 60 consecutive minutes in a 24-hour period, excluding holidays.

“Pavement.” The portion of a roadway used for the movement of vehicles, excluding shoulders.

“Predetermined access location.” A location of access reserved for the adjacent property at the time access rights are acquired.

“Primary road” or *“primary highway.”* A road or street designated as a “primary road” in accordance with Iowa Code subsection 306.3(6). This definition includes primary road extensions in cities and primary roads under construction.

“Priority I highway.” A primary highway constructed as a fully controlled access highway. Permanent access to the facility is allowed only at interchange locations. No permanent at-grade access is allowed.

“Priority II highway.” A primary highway constructed as a two-lane or multilane (more than two lanes) facility with a high degree of access control. Access to the facility is allowed only at interchanges and selected at-grade locations.

The minimum allowable spacing between access locations is one-half mile. Limiting primary highway access to existing public road intersections at intervals of one mile is preferable.

“Priority III highway.” A primary highway constructed as a two-lane or multilane facility. Access to the facility is allowed at interchanges and at-grade locations.

The minimum allowable spacing between access locations is 1,000 feet. Spacing of one-quarter mile is preferable.

“Priority IV highway.” A primary highway constructed as a two-lane facility; however, the definition may include a multilane facility. Priority IV is divided into Priority IV(a) and Priority IV(b).

1. For highways designated as Priority IV(a), the minimum allowable spacing between access locations is 600 feet.

2. For highways designated as Priority IV(b), the minimum allowable spacing between access locations is 300 feet.

“Priority V highway.” A primary highway where access rights to it were acquired between 1956 and 1966, entrances were reserved at that time with no spacing limitations, and the department has subsequently determined that a higher degree of access control is desirable. The definition also includes a highway where access rights have not been acquired, but the department anticipates acquiring access rights in the future.

In rural areas, entrances to the highway are generally restricted to one entrance for contiguous highway frontage not exceeding 1,000 feet, two entrances for contiguous highway frontage exceeding 1,000 feet but not exceeding 2,000 feet, and so on.

“Priority VI highway.” A primary highway where the acquisition of access rights or additional access rights is not anticipated. This definition may also include a highway where access rights were acquired between 1956 and 1966, entrances were reserved at that time with no spacing limitations, and the department has subsequently determined that restricting access to the facility is no longer necessary.

Access locations are approved based on safety and need.

“Ramp bifurcation.” The point where the baseline of the ramp intersects the centerline of the adjacent roadway.

“Recreational trail.” A trail established for biking, pedestrian, snowmobiling, cross-country skiing, or equestrian use.

“Right-of-way line.” The boundary line between the land acquired for or dedicated to public road use and the adjacent property.

“Roadway.” The portion of a highway used for the movement of vehicles, including shoulders and auxiliary lanes. A divided highway has two or more roadways.

“Rural area.” An area clearly not meeting the criteria set forth for a built-up or fringe area. Rural area also includes agricultural land within the corporate limits of a city.

“Rural-designed area.” An area in which the predominant cross section accommodates surface drainage from the roadway and adjacent terrain via an open ditch.

“Shoulder.” The portion of a public road contiguous to the traveled way for the accommodation of disabled vehicles and for emergency use.

“Sight distance.” The distance of clear vision along a primary highway in each direction from any given point of access where a vehicle must stop before entering the highway.

1. Sight distance at an access location is measured from the driver’s height of eye (3.5 feet) to the height of an approaching vehicle (4.25 feet).

2. An access location should be established where desirable sight distance is available and shall not be authorized in a location providing less than minimum sight distance, as shown below.

POSTED DAYTIME SPEED LIMIT (mph)	DESIRABLE SIGHT DISTANCE (feet)	MINIMUM SIGHT DISTANCE (feet)
70	910	730
65	820	645
60	730	570
55	645	495
50	570	425
45	495	360
40	425	305
35	360	250
30	305	200

3. On a four-lane divided primary highway where access is proposed at a location that will not be served by a median crossover, sight distance is required only in the direction of the flow of traffic.

“Special access connection.” An access location authorized to the primary road system in an area where access rights were previously acquired.

“Traveled way.” The portion of a roadway used for the movement of vehicles, excluding shoulders and auxiliary lanes.

“Turning lane.” An auxiliary lane, including taper areas, primarily used for the deceleration or storage of vehicles leaving the through traffic lanes.

“Urban-designed area.” A built-up or fringe area in which the predominant cross section accommodates roadway surface drainage by means of a curbed roadway.

761—112.3(306A) General requirements for control of access.

112.3(1) *Establishment of controlled access highway.* Access locations necessary for free and convenient access that exist at the time a primary highway is established are hereby approved if the department deems they are reasonably located.

112.3(2) *Frontage roads.* If a frontage road is open to public travel, access from the abutting property shall be to the frontage road.

a. Access to frontage roads maintained by the department shall be authorized in accordance with rules 112.4(306A), 112.8(306A) and 112.9(306A).

b. Access to frontage roads maintained by other governmental agencies shall conform to those agencies' access requirements.

112.3(3) Enforcement of access control.

a. *Fences.* The department may construct and maintain fences or other appropriate physical separations within the primary highway right-of-way to effectively enforce and control access to the highway.

b. *Unauthorized construction or modification of entrances.* If an entrance is constructed or altered without the approval of the department or if the work is not completed in conformity with an approved permit or agreement, the department may notify the owner by certified mail of the violation and the need to restore the area to the standards which existed immediately prior to construction or alteration or advise of the changes necessary to conform. If after 20 days the changes have not been made, the department may make the necessary changes and immediately send a statement of the cost to the property owner. If within 30 days after sending the statement the cost is not paid, the department may institute proceedings in the district court system to collect the cost.

c. *Written permission—right to inspect.* A person must have written permission from the department via the specified permit or agreement before the person may construct or alter an entrance.

(1) The department reserves the right to inspect and approve any work performed within the right-of-way.

(2) If the work is not performed as required by the permit or agreement, the department may revoke its permission and deny access until the conditions are corrected.

(3) If the work performed does not conform to the department's specifications, the department may make the necessary changes, charge the costs to the party responsible and pursue other available remedies.

112.3(4) Maintenance of entrances.

a. Property owners having access to a primary highway are responsible for the maintenance of their entrances as follows:

(1) For an entrance that does not have a paved surface, the property owner is responsible for maintaining the entrance from the outer shoulder line of the primary highway to the right-of-way line.

(2) For an entrance that has a paved surface, the property owner is responsible for maintaining the entrance from the paved edge of the primary highway to the right-of-way line.

b. Drainage structures located within the primary highway right-of-way shall be maintained by the department except for concrete box culverts and bridges constructed by a permit holder under authority of an entrance permit. These structures shall be maintained by the permit holder.

761—112.4(306A) General requirements for entrances where access rights have not been acquired. This rule establishes the general requirements for access to primary highways where access rights have not been acquired.

112.4(1) Entrance permit. A person shall not modify an existing entrance or construct a new entrance to a primary highway from abutting property or from a local public road or street until the department has issued an entrance permit for the work.

a. An application for an entrance permit shall be submitted to the appropriate district representative on a form prescribed by the department.

b. The department shall be provided with a plan, drawing or sketch of the property or site to be served by the requested access. This may vary from a simple sketch in the case of a Type "C" entrance to a detailed plan in the case of a Type "A" entrance. See rule 112.5(306A) for further Type "A" entrance requirements.

c. The application shall be signed by the owner or owners of record. The signature(s) shall be notarized.

d. If the request is for a property within the corporate limits of a city, an authorized representative of the city must sign the application recommending approval. See subrule 112.4(5).

- e. The application shall be approved or denied by the appropriate district representative.
- f. If the district representative denies the application, the applicant may appeal the decision by submitting to the appropriate district engineer the application along with background information and an explanation of the need for access.
- g. If the district engineer denies the application, the applicant may appeal the decision by submitting to the director of transportation the application along with background information and an explanation of the need for access. The director's decision is final agency action.

112.4(2) Construction or modification of entrances.

a. All work performed on a primary highway under the terms of an entrance permit shall comply with the conditions of the permit. These conditions include any accompanying plans, drawings, sketches, or other attachments to the permit. The permit holder or the permit holder's contractor shall have a copy of the permit available at the work site.

b. During the time an entrance is being constructed or modified, care must be taken to ensure the safety of the workers on the site and of the traveling public. The work shall be accomplished in a manner that will minimize interference with normal highway operations. Care must be taken during construction or modification of the entrance and development of the abutting property to avoid tracking mud or other material onto the primary highway.

112.4(3) Construction costs. Construction costs, including any costs incurred for modifying the existing primary highway as may be required by the entrance permit, should not be borne by the department.

112.4(4) Maintenance of entrances. See subrule 112.3(4).

112.4(5) Primary road extensions.

a. On primary road extensions, the location and geometrics of entrances must meet local requirements within the limitations of this chapter, and entrance permit applications must be approved by authorized city officials before final action is taken by the department.

b. Applicants are responsible for ensuring compliance with local building codes, setback requirements, minimum lot sizes, density of buildings, provisions for adequate parking, and other local ordinances and regulations.

c. Entrance permits issued by the department apply to the construction of entrances within the primary highway right-of-way and do not release applicants from compliance with local ordinances and regulations. These requirements are not altered by the issuance of entrance permits. Applicants are responsible for obtaining the required local approvals and permits.

d. Without an approved permit, there shall be no encroachment onto the primary highway right-of-way.

112.4(6) Considerations for entrance width and radius or flared returns.

a. Entrance width and the size of radius or flared returns should be determined based on the predominant type of vehicle that will use the entrance. The combination of entrance width and return radii or flares should permit vehicles to enter and exit the highway with minimum disruption to through traffic, yet be restrictive enough to discourage erratic maneuvers.

b. Entrance width should minimize speed differential, which is the difference between the speed of through traffic and the speed of vehicles that are turning into the entrance. In general, the narrower the entrance, the more vehicles must slow down to negotiate the entrance. An increase in speed differential increases the tendency for potential crashes. Use of larger turning radii or flares will reduce speed differential.

c. An entrance can also be too wide. An entrance that is too wide may confuse motorists by creating uncertainty as to where they should position their vehicles within the entrance. Pedestrian traffic must also be considered. Wider entrances may place pedestrians in greater conflict with vehicular traffic.

112.4(7) Entrance widths. The width of an entrance is the distance between the beginning points of the return radii or flares, measured perpendicular to the centerline of the entrance.

a. Type "A" entrances. Each case requires special study. See rule 112.5(306A).

b. Type "B" entrances.

(1) The minimum allowable width is 24 feet.

- (2) The maximum allowable width is 45 feet.
- (3) For one-way operation, the minimum allowable width is 12 feet and the maximum allowable width is 30 feet.

c. Type "C" entrances.

(1) The minimum allowable entrance width is 20 feet. In an area where the posted speed limit is 35 miles per hour or less, a minimum width of 15 feet may be allowed.

(2) The maximum allowable width is 30 feet.

(3) If an entrance will serve more than one property, the minimum allowable width is 20 feet and the maximum allowable width is 35 feet.

d. City street and secondary road intersections. The department shall determine the width of city street and secondary road intersections on a case-by-case basis, taking into consideration both local and department standards.

112.4(8) Radius or flared returns. Return radii for granular entrances shall be measured along the edge of the primary highway shoulder. Return radii for paved entrances shall be measured along the edge of the primary highway pavement.

If the predominant types of vehicles that will use an entrance are passenger cars and straight trucks, paragraphs "a" to "i" of this subrule apply. If the predominant types are truck tractor-semitrailer combinations and large equipment, paragraph "j" applies.

a. Type "A" entrances. Each case requires special study. See rule 112.5(306A).

b. Type "B" entrances, rural-designed area, not paved.

(1) For an entrance angle of 90 degrees to the centerline of the primary highway, the return radii should not exceed 35 feet.

(2) For an entrance angle of 60 degrees to the centerline of the primary highway, the return radius of the obtuse angle should not exceed 50 feet. The return radius of the acute angle should not exceed 25 feet.

(3) For an entrance angle that is between 90 and 60 degrees, the maximum radii of the obtuse and acute angles should be interpolated between the values given in subparagraphs (1) and (2) above and rounded to the nearest 5 feet.

(4) Entrance angles that are less than 60 degrees require department review to establish appropriate radii.

c. Type "B" entrances, rural-designed area, paved.

(1) For an entrance angle of 90 degrees to the centerline of the primary highway, the return radii should not exceed 50 feet.

(2) For an entrance angle of 60 degrees to the centerline of the primary highway, the return radius of the obtuse angle should not exceed 60 feet. The return radius of the acute angle should not exceed 25 feet.

(3) For an entrance angle that is between 90 and 60 degrees, the maximum radii of the obtuse and acute angles should be interpolated between the values given in subparagraphs (1) and (2) above and rounded to the nearest 5 feet.

(4) Entrance angles that are less than 60 degrees require department review to establish appropriate radii.

d. Type "B" entrances, urban-designed area, paved or not paved.

(1) All Type "B" entrances within an urban-designed area should be paved for a minimum distance of 10 feet back from the primary highway curb, as measured 90 degrees to the edge of the primary highway roadway.

(2) The return radii should be no less than 10 feet nor greater than 20 feet.

e. Rescinded IAB 10/30/02, effective 12/4/02.

f. Type "C" entrances, rural-designed area, not paved.

(1) For an entrance angle of 60 to 90 degrees to the centerline of the primary highway, the return radii should not exceed 15 feet for either the obtuse or acute angle.

(2) Entrance angles that are less than 60 degrees require department review to establish appropriate radii.

- g. Type "C" entrances, rural-designed area, paved.
- (1) For an entrance angle of 60 to 90 degrees to the centerline of the primary highway, the return radii should not exceed 20 feet.
 - (2) Entrance angles that are less than 60 degrees require department review to establish appropriate radii.
 - (3) If an existing entrance is being reconstructed, the returns may be replaced in kind.
- h. Type "C" entrances, urban-designed area, paved or not paved.
- (1) All Type "C" entrances within an urban-designed area should be paved for a minimum distance of 10 feet back from the primary highway curb, as measured 90 degrees to the edge of the primary highway roadway.
 - (2) The return radii should equal the distance between the back of the curb and the front edge of the sidewalk, not to exceed 10 feet.
 - (3) When no sidewalk is present or anticipated, the maximum radii should be 10 feet.
- i. Flared entrances, urban-designed area. In an urban-designed area, entrances may be constructed with flared returns rather than radius returns. When used, the flare shall be constructed at a 2:1 ratio with the "2" value measured on a line parallel to the entrance centerline and the "1" value measured on a line perpendicular to the entrance centerline. The length of the flare as measured parallel to the entrance centerline should be equal to the radii requirements shown in paragraphs 112.4(8) "d" and "h" above.
- j. Truck tractor-semitrailer combinations. Truck tractor-semitrailer combinations and large equipment vary greatly in length and generally require a customized design for the entrance. Flares will generally not accommodate the movement of these types of vehicles and therefore should not be used. To reduce encroachments onto the traveled way and opposing entrances, turning templates should be used. All turning movements should be evaluated to ensure the entrance width and radii are designed to handle the types and volume of traffic anticipated.

112.4(9) Entrance angle.

- a. In general, the entrance angle shall be established as near to 90 degrees to the centerline of the primary highway as site conditions will allow.
- b. Normally, the centerline of that part of an entrance lying within the right-of-way shall be at a right angle to the centerline of the primary highway for a minimum distance of 30 feet from the near edge of the primary highway pavement.
- c. An entrance established for two-way operation for a service station or other development where two access points are authorized shall be 70 to 90 degrees to the centerline of the primary highway.
- d. On a divided primary highway where two access locations are authorized for one-way operation, the "ingress" may be 45 to 60 degrees to the centerline of the primary highway and the "egress" may be 60 to 90 degrees to centerline of the primary highway.

112.4(10) Slope and cross section of entrances in rural-designed area.

- a. The finished, surface elevation of an entrance over a culvert, or the location where a culvert would normally be placed, should be lower than the primary highway pavement, preferably an extension of the 4 percent shoulder grade, to prevent surface water from draining onto the highway pavement. The shoulder grade should be extended onto the entrance at a distance sufficient to provide a safe platform for a vehicle to stop before entering the highway.
- b. If an entrance requires drainage pipe, the entrance side slopes from highway shoulder to the entrance pipe shall be no steeper than 8:1 and from the entrance pipe to the right-of-way line shall be no steeper than 6:1. A smooth transition from the 8:1 to the 6:1 slope is required.
- c. If an entrance does not require drainage pipe, the entrance side slopes from highway shoulder to the minimum clear zone distance shall be no steeper than 10:1, right-of-way width permitting. From the point of minimum clear zone to the right-of-way line, a smooth transition to a 6:1 slope is acceptable.
- d. Upgrading only the surfacing material of an existing entrance will not require a change in existing side slopes.

112.4(11) Entrance grade. The grade of an entrance is an important element when considering overall motorist safety because the grade impacts speed differential. Vehicles must slow appreciably to turn into an entrance; therefore, the steeper the entrance grade, the greater the reduction in speed

required to prevent “bottoming out.” Ideally, the maximum practical grade for entrances varies from 8 to 14 percent for low-volume entrances to approximately 5 percent for high-volume entrances. Above these values, bumpers and other low-hanging parts of a vehicle will scrape the entrance.

An entrance’s vertical profile should allow for a smooth transition to and from the highway. Flattening entrance grade lines is another tool in providing safe access to and from the highway system.

761—112.5(306A) Additional requirements for Type “A” entrances. This rule establishes additional requirements for Type “A” entrances serving commercial, industrial or residential developments.

112.5(1) General.

a. The most important factors in developing an access plan for a commercial, industrial or residential development are a determination of the potential traffic generated by the site and a determination of the directional distribution of site-generated traffic on the major approach routes and proposed entrances serving the site. Entrances serving the site represent an important element in the efficiency and safety of the highway handling the site-generated traffic. To properly handle traffic from these entrances, the anticipated traffic volumes must be determined by the applicant and submitted to the department.

b. The location of entrances, particularly commercial entrances, is a critical factor in minimizing disruption to traffic and pedestrians. A site should be developed with an internal circulation pattern for traffic movements so that access to the site may be gained by a free flow of traffic from the primary road system. Parking stalls and pedestrian movements should be located away from the main entrance to the facility.

c. Adequate storage for vehicles must be provided on commercial and industrial sites so that vehicles do not wait on the highway to enter. Adequate storage space is a function of the demand volume, the service time per facility, and the number of service facilities available. Service time is dependent upon the time required to maneuver into position and the time needed to obtain the service. The geometrics of the internal circulation pattern control a portion of the service time. The radii of internal curves should be as large as possible. Buildings on a site should be arranged to allow for the maximum storage available on the site for exiting traffic and situated so that they will not disrupt the free flow of entering traffic.

d. A service station site should be designed to provide a minimum distance of 15 feet from the right-of-way line to the near edge of the pump island. No portion of the highway right-of-way shall be used for servicing vehicles.

e. When property is being developed, consideration must be given to locating the access directly opposite an existing commercial entrance or street intersection.

f. Comments from local authorities regarding the proposed development should be included in the application to allow the department to incorporate the input of local authorities into the final design of the entrance location. This input should refer to the zoning plan, land use plan, or metrotransportation plan.

112.5(2) Type “A” access requests.

a. *Application for entrance permit.* An entrance permit application for a Type “A” entrance shall, when relevant to the proposed development, include the following data in detail:

- (1) Type and location of the proposed development.
- (2) Site plan.
- (3) Location of all proposed entrances, turning lanes on adjacent highways or streets, and internal traffic lanes and parking facilities within the development area. This information shall be sufficiently complete to allow determination of dimensions, the direction of traffic flow, and restrictions to traffic caused by plantings, curbing, medians, walls, signing, etc.

- (4) Detailed design of proposed highway pavement widenings, additional lane provisions, relocations, and other highway improvements considered necessary to the efficient operation of the proposed development.

- (5) Signal warrant analysis and application to construct a traffic control device, when required. See paragraphs “*b*” and “*c*” of this subrule.

- (6) Preliminary drainage data.

- (7) Gross leasable floor area in square feet.
- (8) Number of parking spaces.
- (9) Anticipated total daily trips inbound and outbound during an average 24-hour period for total site development. Special holiday shopping traffic shall not be used for this estimate.
- (10) Estimated traffic volumes arriving and departing during the normal peak hour.
- (11) Estimated distribution of traffic via individual entrances for the normal peak hour.
- (12) Estimated distribution of traffic by percentage of total daily trips via major highways from origin to the development.

b. Signal warrant analysis. The applicant must submit to the department a signal warrant analysis for all multimovement access points within the study area for the proposed development. The purpose of the analysis is to determine if traffic signals are warranted. The analysis should also evaluate the feasibility of coordinating any proposed traffic signals with existing traffic signals in the study area to achieve the desired traffic progression. The department may require a proposed entrance to be redesigned or relocated if the proposed entrance meets signal warrant thresholds but does not meet other standards in these rules.

c. Application to construct a traffic control device. The applicant shall submit for department approval an application to construct a traffic control device if an existing traffic signal will be modified or a new traffic signal will be installed.

112.5(3) Agreement supplementary to permit.

a. A major development often involves a variety of special access requirements. In addition to the entrance permit, an agreement between the department, the local governmental unit and the applicant may be required to fit the particular situation, listing in detail the responsibilities of each party.

b. Upon receipt of the agreement, the applicant shall be responsible for obtaining the necessary signature approvals including those of appropriate local authorities and returning the agreement to the appropriate district representative.

c. The department shall notify the applicant when it has approved or denied the agreement. No work shall be done within the primary highway right-of-way until the department approves the agreement. Any work completed without the prior approval of the department is a violation of Iowa Code section 319.14.

112.5(4) Primary highway improvements. The cost of primary highway improvements needed to handle the volume of traffic generated by the development should not be the responsibility of the department.

761—112.6(306A) Drainage requirements. This rule establishes drainage requirements for all locations where access is requested to the primary highway system.

112.6(1) Entrances must be constructed so that they do not adversely affect primary highway drainage or drainage of the adjacent property. The drainage and the stability of the highway subgrade must not be impaired by driveway construction or roadside development. Construction of an entrance shall not cause water to flow across the primary highway pavement or to pond on the shoulders or in the ditch, or result in erosion within the primary highway right-of-way limits.

112.6(2) Drainage collected by ditches, gutters or pipes on private property shall not be discharged into the primary highway drainage system unless expressly approved by the department. An applicant may be required to submit a drainage study to the department that justifies the drainage system proposed and the pipe or sewer sizes to be used. The applicant shall not interfere with the natural course of drainage.

112.6(3) When the construction of an entrance necessitates crossing a highway ditch that has been constructed to carry drainage, a drainage structure shall be installed in the ditch by the applicant at the applicant's expense. The low point of the ditch shall dictate the location for culvert placement unless otherwise specified by the department. Under no circumstances shall existing ditches or gutters be filled without adequate alternate provisions for drainage.

a. The department's engineering staff will assist in determining the size and length of culverts and aprons. A culvert shall be of adequate size to handle drainage, but in most situations the culvert

shall not be less than 18 inches in diameter. Where shallow ditches exist, the department may approve small arched culverts or culvert sizes less than 18 inches in diameter. Culvert pipe shall comply with departmental standard specifications as they exist at the time of installation.

b. Length of culvert pipe shall be sufficient to accommodate the entrance slopes. The finished surface elevation of an entrance over a culvert pipe, or the location where a culvert would normally be placed, should be sloped away from the primary highway pavement, preferably an extension of the 4 percent shoulder slope, to prevent surface water from draining onto the highway pavement.

c. Drainage structures located within the primary highway right-of-way shall be maintained by the department except for concrete box culverts and bridges constructed by a permit holder under authority of an entrance permit. These structures shall be maintained by the permit holder.

112.6(4) Where drainage is carried along an existing curb, the entrance shall be constructed with a rise in elevation of at least 6 inches from the street gutter at the entrance to a point 6 feet behind the gutter to prevent runoff from spilling onto private property. The flow line of the gutter through the entrance shall be restored.

761—112.7(306A) Access to Priority I, II, III and IV highways. Access rights are acquired on Priority I, II, III and IV highways. See rules 112.11(306A) and 112.12(306A). After access rights are acquired, additional access may be allowed as follows:

112.7(1) Priority I highway. The department may allow a temporary at-grade access in emergency situations or for construction or maintenance purposes. Temporary access to the interstate highway system requires the concurrence of the Federal Highway Administration. See subrule 112.13(4).

112.7(2) Priority II, III and IV highways. An additional entrance to a property from which access rights have been acquired may be permitted only as a special access connection. See rule 112.13(306A). This includes a temporary at-grade access for emergency situations or for construction or maintenance purposes. See subrule 112.13(4).

761—112.8(306A) Access to Priority V highways, rural areas. This rule establishes requirements for access to Priority V highways in rural areas.

112.8(1) General. Where access rights have not been acquired, access is generally limited to one entrance for contiguous highway frontage not exceeding 1,000 feet, two entrances for contiguous highway frontage exceeding 1,000 feet but not exceeding 2,000 feet, and so on. Ownership on each side of the highway shall be considered as separate ownership. Except for the above-stated restrictions and those contained in subrules 112.8(2) and 112.8(3), no spacing restrictions shall be imposed. Additional entrances may be permitted when a single entrance will not provide adequate access due to topographic conditions or when additional entrances will comply with future construction plans for the roadway and the access priority classification to be applied.

112.8(2) Access requirements near public road intersections.

a. A property abutting a primary road and a local public road or another primary road may be granted access to the primary road at a distance generally no less than 300 feet from the intersection of the centerlines of the two roads.

b. At a “T” type intersection, access to the primary road may be located directly opposite the intersection.

c. Access shall not be permitted onto a local public road within the primary road right-of-way limits. The centerline of an access onto a local public road should be no closer than 150 feet to the near edge of the primary highway traveled way.

112.8(3) Property lines. The centerline of an entrance to the primary roadway should be no closer than 50 feet to the property line as extended to intersect the roadway centerline at a right angle. No portion of an entrance located within the right-of-way should extend beyond the property line as extended. If an entrance does extend onto an adjoining property within the right-of-way, the applicant should contact that property owner to request the property owner’s concurrence or to suggest a joint entrance. An entrance that will serve two properties abutting the primary road may be centered on the property line by mutual agreement between the property owners.

761—112.9(306A) Access to Priority V highways, fringe or built-up areas, and Priority VI highways, all areas. This rule establishes requirements for access to Priority V highways in fringe or built-up areas, and access to Priority VI highways in rural, fringe, or built-up areas.

112.9(1) General. Property frontage may be granted access where needed to the primary road, provided safety and construction standards are satisfactory. In a rural area, a minimum distance of 30 feet between toes of slopes along the centerline of the ditch shall be maintained. In a fringe or built-up area, there shall be a minimum of 15 feet of curb maintained between near edges of curb drops when more than one access is allowed to a single highway frontage. If the property is within corporate limits, city requirements apply if they are more restrictive.

112.9(2) Access requirements near public road intersections.

a. Rural area. Same as subrule 112.8(2).

b. Fringe or built-up area.

(1) The beginning of the curb drop for an entrance to a primary highway shall be no closer than 15 feet to an intersecting street's curb tangent point. No portion of the entrance along the primary highway should extend beyond the property line as extended or into a crosswalk.

(2) The beginning of the curb drop for an entrance to a street should be no closer than 15 feet to an intersecting primary highway's curb tangent point. No portion of the entrance along the street should extend beyond the property line as extended or into a crosswalk.

(3) If an intersection does not have an existing or a planned curb and gutter to define the radius, the following assumptions shall be applied to the above requirements for determining the location of an entrance:

Minimum width of the traveled way of the primary highway is assumed to be 53 feet back to back of curbs.

However, if the platted width of the primary highway right-of-way is less than 66 feet, the width of the traveled way is assumed to be 75 percent of the platted width.

Minimum width of the traveled way of an intersecting local public road or street is assumed to be 31 feet back to back of curbs.

112.9(3) Channelized intersection or divided highway. When there is a median in a primary road or intersecting street, or both, the curb drop for an entrance to the primary road or intersecting street shall be determined as stated in subrule 112.9(2), except that at the beginning or end of the median, or at a median break, the nearest edge of the curb drop for the entrance shall be no closer than 20 feet to the end of the median as measured at a right angle to the median. This does not apply to access centered on a median break.

112.9(4) Median openings.

a. When a divided primary highway has been constructed with a median, crossovers or median breaks shall not be permitted if there are frequent openings for local street intersections or traffic conditions do not make median breaks advisable. The layout of entrances to adjacent properties along the primary highway shall be designed to take advantage of existing or planned median crossovers.

b. When a crossover or median break is deemed necessary by the department as a result of traffic generated by a business or other development, the required improvements shall be constructed by the property owner as a part of a permit process. The department shall bear no part of the construction costs.

c. The permit authorizing a new crossover shall specify the exact location, design, and construction requirements. Any drainage facilities required by the construction shall be installed by the permit holder at the permit holder's expense.

d. The minimum width of a new median crossover is 40 feet. In a rural-designed area, the width of a median crossover shall be measured at the normal culvert line. In an urban-designed area, the width of a median crossover shall be measured parallel to the highway centerline between the curbed noses of the median.

e. Upon completion of construction of the improvements as provided by this subrule, the department shall assume ownership of the improvements and shall be responsible for their future maintenance.

112.9(5) Property lines.

- a. Rural area. Same as subrule 112.8(3).
- b. Fringe or built-up area. The beginning of an entrance radius return or flare shall be no closer than 1 foot to the property line as extended on an interior lot line to intersect the primary road centerline at a right angle. An entrance to serve two properties abutting the primary road may be centered on the property line by mutual agreement between the property owners.

761—112.10 Reserved.

761—112.11(306A) Policy on acquisition of access rights.

112.11(1) General. It is necessary that every effort be made to preserve the public investment in the primary highway system. Where efficiency of traffic movement is desired, this investment is preserved by acquiring the adjacent property's access rights and limiting or prohibiting direct access to the primary highway. This provides a safer environment for the highway user, increases the free and efficient movement of through traffic, and reduces highway accidents by minimizing the number of conflict points or entrances located along the highway.

112.11(2) Project development. During the initial stages of project development for a highway improvement project, the department shall determine if access rights to the primary highway will be acquired and the applicable access priority classification to be applied.

The department shall consider average daily traffic, proposed design features of the facility, terrain, the function of the particular section in relation to the total highway system, the commercial/industrial network of highways, service level, continuity of the system and sound engineering judgment.

112.11(3) Access rights at at-grade intersections with city streets and secondary roads. When access rights to a primary highway are acquired, the department may also acquire access rights along a city street or secondary road where an at-grade intersection with the highway exists or is proposed. If access rights are acquired, they will be acquired along the city street or secondary road for a distance of 150 feet from the near edge of the primary highway traveled way. However, the department may acquire more or less than 150 feet of access rights after considering the severity of damage to adjacent properties and traffic volumes and other safety factors.

112.11(4) Access rights at at-grade primary intersections.

a. When access rights to a primary highway in a rural area are acquired, the department may also acquire access rights along an intersecting at-grade primary highway for a minimum distance from the intersection of the centerlines of the two primary highways as follows:

1. 150 feet when the intersecting primary highway carries less than 2,500 vehicles per day.
2. 300 feet when the intersecting primary highway carries 2,500 or more vehicles per day.

However, the department may acquire more or less than the specified access rights after considering the severity of damage to adjacent properties and traffic volumes and other safety factors.

b. If the intersection is channelized, access rights shall be acquired and no access shall be permitted along the channelized primary highway for a minimum distance of 100 feet beyond the beginning or end of the median. For the purpose of access control, the beginning or end of a median is the point where the distance between the edges of the opposing traveled lanes is 4 feet.

112.11(5) Access rights along intersecting roadways at interchanges.

a. When an interchange is constructed on a primary road, the department shall acquire access rights along the public road or street intersecting the primary road. Once access rights are acquired, no access is allowed. The following are the minimum distances where access rights shall be acquired along the intersecting public road or street; in each case, the greater distance shall prevail.

1. 600 feet from the point of ramp bifurcation in a rural or fringe area.
2. 300 feet desired, 150 feet minimum, from the point of ramp bifurcation in a built-up area.
3. 150 feet from the beginning of a deceleration lane or taper.
4. 100 feet from the beginning or end of a median.

However, the department may acquire more or less than the specified access rights after considering the severity of damage to adjacent properties and traffic volumes and other safety factors.

b. When an interchange is constructed as a half-diamond or partial cloverleaf, the department may permit an access directly opposite a ramp connection to the primary road.

112.11(6) *Agreement with city or county.* When access rights are acquired along a city street or secondary road, the department shall negotiate an agreement with the city or county which states that access rights shall be acquired by the department in the state's name or in the name of the city or county and that the city or county shall not permit any third party to use the controlled portion of the street or road without the prior written consent of the department.

761—112.12(306A) Policy on location of predetermined access locations.

112.12(1) *General.* At the time access rights are acquired, existing entrances shall be removed or relocated to connect to predetermined access locations. These locations shall thereafter be defined as the adjacent properties' access locations.

a. The department is responsible for the construction of entrances at predetermined access locations, either as a part of the project or at a future date when requested by the property owners. Entrances not constructed as a part of the project will be designated on the construction plans as predetermined access locations that are reserved for the property.

b. Any alteration or relocation of an access location requires the written approval of the department, and the property owner is responsible for all costs incurred. See subrule 112.12(5), revision of access.

112.12(2) *Establishing predetermined access locations.* The department realizes that these rules cannot reasonably be expected to address every situation or issue that may arise when developing plans for a proposed highway improvement project. It is foreseeable that not all access locations will comply strictly with the required or recommended spacing standards set out in these rules; however, all reasonable efforts shall be made to establish predetermined access locations that meet these spacing standards.

a. The department shall establish predetermined access locations by considering the following:

- (1) Zoning and intended land use, as reviewed with city and county officials.
- (2) Potential adverse impacts on adjacent property if spacing standards are applied strictly, such as but not limited to an unreasonable restriction on the property due to a unique physical situation that cannot be remedied or an unreasonable damage to the property.
- (3) Environmental, social, or economic constraints that prevent the application of spacing standards.
- (4) Federal, state, or local standards that conflict with these rules and take precedence.
- (5) Sound engineering judgment consistent with the goals of the department.

b. When establishing predetermined access locations, the department may conduct a field examination, giving consideration to information received from city and county officials, sight distance availability, natural barriers, property ownership, proposed roadway design, and development of future frontage roads.

c. A predetermined access location that does not meet required spacing standards is not a waiver or variance of these rules if justification for the access location is based on one or more of the considerations listed in paragraph "a" of this subrule. The final access review letter must include this justification.

112.12(3) *Spacing.* Spacing between predetermined access locations shall conform to the following requirements:

- a. Priority I highway. Access is allowed only at interchange locations.
- b. Priority II highway. One mile is desirable. One-half mile is the minimum.
- c. Priority III highway. One-quarter mile is desirable. 1,000 feet is the minimum.
- d. Priority IV highway.
 - (1) Priority IV(a). 600 feet is the minimum.
 - (2) Priority IV(b). 300 feet is the minimum.

112.12(4) *Entrances constructed after project completion.* After completion of a highway project, a property owner may request the department to construct an entrance at a predetermined access location. Unless otherwise specified in the right-of-way acquisition contract or in the condemnation documents:

a. The department is responsible for constructing, at the department's expense, a granular-surfaced entrance that does not exceed the maximum width for a Type "C" entrance.

b. The department may approve modifications, such as widening or paving the entrance. In this instance, the property owner is responsible for constructing the entrance. After the property owner has constructed the entrance, the department will compensate the property owner for the cost of constructing a granular-surfaced Type "C" entrance. The property owner is responsible for the remainder of the costs.

112.12(5) Revision of access. After an entrance has been constructed at a predetermined access location, no change in entrance type or location may be made unless a revision of access has been approved by the department. The property owner is responsible for the cost of altering or relocating the entrance.

a. A request for revision of access shall be submitted by the property owner to the appropriate district representative upon the prescribed application form furnished by the department.

b. The application shall be approved or denied by the department's access policy administrator.

c. If the access policy administrator denies the application, the applicant may appeal the decision by submitting to the appropriate district engineer the application along with background information and an explanation of the need for access.

d. If the district engineer denies the application, the applicant may appeal the decision by submitting to the director of transportation the application along with background information and an explanation of the need for access. The director's decision is final agency action.

761—112.13(306A) Policy on special access connections where access rights have been previously acquired.

112.13(1) General. An additional entrance to a property from which access rights have been previously acquired may be permitted only as a special access connection.

a. An applicant for a special access connection should be aware the state of Iowa has previously acquired the rights of direct access to the primary highway from the applicant's highway frontage and, therefore, the applicant has no remaining right of additional direct access to the highway.

This acquisition of access rights is recorded in the local county courthouse and is a restriction placed upon the property.

b. The department realizes there may be locations where granting an entrance within an area where access rights were previously acquired may be consistent with the department's current rules.

In these special cases, the department may authorize a special access connection upon such terms and conditions as may be determined by the department.

c. In an area where access rights were acquired after July 1, 1966, an applicant may be required to reimburse the state for the increase in land value resulting from the new connection, as determined by a department appraisal.

112.13(2) Application.

a. A request for the establishment of a special access connection shall be submitted by the property owner to the appropriate district representative upon the prescribed application form furnished by the department.

b. The application shall be approved or denied by the department's access policy administrator.

c. If the access policy administrator denies the application, the applicant may appeal the decision by submitting to the appropriate district engineer the application along with background information and an explanation of the need for access.

d. If the district engineer denies the application, the applicant may appeal the decision by submitting to the director of transportation the application along with background information and an explanation of the need for access. The director's decision is final agency action.

112.13(3) Requirements.

a. Whenever possible, a special access connection should be established as a joint access location to serve more than one property ownership.

b. A special access connection is a special permit for access and is not a permanent right of access to the highway.

c. The property owner is responsible for all costs incurred for the construction of the approved connection, including any required drainage structure.

d. A special access connection shall be recorded by the department in the county recorder's office and will be a restriction placed upon the property. All provisions of the special access connection shall be binding on successors or assigns of the applicant property owner.

e. Special access connections shall be constructed in compliance with rules 112.4(306A), 112.5(306A) and 112.6(306A).

f. The department shall approve spacing for special access connections in accordance with subrules 112.12(2) and 112.12(3).

112.13(4) Temporary access.

a. The department realizes temporary access may be needed in emergency situations or for highway construction or maintenance purposes. In these cases, a temporary connection may be allowed, but is subject to special stipulations as may be determined by the department.

b. Temporary access shall be authorized for a determinable period of time. The access need not comply with paragraph 112.13(3) "a" (joint access) or 112.13(3) "f" (spacing). The applicant is responsible for all costs incurred, including removal of the access and restoration of the right-of-way.

c. The granting of temporary access to the interstate highway system requires the concurrence of the Federal Highway Administration.

d. A separate application for temporary access is not needed if the temporary access is for a construction or maintenance project, it is shown on the original plan, and it has been approved previously by the department and, when required, the Federal Highway Administration.

761—112.14(306A) Recreational trail connections. This rule establishes requirements for access to the primary road system from recreational trails.

112.14(1) General.

a. No access to a Priority I highway from a recreational trail is allowed.

b. Reserved.

112.14(2) Application.

a. An application for access to a Priority II, III, or IV highway shall be submitted and processed in accordance with subrule 112.13(2).

b. An application for access to a Priority V or VI highway shall be submitted and processed in accordance with subrule 112.4(1).

c. The applicant shall submit with the application a detailed plan sufficient for departmental review. The plan shall include an appropriate recreational trail signing layout.

d. The applicant may contact the appropriate district representative for assistance in preparing the application.

112.14(3) Requirements.

a. Spacing.

(1) Spacing for a Priority II, III, or IV highway shall conform to subrule 112.12(3). It is preferable that an entrance provide access to adjacent properties as well as to the recreational trail.

(2) Spacing for a Priority V or VI highway shall conform to rule 112.8(306A) or 112.9(306A) as applicable.

b. *Sight distance.* Sight distance for a recreational trail connection shall conform to the desirable sight distance as listed in rule 112.2(306A).

c. *Entrance width and radius return.* The entrance width and radius return of a recreational trail connection shall conform to the design standards adopted for the Statewide Iowa Trails Plan.

d. *Entrance angle.* The entrance angle for a recreational trail connection shall be established as near to 90 degrees to the centerline of the primary highway as site conditions will allow.

e. *Slope and cross section.* The slope and cross section of a recreational trail connection shall conform to subrule 112.4(10).

f. *Drainage.* Drainage for a recreational trail connection shall conform to rule 112.6(306A).

g. Construction. The permit holder shall be responsible for constructing the recreational trail connection in compliance with the approved permit and at no cost to the department. The department reserves the right to inspect any work performed within the primary highway right-of-way. See subrule 112.3(3).

h. Maintenance. Maintenance responsibilities shall conform to subrule 112.3(4).

These rules are intended to implement Iowa Code sections 306.19, 306A.1 to 306A.8, and 319.14.

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