

MPO/RPA Access Management Admin Rule Changes Overview

12/14/22

Overview



Needed to be updated, reorganized, and made more dynamic



Written to clarify intent without being static



Will better serve the DOT, stakeholders, and the public



Introducing new concepts



Proposing several major changes



Moving educational statements and access design details to Access Mgmt Manual and Design Manual

New Admin Rule Changes

Effective
November 9!

- New Sub-Rule 112.3(2)
- New Sub-Rule 112.3(6)
- New Sub-Rule 112.6(12)
- 20 Year Traffic Volume
- Access Rights
- New Categories
- New Type D Access
- Access Management Plans
- Functional Area
- Resources

Permits – 112.3(2)

- “A new access permit is required when there is a change in use of the access connection. A change in access use includes a change in predominant vehicle types or an increase in traffic volumes or a situation when the use exceeds the design and engineering limitations of the existing access design. If the property owner desires to change from the historical access use or to a use not authorized by the terms and conditions of the existing access permit, a new permit is required.”
- Why are we doing this?
 - To prevent accesses from exceeding original purpose without Department review



Clarification on Access Rights – 112.3(6)

- "No rights of access are conveyed when the department provides a new access connection or modifies an existing access connection."
- Why are we doing this?
 - Iowa DOT issues access permits...we do not grant/convey permanent access rights
 - DOT built accesses should follow the same rules as owner-built accesses
 - Permits do not convey ownership
 - Encourages better communication with property owners about their rights
 - Helps protect the department

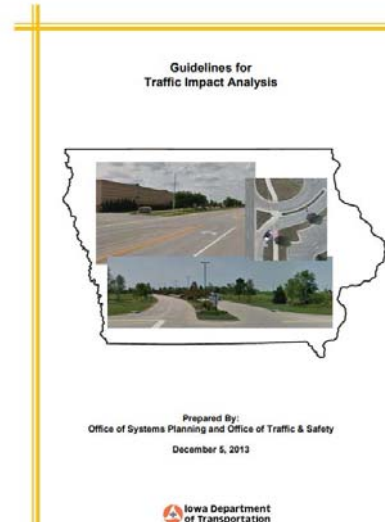


Entering the Highway 112.6(12)

- "The access shall be designed to facilitate the movement of vehicles from the highway to prevent the queuing of vehicles on the roadway. All off-street parking areas must allow drivers to enter and exit the site in forward drive."
- Why are we doing this?
 - To help improve the safety of our roadways
 - To minimize congestion on our roadways
- Applies to all new permits
 - All existing entrances are grandfathered

Key Update – Permitting Process 112.4(1) g.

- A Traffic Impact Analysis should be required for all Type A and B entrance permit applications
- Working with Systems Planning Bureau to update this document and incorporate the update into the Second Edition of the Access Management Manual



~~Table 3: Trip Generation 2023~~

Use	Quantity	Units	Daily Trips	AM Peak Hour		
				Trips	Entering	Exiting
Government Office Building	9	KSF	203	30	23	7
Fire Rescue Station	14	KSF	35	7	4	3
Government Office Building	11	KSF	248	37	28	9
Empirical Regression Model	39	KSF	651	65	33	32
Middle School/Junior High School	1000	Students	2,102	670	362	30
Single Family Detached Housing	108	DU	1,083	80	21	5
Single Family Detached Housing	78	DU	803	59	15	4
Total			5,125	950	490	4

Table 4: Trip Generation 2043

Land Use	Quantity	Units	Daily Trips	AM Peak Hour	
				Trips	Entering
Middle School/Junior High School	1000	Students	2,102	670	362
Multifamily housing (low rise)	169	DU	1,159	75	18
Single Family Detached Housing	97	DU	981	72	19
Single Family Detached Housing	1138	DU	9,453	681	177
Single Family Detached Housing	368	DU	3,346	244	63
Multifamily housing (low rise)	1265	DU	8,184	415	100
Strip Retail Plaza	36	KSF	1,479	67	40
Single Family Detached Housing	744	DU	10,548	759	197
Single Family Detached Housing	93	DU	877	65	17
Strip Retail Plaza	35	KSF	1,707	68	41
Multifamily housing (low rise)	344	DU	2,280	129	33
Single Family Detached Housing	197	DU	1,883	138	35
Data Center	264	KSF	261	29	3
Single Family Detached Housing	448	DU	4,009	292	73
Multifamily housing (low rise)	439	DU	2,889	159	40
Shopping Plaza	98	KSF	8,955	170	43
Total			58,955	3,960	1,000

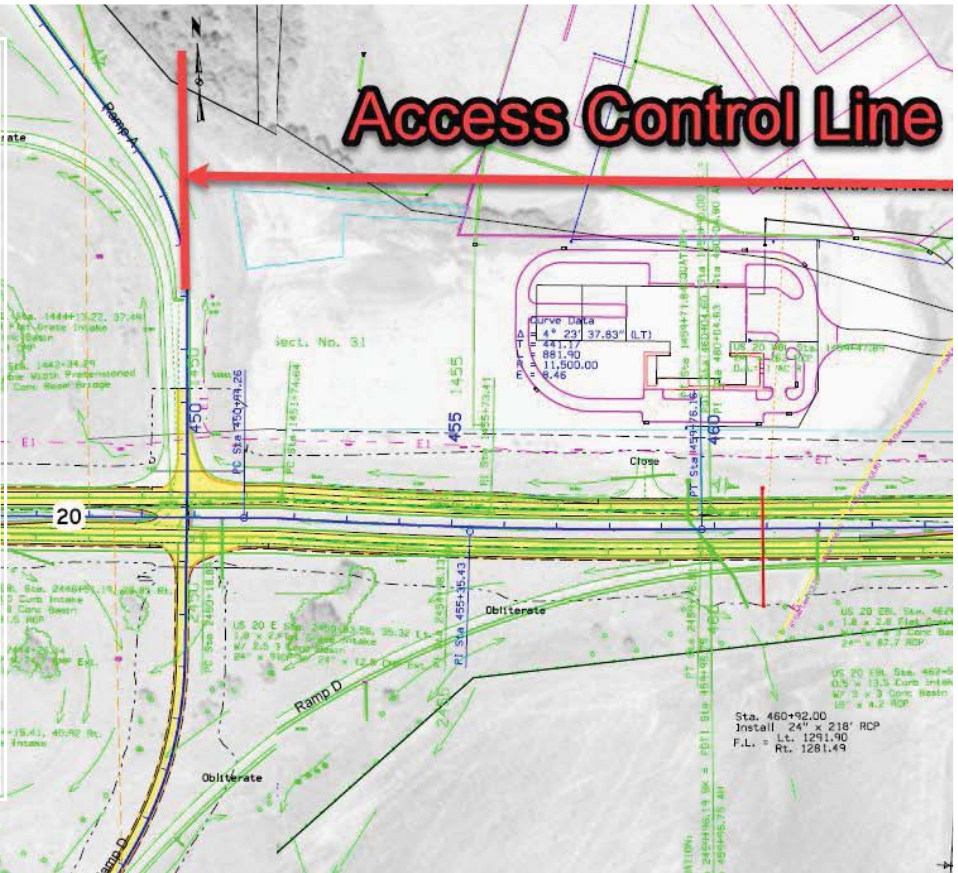
20-Year Traffic Volume

- ▶ Now using 20-year projected traffic volumes instead of current volumes
- ▶ Determines
 - ▶ Roadway Category
 - ▶ Access Control Limit
 - ▶ Access Type

Changes to Acquisition of Access Rights

- Previously for interchanges would only acquire up to 300 or 600 feet based on current AADT
- Depending on the 20-year traffic volume of the crossroad or mainline a minimum of 600, 1,000, or 1,320 feet shall be acquired
- Added sub-rule 112.5(5) g. for free-flow turning movements/ramp merges to acquire rights along the length of the functional area
- Still acquiring either 150 or 300 feet on sideroads but using 20-year traffic volume for the determination

Access Control Line



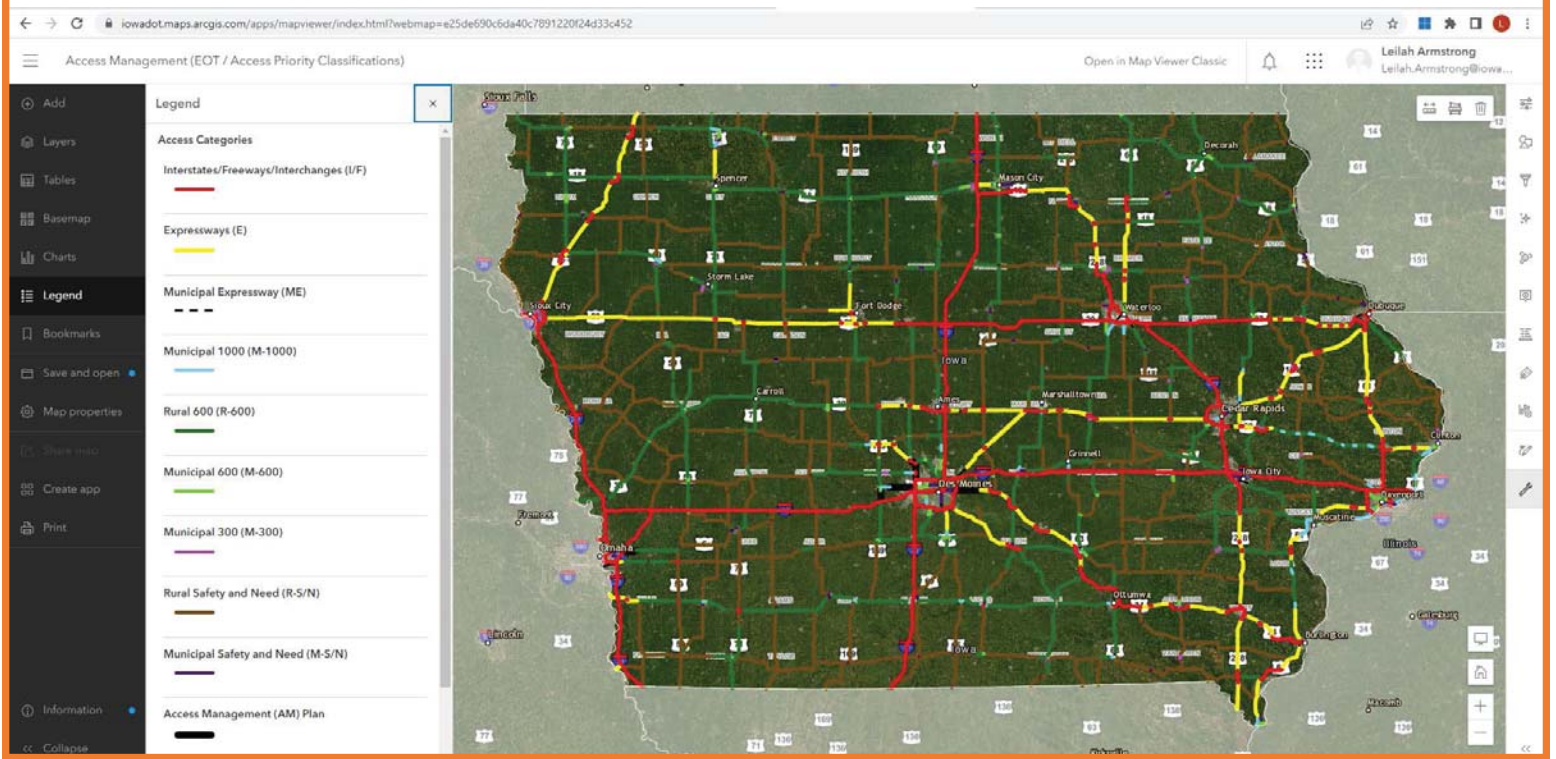
Categories

- **Reclassification**
 - Changing from 7 Priorities to 9 Categories
- **Access Management Plans (Corridor Agrmt)**
 - Unique situations
 - Mapped as a 10th category
 - Built-in flexibility
- **Category Revisions**
 - Review categories every 5 years

Classifications

Priorities	Categories
Priority 1	Interstates/Freeways
Priority 2	Expressways
	Municipal Expressway
Priority 3	Municipal 1000
Priority 4A	Rural 600 ~ \geq 3,000 AADT
	Municipal 600
Priority 4B	Municipal 300
Priority 5	
Priority 6	Rural Safety and Need ~ < 3,000 AADT
	Municipal Safety and Need

ArcGIS Category Map



Access Category Spacing Requirements

Access Category	General Description	Spacing Requirement for each Access Type				Public Road Connection					
		A	B	C	D						
Interstate and Freeway (I/F)	Controlled-access multi-lane highways.	Not allowed	Not allowed	Not allowed	Not allowed	Not allowed					
Expressway (E)	Multi-lane divided primary highways outside of municipal boundaries where the department has acquired the associated access rights.	Not allowed	Not allowed	Not allowed	Not allowed	Only allowed with AMP					
Rural 600 (R-600)	All primary highways on the Iowa Commercial Industrial Network or where the traffic volume will be equal to or exceed 3,000 AADT within 20 years.	Allowed at 600'	Allowed at 600'	Allowed at 600'	Allowed no minimum spacing	Allowed at 600' preferred at section lines					
Rural Safety and Need (R-S/N)	Two-lane primary highways outside municipal boundaries that will not exceed 3,000 AADT within 20 years. This category includes frontage roads, service roads, and access ways.	Allowed no minimum spacing	Allowed no minimum spacing	Allowed no minimum spacing	Allowed no minimum spacing	Allowed no minimum spacing preferred at section lines					
Municipal Expressway (ME)	Non-freeway multi-lane primary highways inside municipal boundaries where arterial performance is necessary to provide high mobility and traffic capacity.	Not allowed	Not allowed	Not allowed	Not allowed	Only allowed with AMP					
Municipal 1000 (M-1000)	Important regional and intra-city primary highways that are within a municipality, and where system continuity and preservation of a high level of mobility and through traffic capacity are considered a higher priority than access.	Allowed minimum 1,000' and preferred 1,320' and RI/RO allowed at 600' with restrictive median	Allowed minimum 1,000' and preferred 1,320' and RI/RO allowed at 600' with restrictive median	Allowed minimum 1,000' and preferred 1,320' and RI/RO allowed at 600' with restrictive median	Allowed minimum 1,000' and preferred 1,320' and RI/RO allowed at 600' with restrictive median	Allowed minimum 1,000' and preferred 1,320' and RI/RO allowed at 600' with restrictive median					Full movement exception to minimum spacing requirement.
Municipal 600 (M-600)	Primary highways in municipalities that have been determined to have a need to maintain a moderate level of mobility and through traffic capacity.	Allowed at 600'	Allowed at 600'	Allowed at 600'	Allowed at 600'	Allowed at 600' preferred at section lines					Limited movement exception to minimum spacing requirement.
Municipal-300 (M-300)	Primary highways in municipalities where a lower level of mobility and through traffic capacity is acceptable.	Allowed at 300'	Allowed at 300'	Allowed at 300'	Allowed at 300'	Allowed at 300' preferred at section lines					
Municipal Safety and Need (M-S/N)	Primary highways in municipalities where traffic mobility and capacity are a low priority and safety is a high priority. This category includes frontage roads, service roads, and access ways within a municipality.	Allowed no minimum spacing	Allowed no minimum spacing	Allowed no minimum spacing	Allowed no minimum spacing	Allowed no minimum spacing preferred at section lines					

New Type D Access

- This is a rural field or utility entrance
 - Less than 1 AADT
- More lenient on spacing requirements
 - e.g. for a Rural 600 a type D does not need to meet 600 feet
 - Type C's and D's can be closer to an interchange if the roadway is under 3000 AADT
- Allows more entrances per parcel compared to other types
- Currently no Design Standards or Specifications for Type D's – design as Type C until the Design Manual is updated



Access Type Table

Entrance Type	General Description	Categories/Scenarios	Where Full Movement Allowed	Where Limited Movement Allowed
A	Type A are private access connections with traffic volumes equal to or more than 100 trips in a peak hour. Volumes are to be based on a 20th year projection or the build-out of the development, whichever is greater.	R-600	600 ft	600 ft
		R-SIN	No minimum spacing	No minimum spacing
		M-1000	1,000 ft minimum, 1,320 ft preferred	600 ft with restrictive median
		M-600	600 ft	600 ft
		M-300	300 ft	300 ft
		M-SIN	No minimum spacing	No minimum spacing
		Interchange Crossroad 20th year AADT > 10,000	minimum 1,000 ft from ramp bifurcation, 1,320 ft preferred	600 ft if restrictive median present and first full movement is a minimum of 1,200 ft from ramp bifurcation
B	Type B are private access connections with traffic volumes between 11 and 99 trips in a peak hour. Volumes are to be based on a 20th year projection or the build-out of the development, whichever is greater. This is typical of multi-family land use, and small to medium businesses with fewer than 50 customers in the peak hour of the business.	R-600	600 ft	600 ft
		R-SIN	No minimum spacing	No minimum spacing
		M-1000	1,000 ft minimum, 1,320 ft preferred	600 ft with restrictive median
		M-600	600 ft	600 ft
		M-300	300 ft	300 ft
		M-SIN	No minimum spacing	No minimum spacing
		Interchange Crossroad 20th year AADT > 10,000	minimum 1,000 ft from ramp bifurcation, 1,320 ft preferred	600 ft if restrictive median present and first full movement is a minimum of 1,200 ft from ramp bifurcation
Interchange Crossroad 20th year AADT > 3,000 and < 10,000	minimum 1,000 ft from ramp bifurcation	minimum 600 ft from ramp bifurcation		
Interchange Crossroad 20th year AADT < 3,000	minimum 600 ft from ramp bifurcation	minimum 600 ft from ramp bifurcation		

Access Management Plans

- Acknowledges the need to handle access jointly with local agencies
- Allows for flexibility on highway segments that do not fit any categories
- Addresses more complex and existing conditions in urban and growing areas
- Any agency can initiate and take lead
- Guidance provided in the Access Management Manual

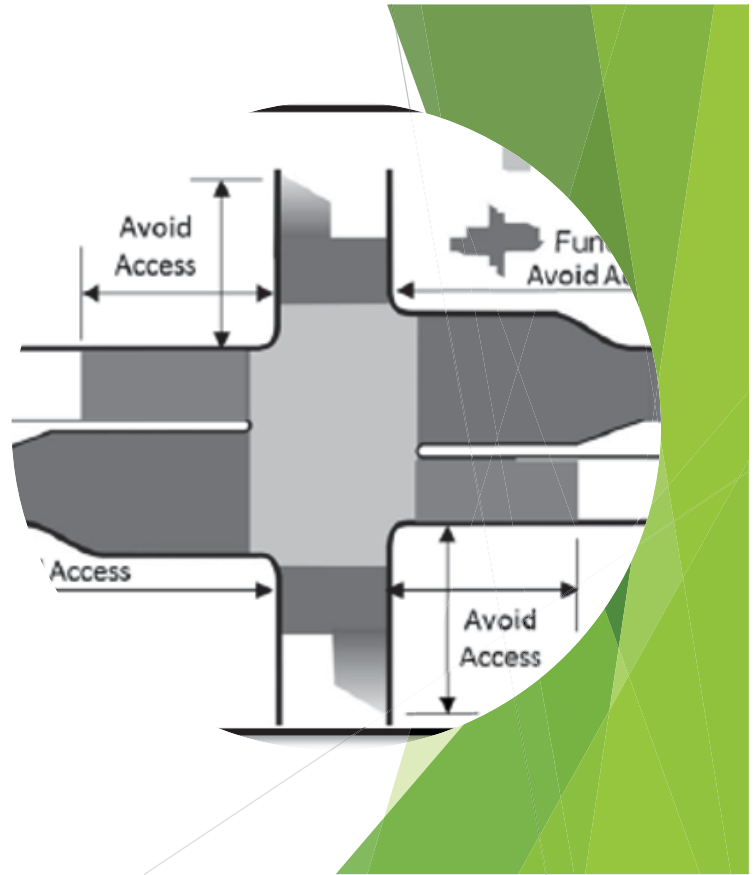


Summary of Steps for Access Management Plan Development

1. Read Rule and Manual information on AMPs.
2. Determine the initial plan limits in coordination with locals and Department.
3. Conduct a study (use consultant if necessary). Use provided AMP Study Table of Contents and the sample scope of work for content guidance.
4. Have public workshops.
5. Complete an AM Study Report, include all documentation.
6. Prepare 28E Agreement-AMP exhibits A and B.
7. Prepare a 28E Agreement which will adopt exhibits 'A' and 'B'.
8. The draft 28E Agreement is reviewed by all parties, their legal counsel and Access Management Administrator.
9. Hard copies are prepared for signature. One for each party, and two for the Department – (1 at TAS and 1 at District)
10. The local government must act in their official adoption capacity by resolution or ordinance before signing the 28E Agreement and adopting the AMP exhibits.
11. After the local officials sign all originals, the originals go to the Access Management Administrator.
12. The Department Access Management Administrator certifies that all requirements are met and prepares a packet to obtain the signature of the Director.
13. After signature, the hard copies are distributed and a PDF edition is entered into the ERMS.
14. The date of the Director's signature is the effective date of the AMP.

Functional Area

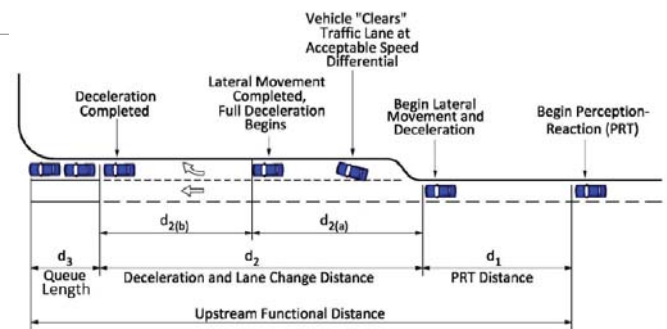
- ▶ "Includes any area upstream or downstream of an intersection where intersection operation and conflicts significantly influence driver behavior and vehicle operations. The functional area of an intersection is a calculated value based on the intersection's geometrics, posted speed limit, traffic volume, type of traffic control used, and perception-reaction-time values determined by the American Association of State Highway and Transportation Officials."
- ▶ Used for determining the first access point from newly constructed intersections, interchanges, and free-flowing movements
- ▶ Now required for Traffic Impact Analysis



How to calculate Functional Area Upstream

The longest sum, and hence the upstream functional distance, will depend largely on the longest d_3 queue distance. Whichever time period that results in the longest sum of d_1 , d_2 and d_3 is the upstream functional distance.

Distance required for each element of the functional area					
Posted Speed	D1 Rural and complex urban	D1 non-complex urban	D2 no turn lane	D2 turn lane on right or left	D3 Add estimated queue length
25	90	55	95	105	
30	110	65	135	135	
35	130	75	185	205	
40	145	90	240	265	
45	165	100	305	340	
50	185	110	375	410	
55	200	120	455	500	
60	220	130	540	580	
65	240	145	635	690	
70	255	155	735	780	



Where:

$d_{2(a)}$ = Distance traveled while decelerating and transitioning from the through lane into the turn lane.

$d_{2(b)}$ = Distance traveled under full deceleration and lane change maneuver.

Source: TRB Access Management Manual, 2nd ed., 2014

d_1 = distance traveled during the approaching driver's perception-reaction time;

d_2 = distance traveled during deceleration to a stop if that is necessary; and

d_3 = queue storage length created by a stop condition or the queue activity occurring in a left or right turn lane.

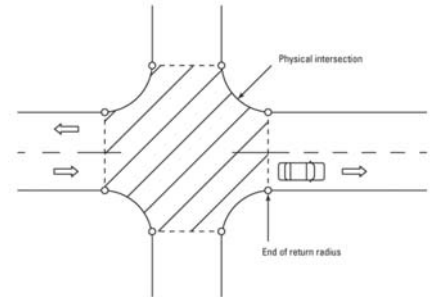
How to calculate Functional Area Downstream

Ideally, [downstream functional distance](#) would be sufficient sight distance that would allow for a speed, path or direction change as shown in the AASHTO Greenbook, 2011 edition, page 3-7, Table 3.3, speed/path/direction change, avoidance maneuvers C (rural), D (suburban) and E (urban). This is a longer distance, but it helps reduce hard braking and stopping immediately downstream from an intersection when drivers may not be anticipating congestion. It is recommended that SSD be used as the minimum downstream functional distance.

EXHIBIT 14-12 Ideal Downstream Functional Distance Based on Decision Sight Distance to Stop and for Change in Speed, Path, or Direction

Speed (mph)	Decision Sight Distance to Stop (ft)			Decision Sight Distance (ft) for Change in Speed, Path, or Direction		
	Rural ^a	Suburban ^b	Urban ^c	Rural ^d	Suburban ^e	Urban ^f
20	130	215	305	305	340	430
25	180	280	400	375	400	525
30	220	350	490	450	535	620
35	275	425	590	525	625	720
40	330	505	690	600	715	825
45	395	590	800	675	800	930
50	465	680	910	750	890	1,030
55	535	775	1,030	865	980	1,135
60	610	875	1,150	990	1,125	1,260
65	695	980	1,275	1,050	1,220	1,365
70	780	1,090	1,410	1,105	1,275	1,445
75	875	1,200	1,545	1,180	1,365	1,545

^aStop on a rural road with perception-reaction time (PRT) = 3.0 s.
^bStop on a suburban road with PRT = 6.0 s.
^cStop on an urban road with PRT = 9.1 s.
^dChange in speed, path, or direction on a rural road, PRT = 10.2 to 11.2 s.
^eChange in speed, path, or direction on a suburban road, PRT = 12.1 to 12.9 s.
^fChange in speed, path, or direction on an urban road, PRT = 14.0 to 14.5 s.



Resources

- ▶ Administrative Rules are not a Design resource
 - ▶ Design details previously found in admin rules have been removed
- ▶ AM Additions to Design Manual
 - ▶ In progress
 - ▶ Use current Design standards and specifications
 - ▶ When the Design Manual is updated those will be the standards and specifications used

3K-2

Design Manual
Chapter 3
Cross Sections
 Originally issued: 09-22-00
 Revised: 06-25-10

Entrance Design

This section provides guidelines for entrance design and serves as a supplement to the [Iowa Primary Road Access Management Policy](#) and Iowa Administrative Code 761—Chapter 112(306A). [NCHRP Report 659, Guide for the Geometric Design of Highways](#) provides further guidance.

Prior to DS, submit plans with entrances to the Office of Traffic and Safety for review. Section [1D-8](#) provides guidance on the access review submittal procedure.

According to Chapter 112.1(3) of the [Iowa Primary Road Access Management Policy](#), all exceptions require written justification. This will be handled by the appropriate District office. The District will note the justification in the access review letter.

Entrance Types

Entrances are classified as Type A, Type B, or Type C based on predominant design vehicle and projected traffic volume.

Type A
 Type A entrances serve heavy concentrations of traffic exceeding 150 vehicles per hour and are designed on a case-by-case basis. They are designed like city streets, with large returns, turning lanes, and traffic signals if needed. Geometric, slaking, and jointing layouts may be required. Consideration of traffic volume impacts is required, and other operational treatments will be needed.

Type B
 Type B entrances serve moderate traffic volumes, typically between 20 and 150 vehicles per hour. These entrances are considered light commercial entrances. Traffic volume impacts should be considered, and other operational treatments may be needed.

Type C
 Type C entrances serve light traffic volumes, typically less than 20 vehicles per hour. Residential and farm field entrances are the typical Type C entrances. Special consideration of road dimensions may be needed for some farm field accesses, given the increasing scale of farm vehicles using these accesses.

Entrance Cases

In areas with curb and gutter, entrances are further classified as Case 1 or Case 2, based on return configuration. Case 1 entrances have radial returns. Case 2 entrances have flared returns. Standard Road Plan [MI-210](#) is used. For Type B entrances, Case 1 is generally used, with Case 2 allowed only on low volume roadways. Type C entrances may use either Case 1 or Case 2.

Note: Entrance cases apply only to roadways with curb and gutter, as depicted in Standard Road Plan [MI-210](#).

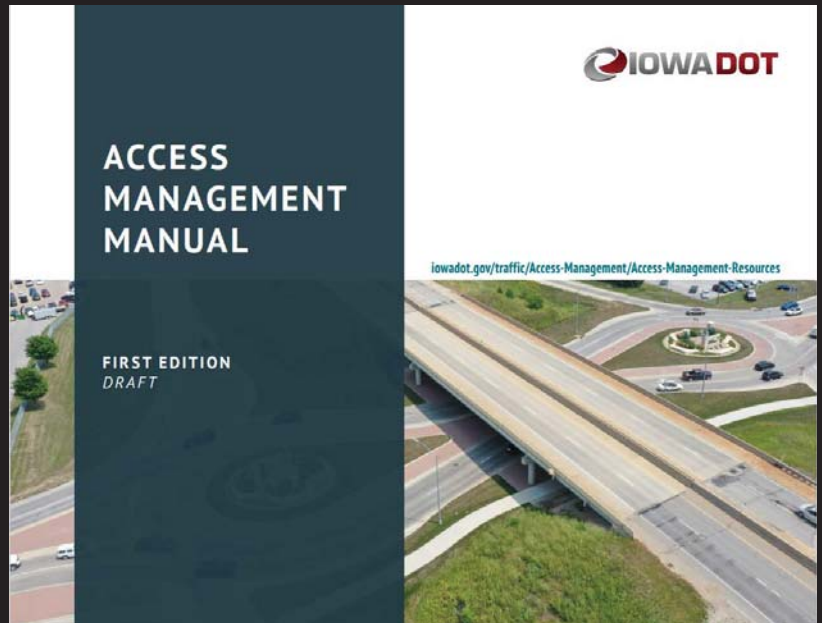
Entrance Design

Several factors should be considered for each entrance design, including: available right-of-way, locations of adjacent entrances, mainline operating speed, anticipated traffic volumes of mainline and entrance.

Page 1 of 6

Resources Cont.

- Access Management Manual
 - Now available online to view
- AM webpages
 - Links to resources will be located on the Access Management webpages
 - <https://iowadot.gov/traffic/Access-Management/Access-Management-Resources>
- Access Management Administrator
 - Leilah Armstrong
 - Phone # 515-239-1623



Questions?

Thank you!