

OFFICE OF TRAFFIC & SAFETY

IMPLEMENTATION OF A NEW ACCESS MANAGEMENT PROGRAM

WILLY SORENSON, P.E.
TRAFFIC & SAFETY
IOWA DOT

ACEC-IA
DOT/FHWA
9-20-23

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Agenda

- Tell the story of Iowa DOT's Access Management Policy overhaul
- Highlight "Advances" in Access Management
 - Functional Area
 - AADT Based Categories based on 20th Year
 - Proof of Necessity
 - AM Plans/Corridors
 - Clear Responsibilities of Owner
 - Permit is a License – Not a Grant or Property Right

flip this house Policy TYPER & TIPPE LOVE IT OR LIST IT FLIP, FLOP Home Town

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Not much has changed with Iowa's Access Mgmt Policy since 1966 (1st formal policy)



KRI
Iowa DOT

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Reason....

- Many of our roads still look like this:



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But not all of them!!


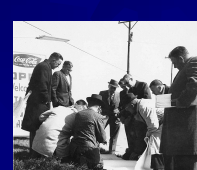


NEW ON KPCC 8 NEWS
STREET IMPROVEMENTS ON SOUTH DUFF
AMES

KPCC 8 NEWS

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But 1st... A Brief History of Access Management in Iowa

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Permit #1 [redacted] [redacted]

STATE HIGHWAY COMMISSION

Application for Permit to Construct Structure from Private Property to Primary Road

Application of: **Chas. W. Miller**

Address: **R.R. 44, Waterloo, Iowa** Date: **March 27, 1957**

Iowa State Highway Commission, Des Moines, Iowa.

Permittee is hereby authorized for the construction of entrance from Highway No. 15 to **Private Road** located near **Waterloo** structure thereunder.

Part Section 306A, IOWA ADMINISTRATIVE CODE

Said work being located on Primary Road No. 15, **Black Hawk County, Iowa, Des Moines**

File No. 15-11841 [redacted]

Permit Number: 15-11841 [redacted]

Signature of Engineer: **R. H. G. Waterloo, Iowa**

Signature of Applicant: **Chas. W. Miller**

Signature of Highway Engineer: **T. G. Goodrich**

Signature of Highway Engineer: **W. H. H. Waterloo, Iowa**



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Iowa Code 306A in 1956-58

Gave Highway Authorities the ability to purchase "Access Rights"

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1st Access Policy / (Administrative Rule) Chapter 112 in 1966

h. Maintenance. Maintenance responsibilities shall conform to subrule 112.3(4). These rules are intended to implement Iowa Code sections 306.9, 306A.1 to 306A.8, and 319.14. 761—Chapter 112 Appeared as Ch 1, Highway Commission 1973 IDR. [Filed May 18, 1966; amended April 14, 1971]

HIGHWAY COMMISSION

Editor's Note: The highway commission rules are subject to the following advice: Manual of Uniform Traffic Control Devices Annual Highway Signs (Standard Primary Road) Supplement—Sign Special Speed Zone. Persons desiring information in regard thereto may address the Iowa State Highway Commission, Ames, Iowa.

CHAPTER 1 PRIMARY ROAD ACCESS CONTROL 11200A1 Statement of policy. The Iowa state highway commission recognizes that laws to no effect, final, and positive set of rules which will ultimately and expeditiously cover, and coordinate as universal as to lead to an inevitable conclusion to cover situations which may arise with respect to the construction of entrance to the primary road with each such application shall Iowa state highway commission meet and shall consider the following:

- Safety to the traveling public.
- Protection of the rights of property owners, and in particular the rights of adjoining property owners.
- The rights and convenience of the traveling public and of property owners to have access to farms and business facilities.
- The impact upon the economy of the state.
- The perpetuation of the carrying capacity of the highway.
- The Iowa state highway commission, and that all persons recognize that no property owner shall be deprived of the right to reasonable, fair and convenient access to his property without just compensation therefor.
- The Iowa state highway commission shall at all times exercise the right to make exceptions to any and all rules when the exercise of sound and reasonable judgment indicates that the literal enforcement of any such rule would effect an undue hardship on any interested party, and the commission shall in the exercise thereof as extraordinary cases or one that is under hardship or equity result to any affected party, the community or state.

11200A2 Definitions. The following terms when used in the rules in this part have the following meaning:

11211 Convenience. The Iowa state highway commission as construed under the laws of the state of Iowa.

11212 Construction. The Iowa state highway commission as construed under the laws of the state of Iowa.

11213 Construction. The Iowa state highway commission as construed under the laws of the state of Iowa.

11214 Construction. The Iowa state highway commission as construed under the laws of the state of Iowa.

11215 Construction. The Iowa state highway commission as construed under the laws of the state of Iowa.

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11249 Construction. The Iowa state highway commission as construed under the laws of the state of Iowa.

11250 Construction. The Iowa state highway commission as construed under the laws of the state of Iowa.

Lots of updates over the years

- [Filed 1/17/77, Notice 12/1/76—published 2/9/77, effective 3/16/77]
- [Filed 12/20/79, Notice 10/31/79—published 1/9/80, effective 2/13/80]
- [Filed 2/7/86, Notice 12/18/85—published 2/26/86, effective 4/2/86]
- [Filed 5/11/87, Notice 3/11/87—published 6/3/87, effective 7/8/87]
- [Filed 8/8/90, Notice 6/13/90—published 9/5/90, effective 10/10/90]
- [Filed 5/17/95, Notice 4/12/95—published 6/7/95, effective 7/12/95]
- [Filed 3/7/01, Notice 1/10/01—published 4/4/01, effective 5/9/01]
- [Filed 10/10/02, Notice 8/7/02—published 10/30/02, effective 12/4/02]
- [Filed 9/14/05, Notice 8/3/05—published 10/12/05, effective 11/16/05]
- [Filed ARC 9873B (Notice ARC 9781B, IAB 10/5/11), IAB 11/30/11, effective 1/4/12]
- [Filed ARC 2889C (Notice ARC 2779C, IAB 10/26/16), IAB 1/4/17, effective 2/8/17]
- [Filed ARC 5301C (Notice ARC 5180C, IAB 9/23/20), IAB 12/2/20, effective 1/6/21]

Effective date of [06.C] Ch 1 delayed by the Administrative Rules Review Committee 70 days. Delay lifted by this Committee on March 13, 1980.

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Access Management Administrative Rule

Approved and in use as of Nov 9th 2022

... and it only took 8 years...

ARC 6434C

TRANSPORTATION DEPARTMENT [761]

Notice of Intrastate Action

Proposing rule making related to primary highway access control and providing an opportunity for public comment.

The Transportation Department hereby proposes to rescind Chapter 112, "Primary Road Access Control," to adopt new Chapter 112, "Primary Highway Access Control," and to amend Chapter 150, "Improvements and Maintenance on Primary Road Extensions," Iowa Administrative Code.

Legal Authority for Rule Making

This rule making is proposed under the authority provided in Iowa Code section 307.12.

State or Federal Law Implemented


This rule making implements, in whole or in part, Iowa Code sections 306.9, 306A.1 to 306A.8, 307.12, 318.3, 318.5, and 318.8.

Purpose and Summary

This proposed rule making rescinds and replaces Chapter 112 and makes a coordinating amendment within Chapter 150. This action is needed because the current Chapter 112 is outdated with many of its key components, such as the priority system, entrance types and design criteria, being essentially unchanged since Iowa started building the interstate system. The Department's process to design and operate Iowa's highways has changed over the years to reflect better integration with communities, economic development, budgets and safety. The proposed rules better define the Department's efforts to provide a first-class transportation system that maximizes safe and efficient travel while ensuring landowners and businesses the ability to access and utilize the transportation system.

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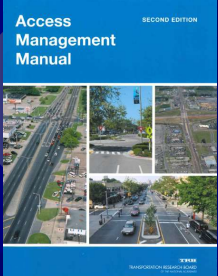
How did we do it?




13

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National Consultant Team




- Phil Demosthenes
- Kristine Williams
- Vergil Stover



14

Data Analysis provided by Iowa State University



4 Papers

- 1st full movement access (on cross street) after a Ramp
- 1st full movement access (on mainline) after a Ramp

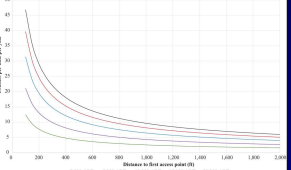
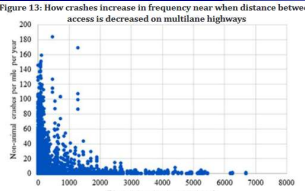








Figure 13: How crashes increase in frequency near when distance between access is decreased on multilane highways




17

Article	 Transportation Research Record 2018, Vol. 2672(17) 1-10
Research Article	 Transportation Research Record 1-10
Article	 Transportation Research Record 2018, Vol. 2672(10) 120-130
Article	 Transportation Research Record 2018, Vol. 2672(7) 11-21 © National Academy of Sciences: Transportation Research Board 2018 Article reuse guidelines: sagepub.com/journals-permissions DOI: 10.1177/0361198118759597 journals.sagepub.com/home/trr

An Examination of the Safety of Signalized Intersections in Consideration of Nearby Access Points

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The Result...

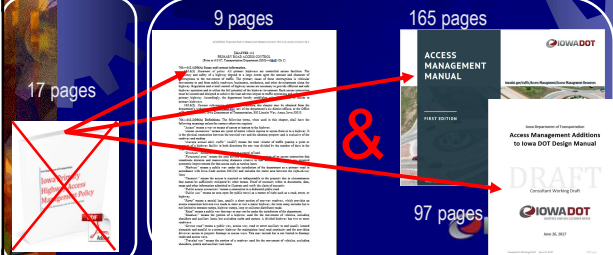


17

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Update Rule & New Manual

- Rescind and Replace Chapter 112
- Access Management Manual (New!) (provides greater details, examples and explanations)




17 pages

9 pages

165 pages

97 pages




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Changing the Culture Accepted

- Functional Area
- Allowance of an Access vs Design of Access
- Engineered vs Cookie Cutter
- Same design requirements as public road (think Turn Lane Warrants)

Working on it

A specific Access is not a Property Right
Proof of Necessity



19

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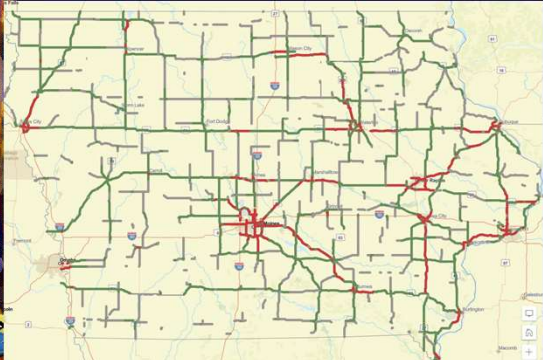

Major Outcomes



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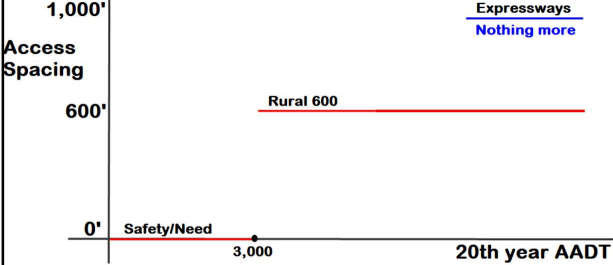
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20-Year Traffic Volume Map

21


Access Spacing



Three Types of Access Priorities Outside City Limits

Priorities	Classifications
Priority 1	Expressways
Priority 2	Interstates/Freeways
Priority 3	Municipal Expressway
Priority 4A	Municipal 1000
Priority 4B	Rural 600 >= 3,000 AADT
Priority 5	Municipal 600
Priority 6	Municipal 300
Priority 6	Rural Safety and Need < 3,000 AADT
Priority 6	Municipal Safety and Need

Access Spacing Inside City Limits is based on Safety and Mobility Goals.



22

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Access Management Plans

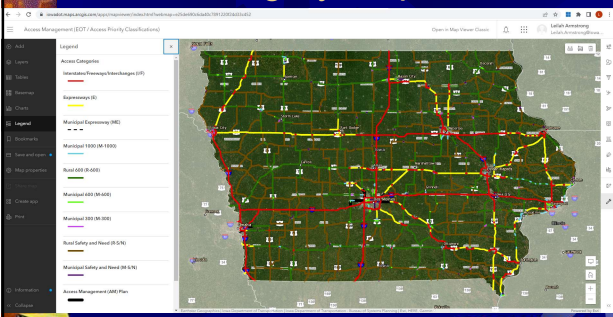

- When standard spacing will not work
- When you want to designate "major intersections"
- When you anticipate large growth
- This can be used and substituted as a separate category



23

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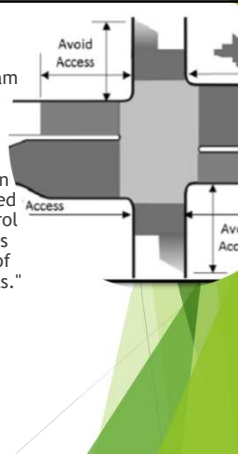
ArcGIS Category Map

24

Functional Area

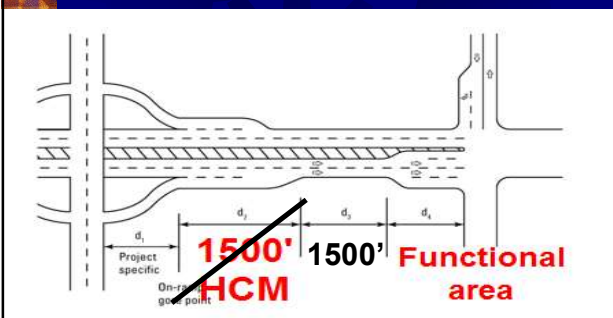
► "Includes any area upstream or downstream of an intersection where intersection operation and conflicts significantly influence driver behavior and vehicle operations. The functional area of an intersection is a calculated value based on the intersection's geometrics, posted speed limit, traffic volume, 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

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1st At-Grade after a Ramp



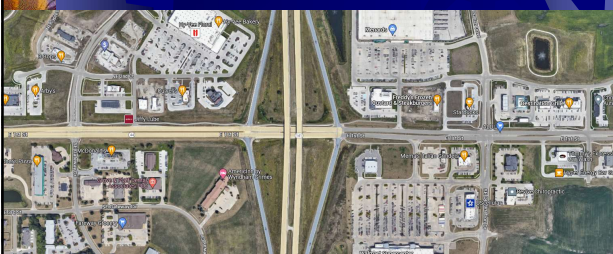
1500' HCM Functional area

Figure 12. First access on an expressway. See the Design Manual

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1st Access along Sideroad (From Interchange)

- Depends on AADT of sideroad
- Depends on Access Type
- Depends on allowable movements




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Access Connections

- Private Connection Types (20th year volumes)
 - A - high volume use (> 100 peak hour trips)
 - B - moderate volume use (11-99 peak hour trips)
 - C - low volume use (<10 peak hour trips) (Residential)
- New....
 - D - limited use (AADT 1 per day use) (Field, Utility Huts, etc)

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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
- Gives the DOT the ability to control future 'upgrades'

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Traffic Impact Analysis Guidance

Guidelines for Traffic Impact Analysis



- Traffic Impact Letter
- Traffic Impact Study

TRAFFIC VOLUME RANGE	TRAFFIC IMPACT LETTER (TIL)	TRAFFIC IMPACT STUDY (TIS)
Less than 1000 trips	Less than or equal to 500 trips	Greater than 500 trips
Peak Hour 1000-1500	Less than or equal to 100 trips	Greater than 100 trips


Prepared By: Systems Planning Bureau
January 2023

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Managing How Accesses "Grow Up"

- 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.



31

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Managing Access's Development

- The Designer of this interchange allowed a residential access.
- NOT a Traffic Signal




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Protecting the Investment

Case Example

US 30 & Marshalltown



33

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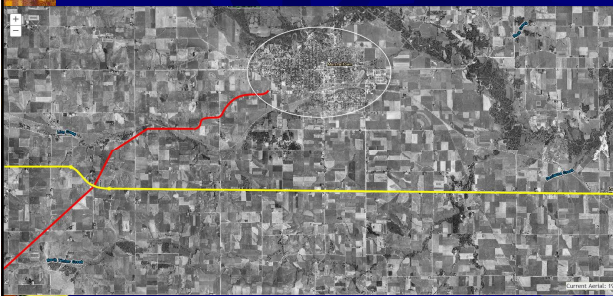

1930s Around Marshalltown




34

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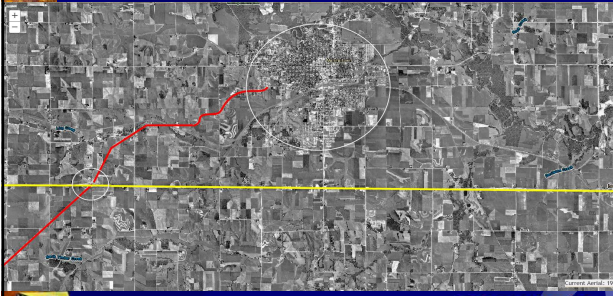

1950s Around Marshalltown

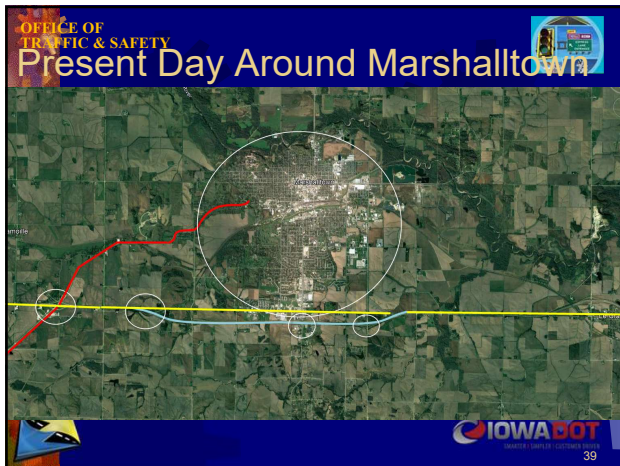
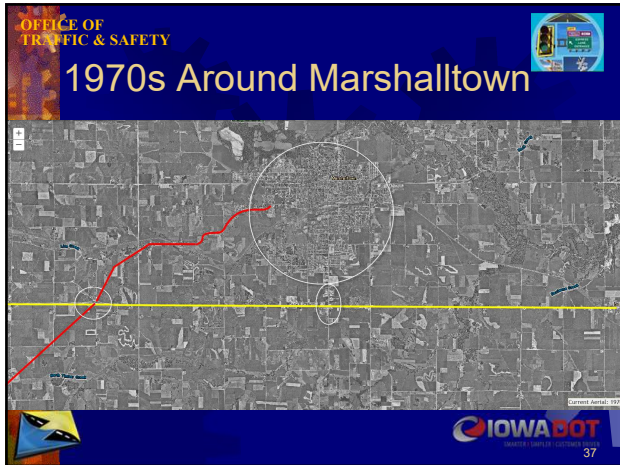
35

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1960s Around Marshalltown

36



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Managing the Median

- 112.3(11) The department has the authority regarding **operational modifications to the highway and all access connections.**

We always had authority over movements allowed in/out of an Access. This just made it clear.

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40

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Continued Research

Can we use Wejo's "Hard Braking" Data in Access Management? (Yes)

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41

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TRAFFIC & SAFETY HOME

- CONTACTS AND LOCATION
- LIBRARY
- ACCESS MANAGEMENT
- WHAT IS ACCESS MANAGEMENT
- ACCESS MANAGEMENT RESOURCES
- CONTACT US
- ADVERTISING MGMT
- SIGN SHOP
- TRAFFIC ENGINEERING
- SAFETY ENGINEERING AND PLANNING
- HIGHWAY SAFETY FEATURES
- 4-TO-3-LANE CONVERSION
- SPEED FEEDBACK SIGNS

ACCESS MANAGEMENT RESOURCES

ADMINISTRATIVE RULE
In accord with Administrative Code 701 Chapter 112(206A) The Primary Highway Access Control Code contains the current administrative rules governing access to the primary highway system.

ACCESS MANAGEMENT MANUAL
The Access Management Manual contains information to assist the public when requesting access to the primary highway system and guidance on the Access Management Program.

For design information, please reference the Iowa DOT [Design Manual](#). Chapter 3 contains guidance for entrance design. Chapter 4 contains guidance for drainage.

REQUEST AN ENTRANCE TO THE PRIMARY HIGHWAY
Private property access to a primary highway or permits to construct an entrance to a primary highway can be applied for using our electronic permitting system.

The Department requires a traffic impact analysis for all Type "A" and Type "D" access permits. The pdf below contains the guidelines for a traffic impact analysis.

[Guidelines for Traffic Impact Analysis](#)

[Administrative Rules on Primary Highway Access Control](#)

[View Chapter 112](#)

[Access Management Manual First Edition](#)

[View Access Management Manual](#)

[Apply Online](#)

Google IOWA DOT Access Management Resources

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42





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Questions.....

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Questions?



44