

City of Bismarck

Access Management Policy

Adopted October 11, 2005
By
Board of City Commissioners

Policy Owner: City of Bismarck

Effective Date: October 11, 2005

Goal and Purpose

This policy is to establish a systematic procedure to control the location, spacing, operation of driveways, median openings, intersection spacing, and street connections to a roadway. The purpose of access control is to provide vehicular access to land development in a manner that preserves safety and efficiency of the transportation system.

POLICY AND BACKGROUND

Access control begins at the platting process or during site plan approval process where access control lines are placed on plats at intersections and along roadways to limit access points based on the classification of the roadway. Currently there is no formal policy in place.

An informal policy has been used for the past few years but has prompted numerous referrals to the Bismarck Board of City Commissioners for a decision when disparity or a change has been requested.

Access control is an important principle when connecting a roadway of lower classification to a roadway of higher classification. Going more than one level up or down in roadway classification should be avoided. Private access points should be allowed only connect to with local residential streets.

Intersection Hierarchy:

Private access	Local
Local	Collector
Collector	Minor arterial
Minor arterial	Principal arterial

Ascending order

Importance and Benefit of Access Control – an effective access control program can reduce crashes as much as 50%, increase roadway capacity by 23% to 45%, and reduce travel time and delay as much as 40% to 60%.

PRINCIPLES OF ACCESS CONTROL

1. Provide a specialized roadway system
2. Limit direct access to major roadways
3. Promote an intersection hierarchy
4. Locate traffic signals to favor through movements
5. Preserve the functional area of intersections
6. Limit the number of conflict points
7. Separate conflict areas

8. Remove turning vehicles from through traffic lanes
9. Provide a supporting street and circulation system.

DEFINITIONS

- Low Density Residential – property that has been zoned R-5 or RM-10.
- High Density - property that has been zoned RM, RMH, or RT
- Commercial – property that has been zoned CA, CG, CR, MA, or MB
- ETA/ Rural Residential – all property not within the City of Bismarck city limits but within the 4-mile Extra Territorial Area zoned RR, or RR5
- Other – HM, DC, DF, A, P, or PUD (Should be reviewed on a case by case basis)
- Principal Arterial – City, majority of trips are through movements, fully or partially controlled access facility, typically on section lines
Rural, typically on section lines
- Minor Arterial – interconnect with and augment the principal arterial system and provide service to trips of moderate length, intersection spacing may vary from 1/8 to 1/2 mile.
- Collector – provides both land access and traffic circulation within residential neighborhoods, commercial. and industrial areas, collects traffic from local streets in residential neighborhoods and channels it into the arterial system.

CONSIDERATIONS in Access Management

Long Range Planning

- Access Control should be based on a future development and projected traffic needs
- Interim measures may be applicable until development warrants more restrictive control.

Operations

- Safety – minimize the number of access points to reduce the number of potential conflict points to improve safety.
- Functional Area – minimize congestion in the area extending upstream and downstream from the physical intersection including longitudinal limits of the auxiliary lanes.
- Proper separation of conflict points – this separation of intersections allows drivers to respond to a series of situations, instead of having to react to a complex pattern of overlapping conflicts.
- Signal spacing – on arterial roadways 1/4 mile (1320 feet) spacing provides for the best signal progression, capacity and speed.
- Intersection operations
 - Safety – minimizing access points minimizes conflicts
 - Stopping Sight Distance – adequate distance is needed to allow drivers to react to potential conflicts and stop if necessary

- Intersection Sight Distance – distance needed to provide a driver who is waiting at an access point an opportunity to enter or cross the roadway.
- Functional Area – an area upstream and downstream from the physical intersection and includes the longitudinal limits of the auxiliary lanes.
- Influence Distance – “Spill Back” Area upstream and downstream from an access point that drivers on the major roadway need to change speed, brake or maneuver because of a vehicle turning onto the roadway.
- Egress Capacity – poor access spacing causes interference between two or more vehicles attempting to enter the roadway at the same time.
- Speed – limited access allows for higher speed due through traffic not to react to turning traffic.
- Circuity of Travel – Traffic Circulation using classified roadways to reach a destination.
 - Providing a safe and efficient classified roadway system minimizes the need for traffic filtering through local neighborhoods preserving the quality of life

Zoning

- Commercial property or RM 15 or greater zoning should be used as a buffer for property abutting arterial roadways
- A 20 foot landscape buffer should be considered along principal arterials with a zoning of RT or less

Financial Responsibility

- Prudent use of public funds to maximize service and safety while minimizing inconvenience and congestion of the roadway system.

Ex. A four lane roadway with ¼ mile signal spacing and a high level of access control has the same ability to carry traffic as six lanes with ¼ mile spacing and a low level of access control.

- The use of Federal funds to construct roadway projects on functionally classified roadways

Mitigation Tools

- In commercial areas, where existing conditions permit, the use of backage roads or raised medians may be an acceptable alternate providing traffic circulation without impacting the major roadway.
- In situations where one side of the roadway is developed, an attempt should be made to maximize access control and minimize impact to property on the opposite side of the roadway.
- All access deviations from policy are subject to approval by the City Engineer
- Natural topographical features may require deviation from this policy
- Proper planning of new developments is the first step to achieve good access control, service, and safety

- Interim measures such as temporary access may be applicable until development warrants more restrictive control.
- If it can be shown through a Traffic Operations or Impact Study that access control lines that are less than required by this policy have no significant impact on the operation of the roadway.

Support Documentation

- AASHTO Policy on Geometric Design for Streets and Highways
- Transportation Research Board Access Management Manual
- FHWA Manual of Uniform Traffic Control Devices
- Minnesota Department of Transportation Technical Memorandum No. 02-10-IM-01
- Highway Functional Classification, US DOT/ FHWA
- North Dakota Department of Transportation Design Policy
- Urban Area Street Standards for City of Fort Collins, City of Loveland, and Laminar County Colorado
- Land Development Codes, City of Henderson
- Fargo Land Development Code, City of Fargo
- City of Minot
- City of Grand Forks

Developer and Consultant Contact List

Attached

Comments

Attached

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TYPE OF INTERSECTION	LOCATION OF ACCESS POINT	MINIMUM DISTANCE FROM INTERSECTION		
		Low Density Residential	Commercial /High Density	ETA/Rural Residential
Local/Local	Local	25 Feet	150 Feet	100 Feet
Local/Collector	Local	25 Feet	150 Feet	100 Feet
Local/Collector	Collector	60 Feet	150 Feet	100 Feet
Collector/Collector	Collector	60 Feet	150 Feet	100 Feet
Local/ Minor Arterial	Local	75 Feet	150 Feet	NA
Local/Minor Arterial	Minor Arterial	300 Feet (1)	660 Feet (1)	NA
Collector/Minor Arterial	Collector	100 Feet	300 Feet	NA
Collector/Minor Arterial	Minor Arterial	300 Feet (1)	660 Feet (1)	NA
Minor Arterial/Minor Arterial	Minor Arterial	300 Feet (1)	660 Feet (1)	NA
Minor Arterial/Principal Arterial	Minor Arterial	300 Feet (1)	1320 Feet	NA
Minor Arterial/Principal Arterial	Principal Arterial	660 Feet	1320 Feet (2)	NA
Local/Principal Arterial	Local	100 Feet	150 Feet (2)	100 Feet (2)
Local/Principal Arterial	Principal Arterial	660 Feet	1320 Feet(2)	1320 Feet (2)
Collector/Principal Arterial	Collector	100 Feet	300 Feet(2)	150 Feet (2)
Collector/Principal Arterial	Principal Arterial	660 Feet	1320 Feet(2)	1320 Feet (2)
Principal Arterial/ Principal Arterial	Principal Arterial	660 Feet	1320 Feet(2)	1320 Feet (2)

Roadway classification is based the Functional Classification Map prepared by the North Dakota Department of Transportation in cooperation with the US Department of Transportation and the Federal Highway Administration and Fringe Area Roadway Master Plan.

Minimum distance is based on measurement from property corner pins near the intersection.

Definitions for Roadway Classifications can be found in the City of Bismarck Code of Ordinances Section 14-09-03.

- (1) Access Alternative to be Approved by City/County Engineer
- (2) On Principal Arterials Access will be considered at ¼ mile spacing or 5 accesses per mile per side including crossing arterial routes.