APPENDIX E

NCDOT Facility Type and Control of Access Definitions
Facility Type & Control of Access Definitions

April 2005
INTRODUCTION

The NCDOT Facility Types and Control of Access Definitions document was prepared to create a set of easy to understand and consistent definitions for all roadways for NCDOT and its partners to use in the planning, design, and operations processes. The definitions are primarily based on the function of the roadway, level of mobility and access, and whether the facility has traffic signals, driveways, and/or medians. These definitions were developed from a committee comprised of members from the Federal Highway Administration and the following NCDOT branches: Traffic Engineering, Highway Design, Project Development, and Transportation Planning. The North Carolina Board of Transportation adopted these definitions on September 2, 2004 as a part of the Statewide Transportation Plan.

The facility type definitions are identical to those used in a Comprehensive Transportation Plan (CTP), which the exception of Thoroughfares. In a CTP, Thoroughfares are further broken down to Major Thoroughfares and Minor Thoroughfares. In this document, both Major and Minor Thoroughfares fall into the general Thoroughfares description.

The first section this document provides descriptions of the different facility types with examples as they exist at the time this document was created. The facility types are listed in order of the level of mobility provided (highest to lowest). This is followed by the definitions of the different types of control of access and a comparison chart. The second section of this document provides illustrative examples that show various elements of each of the different facility types. These illustrations are not drawn to any particular scale.

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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

FACILITY TYPES

Listed in Order of Mobility Function

Adopted by the North Carolina Board of Transportation
September 2, 2004

Freeways

- **Functional Purpose:** High Mobility, Low Access
- **AASHTO Design Classification:** Interstate or Freeway
- **Posted Speed Limit:** 55 mph or greater
- **Control of Access:** Full
- **Traffic Signals:** Not Allowed
- **Driveways:** Not Allowed
- **Cross-Section:** Minimum 4 Lanes with a Median
- **Connections:** Provided only at Interchanges; All Cross Streets are Grade-Separated
- **Median Crossovers:** Public-use Crossovers Not Allowed; U-turn Median Openings for Use by Authorized Vehicles Only when Need is Justified
Expressways-Type I

- **Functional Purpose:** High Mobility, Low Access
- **AASHTO Design Classification:** Arterial
- **Posted Speed Limit:** 50 mph to 60 mph
- **Control of Access:** Limited
- **Traffic Signals:** Not Allowed
- **Driveways:** Not Allowed
- **Cross-Section:** Minimum 4 Lanes with a Median
- **Connections:** Provided only at Interchanges for Major Cross Streets and At-Grade Intersections for Minor Cross Streets; Use of Acceleration and Deceleration Lanes for At-Grade Intersections
- **Median Crossovers:** Allowed; Minimum Spacing between All-movement Crossovers is 2000 feet
- **Examples:** US 221 (Marion Bypass), US 220 in Rockingham County, US 321 south of Lenoir, US 117 north of I-40
Expressways-Type II

- **Functional Purpose**: High Mobility, Moderate Access
- **AASHTO Design Classification**: Arterial
- **Posted Speed Limit**: 50 mph to 60 mph
- **Control of Access**: Partial
- **Traffic Signals**: Not Allowed
- **Driveways**: Allowed (Up to One Driveway Connection per Parcel); Consolidate and/or Share Driveways and Limit Access to Connecting Streets or Service Roads; Restrict to Right-in/Right-out only
- **Cross-Section**: Minimum 4 Lanes with a Median
- **Connections**: Provided only at Interchanges for Major Cross Streets and At-Grade Intersections for Minor Cross Streets; Use of Acceleration and Deceleration Lanes for At-Grade Intersections
- **Median Crossovers**: Allowed; Minimum Spacing between All-movement Crossovers is 2000 feet
- **Examples**: US 74 just east of I-277 in Charlotte, US 74 west of Waynesville, US 29 in Guilford County, US 301 north of Wilson, US 64 in Apex
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

FACILITY TYPES

Listed in Order of Mobility Function

Adopted by the North Carolina Board of Transportation
September 2, 2004

Boulevards-Type I

- **Functional Purpose:** Moderate Mobility, Low Access
- **AASHTO Design Classification:** Arterial or Collector
- **Posted Speed Limit:** 30 mph to 55 mph
- **Control of Access:** Limited
- **Traffic Signals:** Allowed
- **Driveways:** Not Allowed
- **Cross-Section:** Minimum 2 Lanes with a Median
- **Connections:** At-Grade Intersections for Major and Minor Cross Streets (Occasional Interchange at Major Crossing); Use of Acceleration and Deceleration Lanes
- **Median Crossovers:** Allowed; Minimum Spacing between All-movement Crossovers is 2000 feet (posted speed limit of 55 mph or greater) or 1200 feet (posted speed limit of 45 mph or less)
- **Examples:** US 70 between Clayton and Smithfield, NC 55 (Holly Springs Bypass), NC 11 (Kenansville Bypass), NC 87 (Elizabethtown Bypass), US 158 (Murfreesboro Bypass), US 70 near Havelock, NC 24 (Harris Boulevard) in Charlotte
Boulevards-Type II

- **Functional Purpose:** Moderate Mobility, Moderate Access
- **AASHTO Design Classification:** Arterial or Collector
- **Posted Speed Limit:** 30 mph to 55 mph
- **Control of Access:** Partial or None
- **Traffic Signals:** Allowed
- **Driveways:** Allowed; Encourage Consolidation and/or Sharing of Driveways and Limiting Access to Connecting Streets or Service Roads; Restrict to Right-in/Right-out only, if possible
- **Cross-Section:** Minimum 2 Lanes with a Median
- **Connections:** At-Grade Intersections for most Major and Minor Cross Streets (Occasional Interchange at Major Crossing); Use of Acceleration and Deceleration Lanes
- **Median Crossovers:** Allowed; Minimum Spacing between All-movement Crossovers is 2000 feet (posted speed limit of 55 mph or greater) or 1200 feet (posted speed limit of 45 mph or less)
- **Examples:** US 1 (Capital Blvd) in Raleigh, US 74 through Monroe, US 117 south of Goldsboro, US 70 east of Goldsboro, Cary Parkway, NC 132 (College Road) in Wilmington, Lochmere Drive in Cary, US 74 near Ranger
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
FACILITY TYPES
Listed in Order of Mobility Function

Adopted by the North Carolina Board of Transportation
September 2, 2004

Thoroughfares

- **Functional Purpose:** Moderate to Low Mobility, High Access
- **AASHTO Design Classification:** Collector or Local
- **Posted Speed Limit:** 25 mph to 55 mph
- **Control of Access:** None
- **Traffic Signals:** Allowed
- **Driveways:** Allowed with Full Movements; Consolidate or Share Connections, if possible
- **Cross-Section:** Minimum 2 Lanes; No Median; Includes All Facilities with a Two Way Left Turn Lane
- **Connections:** Primarily At-Grade Intersections
- **Median Crossovers:** Not Applicable
- **Examples:** Old Concord Road in Charlotte, Hillsborough Street in Raleigh, Shamrock Road in Charlotte, Trinity Road in Raleigh
**Full Control of Access**
Connections to a facility provided only via ramps at interchanges. All cross-streets are grade-separated. No private driveway connections allowed. A control of access fence is placed along the entire length of the facility and at a minimum of 1000 feet beyond the ramp intersections on the Y lines (minor facility) at interchanges (if possible).

**Limited Control of Access**
Connections to a facility provided only via ramps at interchanges (major crossings) and at-grade intersections (minor crossings and service roads). No private driveway connections allowed. A control of access fence is placed along the entire length of the facility, except at intersections, and at a minimum of 1000 feet beyond the ramp intersections on the Y lines (minor facility) at interchanges (if possible).

**Partial Control of Access**
Connections to a facility provided via ramps at interchanges, at-grade intersections, and private driveways. Private driveway connections are normally defined as a maximum of one connection per parcel. One connection is defined as one ingress and one egress point. The use of shared or consolidated connections is highly encouraged. Connections may be restricted or prohibited if alternate access is available through other adjacent public facilities. A control of access fence is placed along the entire length of the facility, except at intersections and driveways, and at a minimum of 1000 feet beyond the ramps terminals on the minor facility at interchanges (if possible).

**No Control of Access**
Connections to a facility provided via ramps at interchanges, at-grade intersections, and private driveways. No physical restrictions, i.e., a control of access fence, exist. Normally, private driveway connections are defined as one connection per parcel. Additional connections may be considered if they are justified and if such connections do not negatively impact traffic operations and public safety.
Freeway - Full Control of Access  (Illustrative Example in Rural Setting)

- U-turn median openings for use by authorized vehicles only
- Wide medians with 3-strand cable guiderail
- Access provided at interchanges for major cross streets only
- Example: High-speed directional interchange
- Grade separations for minor cross streets
- Control of access fence
- Service roads

Disclaimer: These renderings are for illustrative purposes only. Actual placement of design elements may vary according to the NCDOT and Federal Guidelines.
Freeway - Full Control of Access

(Illustrative Example in Urban Setting)

Access provided at interchanges for major cross-streets only.
Example: Single Point Urban Interchange.

Grade separations at minor cross-streets

Concrete barrier

Control of access fence

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Expressway - Type I - Limited Control of Access

- Access provided at public streets only
- Control of access fence
- No traffic signals at intersections
- Service roads access to businesses

(Illustrative Example in Urban Setting)

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Expressway - Type II - Partial Control of Access (Illustrative Example in Rural Setting)

- Driveways allowed but access is right-in/right-out only. Shared driveways preferred.
- No traffic signals at intersections
- Use of acceleration and deceleration lanes
- Control of access fence
- Access provided at interchanges for major cross streets, at-grade intersections for minor cross streets

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Boulevard - Type I - Limited Control of Access

(Illustrative Example in Rural Setting)

Access provided at public streets only.

Use of medians

Use of traffic signals

Control of access fence

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Thoroughfare - No Control of Access

(Illustrative Example in Urban Setting)

Traffic signals at intersections

Center turn lane

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Thoroughfare - No Control of Access

(Illustrative Example in Rural Setting)

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REFERENCES


