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

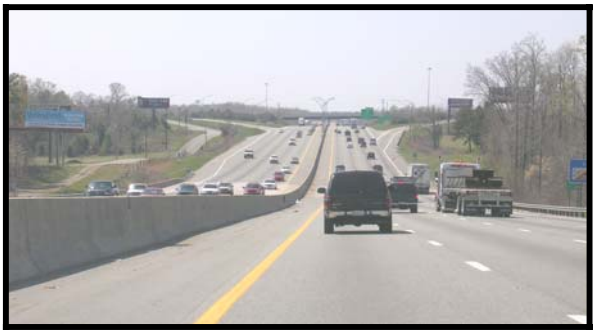
Listed in Order of Mobility Function

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

Freeways

US 74 in Waynesville

US 264 east of I-95 (Wilson Bypass)



I-40/85 in Orange County

US 64 in Rocky Mount

- **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
- ***Examples:*** *I-40, I-95, US 64 between Rocky Mount and Williamston, US 52 between Lexington and Mount Airy, US 70 between Kinston and New Bern, US 74 near Waynesville, US 264 east of I-95 (Wilson Bypass), US 1 between Raleigh and Sanford*

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
FACILITY TYPES

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Expressways-Type I

US 221 (Marion Bypass)

US 220 in Rockingham County

US 321 south of Lenoir

US 117 north of I-40

- **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*

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
FACILITY TYPES

Listed in Order of Mobility Function

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September 2, 2004

Expressways-Type II

US 74 west of Waynesville

US 29 in Guilford County

US 301 north of Wilson

US 64 in Apex

- **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
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Boulevards-Type I

NC 11 (Kenansville Bypass)

US 70 east of Clayton

US 70 near Havelock

NC 24 (Harris Boulevard) in Charlotte

- **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*

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
FACILITY TYPES

Listed in Order of Mobility Function

Adopted by the North Carolina Board of Transportation
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Boulevards-Type II

US 70 east of Goldsboro

Cary Parkway

Lochmere Drive in Cary

US 74 near Ranger

- **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

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September 2, 2004

Thoroughfares

Old Concord Road in Charlotte

Hillsborough Street in Raleigh

Shamrock Road in Charlotte

Trinity Road in Raleigh

- **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*

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
CONTROL OF ACCESS DEFINITIONS

Listed in Order of Mobility Function

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

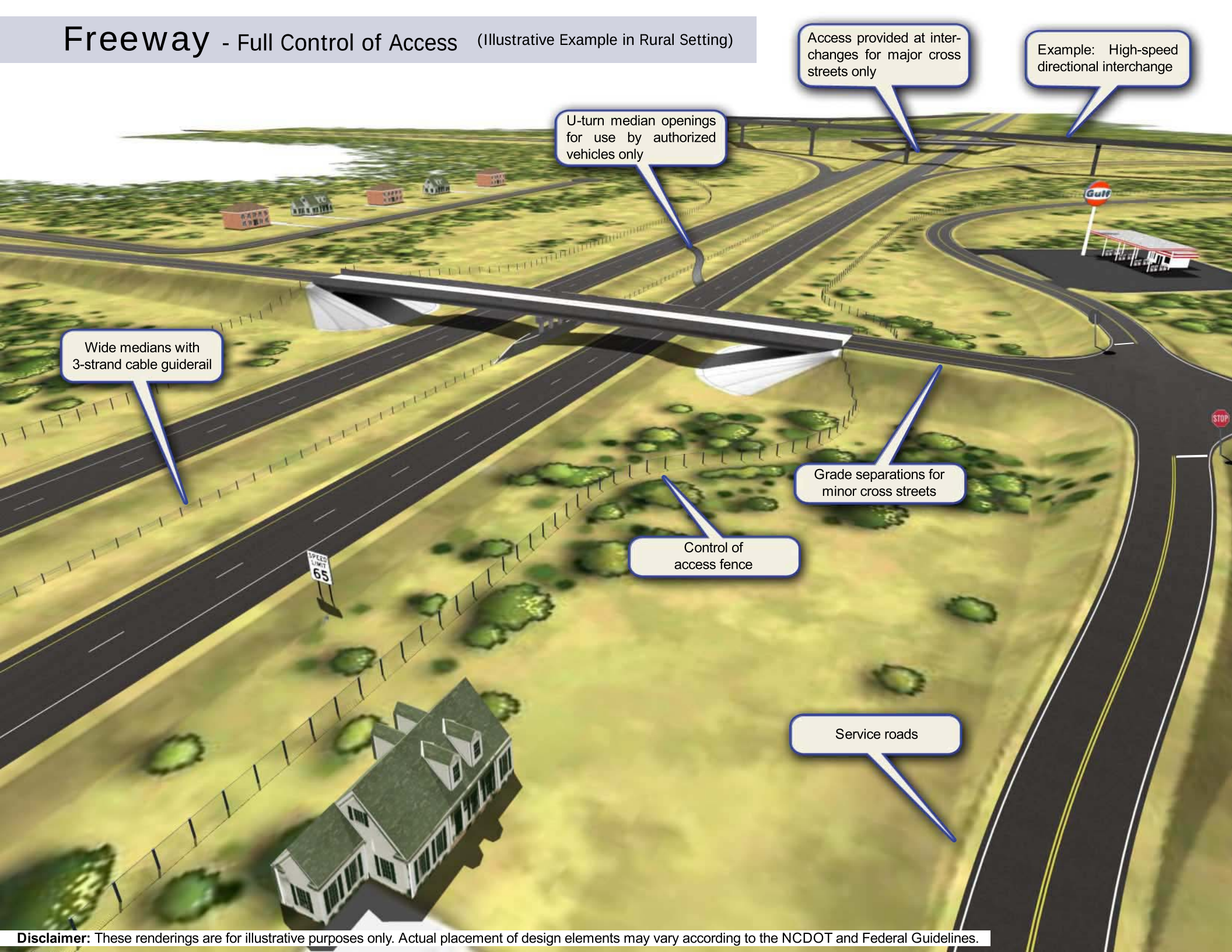
Full Control of Access
Connections to a facility provided only via ramps at interchanges. All cross-streets are grade-separated. No private driveway connections allowed. A control of access fence is placed along the entire length of the facility and at a minimum of 1000 feet beyond the ramp intersections 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).

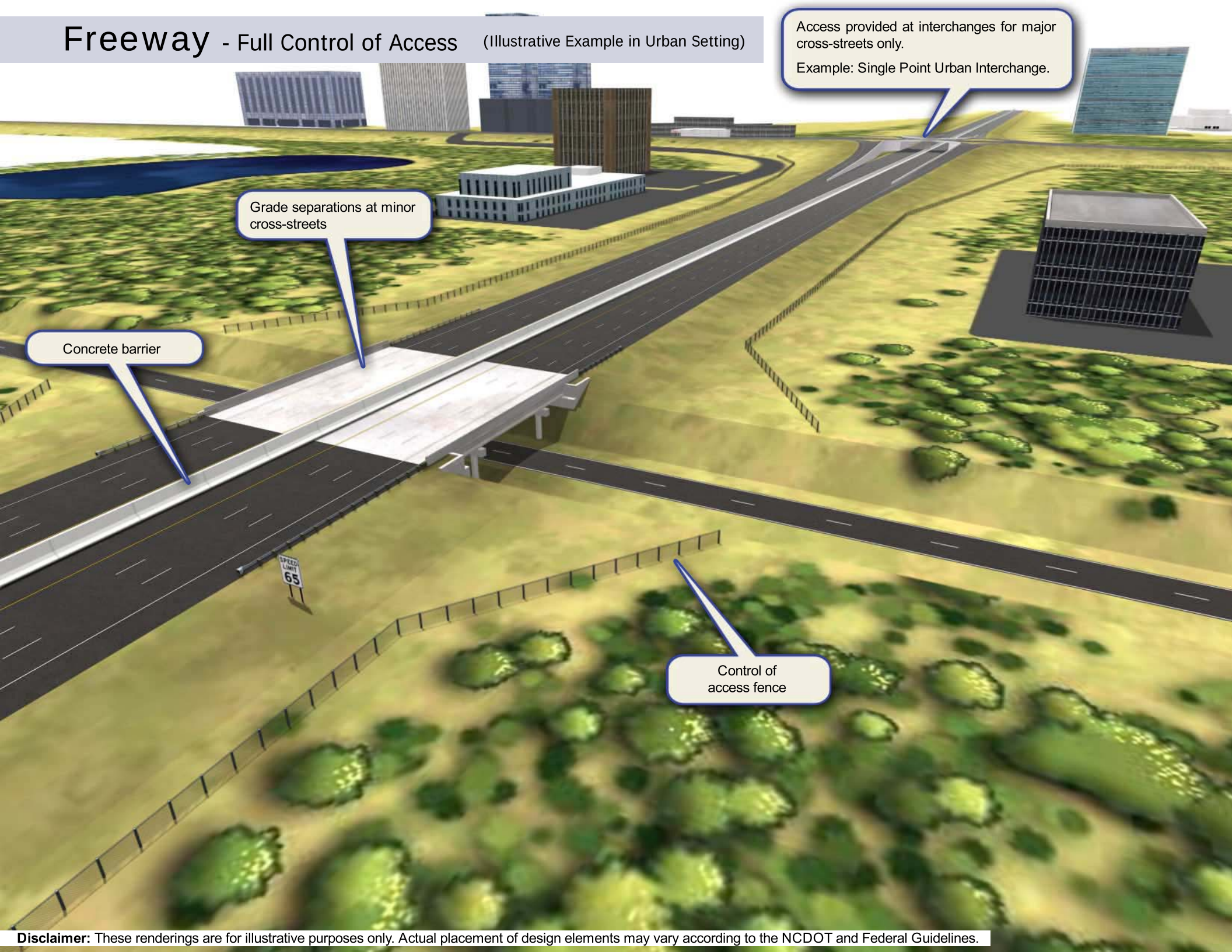
No Control of Access
Connections to a facility provided via ramps at interchanges, at-grade intersections, and private driveways. No physical restrictions, i.e., a control of access fence, exist. Normally, private driveway connections are defined as one connection per parcel. Additional connections may 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)



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)



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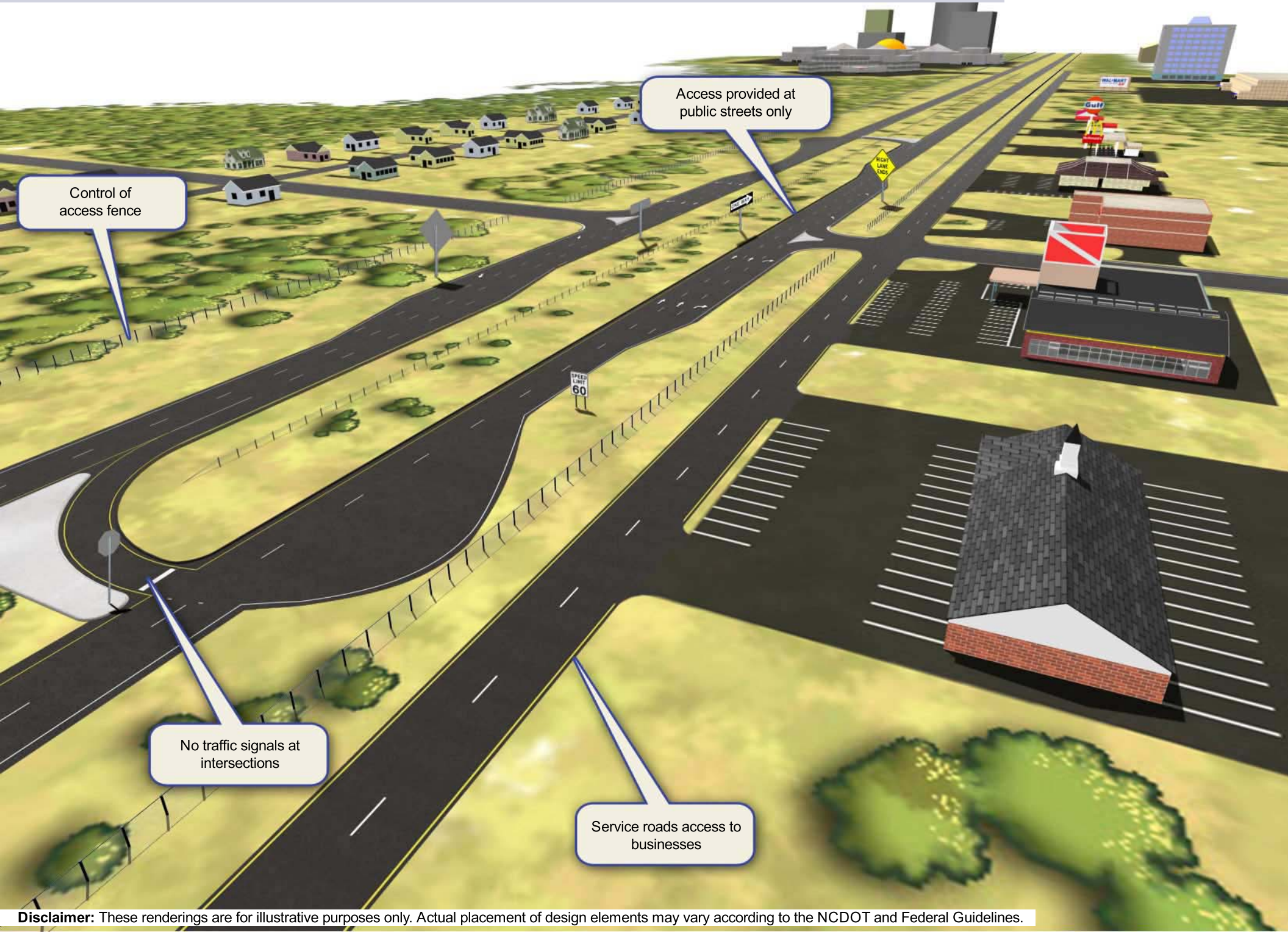
Expressway - Type I - Limited Control of Access (Illustrative Example in Urban Setting)



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

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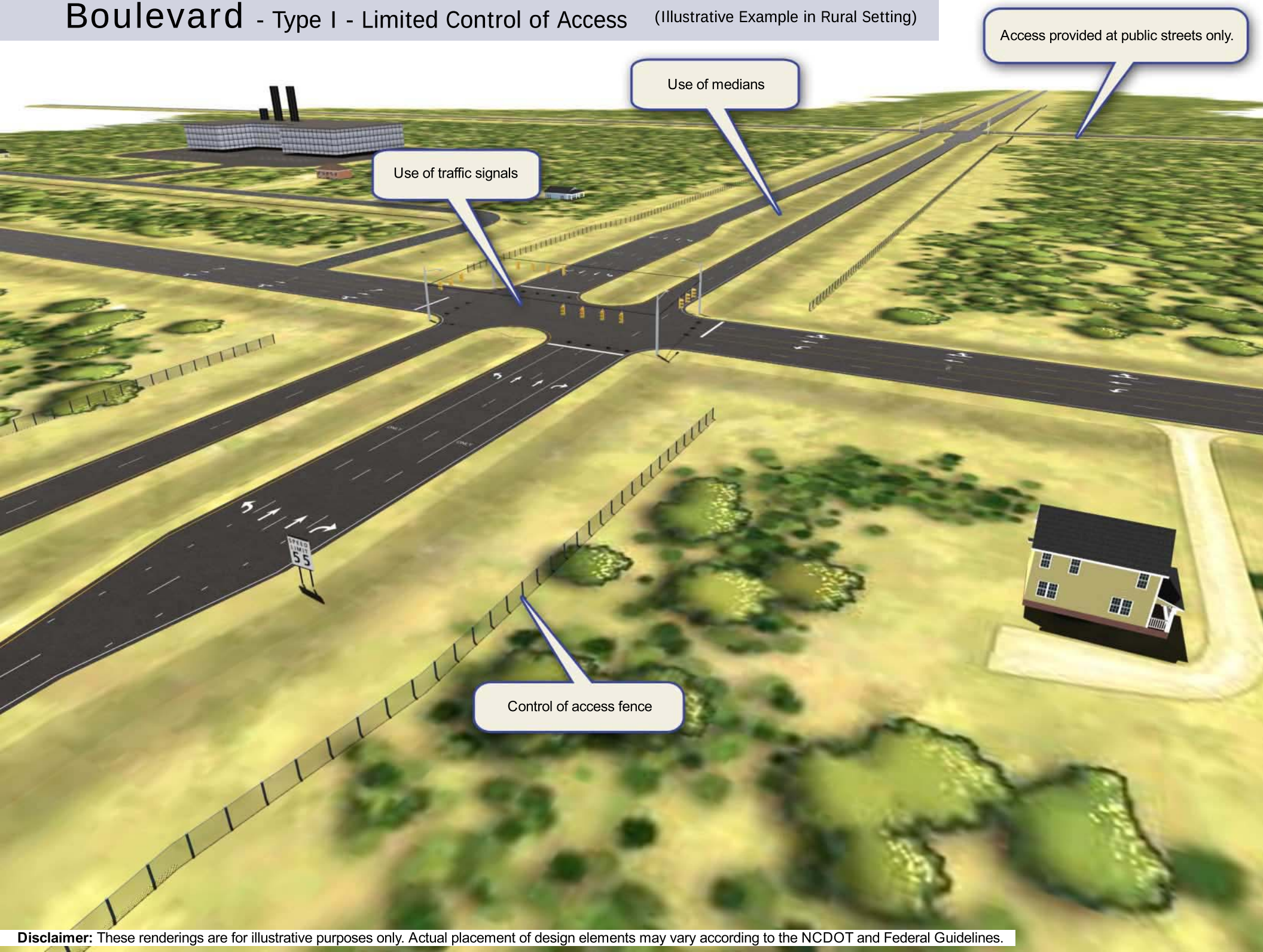
Boulevard - Type I - Limited Control of Access (Illustrative Example in Rural Setting)



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Boulevard - Type II - Partial Control of Access (Illustrative Example in Urban Setting)

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Thoroughfare - No Control of Access (Illustrative Example in Urban Setting)

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Thoroughfare - No Control of Access (Illustrative Example in Rural Setting)

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REFERENCES

1. American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, 4th Edition, 2001

2. North Carolina Department of Transportation (NCDOT), *Design Manual*, 2002

3. North Carolina Department of Transportation (NCDOT), *Policy on Street and Driveway Access to North Carolina Highways*, 2003

4. North Carolina Department of Transportation (NCDOT), *Median Crossover Guidelines*, 2004