

North Texas Tollway Authority Sign Policy



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NTTA[®]
NORTH TEXAS TOLLWAY AUTHORITY

TABLE OF CONTENTS

	Page
1.0 Introduction	2
1.1 Scope and Purpose of NTTA Sign Policy	2
1.2 Policy Use and Application.....	2
1.3 Responsibility for Signing	3
1.4 Basic Requirements for Signs	3
1.5 Sheeting Information	4
2.0 The NTTA System.....	5
2.1 Tollways, Toll Bridges, Turnpikes and Tunnels.....	5
2.2 Interchanges	6
2.3 Ramps	6
2.4 Frontage Roads	6
2.5 Toll Plazas or Gantries	6
3.0 Toll Plaza or Gantry Signs.....	7
3.1 Shape	7
3.2 Color.....	7
4.0 Traffic Generators Signs.....	7
5.0 Other Signs	10
5.1 Dynamic Message Signs (DMS)	10
5.2 Thank You Signs.....	10
5.3 Litter Signs.....	10
5.4 Temporary Signs for Promotional/Community Events.....	10
5.5 Main Lane and Ramp Advance Signs.....	10
5.6 Logos and Advertising.....	10
5.7 Motorist Service Signs	10
5.8 Interoperability.....	11
5.9 Station Markers.....	11
6.0 Special Provisions	11

LIST OF TABLES

	Page
Table 1 – Criteria for Signing Traffic Generators.....	9

1.0 Introduction

Recent updates to the Federal Highway Administration (FHWA) and Texas Manual on Uniform Traffic Control Devices (Texas MUTCD), development of North Texas Tollway Authority System Wide Design Guidelines related to signs and traffic control devices, and NTTA Standards, have necessitated an update to the 2006 NTTA Sign Policy.

The 2008 NTTA Sign Policy, with subsequent revisions, shall apply to all traffic control devices installed on or after adoption of this policy upon the NTTA system except those previously installed under previous versions of the NTTA Sign Policy. All existing traffic control devices or installations not in conformance with standards in this Policy shall be changed to conform to the new standards herein when replacement becomes necessary. Signs required by the Texas MUTCD must be installed by target dates included in the MUTCD. Traffic control devices not previously required, but which are required by this Policy update, shall be installed within 5 years of the adoption of this Policy by the Board.

The 2008 NTTA Sign Policy cancels and supersedes the 2006 NTTA Sign Policy, as amended.

1.1 Scope and Purpose of NTTA Sign Policy

This NTTA Sign Policy (hereinafter referred to as “Policy”) establishes policy for all signs installed, operated and maintained by the North Texas Tollway Authority (hereinafter referred to as “NTTA”). The Policy includes all signs owned and installed by the NTTA as well as signs designed and installed by all other agencies or entities on NTTA property.

The guiding principle of the Policy is to provide safe, effective, and aesthetically pleasing signing systems for NTTA patrons. A primary goal of the Policy is to achieve consistent and uniform signing throughout the NTTA system that will enable all users to identify and reach their desired destinations easily and safely. Uniformity and consistency in signs, images, and messages promote safety.

The Texas Manual on Uniform Traffic Control Devices (Texas MUTCD) states that

“The purpose of traffic control devices is to help insure highway safety by providing for the orderly and predictable movement of all traffic, motorized and non-motorized, throughout the national highway transportation system, and to provide such guidance and warnings as are needed to insure the safe and uniform operation of individual elements of the traffic stream. Traffic control devices are used to direct and assist vehicle operators in the guidance and navigation tasks required to traverse safely any facility open to public travel. Guide and information signs are solely for the purpose of traffic control and are not an advertising medium.”

The policy supplements the Texas MUTCD (www.dot.state.tx.us/TRF/mutcd.htm) and applies the principles, standards, and unique NTTA requirements into uniform, consistent signs, images, and messages that promote a safe roadway system.

1.2 Policy Use and Application

The Policy, in conjunction with the NTTA Sign and Traffic Control Device Guidelines, is intended to aid engineers, architects, graphic designers, sign fabricators and the NTTA staff when planning, designing, specifying, repairing, replacing, purchasing, installing, and operating sign systems.

While the criteria contained in the Policy shall be considered the primary rules for all sign use and application, it does not negate consideration of and compliance with all applicable federal and state laws.

At a minimum, the application and operation of all signing are required to meet the appropriate criteria in the latest versions of the following documents, when applicable:

- Federal Highway Administration (FHWA) MUTCD
- Texas MUTCD
- Texas Department of Transportation (TxDOT) Standard Highway Sign Designs (SHSD) for Texas
- TxDOT Freeway Signing Handbook
- NTTA Standards

1.3 Responsibility for Signing

Under authority granted by the United States Congress in 1966, the United States Secretary of Transportation has decreed that traffic control devices on all streets and highways in each state shall be in substantial conformance with standards issued or endorsed by the Federal Highway Administration (FHWA). The Texas MUTCD is in substantial conformance with standards issued or endorsed by the FHWA, and traffic control signs placed and maintained on NTTA tollway projects will conform to the Texas MUTCD.

1.4 Basic Requirements for Signs

This Policy sets forth the usage and application of all signing for which NTTA is responsible. These elements appear at various places throughout the Policy and it is important that they be given primary consideration in the application of each sign or series of signs. It is also critical that the planners, engineers, designers, maintenance personnel, fabricators, and installers of these signs understand the operating environment for which they are signing, along with the special needs and issues that may exist in each area.

The purpose of traffic signs is to help ensure safe and predictable movement of all traffic throughout NTTA systems. They also provide such guidance and warnings as are needed to ensure the safe and informed operation of individual drivers.

Traffic control signs are used to direct and assist vehicle operators in the guidance and navigation tasks required to traverse the NTTA system in a safe manner. As stated in the Texas MUTCD, to be effective, a traffic control sign should meet five basic requirements which are:

1. Fulfill a need.
2. Command attention.
3. Convey a clear, simple meaning.
4. Command respect from road users.
5. Give adequate time for proper response.

In the case of regulatory signs, the actions required of vehicle operators are specified by Texas State statutes. Uniformity of meaning is vital to effective traffic control.

Five (5) basic considerations are employed to ensure that these requirements are met. They are: design, placement, operation, maintenance, and uniformity.

Design of the sign should assure that such features as size, contrast, colors, shape, composition, and retroreflectivity are combined to draw attention to the sign; that shape, size, colors, and wording of

message combine to produce a clear meaning; that legibility and size combine with placement to permit adequate time for response; and that uniformity, size, legibility and reasonableness of the regulation combine to command respect. In the design of a sign, minor modifications of the specified design elements may be necessary, provided that the essential appearance characteristics are met.

Placement of the sign should assure that it is within the cone of vision of the viewer so that it will command attention; that it is positioned with respect to the point, object, or decision point to which it applies to aid in conveying the proper meaning; and that its location, combined with suitable legibility and visibility, is such that a driver traveling at the posted speed has adequate time to make the proper response.

Operation or application should assure that appropriate signs and related equipment are installed to meet the traffic requirements at a given location. Furthermore, the signing must be placed and operated in a uniform and consistent manner to assure, to the extent possible, that vehicle operators can be expected to properly respond to the signs, based on their previous exposure to similar traffic situations.

Maintenance of signs should be held to high standards to assure that legibility is retained, that the sign is visible, and that it is removed if no longer needed. Clean, legible, properly mounted signs in good working condition command the respect of vehicle operators and pedestrians, as well as present a positive and professional image. In addition to physical maintenance, functional maintenance is required to adjust needed traffic signs to current traffic condition and to remove unnecessary traffic control devices. The fact that a sign is in good physical condition should not be a basis for deferring needed replacement or change.

Uniformity of traffic control signs simplifies the task of the vehicle operator because it aids in recognition and understanding. It aids the vehicle operators and enforcement personnel by giving consistent interpretation. Simply stated, uniformity means treating similar situations in the same way.

1.5 Sheeting Information

Retroreflective materials are used with traffic signs because of their ability to reflect back large portions of light from vehicle headlights directly back to the source. There are a number of different types of retroreflective sheeting available for use on traffic control signs. While taking into account safety, maintenance, life-cycle costs, new construction, and replacement programs, NTTA will determine the most applicable reflective sheeting for signs installed on the tollway system. NTTA will evaluate a statistical sample of signs on an appropriate cycle to monitor the retroreflective condition of the signs in accordance with the FHWA minimum retroreflectivity requirements.

Digital printing or screen ink printing is not allowed in the sign fabrication process.

2.0 The NTTA System

References to the NTTA's facilities shall be standardized on traffic signs and shall not be abbreviated. Present facilities and names to be used are:

- Dallas North Tollway
- Mountain Creek Lake Toll Bridge
- President George Bush Turnpike
- Addison Airport Toll Tunnel
- 121 Tollway and SH 121 frontage roads
- Lewisville Lake Toll Bridge
- Southwest Parkway

Standard names shall be established for existing and future facilities in accordance with the latest revision of the "NTTA Roadway Naming Policy".

Tollways are different in comparison to state roadways due to the toll plazas, roadway geometry, driver decision points, and required maneuvering. Tollways combine high and low-speed design characteristics, with some vehicles stopping at toll plazas. In areas that require many decisions such as toll plazas, faster-moving TollTag vehicles must separate from slower moving vehicles that pay cash. At times, these conditions require advance and site specific signing that shall be designed per the following roadway classification criteria. All-Electronic Toll Collection (All-ETC) facilities will allow the free flow of traffic through toll gantry areas.

Sign and message sizes are determined by the particular classification of a roadway. For purposes of determining sign size, the NTTA facilities are classified into tollways and turnpikes, toll bridges and tunnels, interchanges, ramps, frontage roads, toll plazas, and conventional roads. Roadway classification is established in Part II of the Texas MUTCD.

In accordance with TxDOT's Typical Sign Requirements standards, all new or replacement of overhead guide and large ground-mounted signs containing white legend on green backgrounds shall use the Clearview alphabets (CV-5WR) rather than the FHWA lettering. Black text shall use the FHWA standard highway alphabets (B, C, D, E, Emod or F).

Unless otherwise described in an inter-local agreement (ILA) with the respective agency, NTTA signs installed off-system will continue to be maintained by NTTA.

2.1 Tollways, Toll Bridges, Turnpikes and Tunnels

The Texas MUTCD categories of freeways and expressways should be used for purposes of signing tollways, toll bridges, turnpikes and tunnels. Signing for freeways and expressways should be designed based on drivers who are unfamiliar with the roadway, and should be developed in conjunction with the design of the roadway. Geometry, design speed, urban or rural conditions, along with other design factors will determine much of the sign system design.

Freeways are divided highways for through traffic with full control of access and grade separations at all intersections. The Dallas North Tollway (north of President George Bush Turnpike), 121 Tollway Main Lanes and ramps, and President George Bush Turnpike shall be considered freeways, with respect to signing.

Expressways are divided highways for through traffic with partial control of access and generally with grade separation at major intersections. Due to the geometric limitations, design speed, and ramp lengths, the Dallas North Tollway (south of President George Bush Turnpike), SH 121 frontage roads,

and Southwest Parkway shall be considered expressways for signing. Addison Airport Toll Tunnel, Mountain Creek Lake Toll Bridge, and Lewisville Lake Toll Bridge shall be considered expressways for overhead signing and a conventional road with regard to regulatory and warning signs.

2.2 Interchanges

Interchanges can be classified into two (2) categories for the purposes of the Policy: major interchanges and minor interchanges. Major interchanges include those where a freeway or expressway interchanges with another expressway or freeway, interchanges with high volume multi-lane highways or principal urban arterials, and routes where the interchanging traffic is heavy or includes many drivers unfamiliar with the area. This applies to all interchanges with interstates, U.S. Highways, and State Highways. Minor interchanges include those with urban and rural routes, not in the category of major interchanges.

2.3 Ramps

Ramps are one-way facilities with one (1) or more thru-lanes. Ramps serve and connect freeways or expressways to frontage roads and to other freeways or expressways. In general, ramps operate and should be posted for speeds appropriate to the geometry. It should also be recognized that the speed of vehicles on ramps entering or exiting high-speed roadways may initially be much higher than the posted advisory exit speed. The signs posted on the ramp shall meet the placement, size and sheeting requirements for the corresponding tollway mainlanes in the area.

2.4 Frontage Roads

Frontage roads along NTTA facilities are generally regulated and maintained by local or state jurisdictions. The sign design of these facilities, if completed by the NTTA, shall meet the requirements established within this policy and the NTTA Sign and Traffic Control Device Guidelines, and shall be in accordance with the Texas MUTCD and local signing requirements. The signs shall meet the placement, size and sheeting requirements for the conventional road or expressway category for warning and regulatory signs depending on design or operational speeds.

2.5 Toll Plazas or Gantries

A toll plaza is the area where tolls are collected. The toll plaza area starts where the roadway widens, continues through the toll collection point, and ends where the pavement returns to its normal cross-section. A typical toll plaza includes the approach zone, the queue area, the toll area, recovery area, and departure zone.

Toll plazas are areas that require many decisions. Traffic consists of all types of vehicles and drivers use different methods of toll collection. The goal of signing at toll plazas is to allow drivers to read, interpret, and respond to all signs so they arrive in the correct lane and are prepared to pay the proper toll. Physical constraints of toll plazas require signing to be concise and accurate to accomplish this goal.

A toll gantry is part of All-ETC which allows free flow of traffic through tolling areas. The cross-section of the gantry area is consistent with the approaching roadway. Therefore, the limits of the gantry area are defined by the approach signing and applicable downstream signage.

3.0 Toll Plaza or Gantry Signs

One of the most important elements of toll plaza or gantry design is signing. It is important to provide concise and adequate information to drivers both in advance of and at the toll plazas or gantries. Proper signing reduces driver confusion and improves efficiency through the plaza or gantry area. The use of adjustable icon signs, such as a light emitting diode (LED) sign, should be used, as applicable, to improve operations by allowing flexibility in lane use, scheduled toll rate updates, patron notification and other uses as deemed appropriate by the NTTA. The NTTA Sign and Traffic Control Device Guidelines and NTTA Standards provide the specific application of signs and appropriate spacing.

3.1 Shape

Toll-related signs are generally rectangular in shape. Toll icons may have different shapes, depending on the message. The use of graphic icon signs in place of text messages should be used as much as possible.

“TollTag” icons are round.

“TxTag” and “ZipCash” icons are rectangular.

“CHANGE MADE” or “ATTENDED” icons are hexagonal.

“EXACT CHANGE” icons are square.

3.2 Color

Toll plaza or gantry signs shall have the following colors:

“TollTag” – black legend on fluorescent orange background

“ZipCash” – black legend on white background

“CHANGE MADE” – black legend on fluorescent yellow background

“EXACT CHANGE” – black legend on white background

“PAY TOLL AHEAD” – black legend on fluorescent yellow background

“WARNING STAY IN VEHICLE” – black legend on fluorescent yellow background

“Rate Schedule” – black legend on white background

“Video Enforcement Violators will be Prosecuted” – black legend on white background

Advance guide signs shall have a white legend on a green background with Clearview font and the TollTag icon. TollTag icons shall also be located above each Toll Plaza lane at the plaza.

4.0 Traffic Generators Signs

Traffic generators are defined as developments on or near a highway that generate a significant volume of traffic. To properly serve traffic, it is the policy of the NTTA to evaluate the application of and provide supplemental guide signs to direct traffic to such generators upon request.

Signs, other than the hospital, regional transit facility and TxTag plaques, shall be mounted between the advance guide sign and the exit direction sign, in advance of the exit leading to the generator. The sign should be ground-mounted if there is sufficient room, otherwise mounted overhead. Guide signs should be placed no closer than 800 feet to another sign so that they can be easily seen and understood by motorists. Exits for hospitals shall be identified with the white “H” on blue background mounted above advance guide signs. Exits for airports will be identified with advance guide signs that include the name of the airport placed within the sign. The hospital and regional transit facility sign dimensions shall meet the TxDOT MUTCD and Standard Highway Sign Designs (SHSD).

To be signed as a traffic generator (unless otherwise shown in the following table), the qualifying destination must be immediately adjacent to the signed NTTA facility or lie on a roadway intersected by the signed NTTA facility, and meet all the requirements of the respective type in **Table 1**. In addition, the local agency must provide adequate trailblazing signs from the NTTA facility along the cross street before the NTTA will provide guide signing on NTTA facilities for the traffic generator.

Supplemental signs designating cities or gateways shall not be provided.

Legislative signs for state and federally elected officials may be provided only after trailblazer signs on the adjacent frontage roads and cross streets are installed by the local agency.

Table 1 – Criteria for Signing Traffic Generators

Type of Generator	Specific Criteria		
Hospitals	Type of Facility	Class I or Class II Emergency Medical Facility ¹	Blue background
	Distance from Facility	<= 3 miles	
Legislative Offices (State and Federally Elected Offices Only)	Distance from Facility	<= 2 miles	Green background
Commercial Airports (DFW and Dallas Love Field)	As determined to be appropriate by NTTA		Green background
Colleges and Universities	Full-time Enrollment per semester at signed location	5,000	Green background
		Up to 50% part-time students on a 2 for 1 basis may be used in meeting this criterion	
	Off-Street Parking Stalls	500	
	Distance from Facility	<= 3 miles	
Major Shopping Areas (Malls)	Both enclosed shopping malls and outdoor, partially enclosed shopping areas that may include separate buildings of similar theme (Planned, developed, owned and managed as single property)	<= 3 miles plus 650,000 minimum square feet in area having a minimum of 2 anchor businesses, with a combined gross building area of no less than 150,000 square feet	Blue background
Auditoriums Convention Halls	Seating Capacity	5,000	Brown background
	Parking Stalls	500	
	Distance from Facility	<= 2 miles	
Museums & Zoos Arenas Ballparks and Stadiums Fairgrounds Lakes State and National Historical Sites Recreation Areas State Parks	Annual Attendance	200,000 people plus 10,000 per mile of distance from freeways up to 5 miles plus 100,000 per mile for each additional mile over 5.	Brown background
Regional Transit Facility	Criteria	No more than 2 turns from Toll Facility Exit	Blue background
¹ Class I and Class II Emergency Medical Facilities are determined by TxDOT. No signs shall be provided for non-collegiate / high school facilities.			

5.0 Other Signs

5.1 Dynamic Message Signs (DMS)

The use of overhead DMS signs shall be limited to managing traffic, identifying current and anticipated roadway conditions, regulating access to specific lanes or the entire roadway, and other messages approved by the NTTA through its Command Center. Driver safety messages should only be displayed as part of a safety campaign, and their display limited to a few weeks.

5.2 Thank You Signs

“Thank You For Driving With NTTA” signs shall be ground mounted on ramps as drivers exit the facility. For those ramps without plazas, signs shall be installed prior to the gore with the frontage road or intersecting cross street. Many times, this sign may be installed on the back of “Wrong Way” or “Do Not Enter” signs to avoid additional sign posts. This sign shall include a white legend on a blue background, and shall meet the size and sheeting requirements of the NTTA Standards.

5.3 Litter Signs

“Litter Costs You Money” signs shall be ground mounted along each facility, as determined appropriate by the NTTA, at no less than approximately three (3) mile spacing. This sign shall include a white legend on a blue background and shall meet the size and sheeting requirements of the NTTA Standards.

5.4 Temporary Signs for Promotional/Community Events

The NTTA shall not allow temporary promotional signage for non-NTTA related promotional / community events. If determined by NTTA that such events will impact the operations of the facilities, then traffic guidance signs, which may include portable changeable message signs (PCMS), may be installed by the agency.

5.5 Main Lane and Ramp Advance Signs

Main Lane and Ramp advance signs should be installed as shown in the NTTA Sign and Traffic Control Device Guidelines.

5.6 Logos and Advertising

Logos or advertising on traffic control signing shall not be permitted, with the exceptions of the “TollTag Store” sign, the “TxTag” and “ZipCash” icons. The “TollTag Store” sign should be a plaque mounted above overhead guide signs as detailed on the NTTA standards.

5.7 Motorist Service Signs

Motorist services include lodging, fuel, telephone, restrooms, and restaurants. Given that NTTA facilities are in areas where frequent services are available, motorist services signs shall not be posted on NTTA facilities.

5.8 Interoperability

The “TxTag” icon is a Texas Turnpike Authority (TTA) proprietary interoperability logo that will be displayed on all NTTA, Harris County Toll Road Authority and TTA Toll Road facilities. The icon shall be displayed on a plaque mounted above overhead or ground mounted guide signs at the tolling location.

5.9 Station Markers

Station markers, as detailed on the NTTA standards, are to be installed at 500 feet spacing on each facility.

6.0 Special Provisions

The Policy is not intended to limit or dismiss the experience, knowledge, engineering judgment, or professionalism of the designer, and deviations from the standards and criteria may be considered if within acceptable federal or state safety and engineering standards. It is the intent that the provisions of the Policy meet standards and criteria for traffic signs, but in no manner impose upon the NTTA’s discretion to determine whether to install traffic signs in general or particular to a location within the NTTA’s control. It is recognized that variances to the criteria in the Policy may be warranted. Any request for variance or interpretation shall be submitted along with substantiating documentation to the NTTA for review and action.

All federal and state standard publications, including the FHWA MUTCD, the Texas MUTCD, and American Society for Testing and Materials Retroreflective Sheeting for Permanent Signing may supersede the Policy if a conflict arises.

Except as otherwise approved on an individual project basis, plans and design for signing for vehicular traffic, on or within roadways, shall be performed, signed, and sealed by a Texas professional engineer with adequate experience in traffic signing.

All inquiries regarding usage and applications of signs within this Policy shall be directed to the Public Information Officer at 214-224-2398.