



Houston Fire Department Life Safety Bureau (LSB)



LSB Standard No. 03, Rev. 07

Fire Department Access

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LSB Standards are established in accordance with provisions of the City of Houston *Fire Code*. They are subject to the administrative sections covering alternative materials and methods, modifications, and the Board of Appeals.

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Fire Department Access

Section 3.1 – General

3.1.1 Scope.

This standard provides a method of providing for and maintaining adequate and unobstructed emergency access for fire department apparatuses and personnel to buildings, structures, hazardous occupancies, or other premises, as may be required by the Fire Marshal, the Chief of the Houston Fire Department, and the *Fire Code*.

3.1.2 Purpose.

The purpose shall be to provide clarification of requirements and guidance to person(s) charged with providing and maintaining required fire department access to premises in compliance with the *Fire Code*. The provisions of this standard are general in nature and are not intended to override the specific requirements of the *City Code* or the *Fire Code*.

This standard is subject to periodic review and updates, to accommodate changes in local need or requirements, changes in nationally recognized standards, in related technology, or where required by state or federal regulations.

Section 3.2 – Definitions

3.2.1 Access Control Gate or Barrier.

Any gate or barrier placed across a fire apparatus access road to restrict other vehicles or use. Access control gates and barriers shall be installed in accordance with LSB Standard No. 04, “Access Control Gates.”

3.2.2 Cul-de-sac.

Street with only one outlet that terminates in a vehicular turnaround appropriate for the safe and convenient reversal of traffic movement.

3.2.3 Dead End.

Street with only one outlet that terminates without a vehicular turnaround provided.

3.2.4 Fire Apparatus Access Road.

A road that provides fire apparatus access from a fire station to a facility, building, or portion thereof. This is a general term inclusive of all other terms such as fire lane, public street, private street, parking lot lane, and access roadway.

3.2.5 Fire Lane.

A road or other passageway developed to allow for passage of fire apparatus. A fire lane is not necessarily intended for vehicular traffic other than a fire apparatus.

3.2.6 Private Drive.

A privately-owned and maintained access way used for vehicular travel that is not a street or private street and that provides an unobstructed connection between one or more streets or private streets or from a street or private street to any portion of a parking lot, shopping center, institution, commercial area, or industrial development.

A private drive may provide for access by the general public, but the owner of the private drive maintains the right to restrict public access to the private drive.

3.2.7 Private Roadway.

A privately owned and maintained vehicular accessway that provides access to a tract of land.

3.2.8 Private Street or Road.

A privately maintained and owned vehicular accessway that provides access from a public street to one or more multi-family residential buildings.

3.2.9 Public Street.

A public right-of-way, however designated, dedicated, or acquired, that provides access to adjacent property.

Section 3.3 – General Requirements

3.3.1 Approval Required.

Required fire apparatus access roads and required fire lanes shall be approved by the Fire Code Official or designee prior to construction.

3.3.2 Permits Required.

To install and maintain an approved fire lane, a permit is required. Permits shall be obtained prior to construction/installation and prior to plan review.

Permit Office contact information for Fire Lane approvals is as follows:

The Houston Permitting Center

1002 Washington Avenue

Houston, Texas 77002

Hours of operation: 8:00am to 3:30pm (CST)

Monday through Friday

Office phone: (832) 394-8811

To E-mail Customer Service Questions: hfd.permitoffice@houstontx.gov

Link to City Wide Fee Schedule: www.houstoncityfees.org

3.3.3 Plans Required.

Plans for fire apparatus access roads and fire lanes shall be submitted to the Fire Code Official or designee for review and approval prior to construction.

3.3.4 Timing of Installation.

When fire protection, including fire apparatus access roads and water systems for fire protection is required, such protection shall be installed and made serviceable prior to and during construction, renovation, or demolition of a building.

3.3.5 Signs and Notices.

When required by the fire code official, property owner or the owner's agent shall provide and maintain approved signs or other approved notices for fire apparatus access roads and fire lanes to identify such roads and prohibit obstruction thereof.

3.3.5.1 Removal, Alteration, Defacing of Signs Unlawful.

A person commits an offense if the person intentionally alters, defaces, injures, knocks down, removes, or attempts to do so, any sign required in accordance with this standard or the *Fire Code*.

Section 3.4 – Fire Apparatus Access Roads and Fire Lanes

3.4.1 Where Required.

3.4.1.1 New Buildings.

Approved fire apparatus access roads shall be provided by the owner or property manager for every facility, building, or portion of a building hereafter constructed or moved into or within the jurisdiction of the City of Houston, when any portion of an exterior wall of the first story of the building is located more than 150 feet from fire apparatus access as measured by an approved route around the exterior of the building or facility or where required by Section 3.1 of this standard. In addition to an fire apparatus access road the fire code official may require an unobstructed 5 feet wide by 10 feet high minimum clearance along the perimeter of any building, structure, or appurtenance. The clearance shall allow adequate access and coverage during emergency operations for firefighters to deploy and advance fire hose lines.

Exceptions:

1. In buildings that are completely protected with an approved automatic fire sprinkler system, the fire code official is authorized to modify requirements, not to exceed 300 feet.
2. When access roads cannot be installed due to location on property, topography, waterways, nonnegotiable grades, or other similar conditions, the fire code official is authorized to require additional fire protection measures.
3. Group R-2 occupancies when in accordance with Chapter 42 of the *City Code* and the *Fire Code*.
4. When there are not more than two Group R-2 (residential) or Group U (utility) occupancies, the fire code official is authorized to modify requirements.

3.4.1.2 Existing Facilities.

For existing buildings and facilities, the Fire Code Official may require the establishment of fire apparatus access roads or fire lanes in accordance with this standard.

3.4.2 Specifications.

3.4.2.1 Dimensions.

Fire apparatus access roads and fire lanes shall have an unobstructed width of not less than 20 feet and an unobstructed vertical clearance of not less than 13 feet 6 inches. Vertical clearances or width shall be increased, when in the opinion of the fire code official, vertical clearance or widths are not adequate to provide fire apparatus access. Additional requirements from the Office of the City Engineer (OCE) may be applicable in regard to dimensions.

Exceptions:

1. Where any portion of a building is more than thirty (30) feet in height or where fire hydrants are provided along the fire apparatus access road(s), fire apparatus access roads shall be twenty six (26) feet in width in accordance with Appendix D of the *Fire Code*.
2. Where dimensions are required to be increased by Chapter 42 of the *City Code*.

3.4.2.2 Surface.

Fire apparatus access roads shall be designed and constructed to support the minimum imposed load of 90,000 pounds and shall be provided with a surface so that it permits all-weather driving capabilities.

3.4.2.3 Turning Radius.

The turning radius of a fire apparatus access road shall be as approved by the fire code official.

3.4.2.4 Dead-Ends.

Dead-end fire apparatus roads in excess of 150 feet in length shall meet the requirements of Appendix C for turning around fire apparatus.

3.4.2.5 Bridges and Below-Grade Structures.

Where fire apparatus must cross over a bridge or below-grade structure as part of a fire apparatus access road or fire lane, the bridge or below-grade structure shall be designed and constructed in accordance with nationally recognized standards. The bridge or below-grade structure shall be designed for a live load sufficient to carry the imposed loads of fire apparatus.

3.4.2.6 Posting of Load Limit Signs.

The property owner shall post vehicle load limit signs at both entrances to bridges or road accesses over a below-grade structure as required by the fire code official. Load limit signs shall be posted in conspicuous locations and shall be readily readable.

3.4.2.7 Grade.

The slope or grade for a fire apparatus access road shall not exceed ten percent (10%).

3.4.3 Additional Access.

The Fire Code Official is authored to require more than one fire apparatus access road based on the potential for impairment of a single road by vehicle congestion, condition of terrain, climatic conditions, or other factors that could limit access.

3.4.4 Fire Hydrant Systems.

Where required by the *Fire Code*, *approved* fire hydrant systems shall be installed along fire apparatus access roads.

3.4.5 Obstruction of Access Roads.

3.4.5.1 Maintenance of Clear Width.

The required width of a fire apparatus access road, including access points from public streets, shall not be obstructed in any manner, including parking of vehicles. Minimum required widths and clearances established under Section 3.4.2 shall be maintained at all times.

Exception: Access control gates-barriers installed in accordance with LSB Standard No. 04, "Access Control Gates."

Entrances to roads, trails, or other access ways which have been closed with gates/barriers in accordance with this standard, or LSB Standard No. 04, shall not be obstructed by parked vehicles or other obstructions.

3.4.5.2 Removal of Vehicles and Obstructions.

Fire department access roads and fire lanes are tow-away zones; therefore vehicles parked and obstructions placed in violation of the *Fire Code* may be issued citations and removed at the vehicle owner's expense.

Entrances to roads, trails, or other access ways that have been closed with gates/barriers in accordance with this standard or LSB Standard No. 04, shall not be obstructed by parked vehicles.

3.4.5.3 Removal of Fire Department Access Road.

A fire department access road or fire lane shall not be altered, modified, removed, or placed out of service without prior written approval from the fire code official.

Section 3.5 – Fire Lanes

3.5.1 General.

The Fire Code Official is authorized to require that fire department access roads be designated by *approved* means as Fire Lanes.

3.5.2 Where Required.

Fire apparatus access roads shall be designated by *approved* means as Fire Lanes where it is determined that vehicular parking or other obstructions may restrict access to

a building, including entrances and exits, or where any of the following conditions or occupancies exist:

1. Any private drive or private street alongside of or leading to a commercial structure is over 300 feet long on one side, or nearest entrance to the structure is over 150 feet of travel distance from a public street.
2. Any private drive or private street alongside of or leading to a hospital, convalescent center, or nursing home.
3. Any private drive or private street alongside of or leading to a public assembly occupancy that has an occupant load of 50 or more and has its nearest entrance located over 150 feet of travel distance from a public street.
4. Any private drive or private street alongside of or leading to an educational building with an occupant load of 50 or more persons.
5. Where a building is bordered by a continuous sidewalk connecting its exit doors not less than one Fire Lane shall be provided for each 300 feet of building front, or fraction thereof. Such Fire Lane, where possible, shall be positioned in front of the building's main entrance. In no case shall the Fire Lane be less than 30 feet long or extend less than 20 feet perpendicularly from the curb or road edge. If the building's side is less than 30 feet in length, then the entire side shall be designated as a Fire Lane.
6. Where a building does not have a continuous sidewalk connecting its exit doors a Fire Lane linking all entrances may be required around the building. In no case shall the Fire Lane be less than 20 feet wide, measured perpendicularly from the edge of the pavement alongside the building where vehicular traffic is allowed.
7. Where there is a danger that a required exit door of any building may be blocked by vehicles parking on a private drive, private street, or lot a Fire Lane extending not less than 5 feet on either side of the exit, and not less than 20 feet measured perpendicularly from the building, may be required to allow egress from the building in an emergency.
8. In occupancies where Fire Lanes are required and the building faces more than one private street or private drive, at least one Fire Lane 30 feet long shall be provided on each side of the building facing the private street or drive and as near as possible to the building entrance.

3.5.3 Marking of Fire Lanes.

3.5.3.1 General.

Required fire lanes shall be identified in accordance with this standard and the *Fire Code*. The full width of required fire department access roads shall be included within the boundaries of the Fire Lane.

3.5.3.2 Marking of Curbs.

Curbs along both sides of fire apparatus access roads shall be painted RED. Where there is no curb, a RED stripe shall be painted upon the driving surface. The curb or driving surface shall also be conspicuously marked with white stencils not less than three (3) inches in height that read, "**FIRE LANE—NO PARKING**". The stencils shall be placed at intervals not exceeding fifty (50) feet.

Exceptions:

1. Where the fire apparatus access road is greater than twenty-six (26) feet in width, only the curbs or driving surface closest to buildings need to be marked.
2. Where a permeable surface (gravel, crushed concrete, GEOBLOCK, “Grasscrete”, etc.) has been approved for use as a fire department access road, the fire lane shall be identified only in accordance with 3.5.3.3 of this standard.

3.5.3.3 Signs.

3.5.3.3.1 Specifications.

Fire Lane and accompanying Tow-Away Zone signs shall meet the design and dimension requirements specified in Appendix B of this standard. Signs may be combined as one sign, provided that the requirements of the individual signs are met. Signs shall be constructed of durable, weather-resistive materials and paints.

3.5.3.3.2 Placement of Fire Lane Signs.

3.5.3.3.2.1 General.

Fire Lane signs shall be placed along the boundaries of fire department access roads. Signs shall be placed on both sides of the road and shall be visible from the direction of travel.

Exception: Where the fire apparatus access road is greater than twenty-six (26) feet in width, signs are only required on the side closest to buildings.

3.5.3.3.2.2 Tow-Away Zone Signs.

An approved Tow-Away Zone sign shall accompany all Fire Lane signs. Tow-Away Zone signs shall be mounted immediately beneath Fire Lane signs.

3.5.3.3.2.3 Minimum Number of Signs.

Not less than two Fire Lane/Tow-Away Zone signs, with arrows pointing toward each other, shall be used to indicate the boundary of any Fire Lanes on any one side of a building or access road.

3.5.3.3.2.4 Intermediate Signs.

Intermediate Fire Lane/Tow-Away Zone signs shall be provided every 100 feet, or fraction thereof. These signs shall have arrows pointing in both directions.

Exception: Where a fire lane is bordered by parking rows, signs shall be placed in the first available location(s) at the end(s) of the parking row(s).

3.5.3.3.2.5 Height.

Fire Lane signs shall be mounted at a height of at least six (6) feet but not more than seven (7) feet when measured from the driving surface to the bottom of the sign.

3.5.3.3.2.6 Angle of Attachment.

Fire Lane/Tow-Away Zone signs shall be placed on a post or column with the face at a 20-degree angle from parallel to the driveway area so that it faces oncoming traffic.

3.5.3.3.2.7 Obstruction of Fire Lane Signs.

Signs shall remain unobstructed and visible at all times. Materials and/or objects shall not be attached to or placed on signs or signposts.

3.5.3.4 Fire Hydrants and Fire Department Connections (FDC).

Where required by the Fire Code Official, fire hydrants and fire department connections not located within a Fire Lane shall be provided with Fire Lane/Tow-Away Zone signs and painted curbs/pavement striping. Signs shall be provided on both sides of the hydrant or FDC and shall be not less than thirty (30) feet apart.

3.5.3.5 Excluded Areas.

“Loading Zones”, “Package Pick-Up”, “Patient Drop-Off”, or other such areas that invite illegal parking in Fire Lanes shall not be included within the Fire Lane boundaries. Such areas shall be excluded from the Fire Lane by the posting of Fire Lane/Tow-Away Zone signs with arrows that point away from that area.

Appendix A – Plot Plan Requirements

A1.1 Submission of Plot Plans.

The owner or owner's agent shall provide the Fire Code Official or designee with three (3) sets of printed plot plans or one digital copy for the property on which a fire apparatus access road and/or Fire Lane will be constructed. The plot plans shall be of blueprint size and shall include all of the following items:

1. Location of building or buildings.
2. Building exits and entrances.
3. Street locations.
4. Private drives and any gates or barriers to traffic.
5. Sidewalks and parking rows.
6. Fire Department Connections (FDC) and fire hydrants on private property.
7. Existing fire department access roads, fire lanes, and sign locations.
8. Any overhead structural extensions or obstructions that could affect Fire Lane placement.
9. Sizes and relative separation distances for all the above features shall be indicated on the plot plan.

A1.2 Marking of Plot Plans.

The owner or owner's agent shall mark the boundaries of the Fire Lane in red. Fire Lane/Tow-Away Zone sign locations shall be indicated on the plans, and a scale shall be provided to allow for verification of distances between signs.

A1.3 Approval of Plot Plans.

When plot plans are verified to be in compliance with this standard, the Fire Code Official or designee will give authorization for construction to begin.

A1.4 On-Site Review.

When construction is complete, the Fire Code Official or designee will conduct an on-site review to verify that construction is in accordance with the approved plans.

Appendix B – Fire Lane/ and Tow-Away Zone Signs Requirements

B1.1 Format.

All graphics and lettering shall be center justified. All lettering shall be in Arial font.

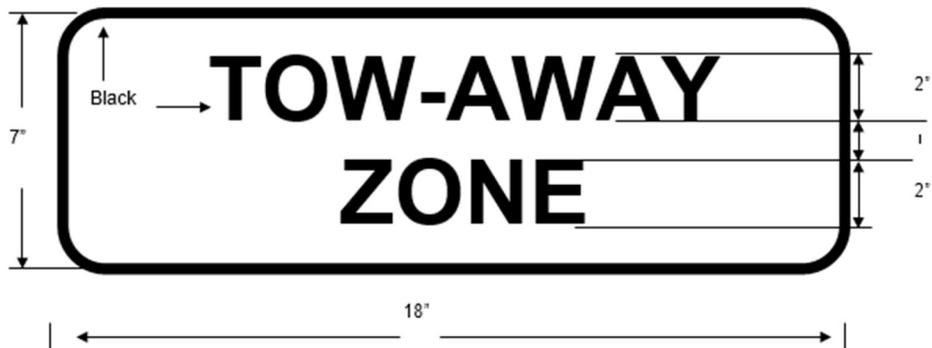
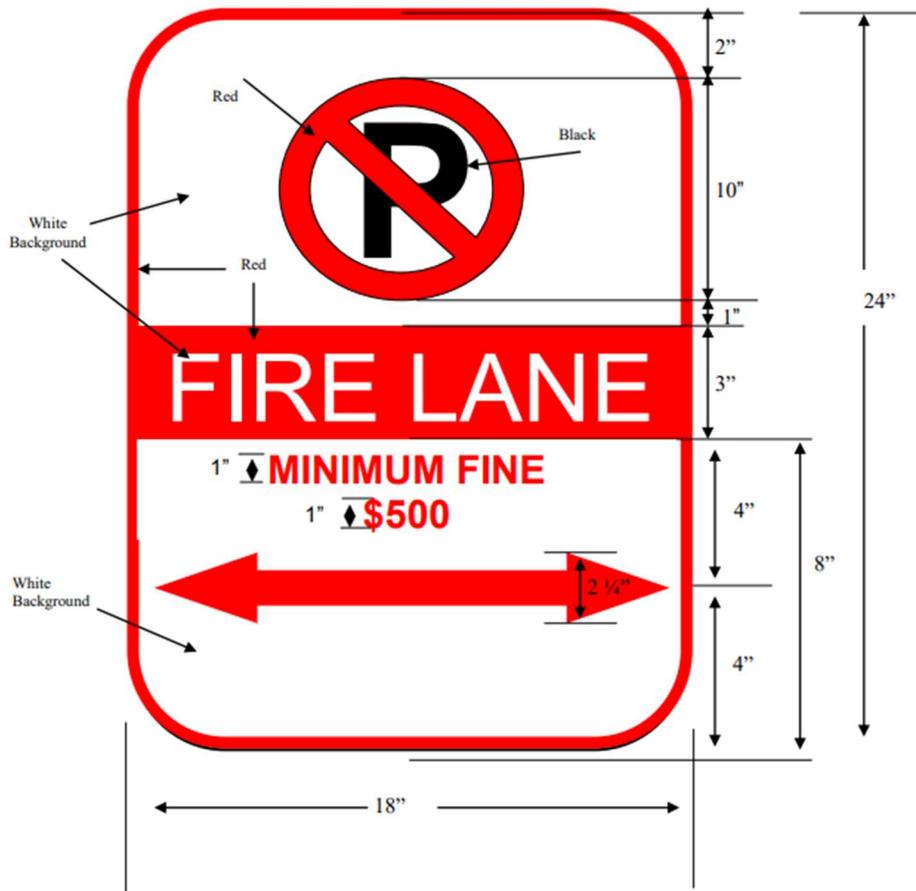
B1.2 Fire Lane Sign Specifications.

1. Size of sign: Standard – 18 inches in width, 24 inches in height.
2. Colors:
 - White – Outer border, background, and **FIRE LANE** letters.
 - Red – Inner border, “prohibited” symbol, and arrow.
 - Black – Letter “**P**”.
3. Letter sizes:
 - “**P**” – 6 inches.
 - FIRE LANE** – 2 inches.
4. “Prohibited” symbol: 10-inch o.d.
5. Background for FIRE LANE: 3 inches in height.
6. Arrow:
 - Head: 2¼ inches in height.
 - Shaft: 1 inch in width, 14 inches in length.

B1.3 Tow-Away Zone Sign Specifications.

1. Size: 18 inches in width, 7 inches in height.
2. Colors:
 - White – Outer border and background.
 - Black – Inner border and **TOW-AWAY ZONE**.
3. Letters: 2 inches in height.

Enclosure 1 (Drawings are NOT to scale)



References

1. City of Houston *Fire Code*.
2. City of Houston *Building Code*.
3. City of Houston *Code of Ordinances*, Section 42.
4. Texas Manual on Uniform Traffic Control Devices (State Department of Highways and Public Transportation).

All reference materials used under this Life Safety Bureau standard shall be in accordance with the most current adopted City of Houston *Construction Code*.