



**City of Dallas**

# Digital Billboards: Overview of Program

Transportation and  
Infrastructure Committee  
June 12, 2023

Jason Pool, Development Services Manager  
Development Services Department  
City of Dallas

# Presentation Overview



- Purpose
- Background
- Operational Issues
- Technology Advancement & Impact
- Industry Proposal Details & Observations
- Next Steps



# Purpose



- Outline the current non-premise expressway (billboard) sign provisions, focusing on digital displays.
- Highlight observed public concerns and operational issues.
- Provide an overview of LED technology trends & impact of billboard displays.
- Detail industry proposal to amend the current digital billboard provisions.



# Background: Hierarchy of Provisions



- Detached non-premise (billboard) sign hierarchy:
  - Federal Regulations: (Not subject to amendment; [Appendix A](#))
    - Highway Beautification Act (HBA)
    - Federal State Agreement (FSA)
  - State Regulations: (Not subject to amendment; [Appendix A](#))
    - TAC 43.21.I (Certified City Program)
  - City of Dallas Provisions: (Subject to amendment; [Appendix B](#))
    - Ch. 51A of the Dallas Development Code (Art. VII)
    - Ch. 52 Administrative Procedures for Const. Codes



# Background: Federal/State Regulations



- Top-Level Regulations Summary \*
- Industrial & Commercial zones ( $\leq 660$  ft of highway)
- Max. 1200 sf; 85 ft tall (25 ft max. height or 60 ft max. width)
- Minimum 500 ft spacing:
  - Between signs on same side of roadway
  - From certain public & designated areas
- No flashing, movement, or glare
  - Message displayed min. 8 sec., auto-adjust, etc.

\* These are the maximum allowances that can't be exceeded by local code.



# Background: City of Dallas Regulations



- Dallas Development Code (amendable; [Appendix B](#))
  - Billboards are prohibited or deemed non-conforming.
  - May be relocated if acquired by government entity.
    - Relocation must be consistent with original conformity.
    - Proximity limits to Trinity River & other land/public areas, historic & non-business districts. (SUPs for static only)
    - Add'l limits to intersections, ramps, travel lanes & ROW.
    - Max. size 672 sf; Max. height 50 ft (w/ options up to 80 ft)
    - No relocations on GBT.



# Background: Digital Amendment



- In June 2011, Council authorized use of digital displays on existing expressway billboards.
  - Required 3:1 exchange & elimination of structures
  - Limited sign locations to 50 expressway structures.
  - Spacing limits for signs on same side of roadway.
  - Add'l spacing limits consistent w/ relocation. (no SUPs)
  - Operational requirements included:
    - Auto-adjust/protected brightness, rapid fault response, & emergency info display.



# Background: Digital Amendments



- The amendment, requested by Clear Channel.
- Resulted in:
  - Installation of 49 digital structures
  - Removal of 461 sign structures (most small on local arterials)
  - 877 total non-premise signs.
- Allowed to sunset in August 2016 with no changes.
  - Sunset prohibited any additional digital displays.



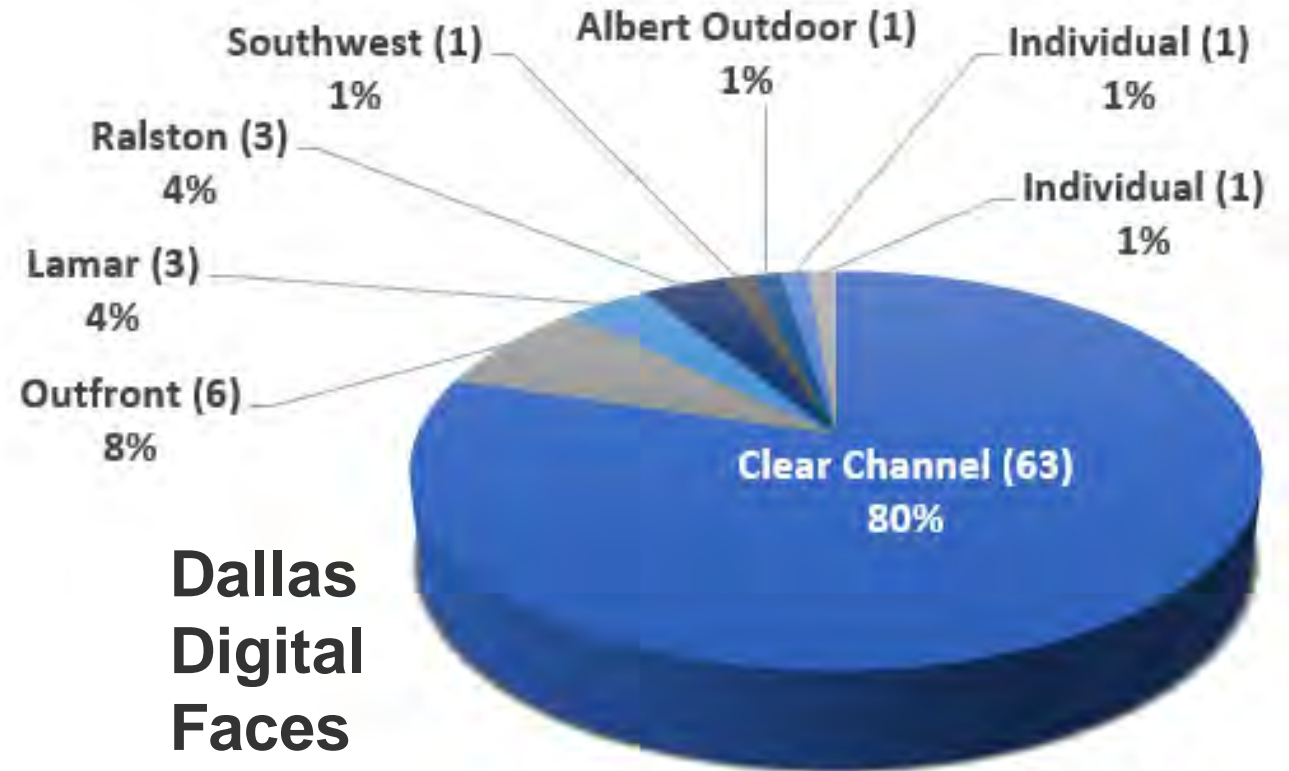


# Background: Current Conditions



- City of Dallas Current Certified City Inventory:

- 811 total signs
- 772 up to date on annual registration
- 49 digital
  - 79 faces



# Operational Issues



- Public concern:
  - Brightness (2)
  - Clutter/Location (2)
  - Maintenance (10)
  - Content (5)

(#'s) based on 311 Query from 2018 to Current

- Industry concerns:
  - Sunset provisions: (No option for new operators & new signs).
  - Limited locations, (signs in railroad rights-of-way & future IH expansions – limited options).
  - Restrictions in 51A-7.702 (Appendix B) lead to issues w/ display replacement and unsafe signs (limit investment).



# Operational Issues: Brightness



- The Federal Highway Administration released several reports on the effects of digital signs on drivers. (2001, 2009, & 2011 w/peer review in 2012 – See [Appendix C](#))
  - Subjectively interpreted to support any viewpoint. Generally, indicate digital impact on drivers is not significantly greater than static signs.
- Current Federal/State regulations do not specify specific light intensity limits.
- Dallas intensity standard based on ISA study ([Appendix D](#))



# Advancements & Technology Trends



- Overall, LED advancements have led to larger, more versatile displays, offering enhanced integration options with a widened range of creative applications.
  - Improved efficiency & reduced power consumption
  - Increased affordability
  - Enhanced resolution capabilities
  - Reduced display weights (as much as 75%)
  - Advances in computer & data connections



# Impact of Billboard Displays



## • Digital Display Benefits:

- Environmental: No new waste created from face change-outs.
- Functionality: Remote capability w/ increased display function.
- Durability: Less prone to fading or damage

## • Static Display Benefits:

- Reliable: No brightness or software issues
- Exposure: More time for each message
- Energy efficient: Uses less power than digital



# Industry Proposal Details & Observation



- Industry proposed digital changes ([Appendix E](#))
  - Highlights & initial staff observation. ([Appendix F](#))
    - Industry: Seeks allowance for 25 new digital signs through initial fee & Structural Beautification”.
    - Staff: Suggests examination of proposed digital sign count; requests beautification specifics that include an emphasis on artistic, enriching, & public-serving standards; encourages additional amendments to operational lighting, maintenance of non-conforming signs, & relocation provisions.



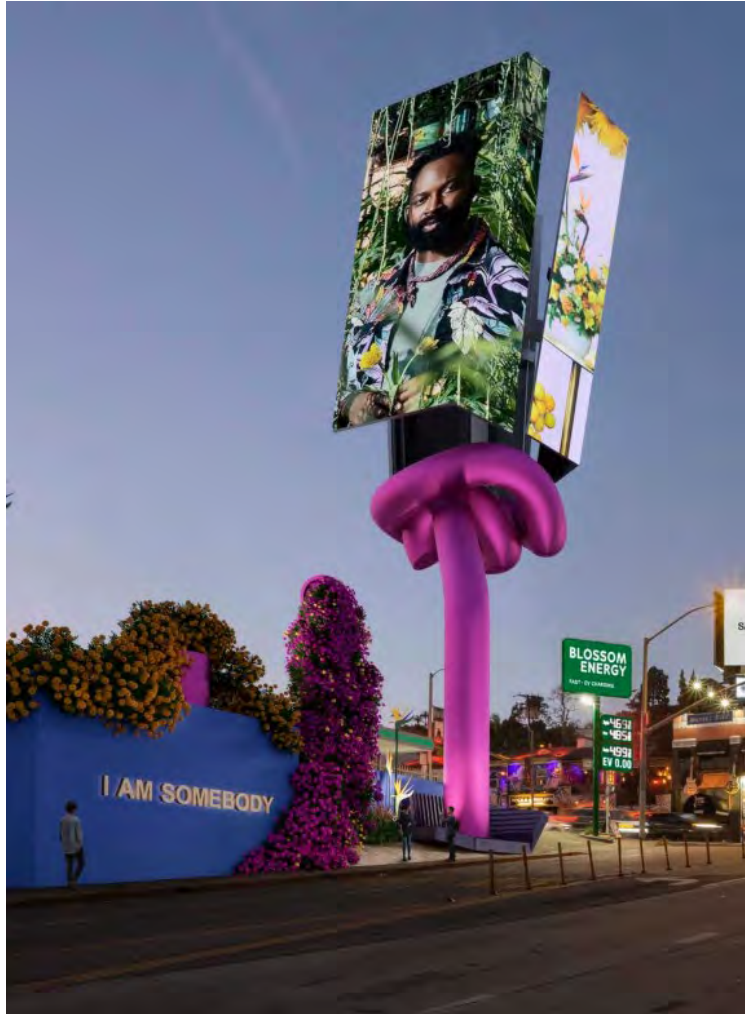
# Industry Proposal Details & Observation



- Potential “Structural Beautification” concepts:



# Industry Proposal Details & Observation



Digital Billboards: Current Overview





# Industry Proposal Details & Observation



- Not recommend as “Structural Beautification”:



# Next Steps



- Provide staff direction on next steps
  - Consider memo for an authorized hearing
    - Amend Article VII of the Dallas Development Code with consideration to allow additional digital non-premise signs in 51A-7.308, clarify non-conforming sign repair & maintenance in 51A-7.700, examine relocation provisions for signs in 51A-7.307, & examine lighting provisions for digital displays.
      - Draft conditions > SSDAC > CPC > Council.





**City of Dallas**

# Digital Billboards: Overview of Program

Transportation and  
Infrastructure Committee  
June 12, 2023

Jason Pool, Development Services Manager  
Development Services Department  
City of Dallas

# Appendices



- Appendix A – Federal & State Regulations
- Appendix B – City of Dallas Regulations
- Appendix C – FHWA Reports on Drivers
- Appendix D – Industry Resources
- Appendix E – Industry Proposal
- Appendix F – Initial Staff Observation



# Appendix A – Federal/State Regulations



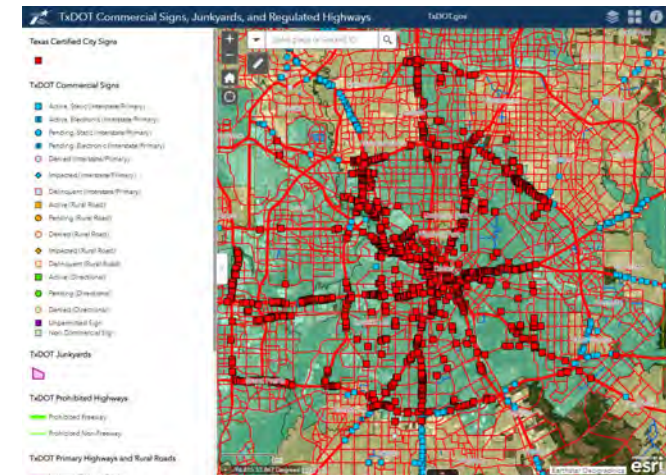
- Outdoor Advertising Control
  - Highway Beautification Act (HBA)
  - Federal State Agreement (FSA)
- Title 43, Ch. 21, Subchapter. I of the Texas Administrative Code (TAC)
  - §21.167 – Erection & Maintenance from Private Property
  - §21.189 – Commercial Sign Height Restrictions
  - §21.190 – Lighting & Movement on Commercial Signs



# Appendix A – Federal/State Regulations



- [§21.206](#) - Operational requirements for digital displays
- [§21-200](#) - Local Control of Commercial Signs (Certified City Program)
- [TxDOT Commercial Signs, Junkyards, and Regulated Highways \(arcgis.com\)](#)
- [Texas Certified Cities FY 2020](#)



# Appendix B – City of Dallas Regulations



- Ch. 51A of the Dallas Development Code
  - Article VII – Sign Regulations
    - 51A-7.306 – Detached Signs Prohibited Generally
    - 51A-7.307 – Relocation of Certain Detached Non-Premise Signs
    - 51A-7.308 – Digital Display on Certain Detached Non-Premise Signs
    - 51A-7.702 – Removal & Maintenance of Certain Non-Conforming Signs



# Appendix B – City of Dallas Regulations



- Ch. 52 - Admin. Procedures for Const. Codes
  - 303.5.5.4 (pg. 61)
    - Annual registration fee of \$2,000/digital sign face for a detached non-premise digital display sign.
  - 303.10 (pg. 69 – 70)
    - Annual registration of static non-premise signs remain at \$65 per sign structure.





# Appendix C – FHWA Reports on Drivers



- 2001 - Research Review on Potential Safety Effects of Electronic Billboards on Driver Attention & Distraction
- 2009 – Effects of Commercial Electronic Variable Message Signs (CEVMS) on Driver Attention & Distraction
- 2011 - Driver Visual Behavior in the Presence of Commercial Electronic Variable Message Signs (CEVMS)
  - 2012 CEVMS & Driver Visual Behavior Study - Peer reviewed report to 2011 study.



# Appendix D – Industry Resources



- International Sign Association - <https://www.signs.org/>
- [ISA EMC Recommendations Refresh FINAL.pdf](#)  
[\(signs.org\)](#)



# Appendix E – Industry Proposal



## SEC. 51A-7.308. DIGITAL DISPLAY ON CERTAIN DETACHED NONPREMISE SIGNS.

(a) In general. Certain nonconforming detached non-premise signs may be modified to use digital display technology subject to the restrictions in this section.

(b) Application. The owner of the sign must submit a digital display sign permit application for a face modification. After the building official approves the digital display sign permit, the owner must apply for a demolition permit to remove sign face area in accordance with Subsection (d). The owner must complete demolition of sign face according to the applicable ratio in Subsection (d) before the sign face is modified.

(c) Compliance required.

(1) Except as provided in this section, digital display signs must fully comply with the size, height, spacing, setback, and other restrictions in this article for detached non-premise signs.

(2) Digital display sign support structures must be built to comply with the building code.

(3) Digital display signs must comply with Title 43 Texas Administrative Code Section 21.163, "Electronic Signs," as amended.

(4) Both existing and new digital signs must comply with all lighting and safety standards mandated by federal, state, or local rules or statutes, including standards adopted or amended after the date of passage of these requirements. Lighting and safety standards include brightness; message duration; and proximity of the sign to other digital displays, ramps, and interchanges.

~~(d) Sign~~Modification by sign face exchange ratio or structural beautification.

(1) Modification by sign face exchange ratio. Except as provided in ~~Paragraph~~Paragraphs (2) and (3), for every one square foot of sign face modified to use digital display technology, three square feet of detached non-premise sign face area must be removed from within the city.

(A) To receive credit for the area of a conventional face removed, the conventional sign face removed must result in elimination of a sign structure (if a face is removed from a structure, the entire structure must be removed).

(B) At least one structure removed must be within a five mile radius of the conventional face being converted.

(C) No credit is given for the area of the conventional face removed to convert to a digital display.

(D) Removal of sign face area must be completed before modification of sign area to use digital display technology.

(2) A company holding a valid state advertising license and that maintains 61 or fewer registered expressway non-premise signs on January 1, 2011 shall be allowed one sign face modification without complying with Paragraph (1). The new digital sign face may be no larger than the preexisting conventional sign face. Any subsequent modifications must comply with Paragraph (1).

(3) Modification by structural beautification. A company holding a valid state advertising license and that maintains registered expressway non-premise signs may request a sign face modification without complying with Paragraph (1), subject to the following conditions:

(A) Fees. For every sign face modified to use digital display technology, a fee in the amount of \$25,000.00 must be paid to the City of Dallas at time of approval.

(B) Structural beautification. An approved sign modification shall provide structural beautification to the sign structure by including certain architectural features such as: landmark logos, monochromatic artwork, embossment or carvings, masonry encasing, or similar features.

(C) Screen enhancement. An approved sign modification shall provide enhanced technology to a minimum definition of a 20mm pixel pitch.

(D) Public Programming. An approved sign modification shall contribute a minimum of 10% of programming time or 100 hours per calendar year, whichever is greater, for emergency information, arts, or civic announcements, provided the city provides the necessary copy. Conditions of public programming shall be determined through a separate agreement between the sign company, the director, and the necessary city officials.

(e) Location and number.

~~(1) —~~AExcept as provided in Paragraph (i), a maximum of 50 non-premise locations with digital displays are permitted in the city. The director shall time stamp all applications upon receipt. The director shall review applications in order of submittal. If the director determines that an application is incomplete or does not meet the requirements of this section, the director shall reject the application and then review the next application. If the initial number of applications exceeds the number of permits available, the director shall provide for a lottery to distribute the permits.

(i) Additional locations by structural beautification. A maximum of 25 additional non-premise locations with digital displays are permitted by design enhancement in the city. The director shall time stamp all applications upon receipt. The director shall review applications in order of submittal. If the director determines that an application is incomplete or does not meet the requirements of this section, the director shall reject the application and then review the next application.

(2) Digital display signs may only be expressway signs.

(3) For support structures with only one digital display sign, signs must be located a minimum of ~~1,500~~1,000 feet from any other digital display sign oriented to the same traffic

# Appendix E – Industry Proposal



direction along the main travel lanes of the expressway, measured linearly. For support structures with two digital display signs, signs must be located a minimum of ~~2,000~~1,500 feet from any other digital display sign along the same expressway, measured linearly.

(4) Digital display signs may not be located within 300 feet of any lot located in a residential district, measured radially.

(5) Digital display signs may not be located within ~~2,000~~1,500 feet of the Trinity River, measured from the center line of the Trinity River. For purposes of this paragraph, the term “Trinity River” means the portion of the river south of the confluence of the Elm and West Forks as depicted on the most recent version of the flood insurance rate maps published by the Federal Emergency Management Agency.

(6) Digital display signs may not be located within 500 feet of a lot in a historic district.

(7) Digital display signs may not be located within 500 feet of an escarpment zone.

(f) Digital display sign support structures.

(1) Digital display sign support structures may not exceed an overall height of 50 feet or 42.5 feet above the nearest point on the nearest travel surface of the nearest expressway, whichever is higher, except that no digital display sign may be higher than the conventional sign it replaced.

(2) On support structures with two sign faces: one or both sign faces may be converted to digital display.

~~— (A) If existing faces are pivoted at an angle of 10 degrees or greater from each other and toward the main travel lanes of an expressway, one or both sign faces may be converted to digital display.~~

~~— (B) If existing faces are pivoted at an angle of less than 10 degrees, only one face may be converted to a digital display. The other sign face must be removed.~~

(3) Sign support structures and faces being converted to accommodate digital displays may not be modified to change the angle of a sign face.

(4) Electrical service to sign support structures with digital displays must be underground between the property line and the sign.

(f) Display.

(1) All digital displays signs must automatically adjust the sign brightness so that the brightness level of the sign is no more than 0.3 footcandles over ambient light conditions at a distance of 250 feet from the sign. A digital display sign must be equipped with both a dimmer control and a photocell that automatically adjusts the display's intensity according to natural ambient light conditions.

(2) A digital display may not increase the light level on a lot in a residential district over ambient conditions without the digital display, measured in footcandles at the point closest to the sign that is five feet inside the residential lot and five feet above the ground.

(3) Before the issuance of a digital display sign permit, the applicant shall provide written certification from the sign manufacturer that:

(A) the light intensity has been factory programmed to comply with the maximum brightness and dimming standards in this subsection; and

(B) the light intensity is protected from end-user manipulation by password-protected software or other method satisfactory to the building official.

(h) Change of message. Changes of message must comply with the following:

(1) Each message must be displayed for a minimum of eight seconds.

(2) Changes of message must be accomplished within two seconds.

(3) Changes of message must occur simultaneously on the entire sign face.

(4) No flashing, dimming, or brightening of message is permitted except to accommodate changes of message.

(i) Malfunction. Digital display sign operators must respond to a malfunction or safety issue within one hour after notification and must remedy that malfunction or safety issue within 12 hours after notification. In case of sign malfunction, the digital display must freeze until the malfunction is remedied.

(j) Display of emergency information. The city may exercise its police powers to protect public health, safety, and welfare by requiring emergency information to be displayed on digital display signs. Upon notification, the sign operators shall display: Amber Alerts, Silver Alerts, information regarding terrorist attacks, natural disasters, and other emergency situations in appropriate sign rotations. Emergency information messages must remain in rotation according to the issuing agency's protocols.

(k) Sunset. The director shall issue no permits after ~~August~~July 31, ~~2015~~2028, unless that date is extended by ordinance before that date. The city plan commission and city council shall review this section before ~~August~~July 31, ~~2015~~2028. (Ord. Nos. 28238; 29393; 29557)

# Appendix F – Initial Staff Observation



- Sign industry proposed changes to 51A-7.308

Industry Proposal	Initial Staff Observation
Allow 25 additional digital sign locations by design enhancement.	No initial objection to allowance. An investigation recommended as to number.
Each new digital sign location requires company to have a valid state advertising license & existing expressway non-premise signs for structural beautification	Clarification for new operators & whether sign modifications must occur at the location of the existing sign or if a new location can be selected.
A \$25,000 fee is paid for each modified digital face.	Initial fee is proposed rather than an overall number of sign reduction.



# Appendix F – Initial Staff Observation



Industry Proposal	Initial Staff Observation
<p>Structural Beautification/approved sign modification are to include certain architectural features.</p>	<p>"Structural Beautification" is vague. Modifications need impact beyond a decorative cover for the pole. Beautification should add to "viewer experience" &amp; contribute to the surrounding area. Each should be unique, artistic (w/ design standard minimums), &amp; not limited from expanded public service. Examples could include dog parks, appropriate landscaping, EV charging stations, or other creative uses, where accessibility permits, beyond outdoor advertising.</p>
<p>Screen Enhancements to be provided at minimum 20mm pixel pitch</p>	<p>Staff supports enhanced technology. 20mm is the minimum industry standard for billboards. Other "smart" enhancements could be offered? (ie. live traffic/weather updates)</p>



# Appendix F – Initial Staff Observation



Industry Proposal	Initial Staff Observation
<p>Provide the City with 10% Public Programming or 100 hours per calendar year (whichever is more) for emergency information, arts, or civic announcements, provided the city provides necessary copy determined through separate agreement.</p>	<p>State law requires availability for emergency information. Staff could recommend the addition of “or any information” after civic announcements.</p>
<p>Allow one or both faces to be converted on structures with two signs</p>	<p>No initial objections - Would add, “signs must be located on opposite sides” or “not both be visible from the same direction of travel”.</p>
<p>Allow reduced spacing requirements for digital signs on the same side of traffic and signs located within 2000’ of the Trinity River.</p>	<p>Initial staff recommendation would be to allow under an SUP on a case-by-case basis.</p>



# Appendix F – Initial Staff Observation



Industry Proposal	Initial Staff Observation
Five-year sunset	No initial objections
	Additional recommendation to consider amendments to lighting requirements for digital displays.
	Additional recommendation to consider amendment to further clarify provisions for maintaining & repairing non-conforming signs in 51A-7.702
	Additional recommendation to considered amendment to 51A-7.307(d)(3) for relocating sign located in a railroad right-of-way.

