



Guidelines for
Vehicle Lane
Restrictions in Texas



Truck Lane Restrictions

Darrell W. Borchardt, PE

Deborah L. Jasek

Andrew J. Ballard, PE, PTOE



Guidelines for
Vehicle Lane
Restrictions in Texas



General Criteria

- **At least 3 freeway lanes**
- **Controlled access facility**
- **Restricts trucks to 2 lanes**
- **Passing is allowed**
- **Traffic study required**
- **Systematic approach**



Guidelines for
Vehicle Lane
Restrictions in Texas



Restriction Authority

- **Texas Transportation Commission**
- **Municipality with TxDOT approval**
- **County Commissioners Court with TxDOT approval**



Guidelines for
Vehicle Lane
Restrictions in Texas



Statewide Restrictions

- **I-10 [San Antonio]**
- **I-20 [Dallas County]**
- **I-30 [Tarrant County]**
- **I-35 [Williamson, Travis, Hays, Comal, Bexar Counties]**
- **US 90 [San Antonio]**

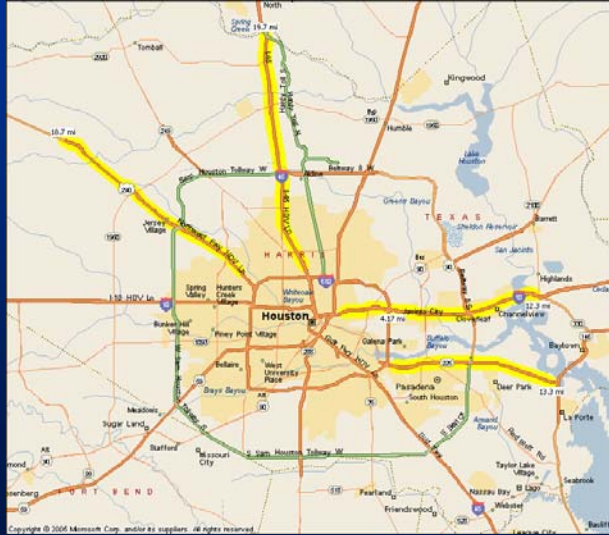


Guidelines for
Vehicle Lane
Restrictions in Texas



AHEAD
NO
TRUCKS
LEFT
LANE
6AM - 8PM
MON - FRI

Houston Area Freeways with Truck Restrictions



Guidelines for
Vehicle Lane
Restrictions in Texas



AHEAD
NO
TRUCKS
LEFT
LANE
6AM - 8PM
MON - FRI

US 290 Northwest Freeway

- **Limits: 34th to Mueschke [19 miles]**
- **Began January 2006**
- **0.9 to 2.8% violations**





Guidelines for
Vehicle Lane
Restrictions in Texas



AHEAD
NO
TRUCKS
LEFT
LANE
6AM - 8PM
MON - FRI

I-45 North Freeway

- 20 miles from I-610 to Hardy Toll Road
- 0.9 to 1.4 % Violation Rate
- Before restriction:
12-14%
trucks
using left
lane



Guidelines for
Vehicle Lane
Restrictions in Texas



AHEAD
NO
TRUCKS
LEFT
LANE
6AM - 8PM
MON - FRI

I-10 East Freeway

- Originally implemented in
September 2000
- Limits from Waco St to Uvalde St
- Later extended to west of Crosby-
Lynchburg
- 6% of trucks used the left lane in
2000
- Average of 0.6% violation rate
- Consistent compliance for 6 years



Guidelines for
Vehicle Lane
Restrictions in Texas



AHEAD
NO
TRUCKS
LEFT
LANE
6AM - 8PM
MON - FRI

SH 225 LaPorte Freeway

- **Restriction Implemented in March 2003**
- **1st Involving multiple municipalities**
- **Violation Rate of 0.8 to 1.8%**



Guidelines for
Vehicle Lane
Restrictions in Texas



AHEAD
NO
TRUCKS
LEFT
LANE
6AM - 8PM
MON - FRI

Review of Crash Records

- **Before demonstration –
7.9 crashes/week**
- **During demonstration –
2.9 crashes/week**

68 % REDUCTION IN CRASHES



Guidelines for
Vehicle Lane
Restrictions in Texas



Freeway Operations

- **No significant changes in freeway speeds**
- **No significant change in vehicle mix**
- **Some increase in automobiles using left lane**



Guidelines for
Vehicle Lane
Restrictions in Texas



Motorist Perception

- **90% aware of restriction**
- **Over 2/3 use the inside lane more often**
- **60-75% believe trip time has decreased**
- **Over 90% in favor of the restriction**
- **85% of motorists feel safer**





Guidelines for
Vehicle Lane
Restrictions in Texas



Truck Driver Perception

- **90% aware of restriction**
- **About half feel trip time has increased**
- **60-70% believe signing is not adequate**
- **35% have considered changing route**
- **Half believe that the freeway is safer**



Guidelines for
Vehicle Lane
Restrictions in Texas



Houston Summary

- **Has been a positive experience**
- **Reduction in crashes by 68%**
- **95+% compliance rates observed**
- **No adverse impacts to freeway operations**





Guidelines for
Vehicle Lane
Restrictions in Texas



AHEAD
NO
TRUCKS
LEFT
LANE
6AM - 8PM
MON - FRI

DFW Summary

- NCTCOG – Wilbur Smith Study
- Improved speeds in left and middle lane
- Increased enforcement did not significantly improve compliance rate
- NOx reduction of 61 lbs/day on I-30
- Crash reductions on both roadways
I-20 [0.18 to 0.04 acc per million VMT]
I-30 [0.55 to 0.43 acc per million VMT]



Guidelines for
Vehicle Lane
Restrictions in Texas



AHEAD
NO
TRUCKS
LEFT
LANE
6AM - 8PM
MON - FRI

Necessary Components

- Support from trucking industry
- Good information distribution – media involvement
- Active Enforcement





Guidelines for
Vehicle Lane
Restrictions in Texas

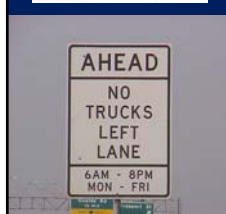


Recommended Guidelines

- **Comply with State statute (Sec. 545.0651, 545.0652)**
- **Minimum 4% trucks in stream over 24 hours**
- **About 10% of trucks should be in lane that will be restricted**



Guidelines for
Vehicle Lane
Restrictions in Texas



Recommended Guidelines

- **Minimum length of 6 miles**
- **Monitor operations after restrictions begin**
- **Sign spacing ~ 1 mile**
 - **Overhead**
 - **Left-side mount**
- **Public information campaign**
- **Enforcement**



Guidelines for
Vehicle Lane
Restrictions in Texas



Questions?

d-borchardt@tamu.edu

~~a-ballard@tamu.edu~~