North Texas Freight Terminal Electrification 2019 Call for Projects

Regional Freight Advisory Committee

November 12, 2019

Huong Duong, Transportation Air Quality Planner

Air Quality Emphasis Areas

High-Emitting Vehicles/Equipment ✓
Low Speeds
Idling ✓
Vehicle Miles of Travel
Energy and Fuel Use ✓
Cold Starts
Hard Accelerations

North Texas Freight Terminal Electrification 2019

Funding Source: Environmental Protection Agency National Clean Diesel Funding Assistance Program

Funding Category	Amount
2018 EPA Funds Awarded	$960,225
NCTCOG Administration	$39,775
Total Funds Available	**$1,000,000**

Benefits Anticipated	Lifetime Impacts
Nitrogen Oxides Reductions	53.69 Tons
Particulate Matter (PM) Reductions	11.88 Tons

North Texas Freight Terminal Electrification 2019

Eligible Applicants: Freight Terminals and Distribution Centers

Eligible Activities	Funding Threshold	Estimated Unit Cost
Electrified Parking Spaces	30% of estimated unit cost up to $3,600/space	$12,000
Power Monitoring Equipment	30% of estimated unit cost up to $1,800/equipment	$6,000
Electric Power Kit	30% of estimated unit cost up to $900/kit	$3,000

Call For Projects Details

Structure:

Competitive Application Process

Selection Criteria:

Quantitative Analysis

Cost Per Ton NO_X Emissions Reduced

Purpose: Maximize Emissions Reductions

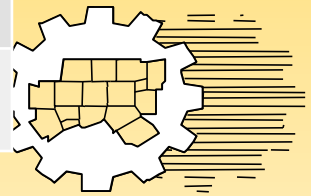
Qualitative Assessment

Subrecipient Location, Risk and Oversight Criteria

Purpose: Balance Project Benefits with Administrative Burden

Schedule

Milestone	Estimated Timeframe
STTC Approval to Open CFP	August 23, 2019
RTC Approval to Open CFP	September 12, 2019
CFP Opens	September 13, 2019
Application Deadline	December 13, 2019 at 5 pm
Staff Funding Recommendations Finalized	February/March 2020
STTC Action	March 2020
RTC Action	April 2020
Executive Board Authorization	April 2020
If Needed, Reopen CFP to Fully Award Funds	As Needed Beginning January/February 2020
Project Implementation Deadline	March 31, 2021



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FORT WORTH RAIL CROSSING EVALUATION

Regional Freight Advisory Committee
November 12, 2019

Mike Johnson

FORT WORTH RAIL CROSSING EVALUATION

Task: Review and evaluate all at-grade crossings within the City of Fort Worth

Scope:

- Identify and inventory all crossings
- Conduct a field review of each crossing
- Analyze the crossings
- Provide recommendations with a prioritized list of crossing improvements on designated crossing locations

Goals:

- Identify the highest priority rail crossings in terms of safety and efficiency
- Identify recommendations for specific crossings
- Identify strategies and policies for mitigating future rail crossings conflicts
- Create a template for evaluating all rail crossings in the North Central Texas Region

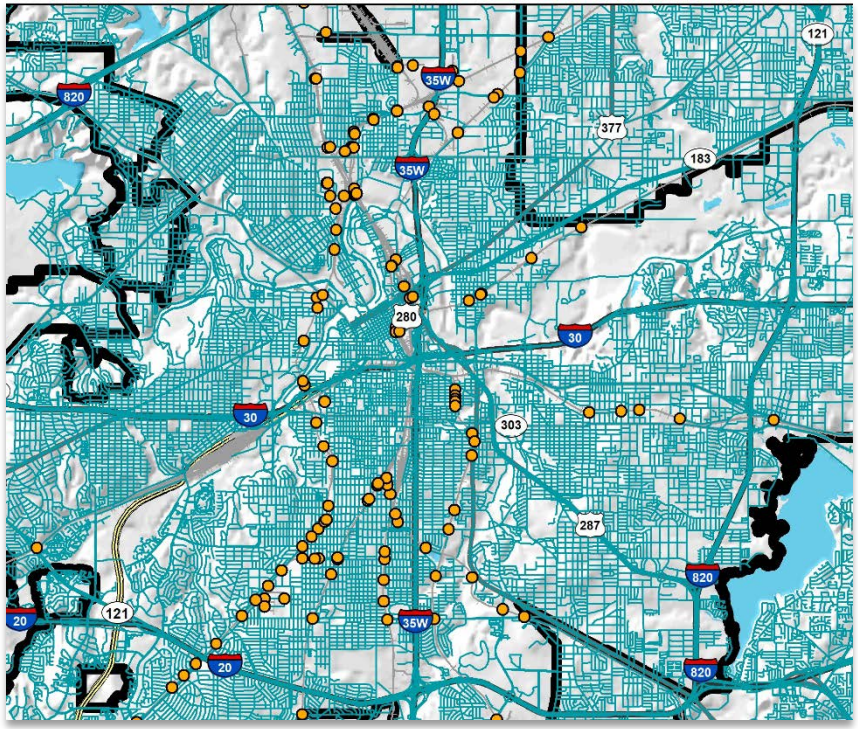
DATA COLLECTION

Data Sets Being Collected for the Study

Best Practices Review – Review rail crossing best practices and relevant rail crossing studies, including the TxDOT DFW regional rail study

Crossing Database Development – Create a database and GIS Map of information collected for crossing attributes (location, DOT #, train counts, AADT, safety data, etc.)

Distances Between Crossings – Find distances, or potential distances, of ½ mile, 1 mile and 2 miles between crossings



DATA COLLECTION

Data Collection

Develop Scoring Criteria – Based on best practices and available data, a scoring criteria will be developed to prioritize crossings

Data Sources – Information will be collected from the FRA, City of Ft Worth, TxDOT and site visits

Street	Crossing	County	CITY	Railroa	Division	Subdivsion	Highwa	Milepost
COMMERCE	672932B	Tarrant	Ft Worth	FWWR				
SYLVA CROSS ROAD	924802D	Tarrant	Ft Worth	FWWR	SYSTEM	FORT WORTH		0008.50
fleet road drive	415868Y	Tarrant	Ft Worth	DGNO	southern	mockingbird	city street	0230.05
SYCAMORE SCHOOL ROAD	415961F	Tarrant	Ft Worth	UP	TEXOMA	FT. WORTH SUB	NA	0243.240
MORNINGSIDE DRIVE	765258F	Tarrant	Ft Worth	UP	TEXOMA	FT. WORTH SUB	NA	0248.800
PAIGE STREET	765257Y	Tarrant	Ft Worth	UP	TEXOMA	FT. WORTH SUB	NA	0248.970
RIVERBEND BOULEVARD	848267L	Tarrant	Ft Worth	UP	TEXOMA	BAIRD SUB	ST 0000	0252.640
JESSMINE STREET	765255K	Tarrant	Ft Worth	UP	TEXOMA	FT. WORTH SUB	NA	0249.080
HALTOM RD	598342D	Tarrant	Ft Worth	TRE	TEXAS	DFW	ST 0000	0615.17
S JUDKINS ST	598336A	Tarrant	Ft Worth	TRE	TEXAS	DFW	ST 0000	0612.90
RIVERSIDE DR	598338N	Tarrant	Ft Worth	TRE	TEXAS	DFW	ST 0000	0613.17
BEACH ST	598341W	Tarrant	Ft Worth	TRE	TEXAS	DFW	ST 0000	0614.15
CALLOWAY CEMETARY RD	598361H	Tarrant	Ft Worth	TRE	TEXAS	DFW	ST 0000	0626.33
BUTLER STREET	765264J	Tarrant	Ft Worth	UP	TEXOMA	MIDLOTHIAN SUB	ST 0000	0048.350

STAKEHOLDER COLLABORATION

Stakeholders

Meet with UPRR, BNSF, TRE, FWRR, and TM to discuss crossings, issues, concerns and their crossing priorities.

Meet with the City of Fort Worth to discuss crossings, issues, concerns and their crossing priorities.

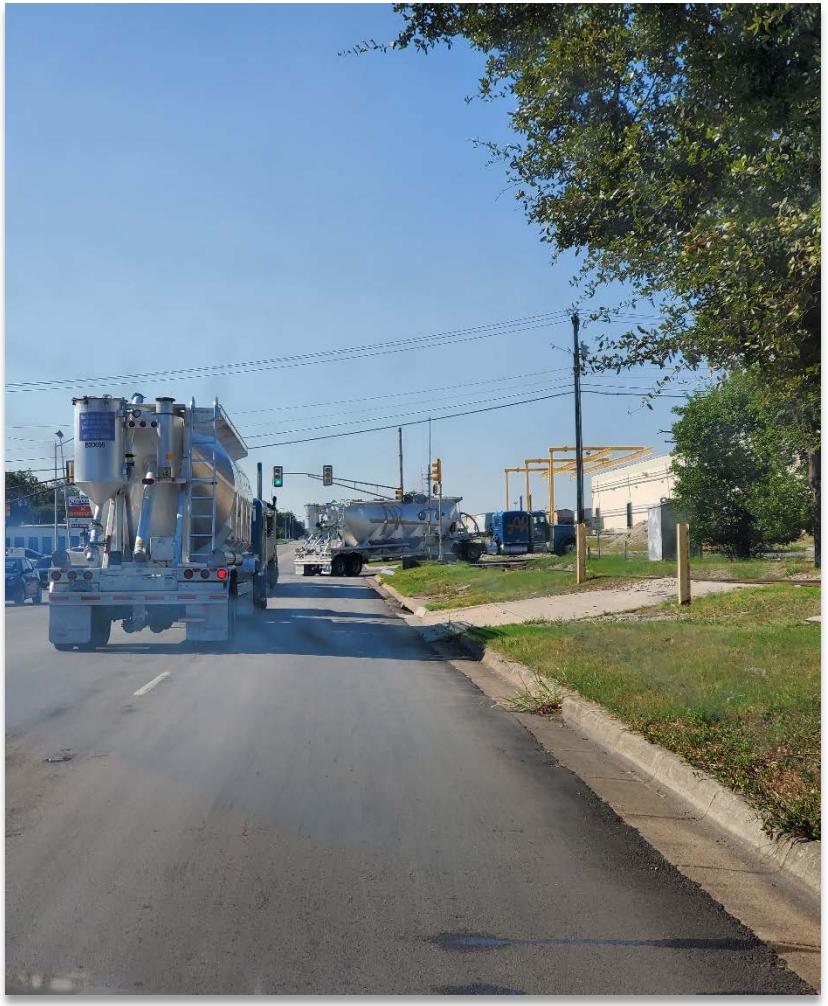
Meet with the FRA Fort Worth office and TxDOT to discuss crossings, issues, concerns and their crossing priorities.

This will provide additional data and information about crossings that will help prioritize the crossings.

FIELD REVIEW OF RAIL CROSSINGS

Complete Onsite Visit of All Crossings in Fort Worth

- Compare data in the comprehensive database
- Identify potential geometric or physical issues at crossing
- Identify potential issues with traffic signals near the crossing
- Observe any additional qualitative issues at crossing



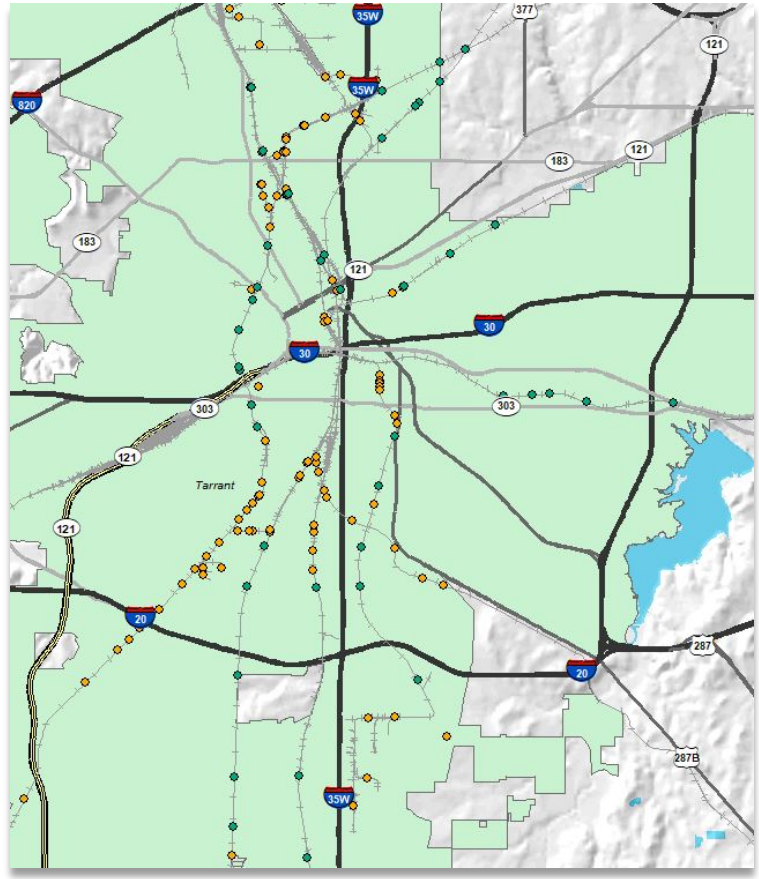
CROSSING ANALYSIS

Analysis

Identify the highest priority rail crossings with scoring criteria based on:

- Information from data collection and the field review
- Stakeholder input
- Analysis of the crossing with the Texas Priority Index

Prioritize comprehensive list of rail crossings



RECOMMENDATIONS AND REPORT

Recommendations:

- Formulate recommendations for each rail crossings
- Determine and assign cost to the recommendations
- Establish potential policies and strategies for rail crossings

Report: Report findings to RFAC, STTC and RTC

Next Steps:

- Meet with City of Ft Worth
- Data Collection

QUESTIONS & DISCUSSION

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2019 Truck Lane Restriction Expansion

Regional Freight Advisory Committee
November 12, 2019

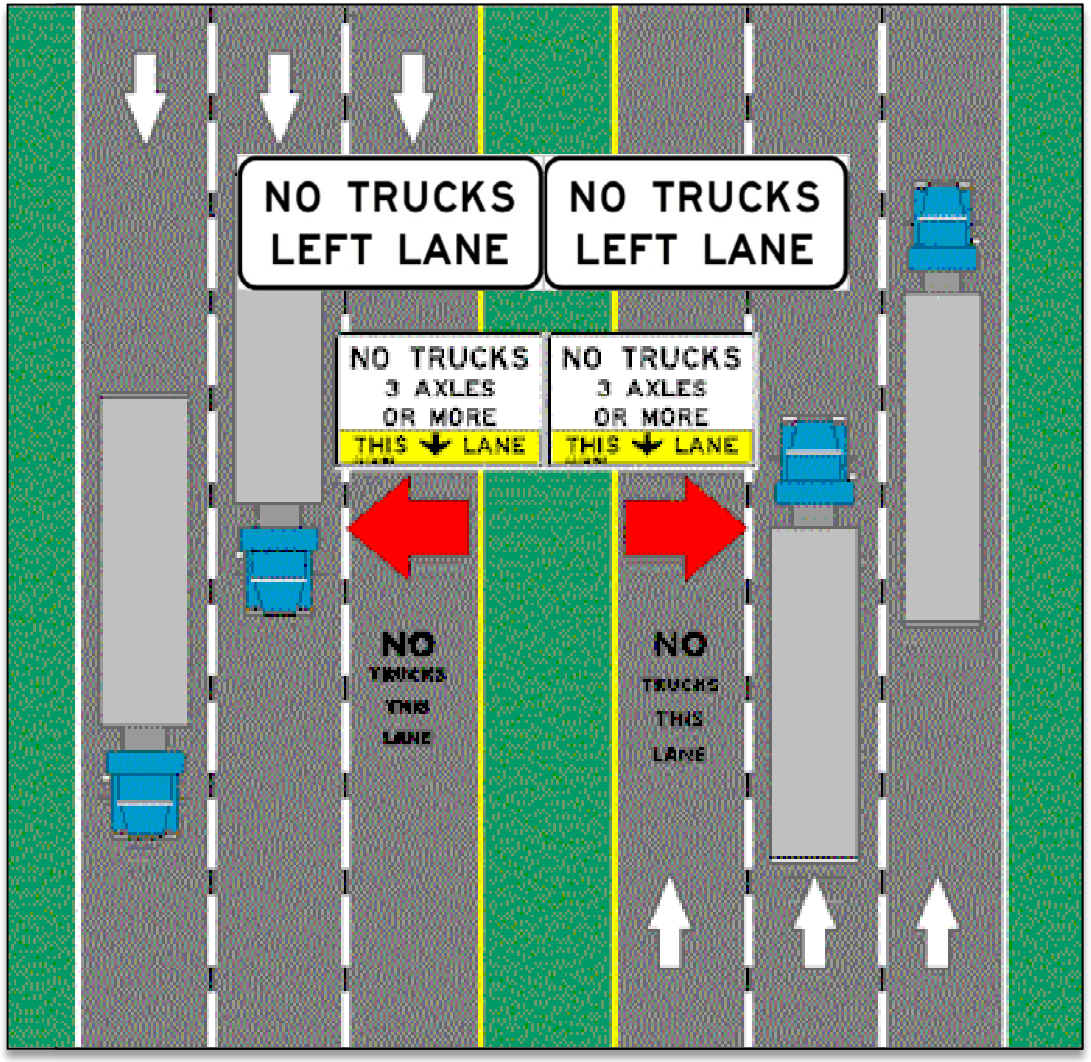
Texas Department of Transportation Dallas District
North Central Texas Council of Governments

Truck Lane Restrictions in Texas

In 1997, the Texas Legislature passed a law allowing municipalities to request truck lane restrictions.

Updated in 2003, the law allows counties and TxDOT to designate such lane restrictions as well.

Designated lane restrictions are to be coordinated through Metropolitan Planning Organizations and with adjacent jurisdictions.



2005-2006 Truck Lane Restrictions Pilot Study

Demonstration Sections

- IH 30 from Hulen to Collins
- IH 20 from Cedar Ridge to IH 45

Sponsoring Partners

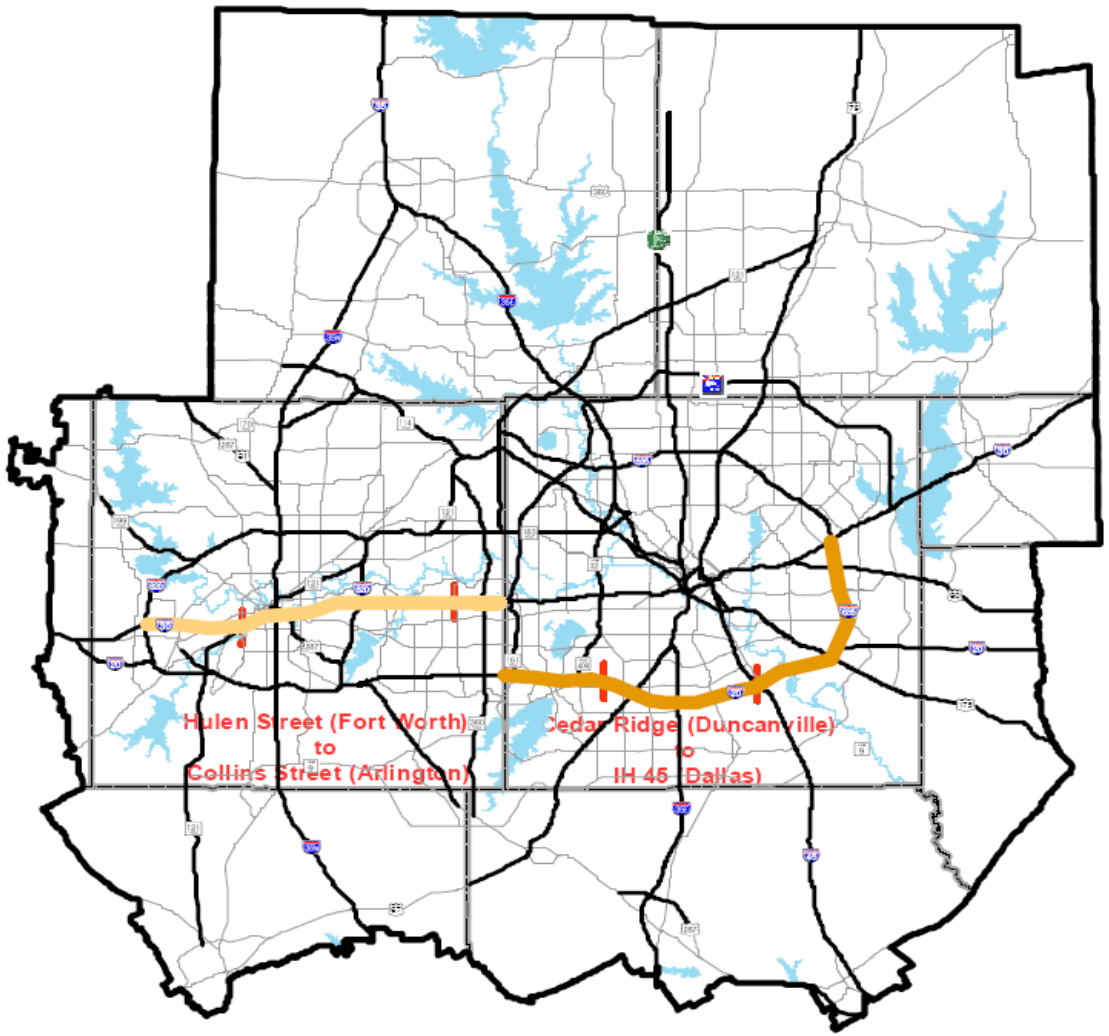
- Regional Transportation Council
- Texas Department of Transportation

Enhanced Enforcement Partners

<u>Dallas County</u>
Dallas
Duncanville
Hutchins
Lancaster

<u>Tarrant County</u>
Arlington
Fort Worth

2005-2006 Truck Lane Restrictions Pilot Corridors



Mobility 2025:

The Metropolitan Transportation Plan, Amended April 2005

Truck Lane Demonstration Corridor Project

- Fort Worth District: I.H 30 corridor, I.H. 820(west) to Dallas/Tarrant County line
- Dallas District: I.H. 20 corridor, Dallas/Tarrant County line to I.H. 635/I.H. 30 interchange

The Truck Lane Demonstration Corridor project is a regional pilot program to determine and compare the feasibility, impacts, and effectiveness of:

1) Restricting trucks to operating only in certain lanes in the corridor
2) Providing exclusive dedicated truck lanes through the corridors and on adjoining access/egress lanes and ramps

Results will be implemented as applicable to specific corridors region wide.

All freeway/tollway corridors require additional study for capacity, geometric, and safety improvements related to truck operations.

MOBILITY 2025
AMENDED APRIL 2005

North Central Texas Council of Governments Transportation

N

Public Opinion on Truck Lane Restrictions

About 80% of the general public supported expanding truck lane restrictions.

However, only 20% of impacted truck drivers supported expanding the restrictions.

Safety Data from the 2005-2006 Truck Lane Restriction Pilot Study

Accident Rate Summary for the IH 30 Corridor

Phase	Duration	ADT	Number of Accidents	Accidents per Day	Accidents per 100,000 ADT	Accidents per 1,000,000 VMT
Without truck lane restrictions, with standard enforcement	61 days	167,957	102	1.67	0.99	**0.55**
With truck lane restrictions, with standard enforcement	30 days	166,520	38	1.27	0.76	0.43

Accident Rate Summary for the IH 20 Corridor

Phase	Duration	ADT	Number of Accidents	Accidents per Day	Accidents per 100,000 ADT	Accidents per 1,000,000 VMT
Without truck lane restrictions, with standard enforcement	60 days	142,910	19	0.32	0.22	**0.18**
With truck lane restrictions, with standard enforcement	27 days	152,494	2	0.07	0.05	0.04

Source: Police Department Accident Data

Air Quality Data from the 2005-2006 Truck Lane Restriction Pilot Study

Do truck lane restrictions provide an air quality benefit?

Yes.
The estimated NOx emission reduction on the IH 30 test section was 61.24 pounds per day based on increased traffic speeds.

Potential regional benefit of 211 pounds per day reduction in NOx was estimated per 100 miles of truck lane restrictions.

Recurring Travel Speed Data from the 2005-2006 Truck Lane Restriction Pilot Study

Do truck lane restrictions have a positive effect on recurring travel speeds?

Yes.
There were small, but measurable improvements in travel speeds by lane. (average of IH 20 and IH 30)

Average Speed (MPH) of All Vehicles

Lane	Without Truck Lane Restrictions, With Standard Enforcement	With Truck Lane Restrictions, With Standard Enforcement	Change in Average Speed
Left	71.50	72.38	**0.88**
Middle	65.63	66.19	**0.56**
Right	60.75	61.25	**0.50**

2005-2006 Truck Lane Restriction Pilot Study Findings

Report Findings

Truck Lane Restrictions:

1. are accepted by the public.

2. have positive impacts on:
   - Crash rates
   - Air quality
   - Travel speed

3. are obeyed by a majority of truck drivers with or without active enforcement.

2005-2006 Truck Lane Restriction Pilot Study Recommendations

Seek State and National Data on:

- Access and egress operations on roadways with a high volume of both trucks and cars with truck lane restrictions
- Traffic behavior and safety at left exits with a truck lane restriction

Continue to monitor compliance and safety of existing Truck Lane Restrictions.

Expand the current Truck Lane Restrictions.

2005-2006 Truck Lane Restriction Pilot Study Recommendations *cont'd*.

Develop a regional system based on facilities:

- With three or more lanes
- With a moderate to high level of truck traffic
- Without site or corridor specific barriers to implementation
- That may connect to Statewide lane restrictions

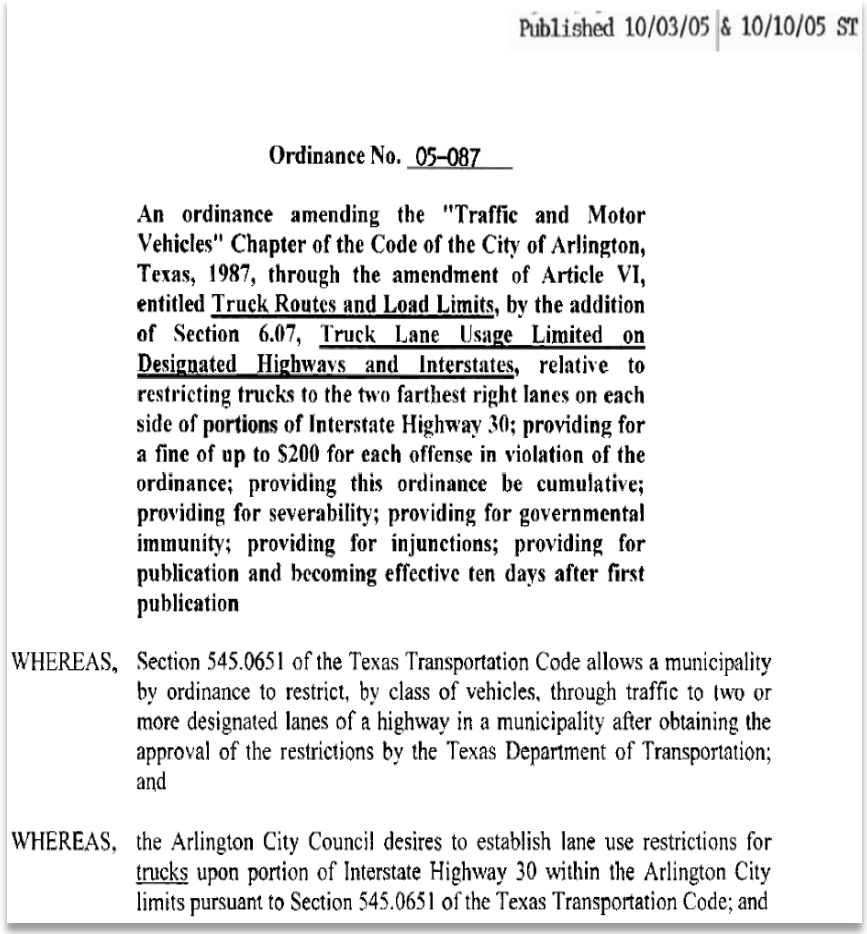
Work with State and local communities to:

- Perform operational and site-specific analysis on potential locations
- Implement a complete system of truck lane restrictions
- Document air quality credit for truck lane restrictions

Truck Lane Restriction Enforcement

- **Approved by the Texas Department of Transportation**
- **Appropriate signs are installed**
- **A TLR ordinance is adopted**

Fees for Violation of TLRs	
Municipality	Amount (up to)
Arlington	$200.00
Forest Hills	$304.00
Fort Worth	$200.00



Published 10/03/05 & 10/10/05 ST

Ordinance No. 05-087

An ordinance amending the "Traffic and Motor Vehicles" Chapter of the Code of the City of Arlington, Texas, 1987, through the amendment of Article VI, entitled Truck Routes and Load Limits, by the addition of Section 6.07, Truck Lane Usage Limited on Designated Highways and Interstates, relative to restricting trucks to the two farthest right lanes on each side of portions of Interstate Highway 30; providing for a fine of up to $200 for each offense in violation of the ordinance; providing this ordinance be cumulative; providing for severability; providing for governmental immunity; providing for injunctions; providing for publication and becoming effective ten days after first publication

WHEREAS, Section 545.0651 of the Texas Transportation Code allows a municipality by ordinance to restrict, by class of vehicles, through traffic to two or more designated lanes of a highway in a municipality after obtaining the approval of the restrictions by the Texas Department of Transportation; and

WHEREAS, the Arlington City Council desires to establish lane use restrictions for trucks upon portion of Interstate Highway 30 within the Arlington City limits pursuant to Section 545.0651 of the Texas Transportation Code; and

2013 Truck Lane Restriction Expansion on 2005-2006 Implementation

2013 Truck Lane Restriction Expansion on 2005-2006 Implementation

Corridor Sections	
IH 30	Sylvan Ave to Tarrant County line & Belt Line Rd to SH 205
US 75	IH 635 to SH 121
IH 635	US 75 to IH 20
US 175	SH 310 to IH 20
IH 35E	US 77 to SP 348
LP 12	SP 408 to IH 30
SH 114	SP 348 to Tarrant County line

Sponsoring Partners

Regional Transportation Council

Texas Department of Transportation

2013 Truck Lane Restriction Expansion on 2005-2006 Implementation

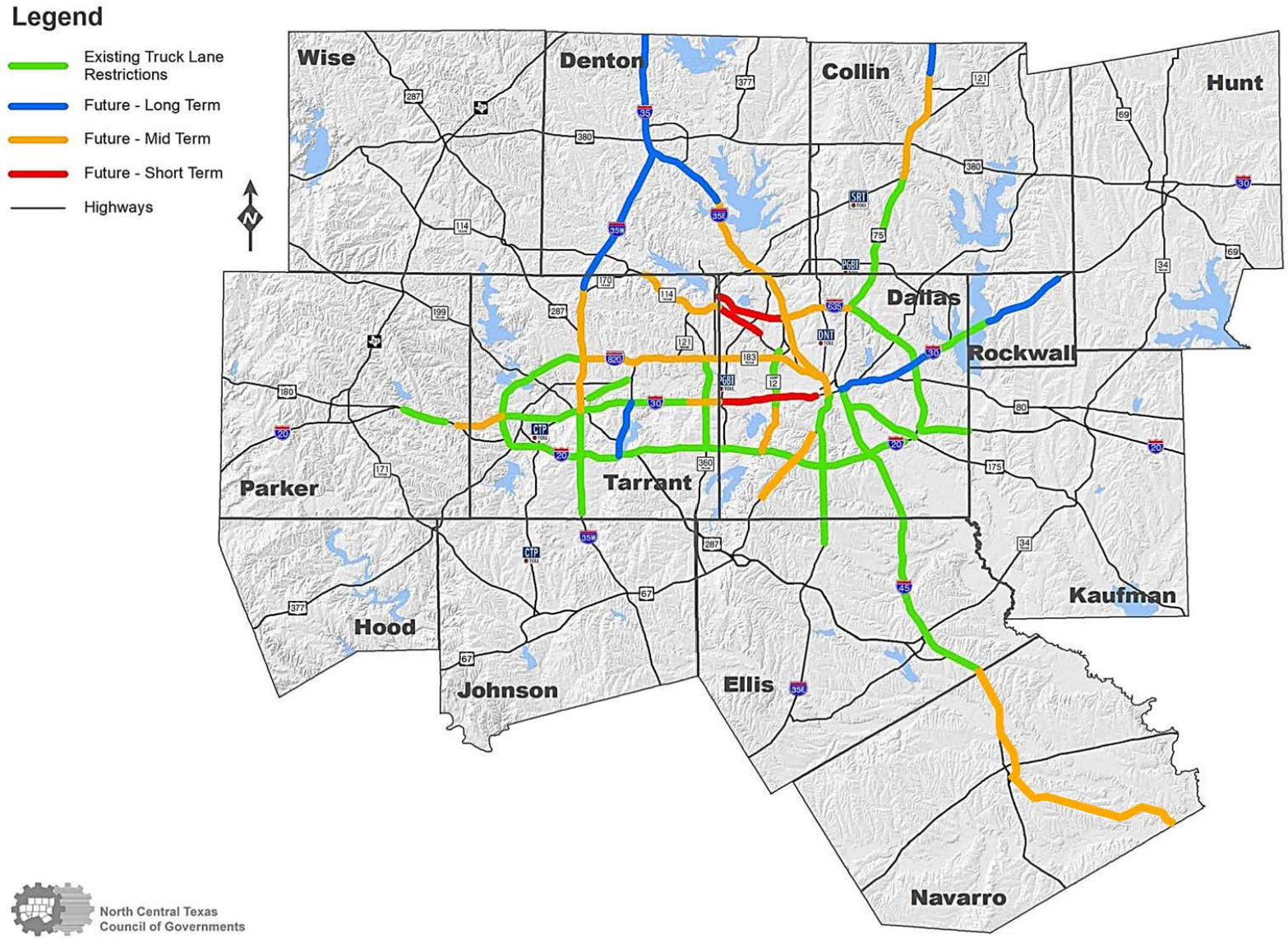
Corridor Sections	
IH 20	US 377 in Tarrant County to FM 740 in Kaufman County
IH 45	IH 30 in Dallas County to FM 3413 in Ellis County
IH 30	IH 820 to FM 157 in Tarrant County
IH 820	IH 20 to Westpoint Blvd in Tarrant County

Sponsoring Partners

Regional Transportation Council

Texas Department of Transportation

Truck Lane Restrictions Expansion 2019



2019 Truck Lane Restriction Expansion on 2013 Implementation

2019 Truck Lane Restriction Expansion on 2013 Implementation

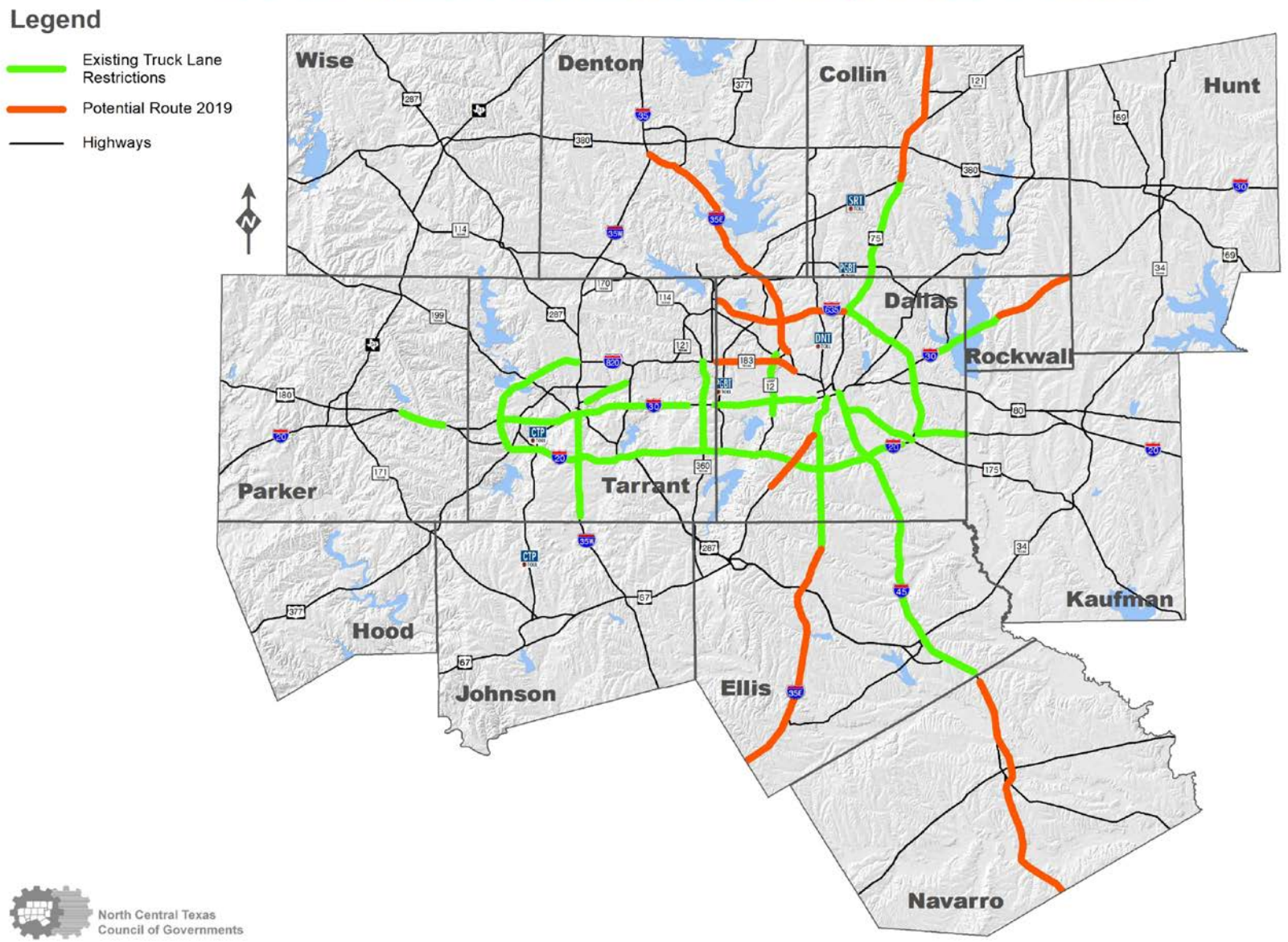
Corridor Sections	
US 75	SH 121 South to Collin/Grayson County line
IH 45	Navarro/Ellis County line to Navarro/Freestone County line
IH 35E	US 77N to Ellis/Hill County line
IH 35E	Spur 366 to Corinth Pkwy
SH 183	IH 35E to Dallas/Tarrant County line
US 67	IH 35E to FM 1382
IH 635	US 75 to Dallas/Tarrant County line
IH 30	SH 205 to Rockwall/Hunt County line

Sponsoring Partners

Regional Transportation Council

Texas Department of Transportation

Truck Lane Restrictions Expansion 2019



North Central Texas Council of Governments

2019 Truck Lane Restriction Expansion on 2013 Implementation

Mobility Benefits

The implementation of these additional truck lane restrictions will help to ease congestion for passenger vehicles and increase safety in the proposed corridors. We also expect to see similar benefits that were attained in the previous 2006 and 2013 Truck Lane Restriction implementations with regard to Air Quality.

The analysis of traffic flow indicated that small but measurable improvements in speed can be expected, as well as a reduction in accidents, which will remove periods of non-recurrent congestion on the region's highways.

2019 Truck Lane Restriction Expansion on 2013 Implementation

Proposed Timeline	
Public Hearing	July 23, 2019
Public Comment Period Ended	August 12, 2019
Texas Transportation Commission Approval	October 31, 2019
Implementation	TBD

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Freight Land-Use Compatibility Analysis Update

Regional Freight Advisory Committee
November 12, 2019

Mike Johnson

WORKSCOPE

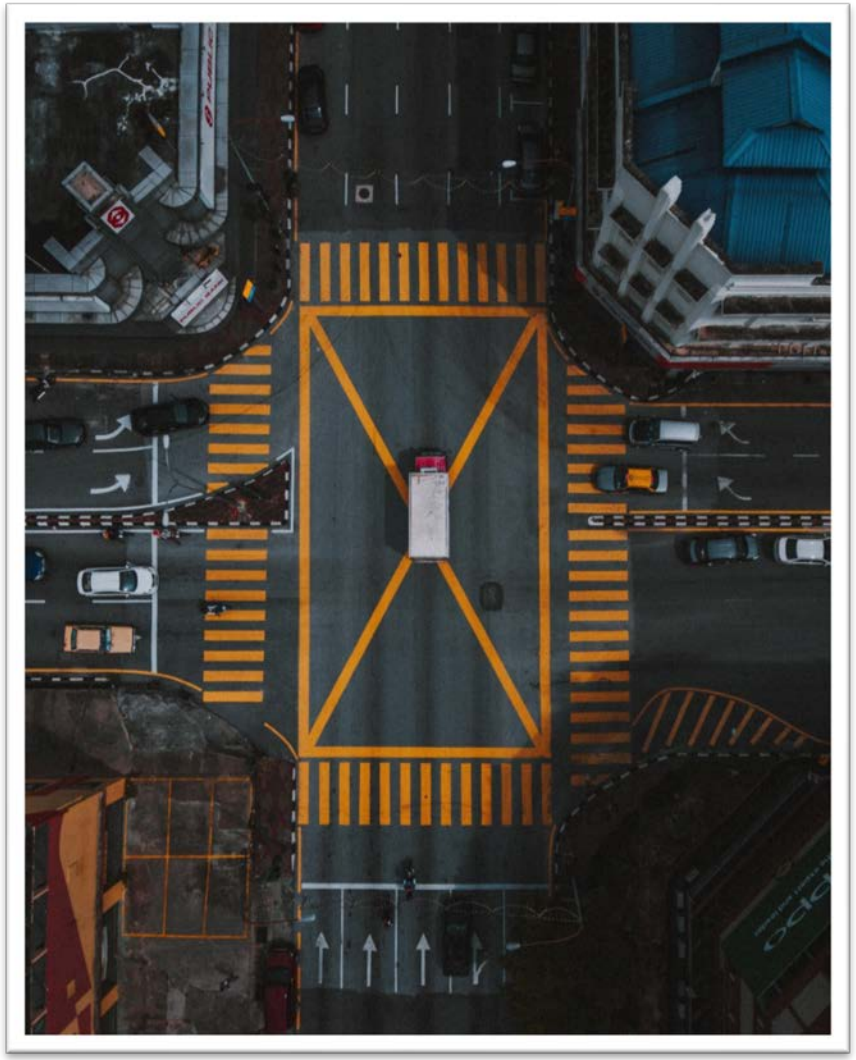
Literature Review

- FHWA Freight and Land-Use Handbook
- TRB Publications
- Comprehensive Plan Review

Data Collection

- Site Visits
- Freight Facility and FTZ Inventory
- Potential Freight Land-Use Identification
- Policy Research

Freight Land-Use Analysis



LITERATURE REVIEW (COMPLETE)

FHWA Freight and Land-Use Handbook (FHWA, 2012)

- Outlines the importance of freight land-use preservation in the urban core
- Sustainability concerns with logistics operations
- Multiple case studies and COAs to enhance freight compatibility

TRB Integrating Freight Facilities and Operations with Community Goals (TRB, 2003)

- Synthesis of successful efforts in location and operation of freight facilities
- Examples of both public agencies and private sector efforts
- Provides an extensive toolkit

LITERATURE REVIEW (COMPLETE)

Guide for Integrating Goods and Services Movement by Commercial Vehicles in Smart Growth Environments (TRB, 2016)

Multiple Comprehensive Plans and Development Codes Including:

- Fort Worth
- Dallas
- Grand Prairie
- Arlington

DATA COLLECTION

Example of Land-Use Conflict

Location: 14th St, Grand Prairie

Conflicts:

- Residential and freight on same street
- DC bays facing neighborhood
- Driveways of both empty onto the same street
- Inadequate fencing

DATA COLLECTION

Example of a Successful Mitigation Strategy

Location: Cedardale Rd, Lancaster

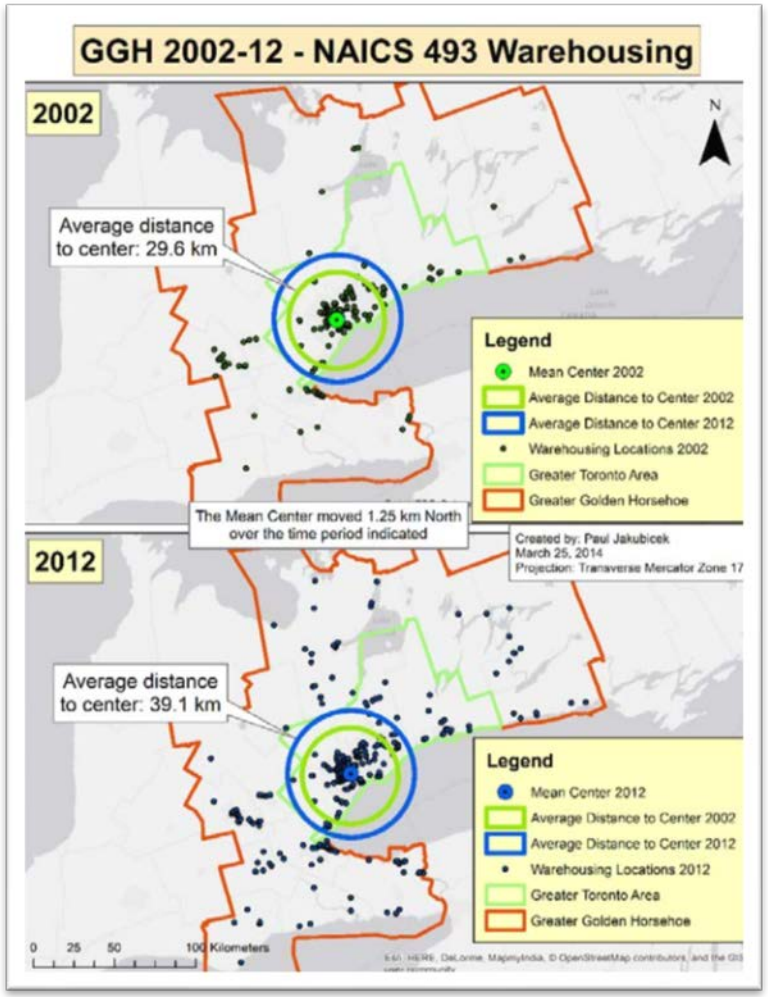
Design Features:

- Residential and freight on same street
- Freight activity obscured by fencing and vegetation
- Freight facility does not empty onto residential street
- Open greenspace and raised berm act as a buffer
- Arrayed trees and a sidewalk with plenty of space on either side

DATA COLLECTION

Freight Facility Dispersion Assessment

"*Combined with economic factors such as real estate values, these practices have, in many places, encouraged freight land uses to locate, or relocate, farther and farther away from population centers where the goods are consumed, resulting in a phenomenon known as "freight sprawl.*"
Source: FHWA Freight & Land-Use Handbook



Freight-Related Environmental Justice Issues

DATA COLLECTION

Additional Data Collection Activities

Land-use policy and regulatory review of regional municipalities (completed)

Regional freight facility inventory (in work)

Team collaboration & input (in work)

- Sustainable Development
- Safety
- Air Quality
- Modeling/Roadway
- Environmental Justice

GIS land-use and zoning review (in work)

Developing a localized toolkit for the praxis of sustainable logistics as it pertains to land use

DATA COLLECTION

Sustainable Development Team (Collaboration Meeting)

- Methodology recommendations in the land-use analysis process
- Input on environmental and sustainability considerations and/or strategies
- Input concerning land-use conflict mitigation

Air Quality Team (Collaboration Meeting)

- Air quality impact analysis concerning freight land-use decisions
- Recommendations of emissions reduction strategies

Environmental Justice Team

- Identify Environmental Justice impacted communities near freight land uses

Safety Team

- Safety-related expertise and recommendations concerning freight land uses

Modeling/Roadway Team

- Assistance in the determination of VMT impacts on freight facility location
- Congestion and road capacity data for use in freight facility evaluation
- Assistance in analyzing site designs and roadway configurations

ANALYSIS

Conduct Analysis of Regional FODs
Identify additional relevant information/considerations through team collaboration

Identify Potential Incompatible Land Uses in and Near Regional FODs

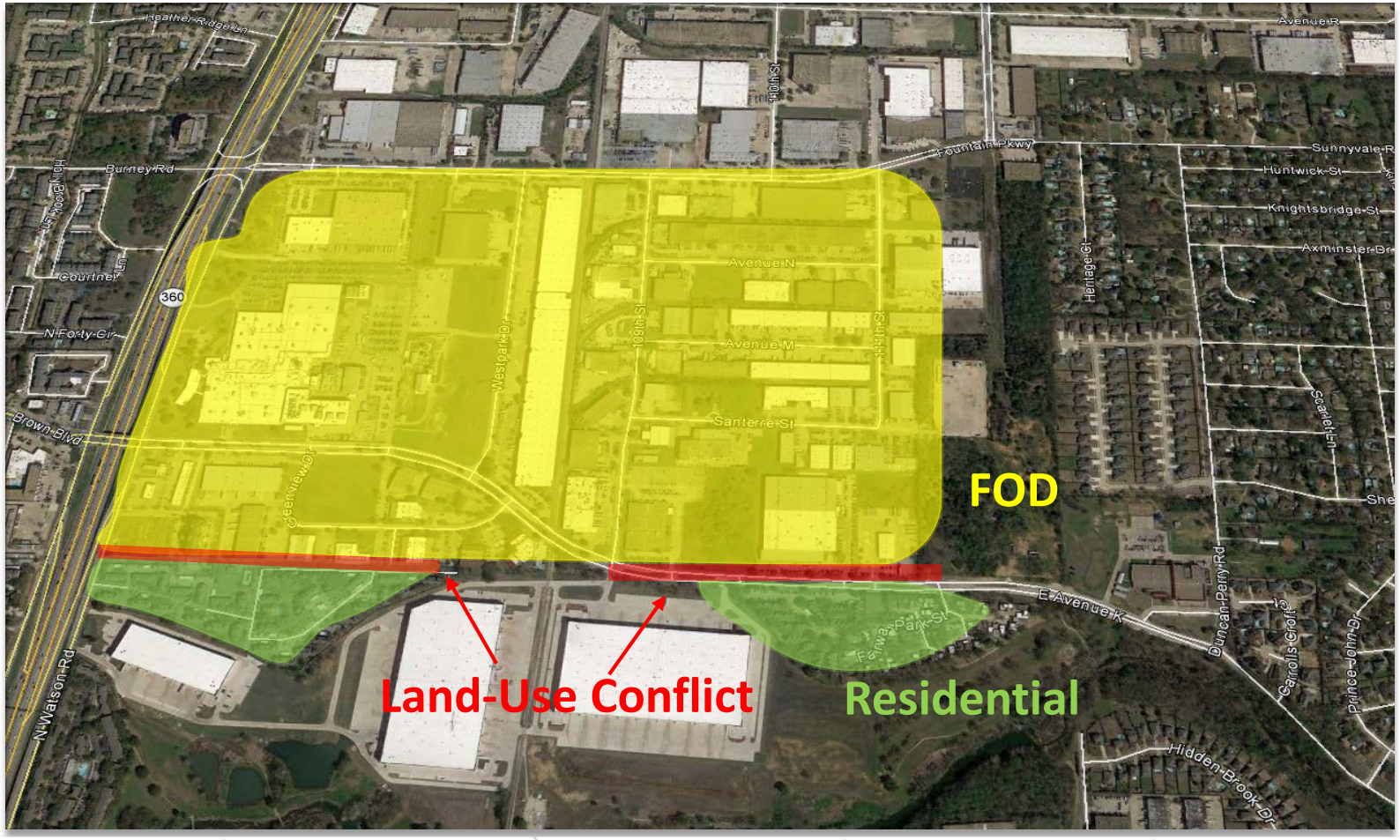
Identify City Ordinances Governing Land-Use Types and Build Policy Toolkit

Restrictions on:

- Lighting
- Noise
- Vibration

ANALYSIS

Identify Potential Incompatible Land Uses Near FODs



RESULTS AND RECOMMENDATIONS

The Output of this Study will Include:

- Regional inventory of warehousing, distribution, and shipping centers
- Urban freight land-use preservation assessment
- Regional FOD designation criteria
- List of potential sites for future freight activities
- Best land-use practices for the region's FODs
  - Includes environmental and air quality improvement strategies
- Ordinance recommendations for FOD land use and design criteria
- Factsheets/Educational Materials illustrating the importance of compatible land uses

NEXT STEPS

Next Steps:

- Complete Data Collection
- Begin Analysis
- Write Report

ESTIMATED COMPLETION

Spring 2020

QUESTIONS & DISCUSSION

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