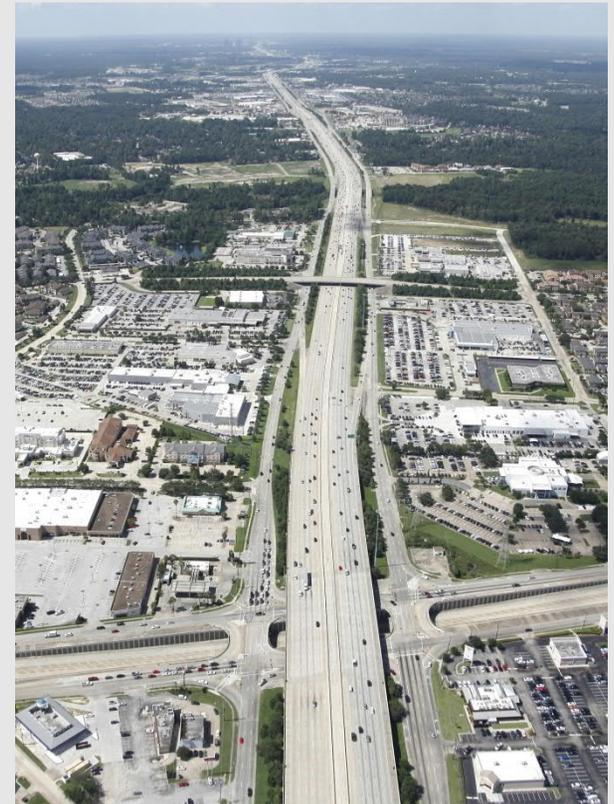




PROJECT AMBASSADORS COMMITTEE AND STAKEHOLDER MEETING

I-45N Planning and Environmental Linkages Study
Beltway 8 North – Loop 336 South



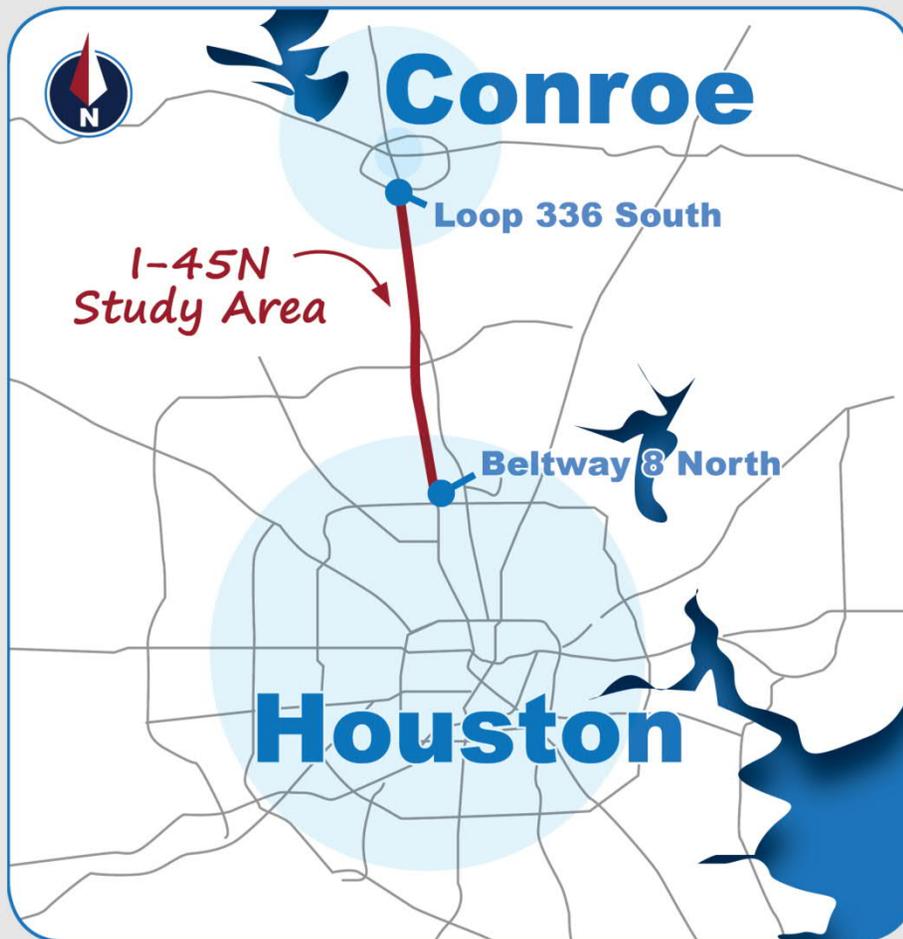


Safety Moment

Agenda



- 1 Study Overview
- 2 Study Process
- 3 Update Since Last Meeting
- 4 Community Input
- 5 Corridor-Specific Information
- 6 Need, Purpose, and Goals
- 7 Next Steps



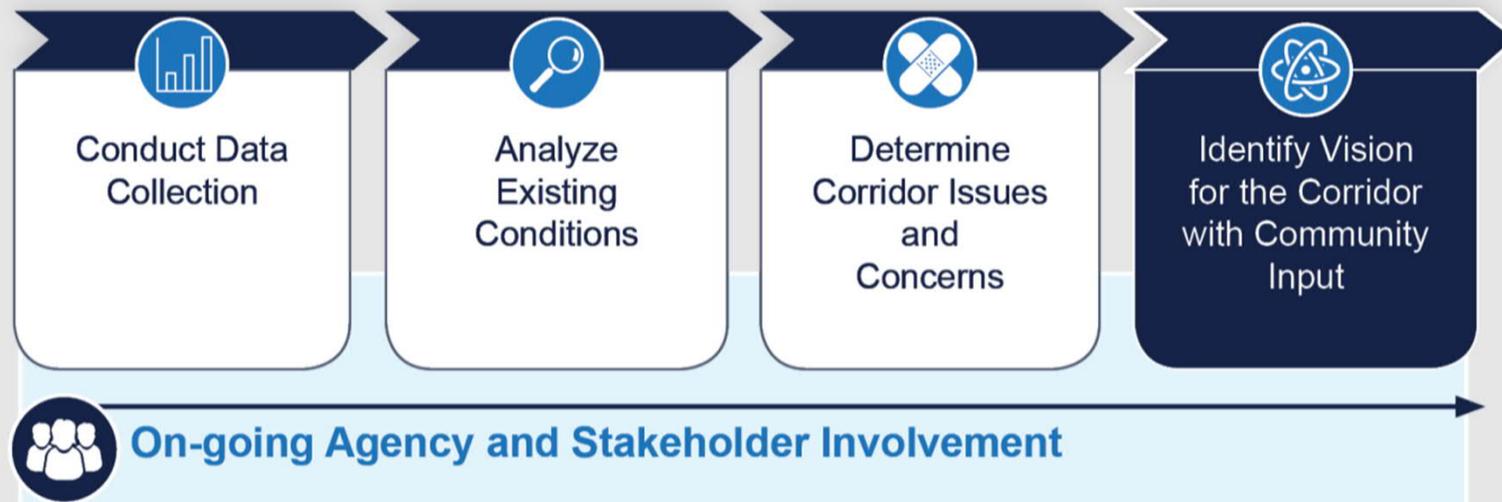
I-45N PEL Study Area

- * **STUDY LIMITS:**
Beltway 8 North to Loop 336 South
- * **PROJECT LENGTH:**
24 Miles
- * **COUNTIES:**
Harris, Montgomery
- * **CITIES:**
Houston, Woodlands, Oak Ridge North, Shenandoah, Conroe

We are here

PHASE I

Spring 2017 - Summer 2018



Update Since Last Meeting



- Community Input
 - PAC & Stakeholder Meetings
 - Public Meetings
- Existing and Future Traffic Analysis
- Crash Analysis
- Freight Statistics
- Draft Needs, Purpose, and Goals



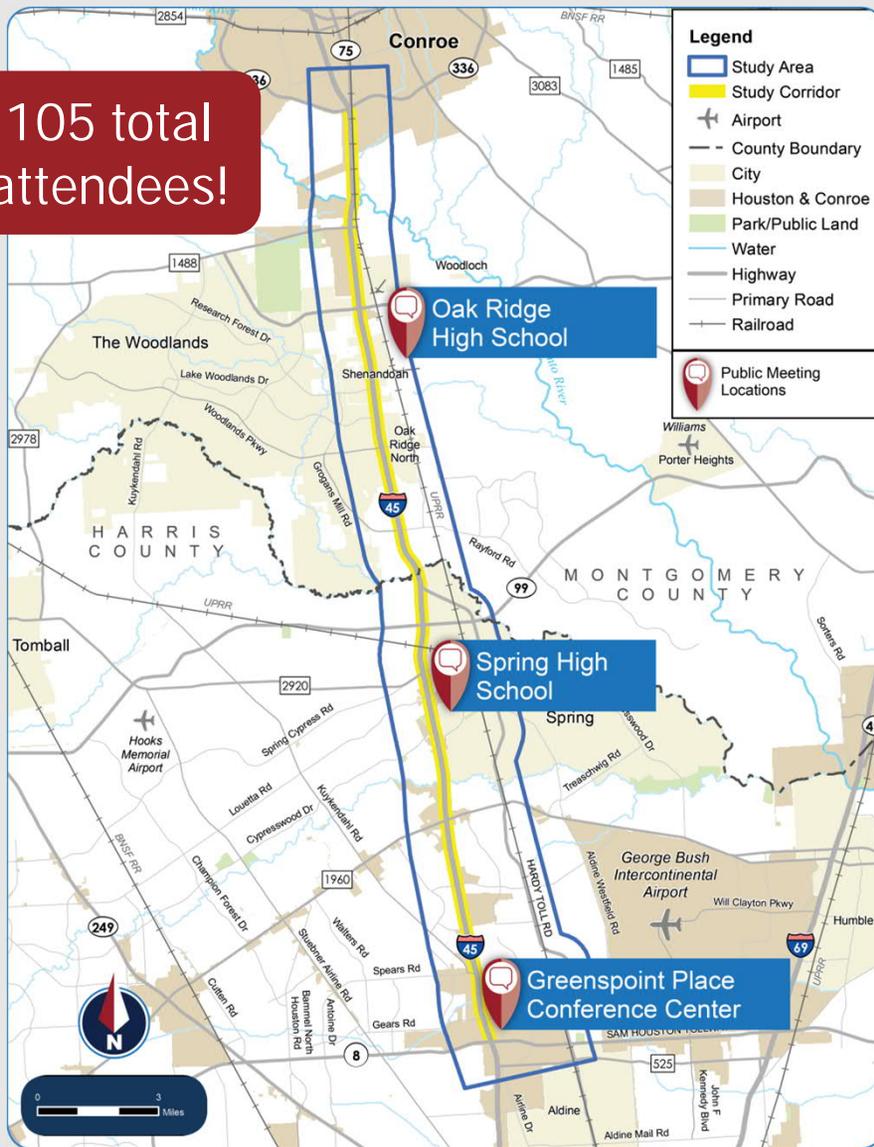


Community Input

Public Meeting Locations



105 total attendees!



- February 27, 2018
 - Spring High School
 - 32 attendees
- March 1, 2018
 - Greenspoint Place Conference Center
 - 13 attendees
- March 8, 2018
 - Oak Ridge High School
 - 60 attendees

How did we engage the public?



Exhibit Boards



Survey

I-45N Planning & Environmental Linkage Study (PEL)
I-45N Public Meeting Survey

TxDOT is seeking your input on how we can improve I-45N from Beltway 8 North to Loop 336 South. The purpose of these questions is to understand your interests and concerns for the corridor, and to gather your ideas on how we can make I-45N a safer and more efficient roadway.

1. I live in the city limits I work in the city limits

2. I am an elected official. My position is _____
The Texas Transportation Code, §201.011 (a)(2) states: Check each of the following boxes that apply to you.
 I am employed by TxDOT I do business with TxDOT
 I could benefit financially from the project or other items about which I am commenting.

3. I am primarily interested in the I-45N PEL Study from the standpoint of a:
 Resident property owner or voter
 Business property owner or voter
 Other (please explain) _____

4. I am concerned about the following resources that may be impacted by proposed I-45N solutions (select multiple):
 Wetlands
 Floodplain
 Air quality
 Parks
 Historic buildings
 Historic sites
 Historic districts
 Other _____

5. How much delay is acceptable to you when traveling a 10-mile section of I-45N?
 > 20 minutes of delay (30-45 mph) 15 minutes of delay (35-45 mph) 10 minutes of delay (35-45 mph) 5 minutes of delay (35-45 mph) 2-3 minutes of delay (35-45 mph) No delay (35-45 mph)

6. Are improvements needed along I-45N to better accommodate traffic during a Hurricane evacuation?
Yes No
If yes, what and where? _____

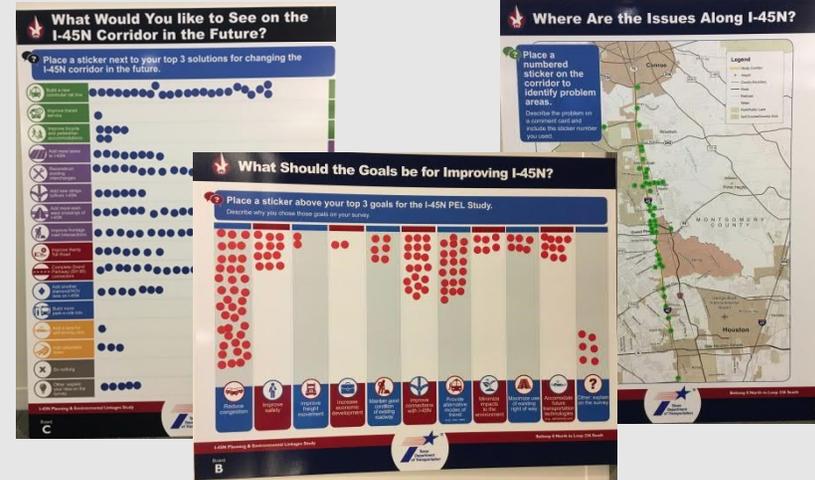
7. Are there multimodal opportunities that would improve I-45N?
 Bicycles
 Pedestrians
 Bikes
 E-bikes
 Other (please explain) _____

8. Do you regularly use the diamond (HOV) lane along I-45N?
Yes No

9. Do you support the I-45N PEL Study?
Yes No Undecided

Questions continued on back page.

Interactive boards



Project Website/Email



What We Heard: Survey Results



PAC



11 Number who participated in survey

Stakeholders



10 Number who participated in survey

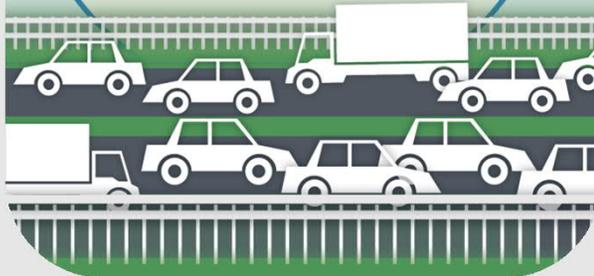
Public Meeting



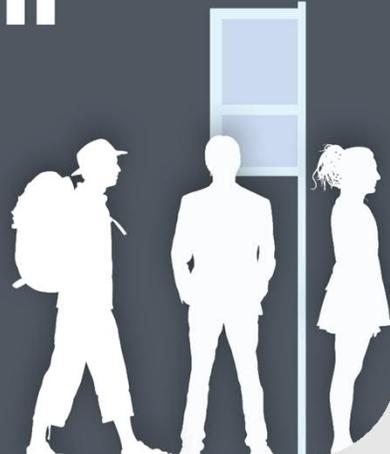
54 Number who participated in survey

84%

of participants believe **reducing congestion** is important to promoting **business development**



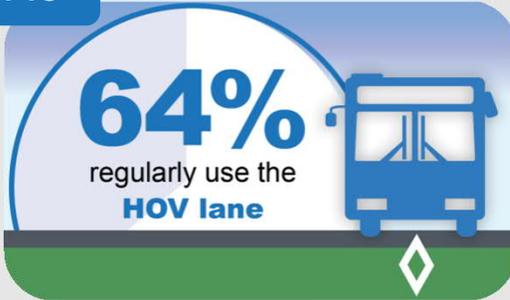
Bus and rail are perceived as **multimodal opportunities** that would improve I-45



What We Heard: Survey Results



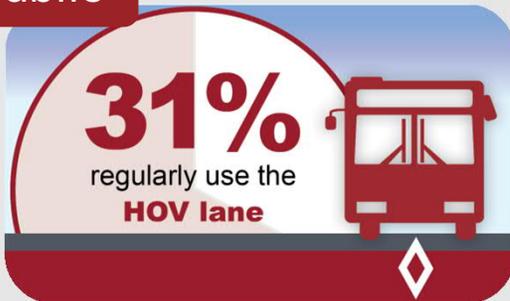
PAC



Stakeholders



Public



What We Heard: Survey Results



PAC

82%

would find
5 minutes of delay
for a 10-mile trip
as acceptable
on I-45



Stakeholders

60%

would find
10 minutes of delay
for a 10-mile trip
as acceptable
on I-45



Public

62%

would find
5 minutes of delay
for a 10-mile trip
as acceptable
on I-45N



What We Heard: Survey Results



PAC

Top priorities for improvements:

- Regional mobility
- Improve safety
- Transit options
- Local connectivity

Stakeholders

Top priorities for improvements :

- Reduce travel time
- Improve safety
- Regional mobility
- Local connectivity

Public

Top priorities for improvements :

- Reduce congestion
- Improve connections with I-45N
- Provide alternative modes of travel
- Improve safety

Top concerns about impacts to:

- Business
- Residences
- Noise
- Air quality
- Floodplains

Top concerns about impacts to:

- Business
- Residences
- Floodplains

Top concerns about impacts to:

- Residences
- Businesses
- Floodplains
- Noise
- Air quality



What We Heard: Interactive Board Results



113 issues identified!

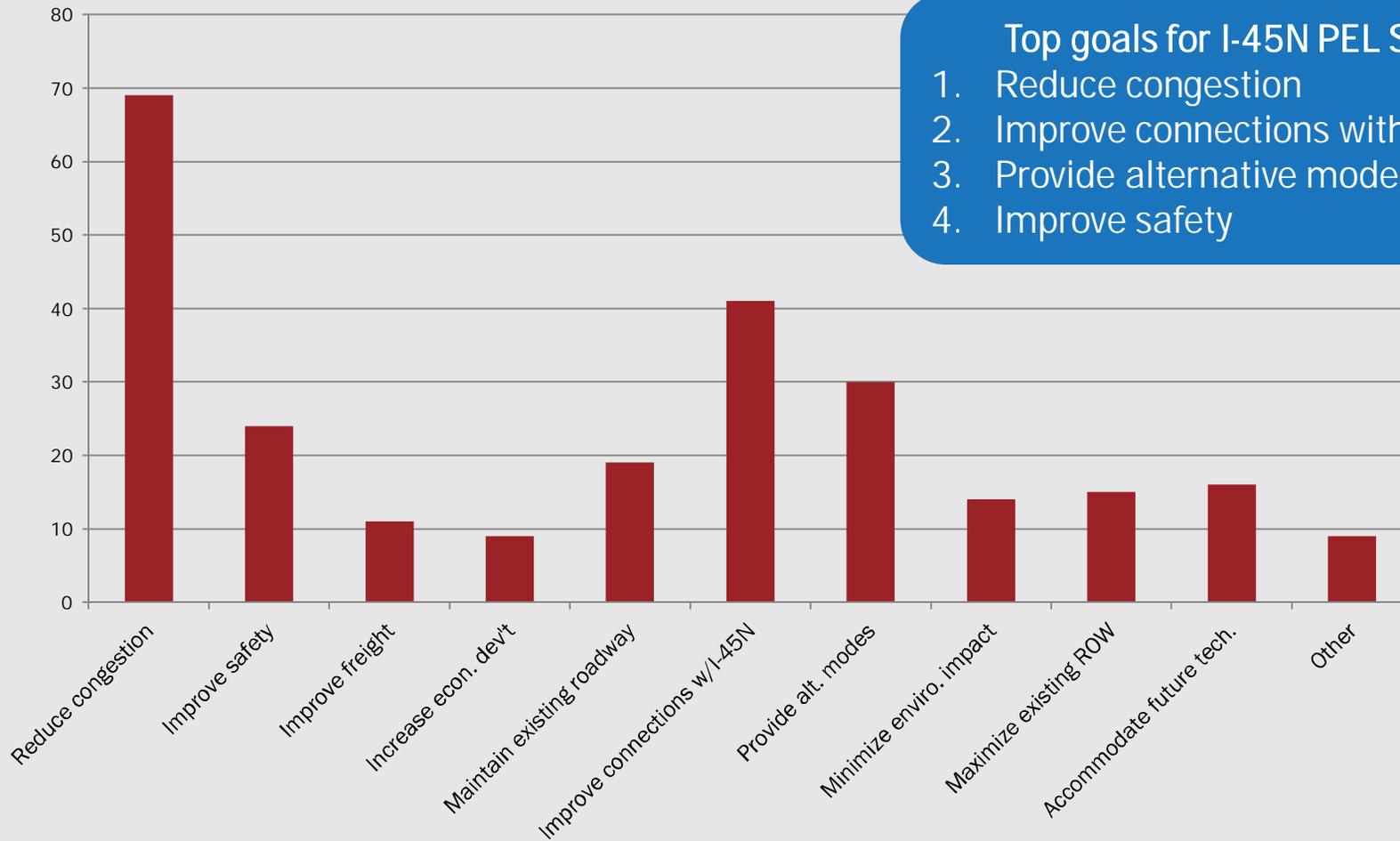
I-45N issues identified:

- Environmental
- Flooding
- Geometry
- Multimodal
- Safety
- Traffic

What We Heard: Interactive Board Results



What should the goals be for improving I-45N? 257 Total Votes

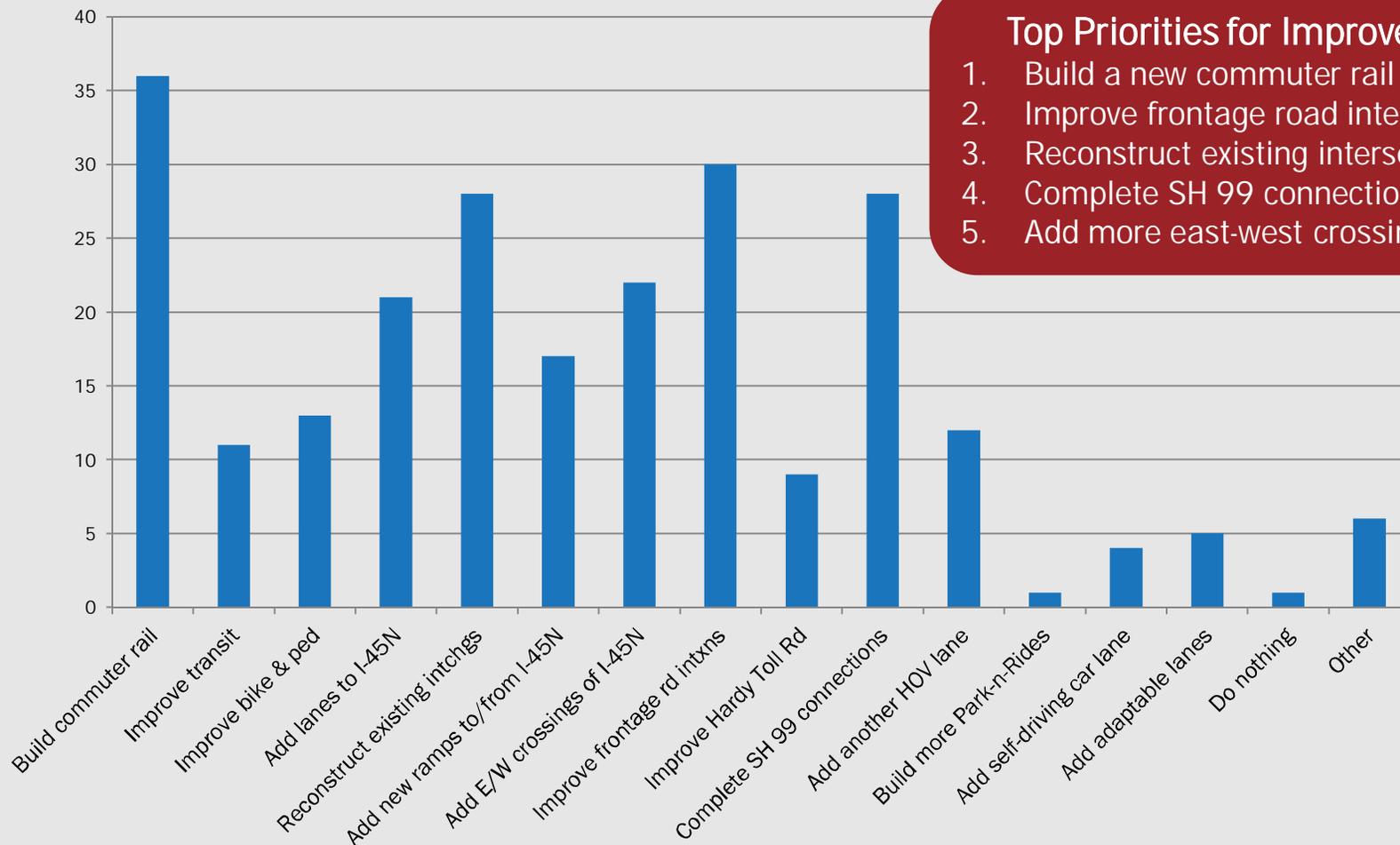


- Top goals for I-45N PEL Study:**
1. Reduce congestion
 2. Improve connections with I-45N
 3. Provide alternative modes of travel
 4. Improve safety

What We Heard: Interactive Board Results



What would you like to see on the I-45N corridor in the future? 244 Total Votes



- Top Priorities for Improvements:**
1. Build a new commuter rail line
 2. Improve frontage road intersections
 3. Reconstruct existing intersections
 4. Complete SH 99 connections
 5. Add more east-west crossings of I-45N





Corridor-Specific Information

How Do We Forecast Traffic?



1 How many vehicles use the road today?



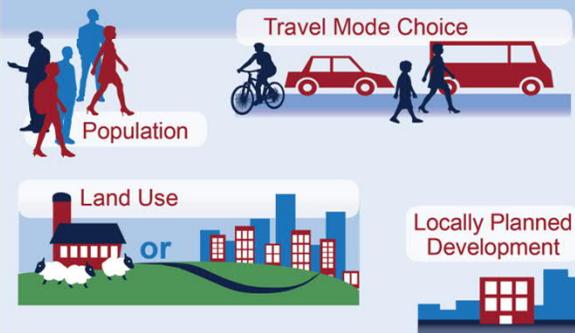
2 Determine forecast year.



3 Look at historic trends.



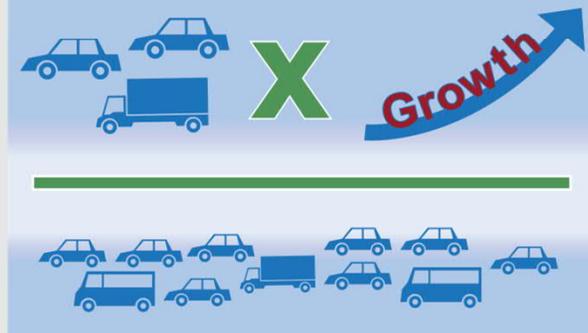
4 Look to the future.



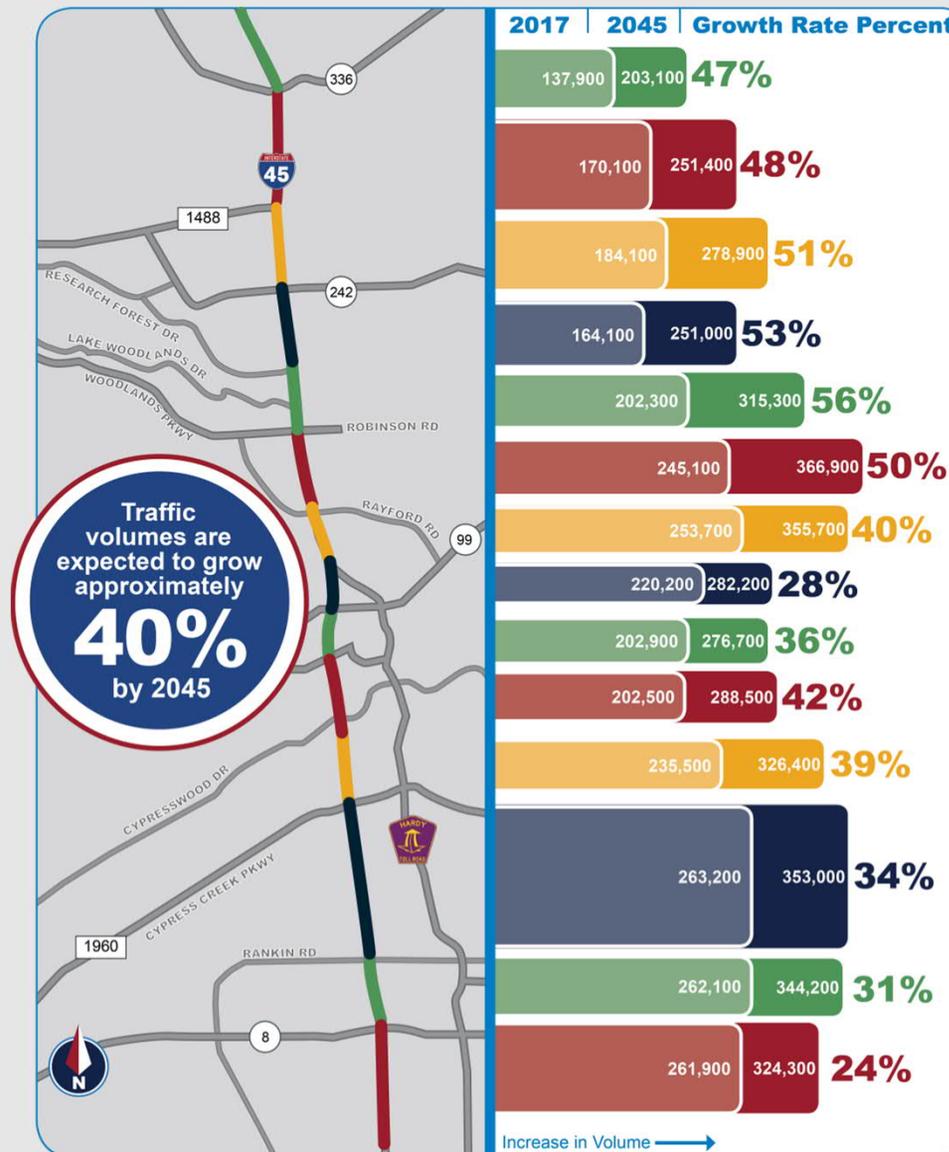
5 Determine the growth rate.



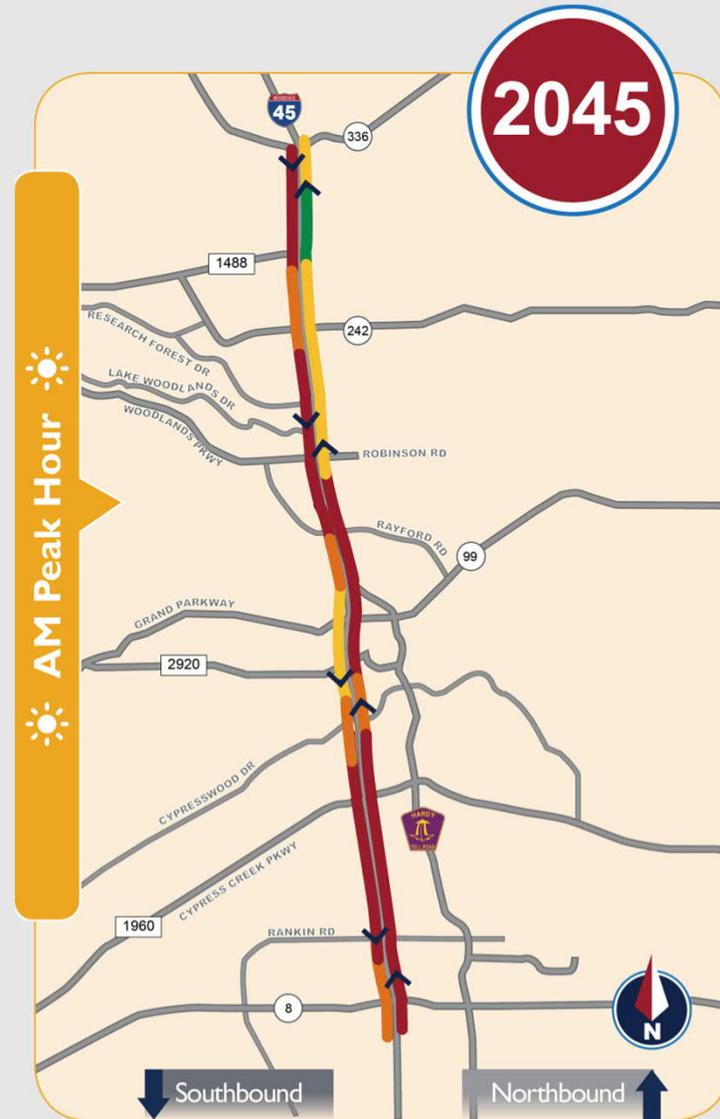
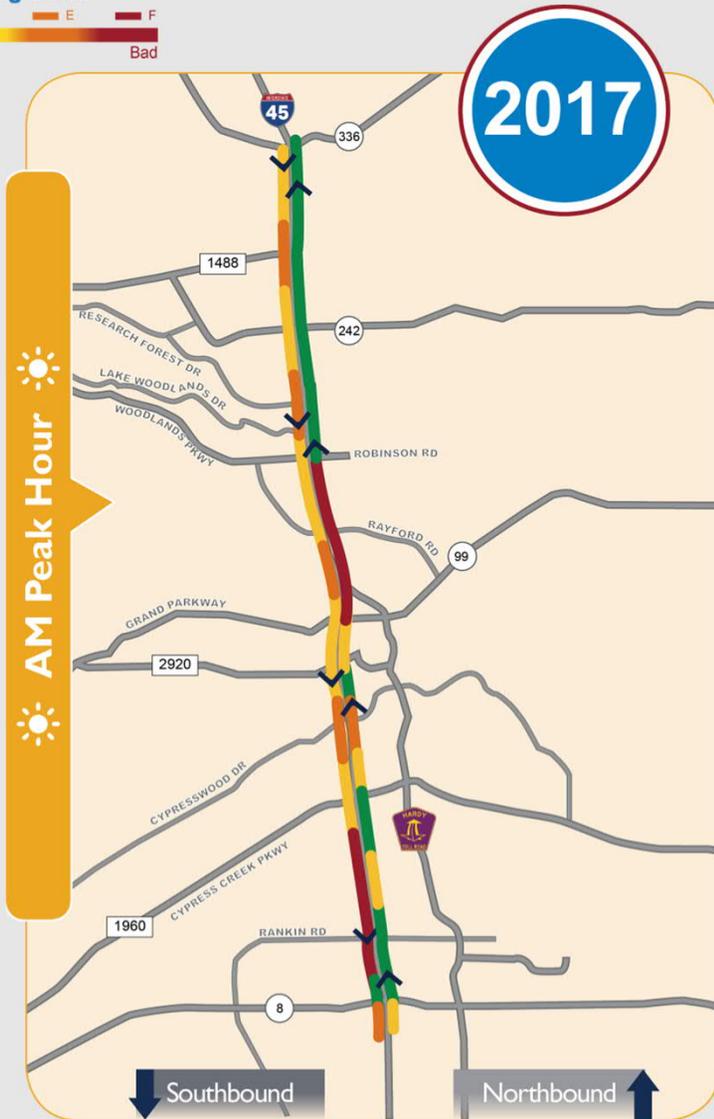
6 Apply growth rate.



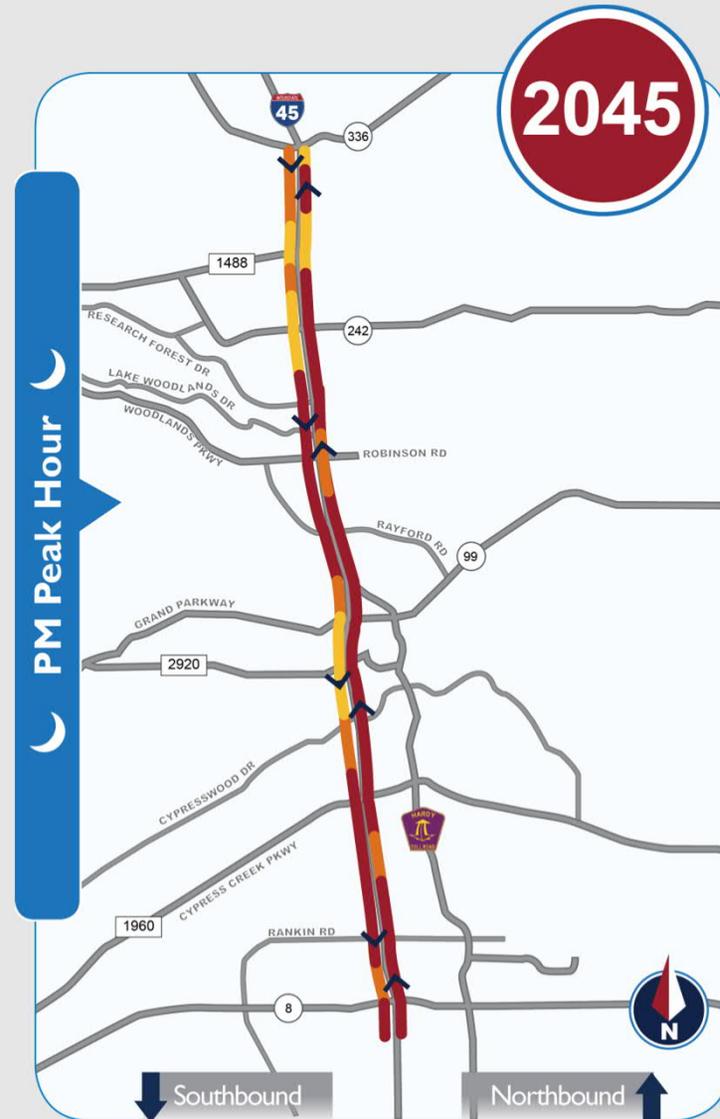
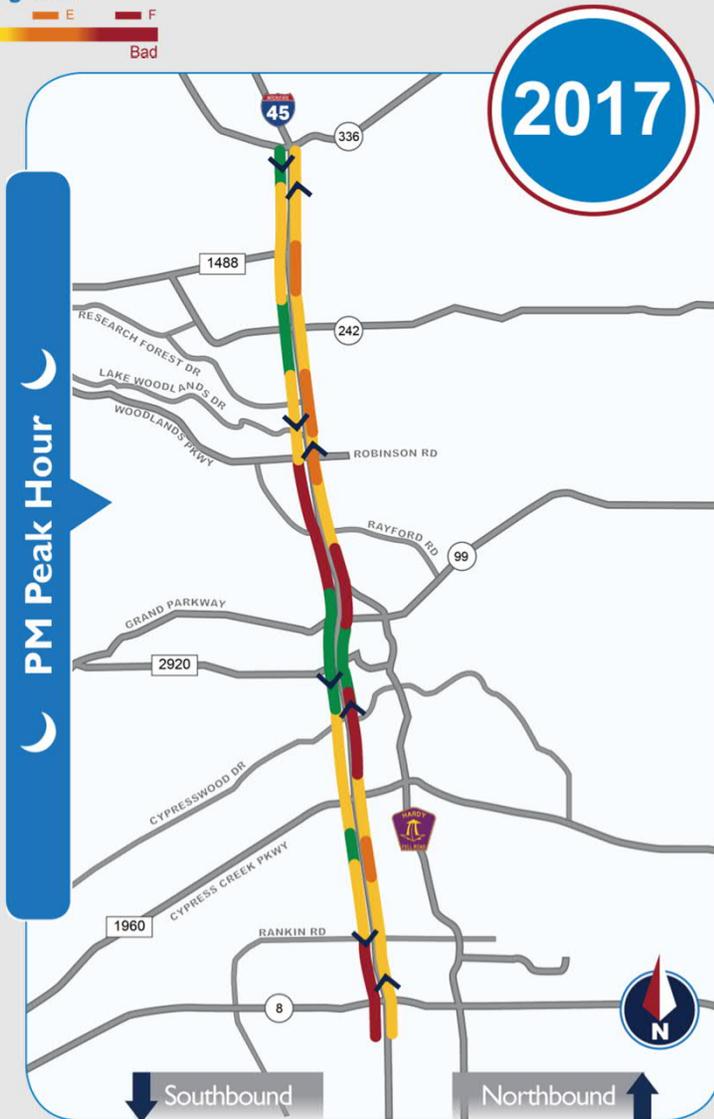
Existing and Future Traffic Volumes



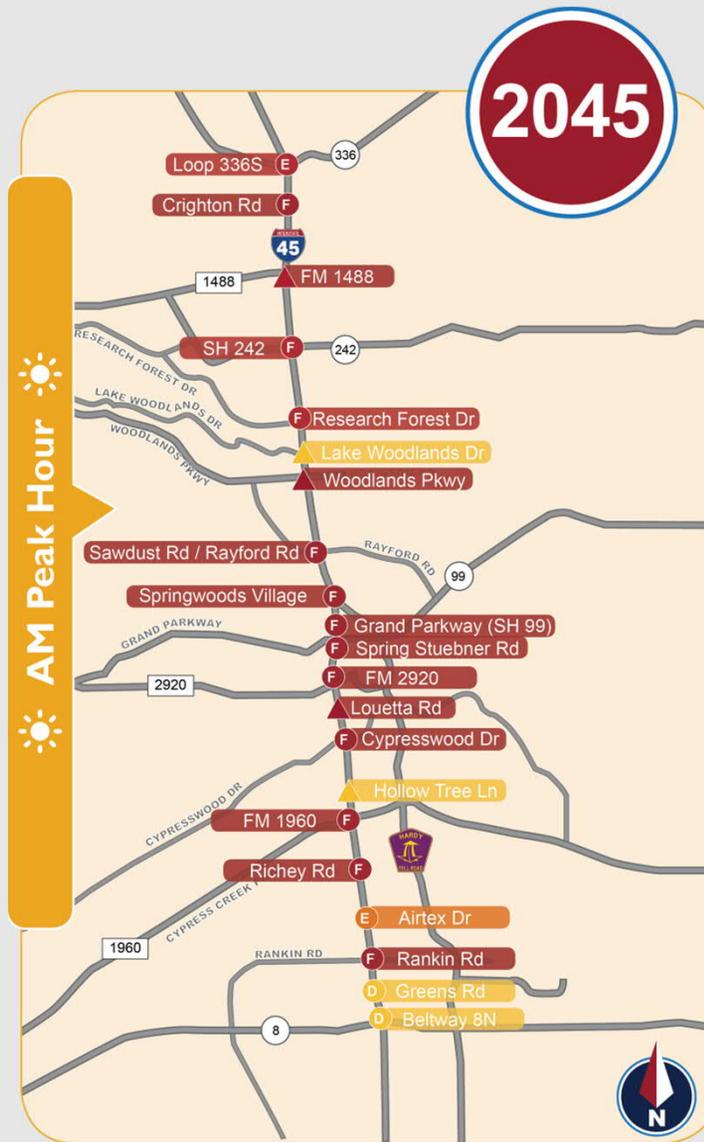
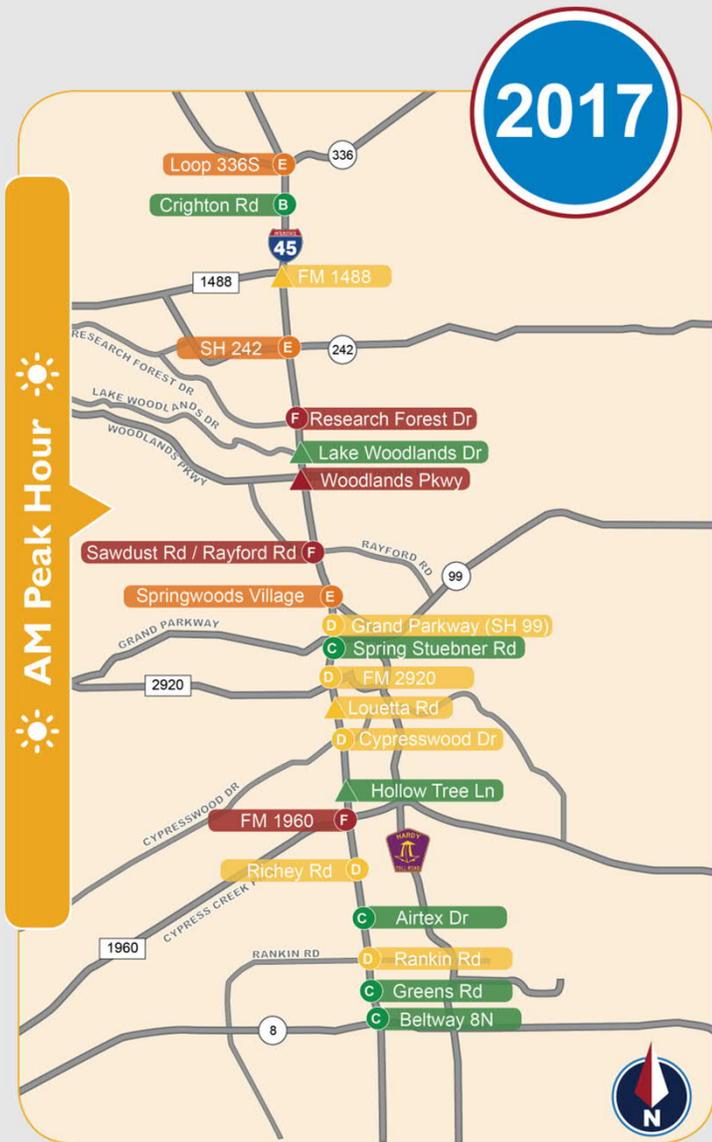
I-45N Mainlane Operations – AM



I-45N Mainlane Operations – PM



I-45N Frontage Road Intersection Operations – AM



Legend

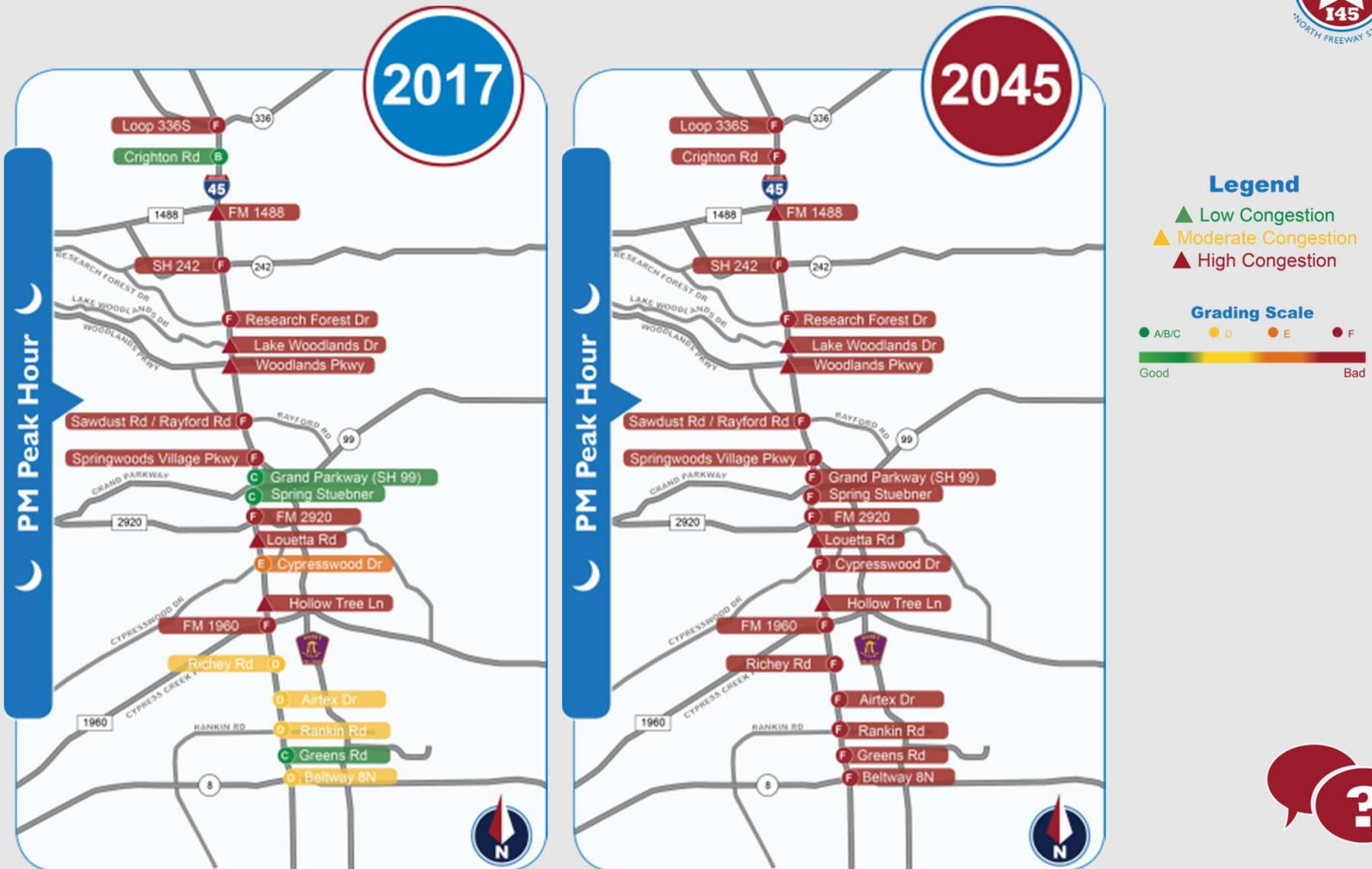
- ▲ Low Congestion
- ▲ Moderate Congestion
- ▲ High Congestion

Grading Scale

● A/B/C ● D ● E ● F

Good Bad

I-45N Frontage Road Intersection Operations – PM



Crash Statistics



**On I-45N from 2012-2016
there have been....**

11,992
Total Crashes



6 crashes per day

2,832
Injury Crashes



crashes per week
result in injury

33
Crashes
Involving
Pedestrians



12
Crashes
Involving Bicyclists

19 of these crashes have resulted in a fatality or
incapacitating injury

228
Fatal or Incapacitating
Crashes

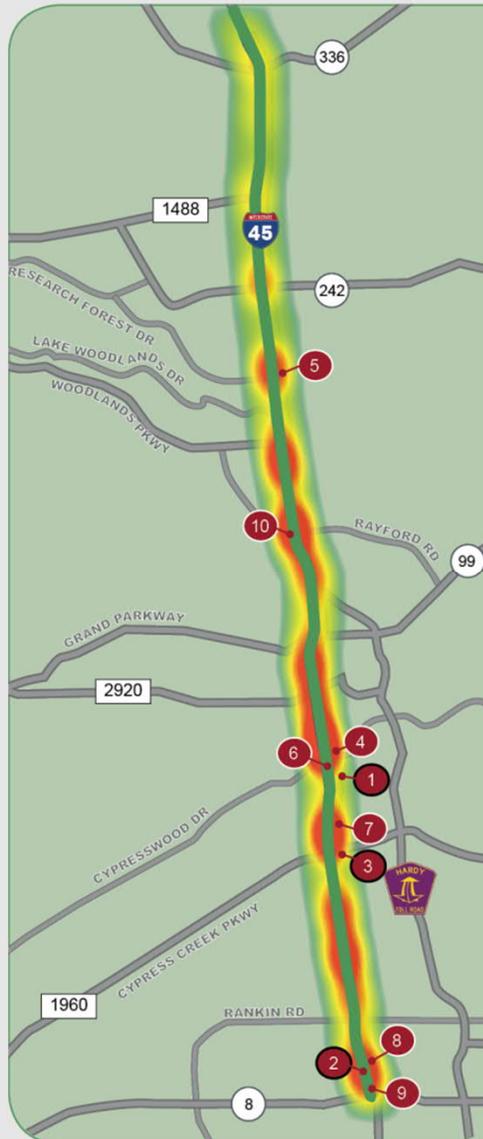


crashes per month
are fatal or incapacitating

We can do
Better!

Statistics represent the total number of crashes on I-45N mainlanes and frontage roads

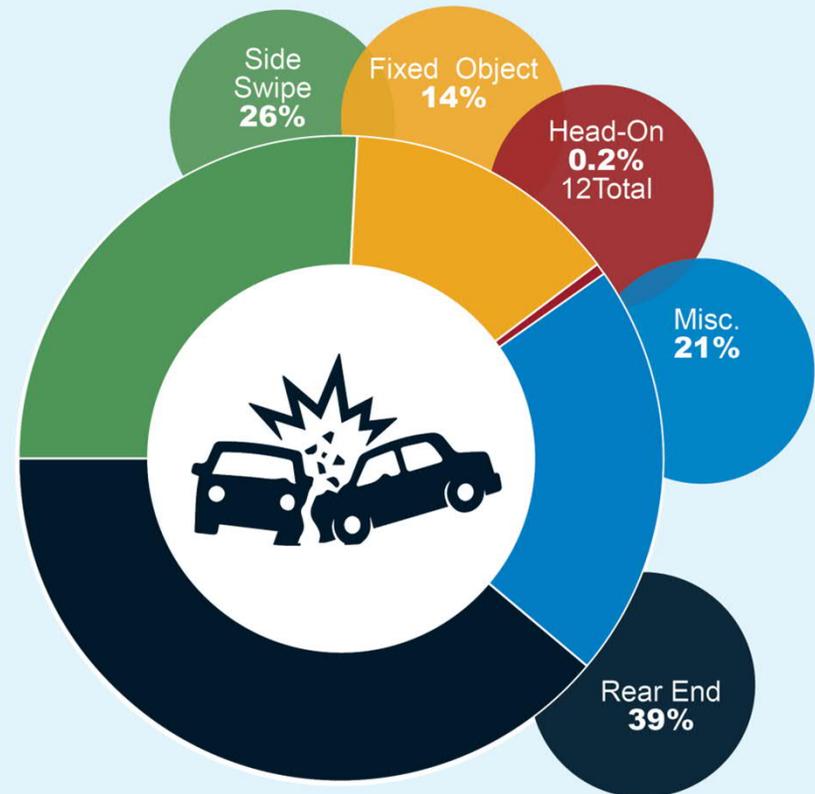
I-45N Mainlane Crashes



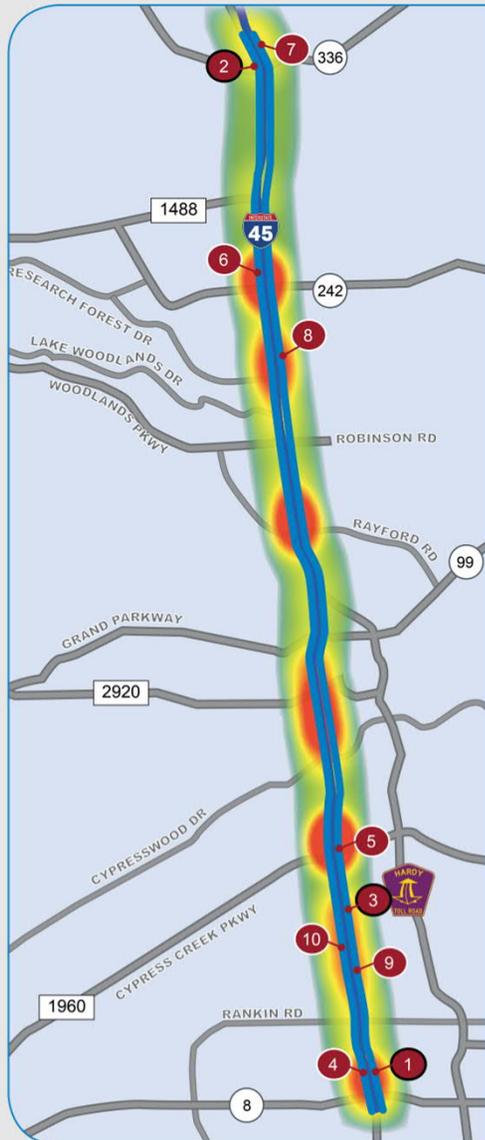
Top Ten Mainlane Crash Locations

- 1 NB I-45N mainlanes from Cypresswood Dr. to Louetta Rd.
- 2 SB I-45N on-ramp from Greens Rd.
- 3 NB I-45N off-ramp to Hollow Tree St.
- 4 NB I-45N off-ramp to Louetta Rd.
- 5 NB I-45N on-ramp from Lake Woodlands Dr.
- 6 SB I-45N mainlanes from Louetta Rd. to Cypresswood Dr.
- 7 NB I-45N on-ramp from reversible HOT lane
- 8 NB I-45N off-ramp to Greens Rd.
- 9 NB I-45N off-ramp to BW 8 WB
- 10 SB I-45N mainlanes from Hardy Toll Rd. to SH 99

Rear end crashes are the most common type of crash on the I-45N mainlanes



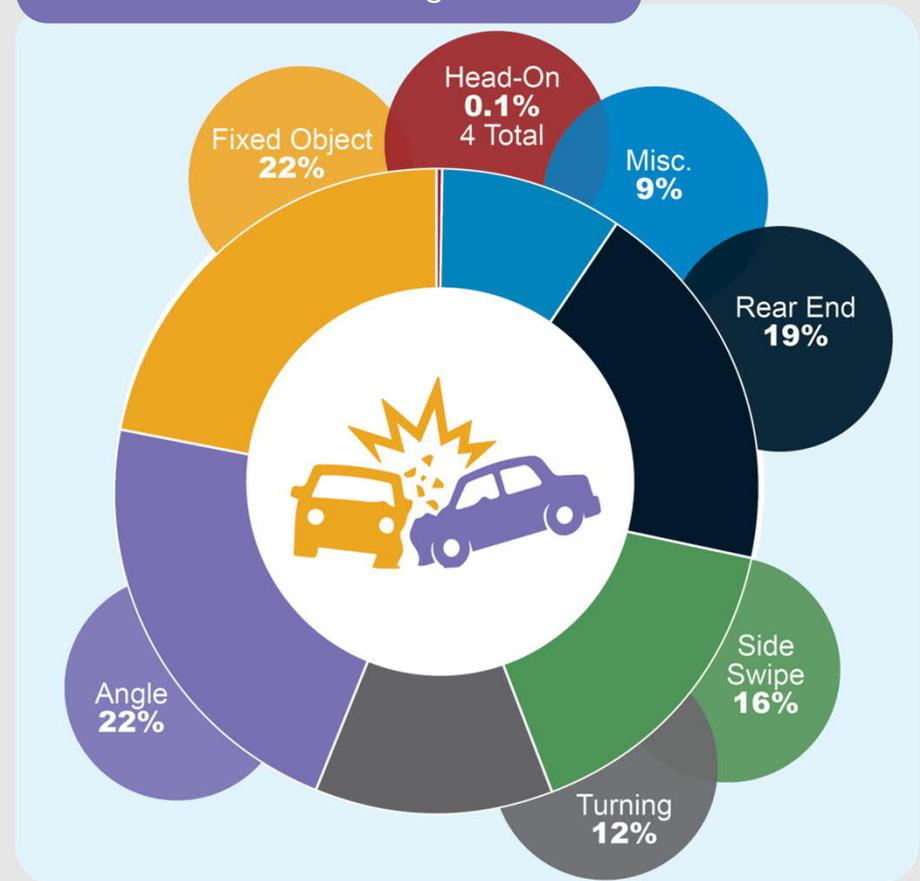
I-45N Frontage Road Crashes



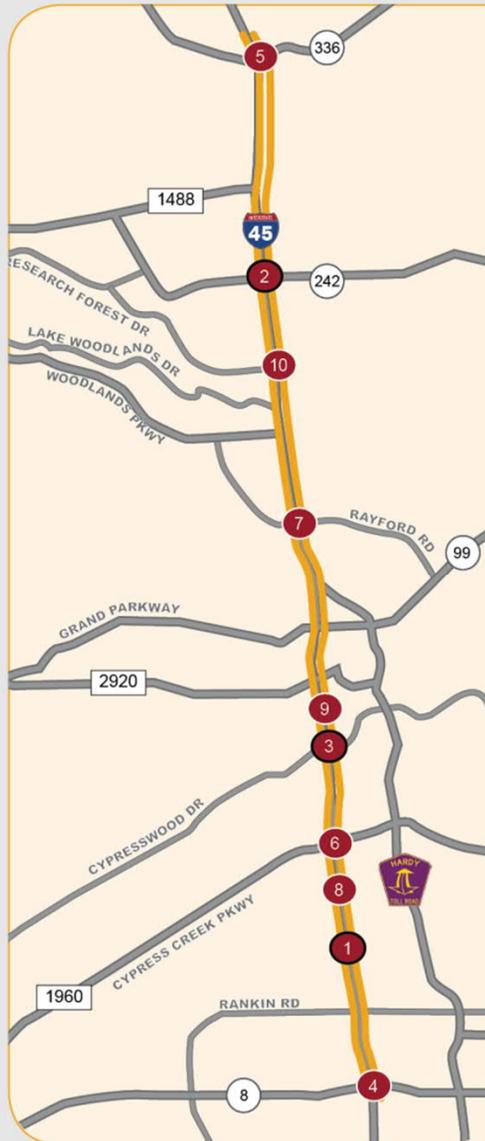
Top Ten Frontage Road Crash Locations

- 1 NB I-45N: North of BW 8 intersection
- 2 SB I-45N: North of Loop 336S intersection
- 3 NB I-45N: North of Richey Rd. intersection
- 4 SB I-45N: North of BW 8 intersection.
- 5 NB I-45N: South of FM 1960 intersection
- 6 SB I-45N: North of SH 242 intersection
- 7 NB I-45N: North of Loop 336S intersection
- 8 NB I-45N: North of Research Forest Dr. intersection
- 9 NB I-45N: Airtex Dr. to Richey Rd.
- 10 SB I-45N: North of Airtex Dr. intersection

Angle and fixed object crashes are the most common types of crash on the frontage roads



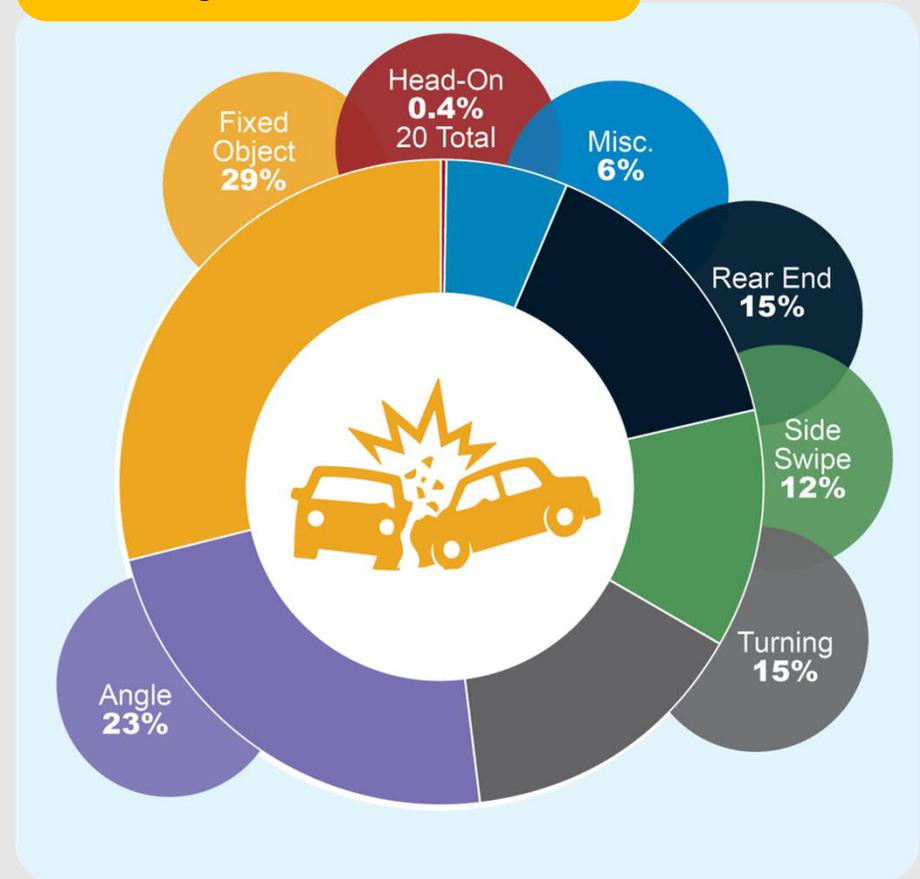
I-45N Frontage Road Intersection Crashes



Top Ten Frontage Road Intersection Crash Locations

- 1 Airtex Dr.
- 2 SH 242
- 3 Cypresswood Dr.
- 4 Beltway 8N
- 5 Loop 336S
- 6 FM 1960
- 7 Sawdust Rd. / Rayford Rd.
- 8 Richey Rd.
- 9 Louetta Rd.
- 10 Research Forest Dr.

Fixed object crashes are the most common type of crash at frontage road intersections



Existing Freight within the Corridor



I-45N
is an important
Freight
Corridor

Conroe

950 Million

Gallons of petroleum hauled
in trucks throughout corridor



13th Worst

Beltway 8 is the 13th worst
freight bottleneck in Texas



16 Billion

Pounds of food hauled
in trucks through the corridor,
enough for over 10 billion meals

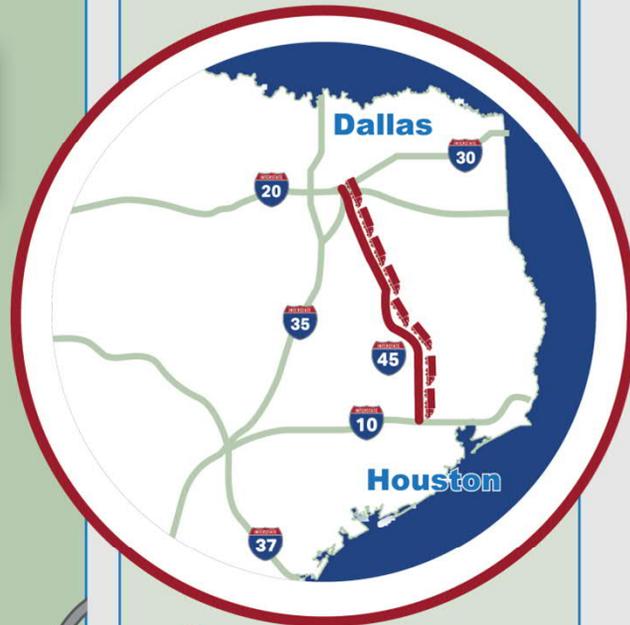


74th Worst

Beltway 8 is the 74th worst
freight bottleneck in the country



Houston



17,700



Volume of trucks in a day on
I-45N. These trucks parked back
to back would stretch 230 miles,
or from Houston to Dallas

Truck-Related Crash Statistics



**On I-45N from 2012-2016
there have been....**

1,357
of 11,992 crashes
are truck-related



10%
of crashes at intersections
are truck-related

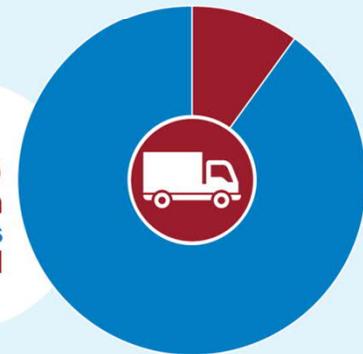


13%
of crashes on the
Mainlanes are
truck-related



8%
of vehicles on
the Mainlanes
are trucks

10%
of crashes on
Frontage Roads
are truck-related

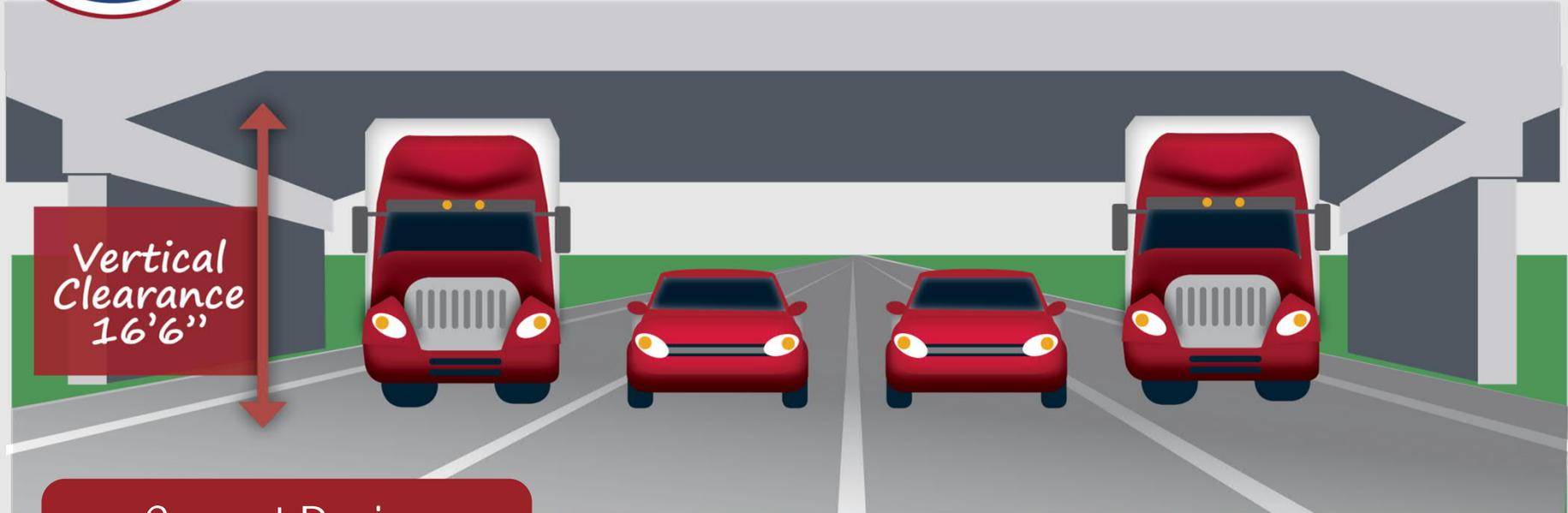


Bridge Clearance



6
bridges

in the I-45N corridor do not meet 16'6" vertical clearance



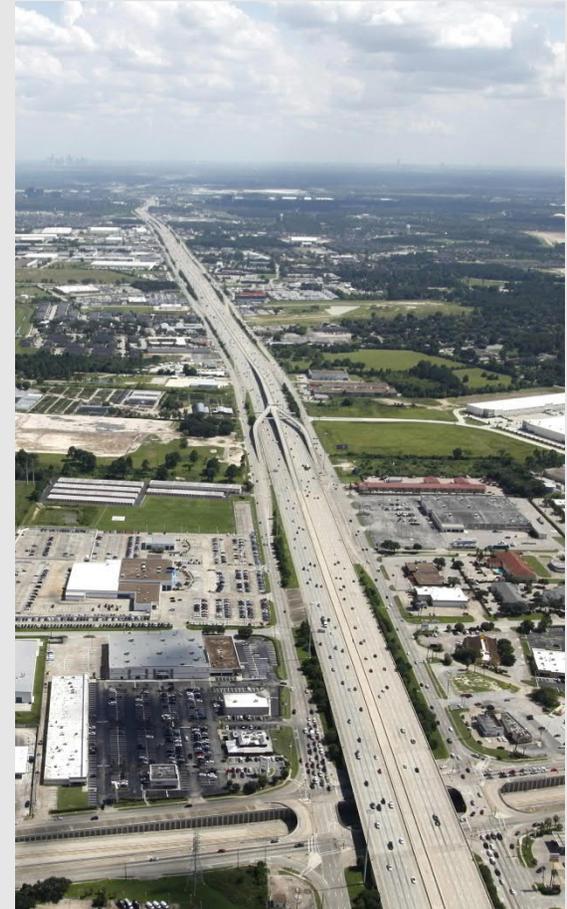
Current Design
Vertical Clearance



Need, Purpose, and Goals



- A clear, concise, well-justified Need and Purpose is the foundation of every transportation project
 - A project's "Need" is an identified transportation deficiency or problem based on data analysis
 - A project's "Purpose" is the set of objectives that will be met to address the transportation deficiency
 - A project's "Goals" guide the solutions developed to provide improvements that address the project needs



Need, Purpose, and Goals



Needs

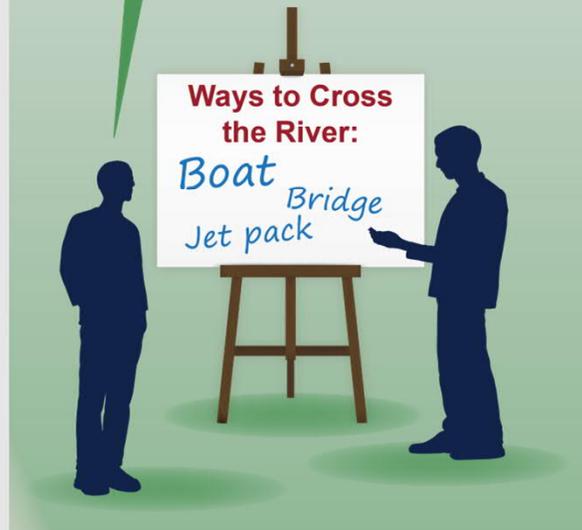
What documented problems must the solutions address?



Purpose

A set of **objectives** to meet the transportation deficiencies.

Provide a connection between the two roads.



Goals

How should we shape the solutions to address the needs?

Let's get it built fast.

The cheapest idea will save money.

It has to look nice.



Corridor Needs

What are the issues?

Congestion

- Mainlanes, Frontage Roads, Intersections



Safety

- Mainlanes, Frontage Roads, Intersections



Freight Mobility

- Bottlenecks, Bridge Clearance



Study Purpose

What are we trying to do?

Improve mobility and reduce congestion

Improve safety

Improve accommodation of freight traffic

Draft Goals



PHASE 2

Fall 2018 - Summer 2020



Who can I contact?

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Thank You
