11th Street Safety Improvements

Houston Bikeways Public Meeting
Tuesday, March 5, 2019

Ian Hlavacek – HPW       Jennifer Ostlind – PDD       Lauren Grove - PDD
Meeting Overview

- Background
- Identify the problem
- What we are hearing
- Solutions to address the problem
- Funding opportunities
- Audience Q&A
516 crashes reported to HPD

2000 W. 11th – 1000 E. 11th | 2010-2019 | TxDOT CRIS

Heights Hike and Bike Trail

Shepherd Dr
Durham Dr

Heights Blvd

Studebaker St
Michaux St

Yale St
Cortlandt St
Oxford St

Waverly St
Rutland St
4

Allston St
9

87

Harvard St
Arlington St

Tulane St

Lawrence St

10

Dorothy St

21
156

Alexander St

13

Westheimer Rd
Crash Rate

Texas average for 4+ lanes undivided: 356*

11th (Shepherd to Heights): 385*

*per 100 million vehicle miles traveled
94 traffic safety requests submitted to 311
In May 2018…

Houston officials to find, fix most dangerous intersections after several fatal bike crashes

By Samantha Ketterer  Updated 4:15 pm CDT, Friday, May 18, 2018
11th and Nicholson
The RSA Team

- Federal Highway Administration (FHWA)
- Houston Public Works
- Houston Police Department
- Texas Department of Transportation (TxDOT)
- Houston METRO
- BikeHouston
- LINK Houston
How can we best serve all these road users?

How can we make all of 11th safer?
Actual Speeds on 11th:

- 20 MPH
- 38.5 MPH
- 40 MPH

Figure 9: Chance of pedestrian fatality at various impact speeds (Seattle DOT)
Vehicle Impact Speed vs. Pedestrian Injury
(initial impact only)

- Increasing Injuries
- Non-Severe Injuries
- Usually Fatal

Impact Speed (mph)

AIS Severity (6=fatal)

10 12 14 16 18 20 22 24 26 28 30 32 34 36 38

(Posted) (Actual)
FHWA Recommendation
FHWA Recommendation: Median/Pedestrian Refuge Island
Road Diets (Roadway Reconfiguration)

SAFETY BENEFIT:
4-Lane → 3-Lane
Road Diet Conversions

19-47%
Reduction in total crashes

Source: Evaluation of Lane Reduction "Road Diet" Measures on Crashes, FHWA-HRT-10-053.

https://safety.fhwa.dot.gov/provencountermeasures/road_diets/
11th Street Traffic (2019)

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>STREET</th>
<th>ADT BEFORE</th>
<th>ADT AFTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oakland, CA</td>
<td>High Street</td>
<td>22,000</td>
<td>24,000</td>
</tr>
<tr>
<td>San Francisco, CA</td>
<td>Valencia Street</td>
<td>22,200</td>
<td>20,000</td>
</tr>
<tr>
<td>San Leandro, CA</td>
<td>East 14th Street</td>
<td>17,700</td>
<td>16,700</td>
</tr>
<tr>
<td>Santa Monica, CA</td>
<td>Main Street</td>
<td>20,000</td>
<td>18,000</td>
</tr>
<tr>
<td>Orlando, FL</td>
<td>Edgewater Drive</td>
<td>20,500</td>
<td>21,000</td>
</tr>
<tr>
<td>Charlotte, NC</td>
<td>East Boulevard</td>
<td>21,400</td>
<td>18,400</td>
</tr>
<tr>
<td>Reno, NV</td>
<td>South Wells Avenue</td>
<td>18,000</td>
<td>17,500</td>
</tr>
<tr>
<td>East Lansing, MI</td>
<td>Abbott Road</td>
<td>15,000</td>
<td>21,000</td>
</tr>
<tr>
<td>East Lansing, MI</td>
<td>Grand River Boulevard</td>
<td>23,000</td>
<td>23,000</td>
</tr>
<tr>
<td>Duluth, MN</td>
<td>21st Avenue East</td>
<td>17,000</td>
<td>17,000</td>
</tr>
<tr>
<td>Ramsey, MN</td>
<td>Rice Street</td>
<td>18,700</td>
<td>16,400</td>
</tr>
<tr>
<td>Helena, MT</td>
<td>U.S. 12</td>
<td>18,000</td>
<td>18,000</td>
</tr>
<tr>
<td>Toronto, ON</td>
<td>Danforth</td>
<td>22,000</td>
<td>22,000</td>
</tr>
<tr>
<td>Toronto, ON</td>
<td>St. George Street</td>
<td>15,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Lewistown, PA</td>
<td>Electric Avenue</td>
<td>13,000</td>
<td>14,500</td>
</tr>
<tr>
<td>Bellevue, WA</td>
<td>Montana Street</td>
<td>18,500</td>
<td>18,500</td>
</tr>
<tr>
<td>Bellevue, WA</td>
<td>120th Avenue, NE</td>
<td>16,900</td>
<td>16,900</td>
</tr>
<tr>
<td>Covington, WA</td>
<td>State Road 516</td>
<td>29,900</td>
<td>32,800</td>
</tr>
</tbody>
</table>
A CLOSER LOOK: THE BENEFITS OF 3 Lanes vs 4 Lanes

SPEEDING
A 4-lane section promotes lane changing behavior and speeding as more aggressive drivers utilize the second travel lane to pass slower moving vehicles and travel through the corridor faster. The 3-lane section eliminates the second lane and regulates overall vehicle speed to the slowest moving vehicle.

LEFT TURN WEAVING
In a 4-lane section, vehicles waiting to turn left cause approaching vehicles to spontaneously and unpredictably weave and change lanes, increasing the potential for sideswipe crashes. Providing a dedicated center turn lane removes the left turning vehicle from the traffic flow and eliminates lane changing.

LEFT TURN QUEUE
Stopped vehicles in the center lanes waiting to turn left create vehicle queues in a travel lane at unpredictable times and places. Vehicles approaching this queue do not always anticipate the stopped traffic resulting in rear-end crashes. A separated left turn lane removes this situation.
Synchro Video – see website link
By 2027 Houston will be a Safer, More Accessible, Gold Level Bike-Friendly City

Goals

**Improve Safety**
To provide a safer bicycle network for people of all ages and abilities through improved facilities, education, and enforcement

**Increase Access**
To create a highly accessible, citywide network of comfortable bike facilities that connects neighborhoods to transit, jobs, and activity centers, including schools, universities, parks, and libraries

**Grow Ridership**
To exceed average ridership levels in peer cities by implementing policies and programs that enable more people to ride bicycles and encourage healthy, active transportation choice

**Develop & Maintain Facilities**
To develop and sustain a high-quality bicycle network, including both bikeways and end-of-trip facilities
11th Street Bikeway from White Oak Bayou to N Main
Next steps

• Today: Gather feedback
• Within the week: Post meeting presentation and feedback on houstonbikeplan.org
• Within the next few weeks: Conduct further analysis and data collection
• Within the next month: Host follow-up public meeting
Contact Info and Resources

Houston Bikeways Program
Houstonbikeplan.org
832-395-2700
bikeways@houstontx.gov

Ian Hlavacek
Houston Public Works
ian.hlavacek@houstontx.gov
832-395-3002

Jennifer Ostlind
Planning and Development Department
Jennifer.ostlind@houstontx.gov
832-393-6569

Lauren Grove
Planning and Development Department
lauren.grove@houstontx.gov
832-393-6550

FHWA:
https://safety fhwa dot gov/provencountermeasures/

4 to 3 Basics:
https://youtu.be/Rs7jHvh7v-4

4 to 3 in Iowa:
https://www.youtube.com/watch?v=naCbw7IwcVw