HOUSTON PUBLIC WORKS

# NORTH MAIN STREET SAFETY IMPROVEMENTS

## MULTIMODAL SAFETY & DESIGN

## TRANSPORTATION DRAINAGE & OPERATIONS

MAY 30, 2023

# AGENDA

**Presentation (10 minutes)**

- North Main Street Safety Improvements Overview
- Existing Conditions
- Proposed Safety Improvements
- Next Steps / Timeline

# Goals

The City of Houston is committed to improving street safety, increasing access to multimodal transportation, and connecting residents to essential destinations. We are prioritizing moving people safely over moving vehicles quickly.

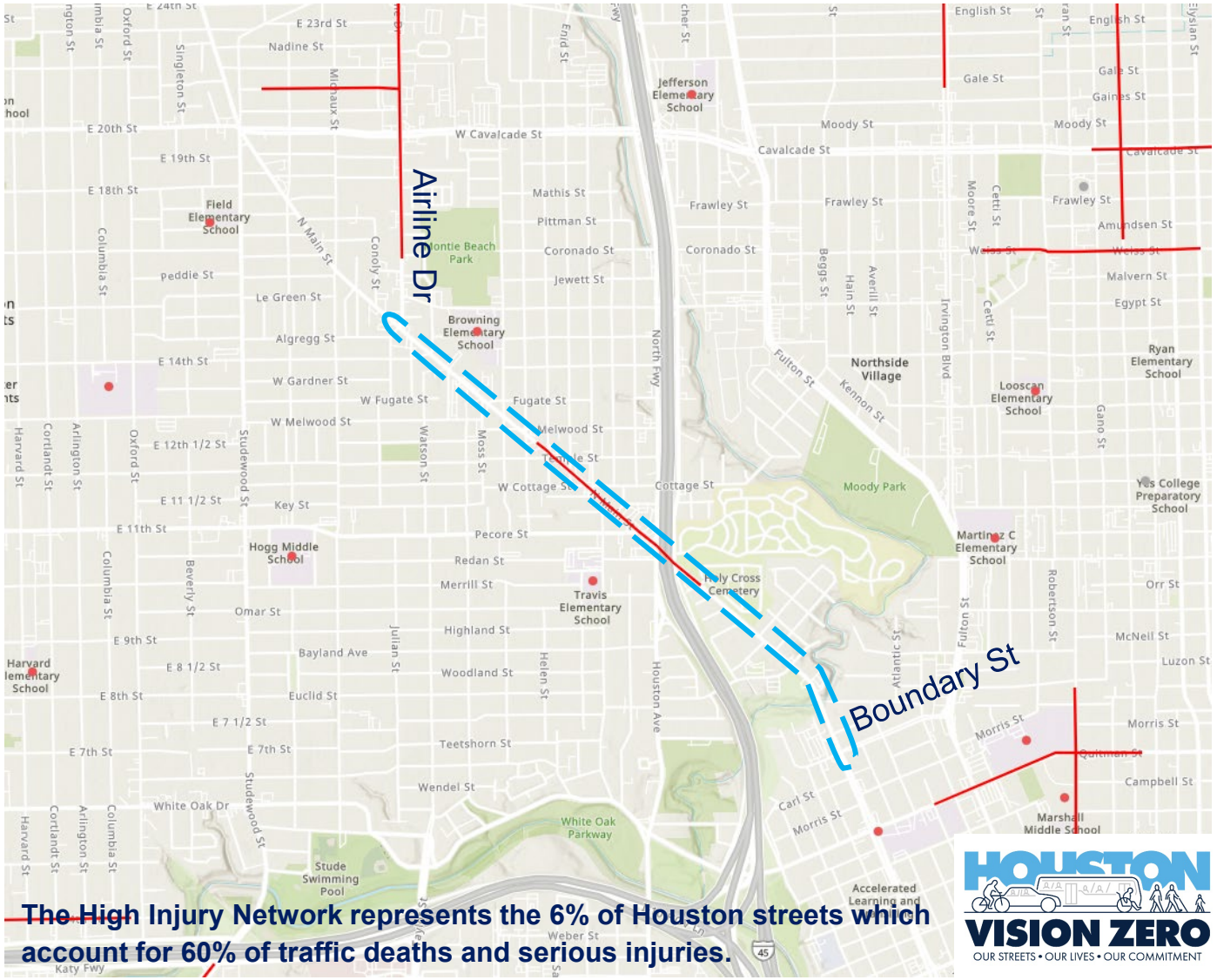
We are guided by these goals:

**Vision Zero:**
To eliminate traffic deaths and serious injuries on Houston streets by 2030.

**Resilient Houston:**
To make our streets 100% safe for all Houstonians.

**Houston Bike Plan:**
To make Houston a safer, more accessible, Gold Level Bike-Friendly City by 2027.

# WHY NORTH MAIN?




**The High Injury Network represents the 6% of Houston streets which account for 60% of traffic deaths and serious injuries.**

HOUSTON VISION ZERO
OUR STREETS • OUR LIVES • OUR COMMITMENT

1. High Injury Network
2. Council Member support
3. Bikeway Prioritization process

# NORTH MAIN PROJECT OVERVIEW

## Retrofit project

**Two project phases**

**Phase 1 – Boundary to Cottage**

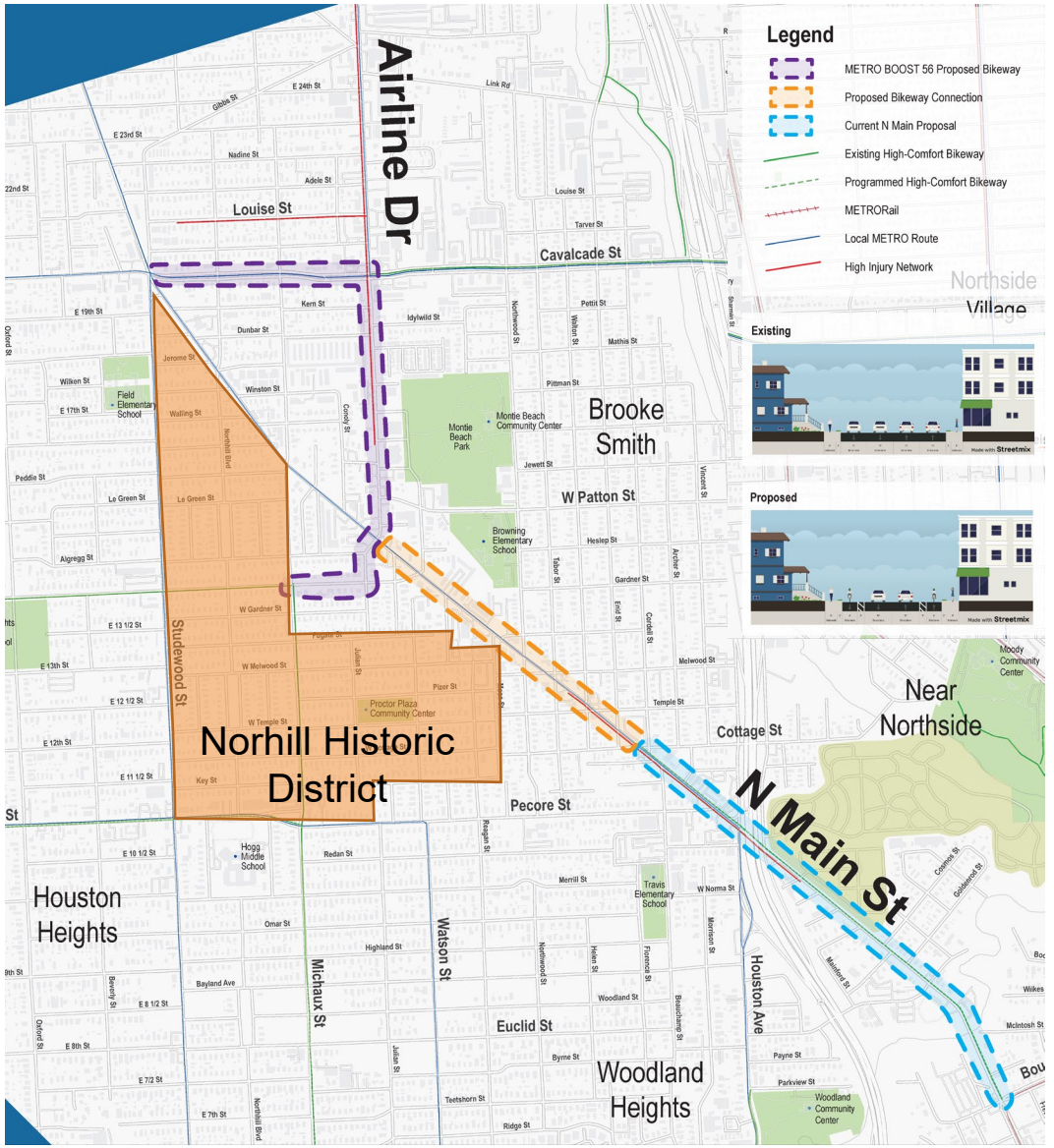
**Phase 2 – Cottage to Airline**

### Boundary to Cottage

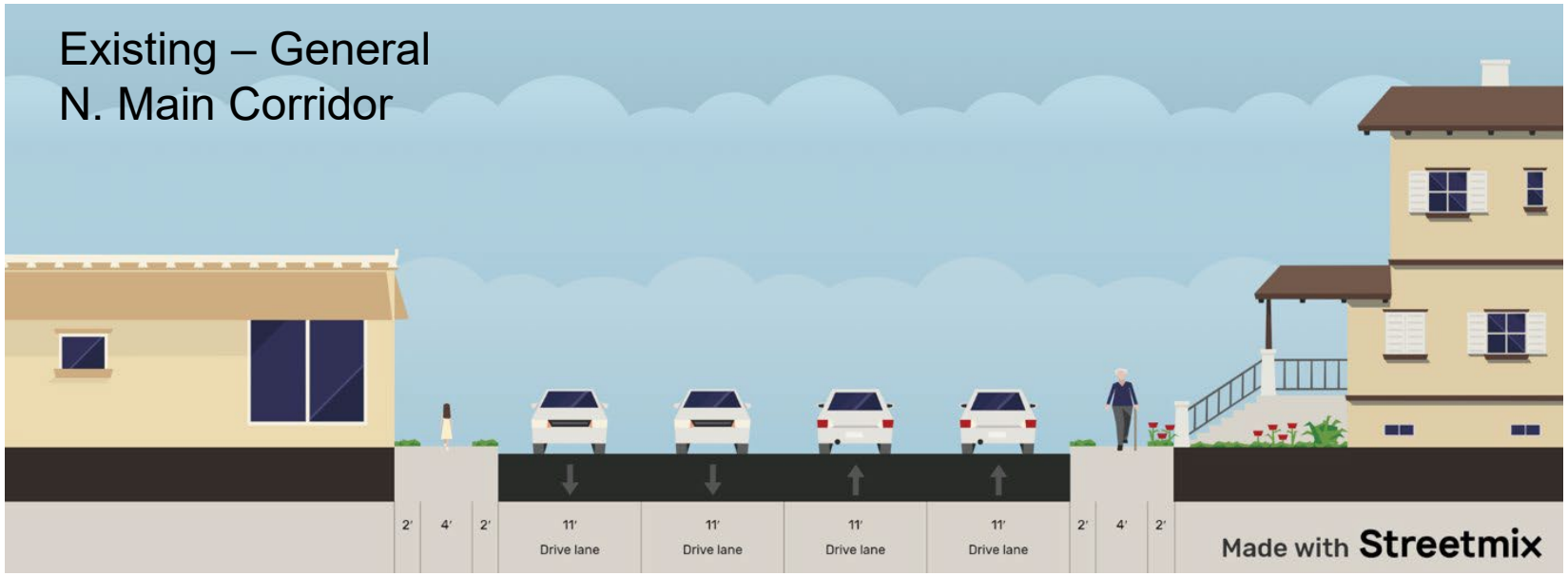
- Status: 100% design
- Community engagement started April 2021
  - Business Engagement meeting
  - Glen Park Civic Club meeting

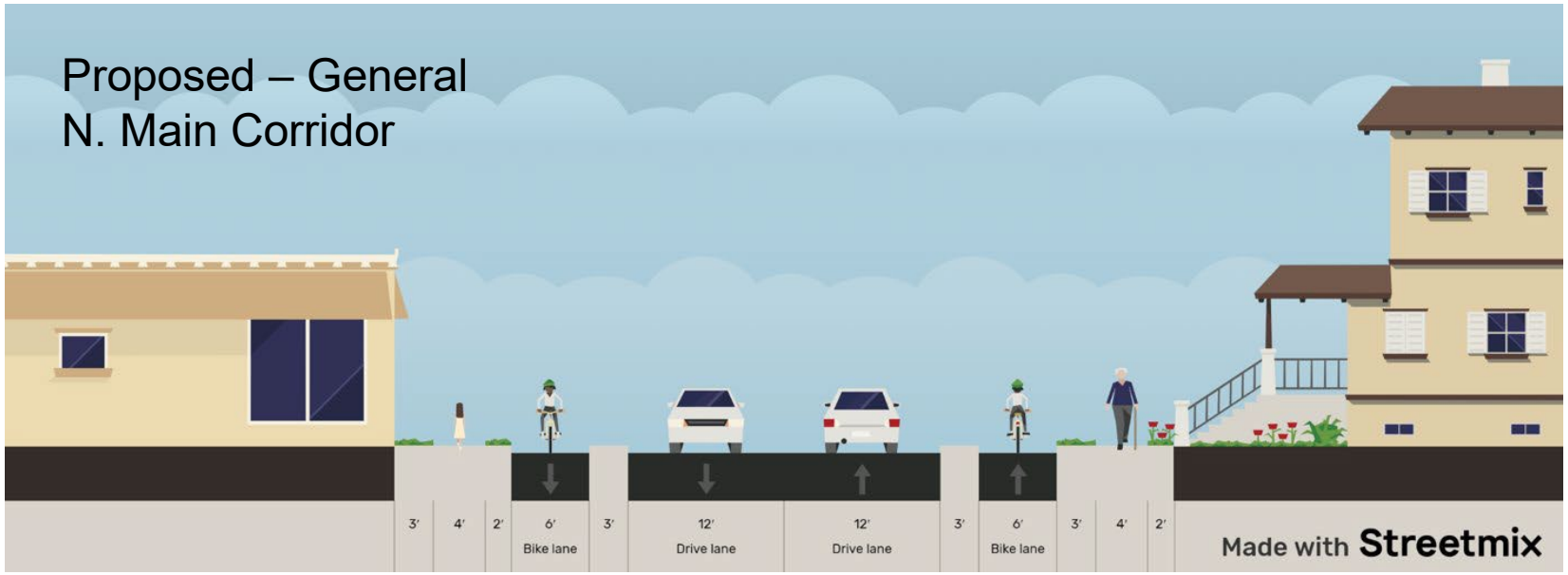
### Cottage to Airline

- Status: Conceptual
- Community engagement started April 2023
  - Block-walking



# NORTH MAIN PROJECT OVERVIEW



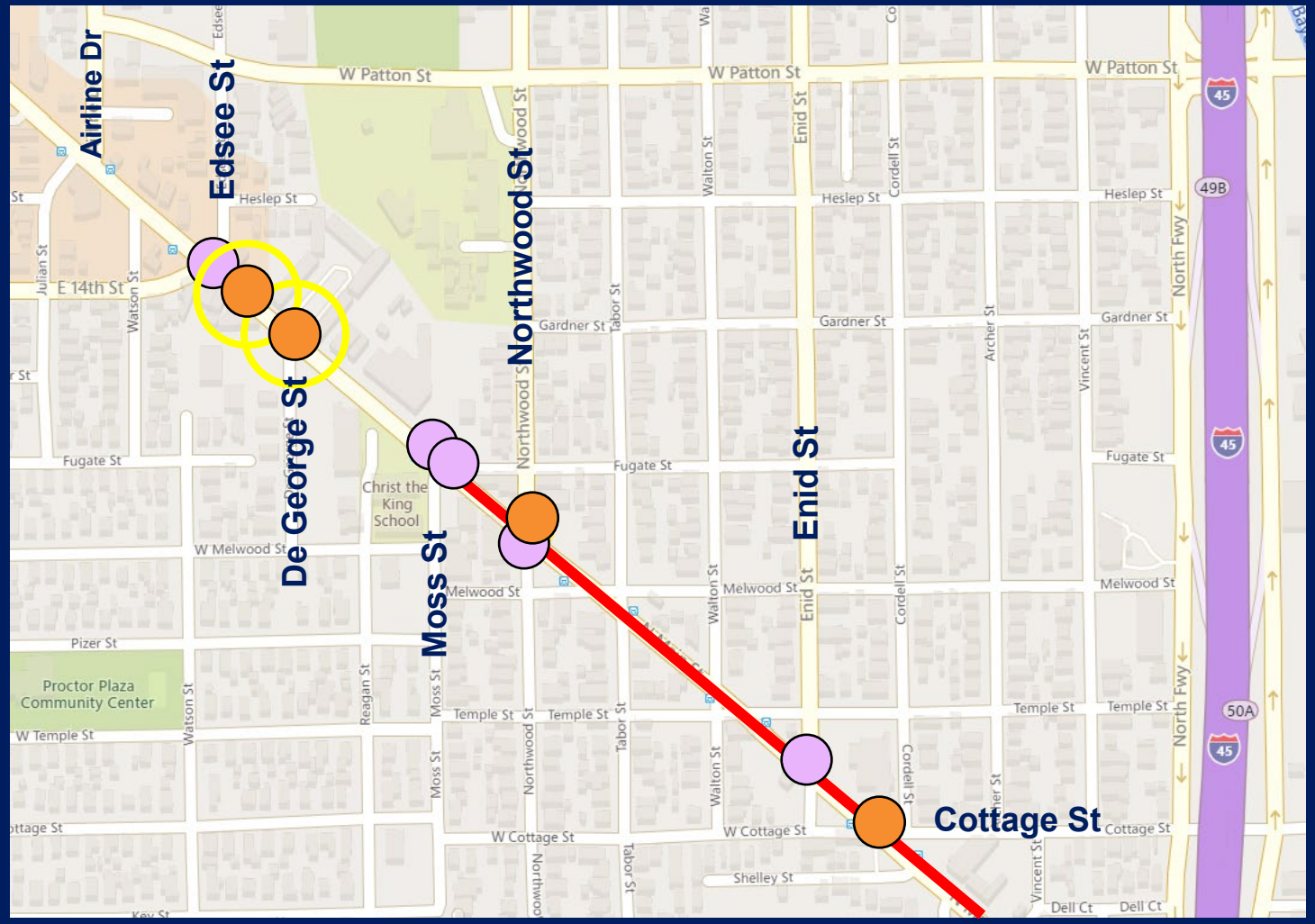




Also includes improvements to

- Bus stops
- Curb ramps
- Crossings
- Signal timing
- Intersection alignments

HOUSTON PUBLIC WORKS

# EXISTING CONDITIONS




**4 serious injuries**
**5 minor injuries**

2 crashes involved pedestrians

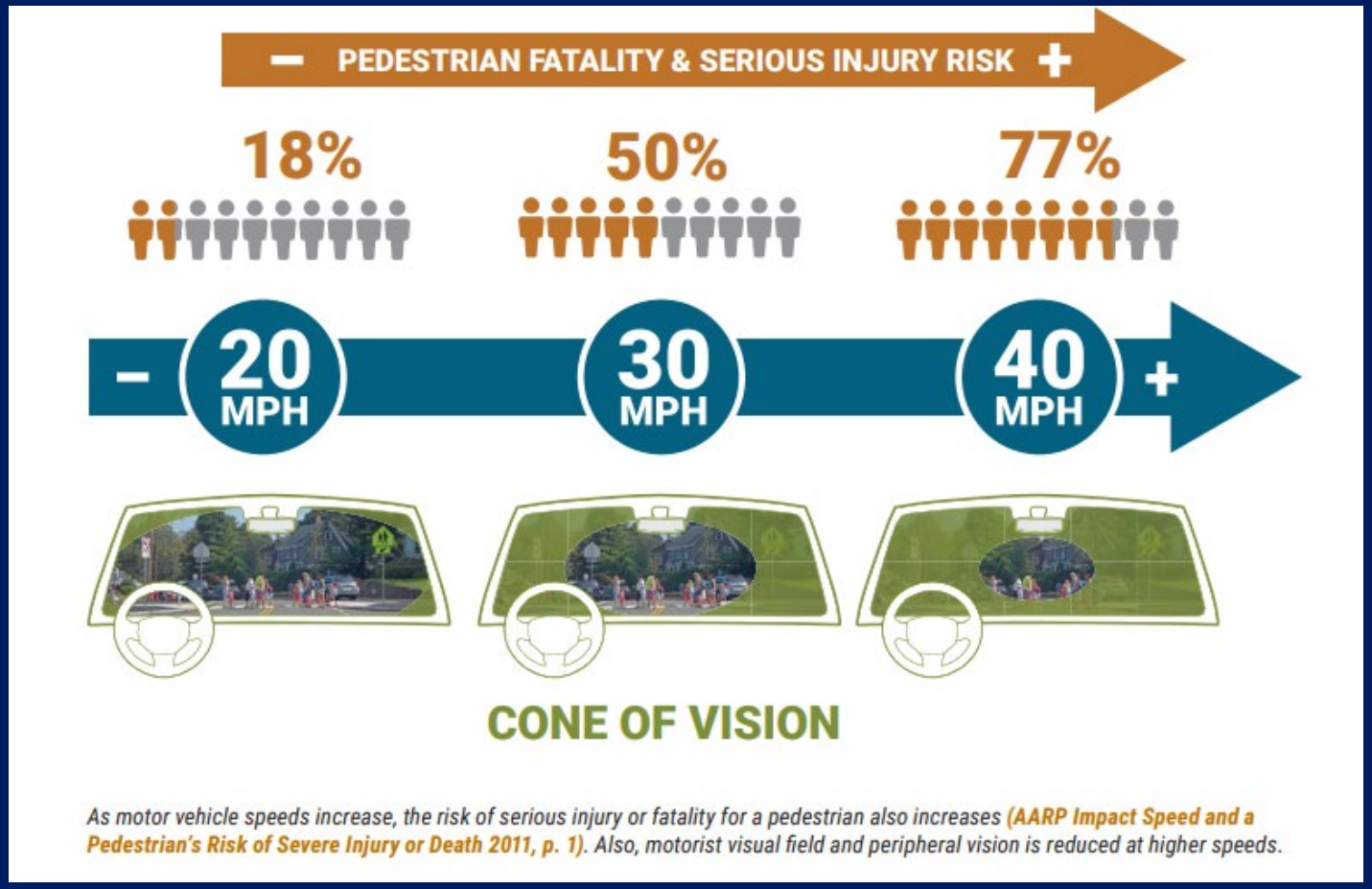
- Both resulted serious injuries

- Ped crashes
- Minor injuries
- Serious Injuries
- High Injury Network

HOUSTON PUBLIC WORKS

Crash Source: TxDOT CRIS, 2018-2022

# EXISTING CONDITIONS




*As motor vehicle speeds increase, the risk of serious injury or fatality for a pedestrian also increases (**AARP Impact Speed and a Pedestrian's Risk of Severe Injury or Death 2011, p. 1**). Also, motorist visual field and peripheral vision is reduced at higher speeds.*

Typical speeds on North Main:
**40 MPH**

# EXISTING CONDITIONS

**2019 TRAFFIC**
45 TO AIRLINE
daily volume: 13,172

**2023 TRAFFIC**
EDSEE TO DE GEORGE
daily volume: 14,232

| Street | Extent | Description | Traffic Volume (Max) |
|---|---|---|---|
| Studewood | White Oak to N Main | 3 lanes | 15337 |
| W Alabama | Weslayan to Spur 527 | 3 lanes (reversible) | 15056 |
| Bissonnet | Greenbriar to Montrose | 2 lanes | 14927 |
| **N Main** | I-45 to Airline | | 14232 |
| University | Kirby to Main | 2 lanes | 14142 |
| Greenbriar | Holcombe to University | 3 lanes | 12469 |
| 20th | E TC Jester to N Main | 2 lanes | 12023 |
| Rice | Greenbriar to Main | 2 lanes | 11220 |
| Polk | Emancipation to Wayside | 2 lanes + bike lanes | 9577 |
| Pecore | Michaux to N Main | 2 lanes | 9254 |
| Lawndale | Telephone to Forest Hill | 3 lanes + bike lanes | 8606 |
| Dunlavy | Bissonnet to Westheimer | 2 lanes | 8178 |

# EXISTING CONDITIONS

North Main @ Northwood

# VOICED CONCERNS


It's nearly **impossible to cross safely at this light**. The angle of the streets means that cars turning right onto N Main from Airline don't see people in the crosswalk. I have had many near-misses here. There are no other options for crossing N Main. - Ellen

**It is very difficult to cross the street and even turn right** because of the way the street slants. Ppl get stuck here and end up peeling out. - AlainaH

Drivers ignore the first of the two successive stop signs at Cottage & Main or Cordell & Main. Crosswalks and stop lines are not marked in the roadway. –Jon B

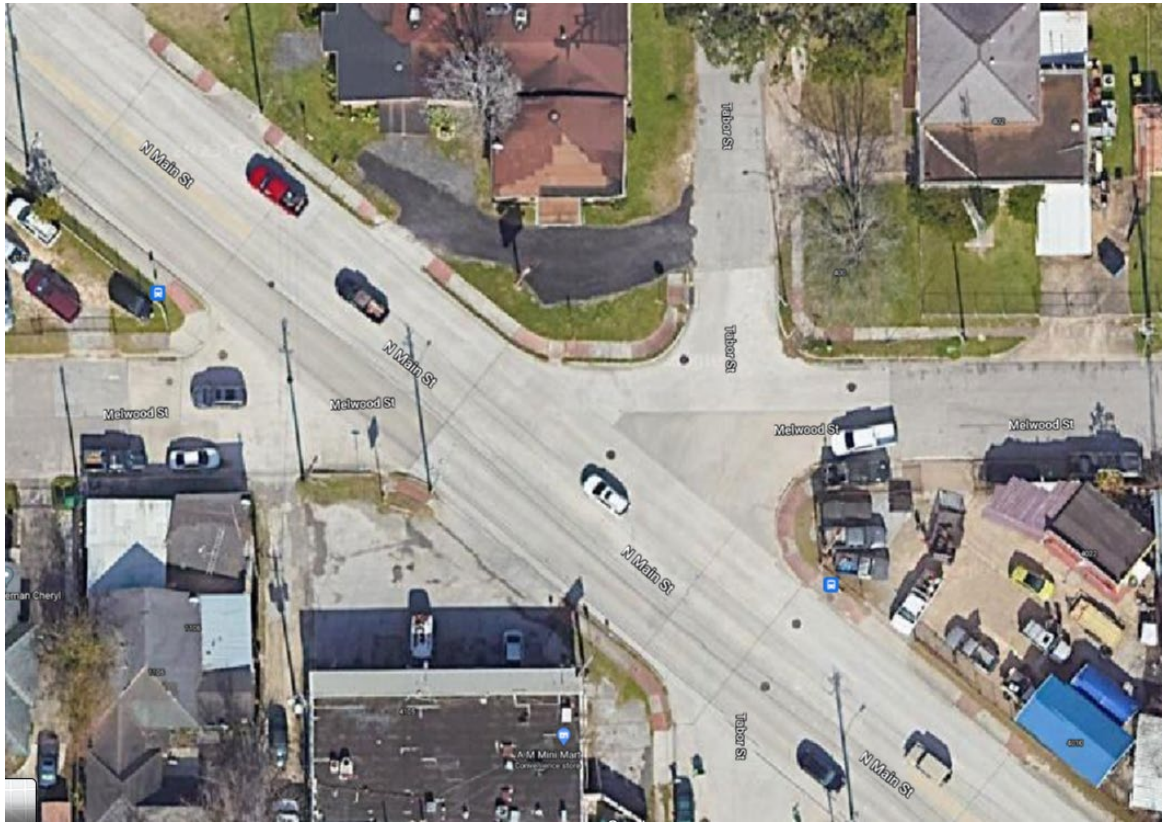
There is **essentially no safe way to cross N Main on foot or by bike**, for the kids who live E of N Main but are zoned to Travis Elementary school, which is W of N Main. **Cars go very fast** in 2 directions across multiple lanes of traffic. And no crosswalks or traffic lights. - MParks

Interactive Map available at: https://www.letstalkhouston.org/vision-zero/maps/vision-zero-map-tool

# VOICED CONCERNS

| What intersections along North Main concern you the most? | |
|---|---|
| Interstate 45 | 12 |
| Airline | 11 |
| Northwood | 8 |
| 14th/Edsee | 7 |
| Beauchamp | 7 |
| Others | 18 |
| “All of it” | 9 |

Survey available at: https://www.letstalkhouston.org/north-main




Interstate 45, Main/14th/Edsee (and other intersections where two roads meet at odd angles and cars try to drive across Main; Main/Tabor/Melwood is another)

Chris Parma

12/06/2022 08:36 AM

# STREET SAFETY IMPROVEMENTS

U.S. Department of Transportation
Federal Highway Administration

OFFICE OF SAFETY
## Proven Safety Countermeasures

**Bicycle Lane Additions can reduce crashes up to:**

**49%**

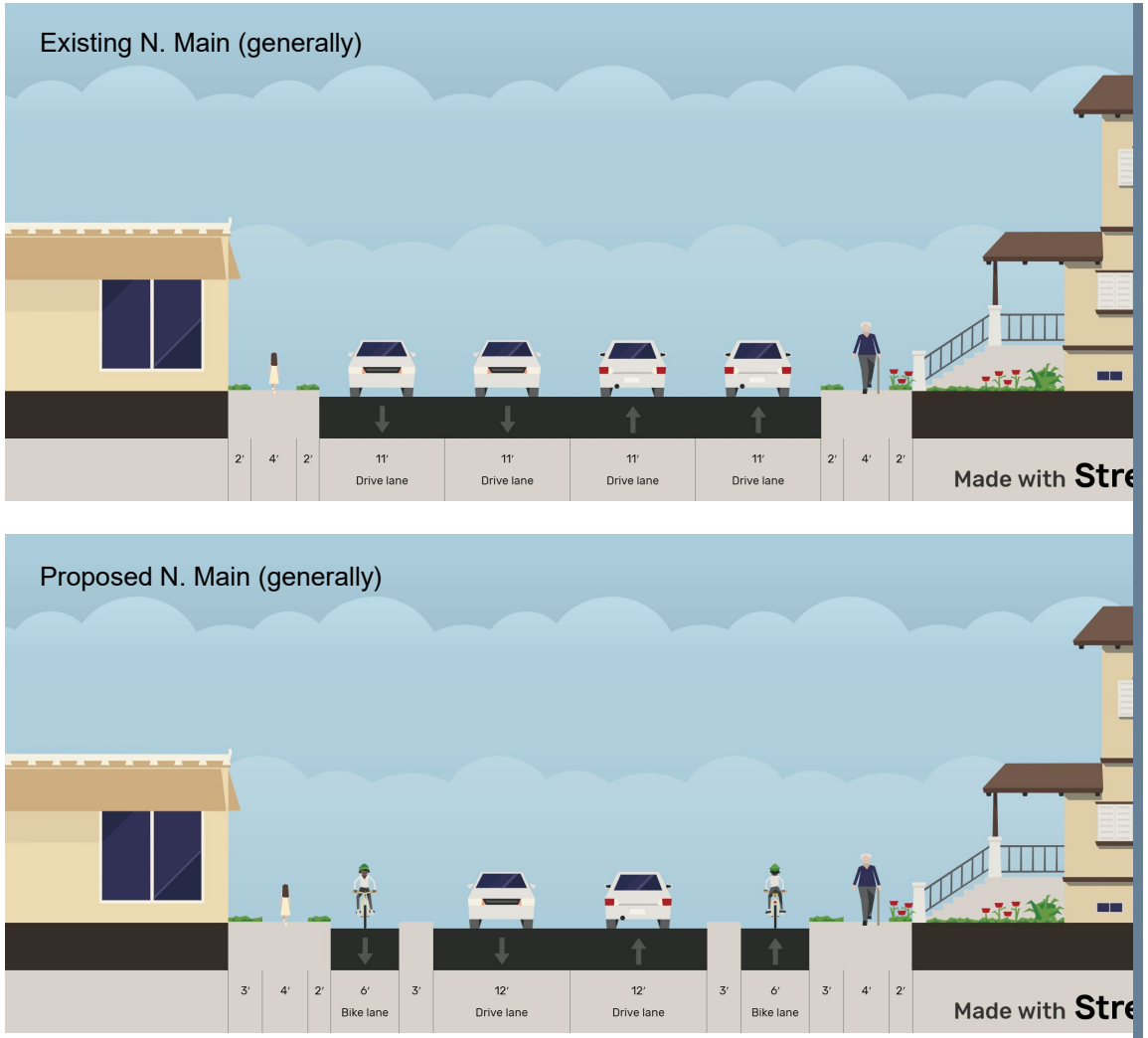
for total crashes on urban 4-lane undivided collectors and local roads.*

*Separated bicycle lanes may provide further safety benefits. FHWA is anticipating completion of research in Fall 2022.


**Pedestrian Refuge Island**

**56%**

reduction in pedestrian crashes.[2]




General proposal; cross-sections may look different at intersections

# STREET SAFETY IMPROVEMENTS

Reducing vehicle lanes:

- Decreases speeding
- Decreases crash severity
- Reduces conflict points
- Narrows crossing distance
- Maintains traffic flow

# STREET SAFETY IMPROVEMENTS

## What we heard

**<u>Wonky intersection angles</u>**

**Since the street is angled, visibility is limited and it is particularly difficult to cross N. Main, especially as a pedestrian or bicyclist.**

**The odd angles make it hard for drivers to see oncoming traffic when turning.**

## How we responded

- Adding curb extensions to improve angles at Pecore and Beauchamp; proposed curb extensions at Julian
- Proposing traffic diversions at Cordell/Cottage, Walton/Temple, and Melwood/Tabor

Braeburn Glen Blvd, Houston

# STREET SAFETY IMPROVEMENTS

Braeburn Glen Blvd, Houston

# STREET SAFETY IMPROVEMENTS

## What we heard

**Lack of pedestrian/bicycle facilities**

**There are very few safe crossings on N. Main, especially I-45 and Airline.**

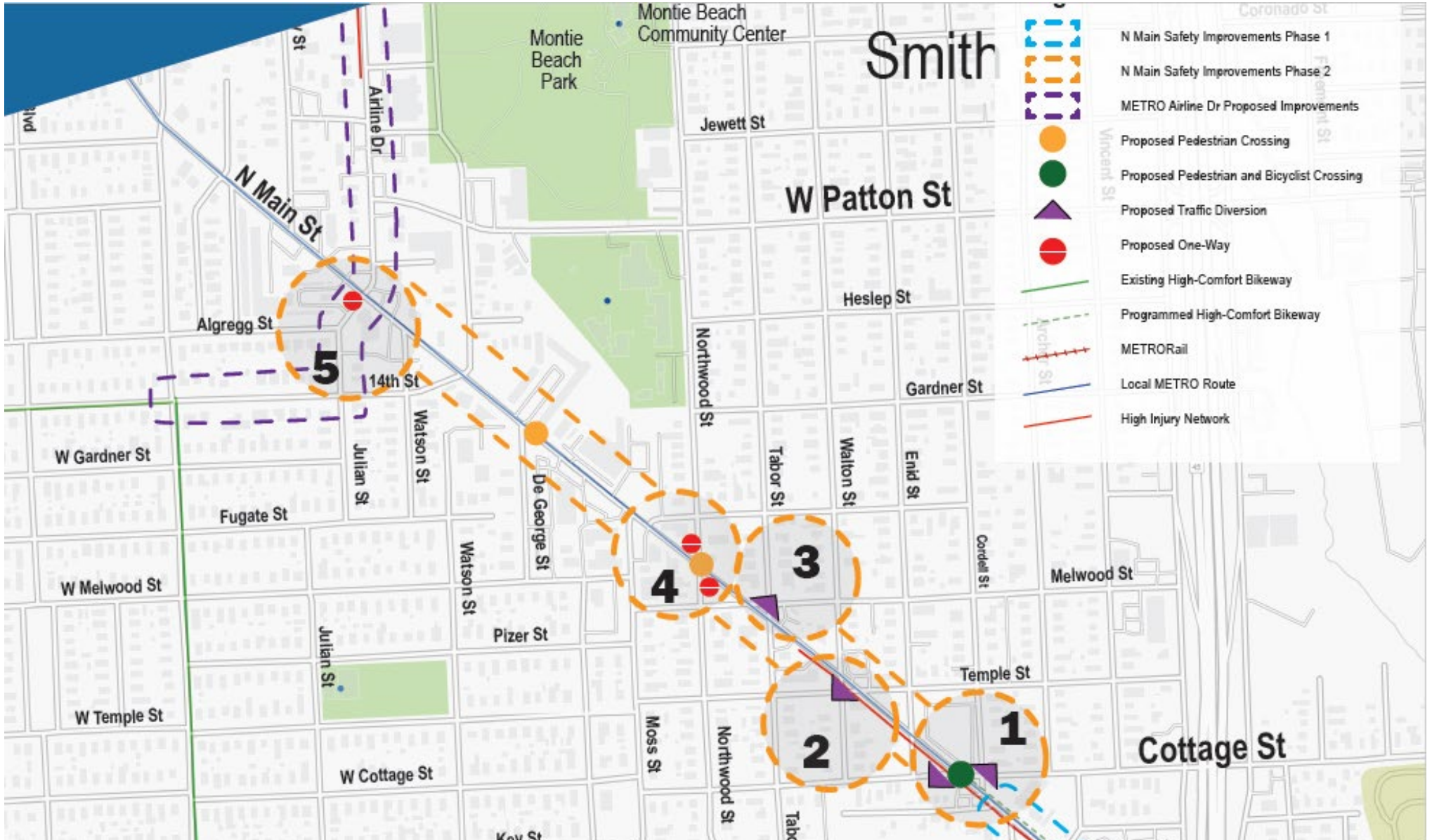
**There are children walking to and from schools across Main that have no safe place to cross, especially at Browning Elementary.**

**People want to walk and bike, but the sidewalk is too close to the street and drivers go very fast.**

## How we responded

- Adding crossings for pedestrians and bicyclists at Cottage St. and De George St.
- Enhancing existing crosswalk with pedestrian refuge island at Northwood St.
- Adding physically-protected bicycle facility that will narrow the roadway, shorten crossing distances, slow vehicle speeds, and provide a buffer for the sidewalk.

# STREET SAFETY IMPROVEMENTS




HOUSTON PUBLIC WORKS

# STREET SAFETY IMPROVEMENTS

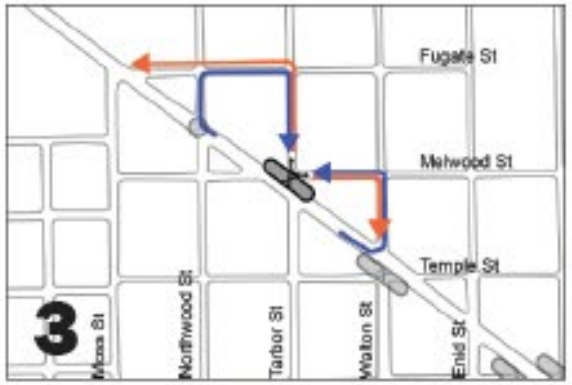
## Example Treatments


Traffic Diversion Using Diagonal Diverter


Traffic Diversion Using Diagonal Diverter

## Proposed Traffic Pattern Modifications and Alternate Routes








Alternate Egress

Alternate Access

Traffic Diversion

One-Way Traffic

HOUSTON PUBLIC WORKS

# PUBLIC FEEDBACK SO FAR


- Unsafe to cross at certain locations
- Include permeable treatment
- Add street trees
- Add turn lanes needed at certain locations
- Ensure ped/bike access at traffic diversions
- Make bike lane barriers highly visible
- Analyze data before pursuing / Stop project

# NEXT STEPS

- Advance design for Cottage to Airline
  - Collect public input
  - Develop 60% design concepts in next month
- Plan for construction Winter 2023 / early 2024
  - Includes a traffic control plan that helps to minimize impacts to business operations during construction

# NORTH MAIN PROJECT OVERVIEW

## Retrofit project

### Two project phases

**Phase 1 – Boundary to Cottage**

**Phase 2 – Cottage to Airline**

### Boundary to Cottage

- Status: 100% design
- Construction (est.): Winter 2023 / early 2024
- Funding
  - Design: Council Member Cisneros
  - Construction: Houston Bikeways Program

### Cottage to Airline

- Status: Conceptual
- Construction (est.): Winter 2023 / early 2024
- Funding
  - Design & Construction: Houston Bikeways Program

# Thank you!

**More Information, Post Questions:**
**www.letstalkhouston.org/north-main**

**Safe Streets Team**
**Safe.Streets@houstontx.gov**
**832-395-3277**

HOUSTON PUBLIC WORKS

HoustonPublicWorks.org | @HouPublicWorks