Pedestrian-Bicyclist Subcommittee Orientation

8 May 2019

Regional Collaboration • Transportation Planning • Multimodal Mobility

METROPOLITAN PLANNING ORGANIZATION

H-GAC 101

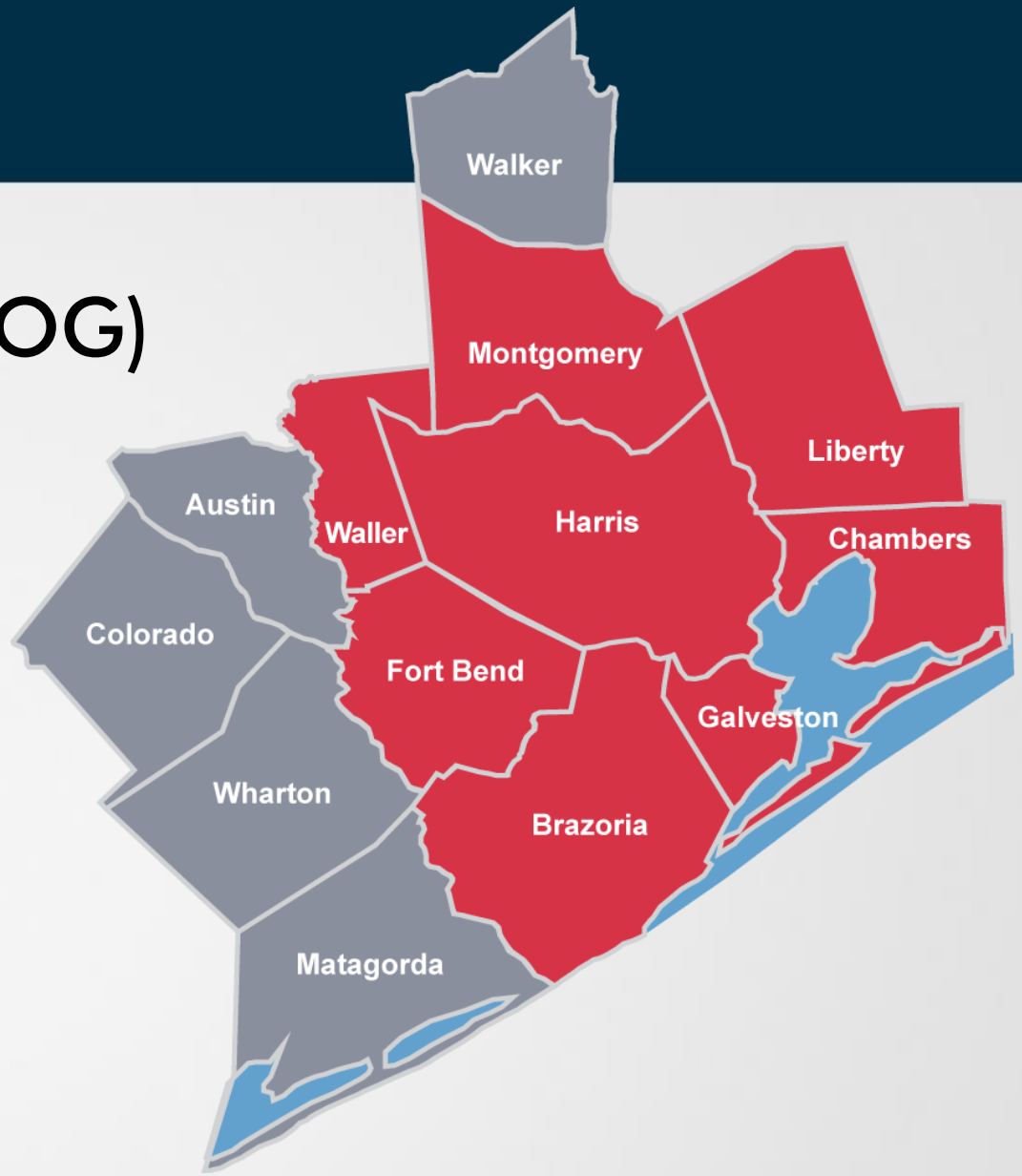
Clint McManus
8 May 2019

Regional Collaboration • Transportation Planning • Multimodal Mobility

H-GAC METROPOLITAN PLANNING ORGANIZATION

The Basics

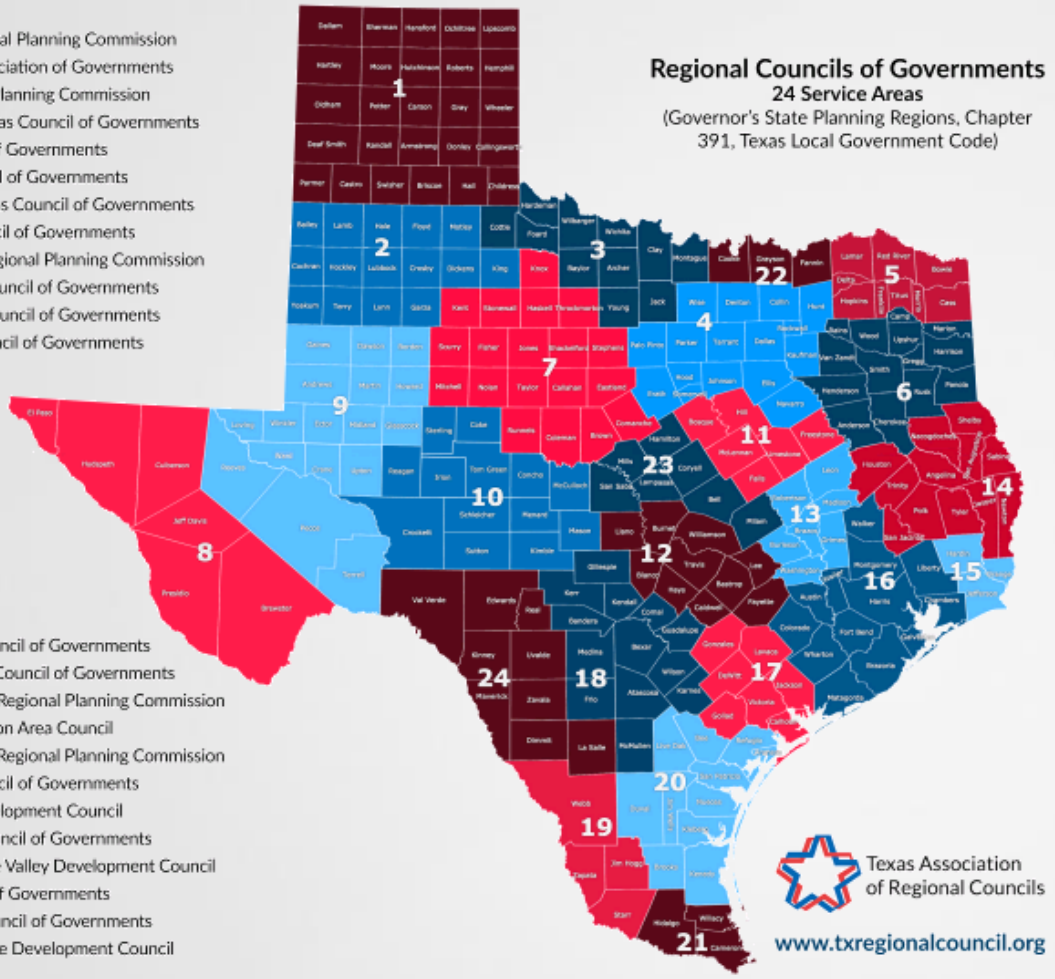
- Council of Governments (COG)
  13 counties
- Metropolitan Planning Organization (MPO)
  8 counties



H-GAC METROPOLITAN PLANNING ORGANIZATION

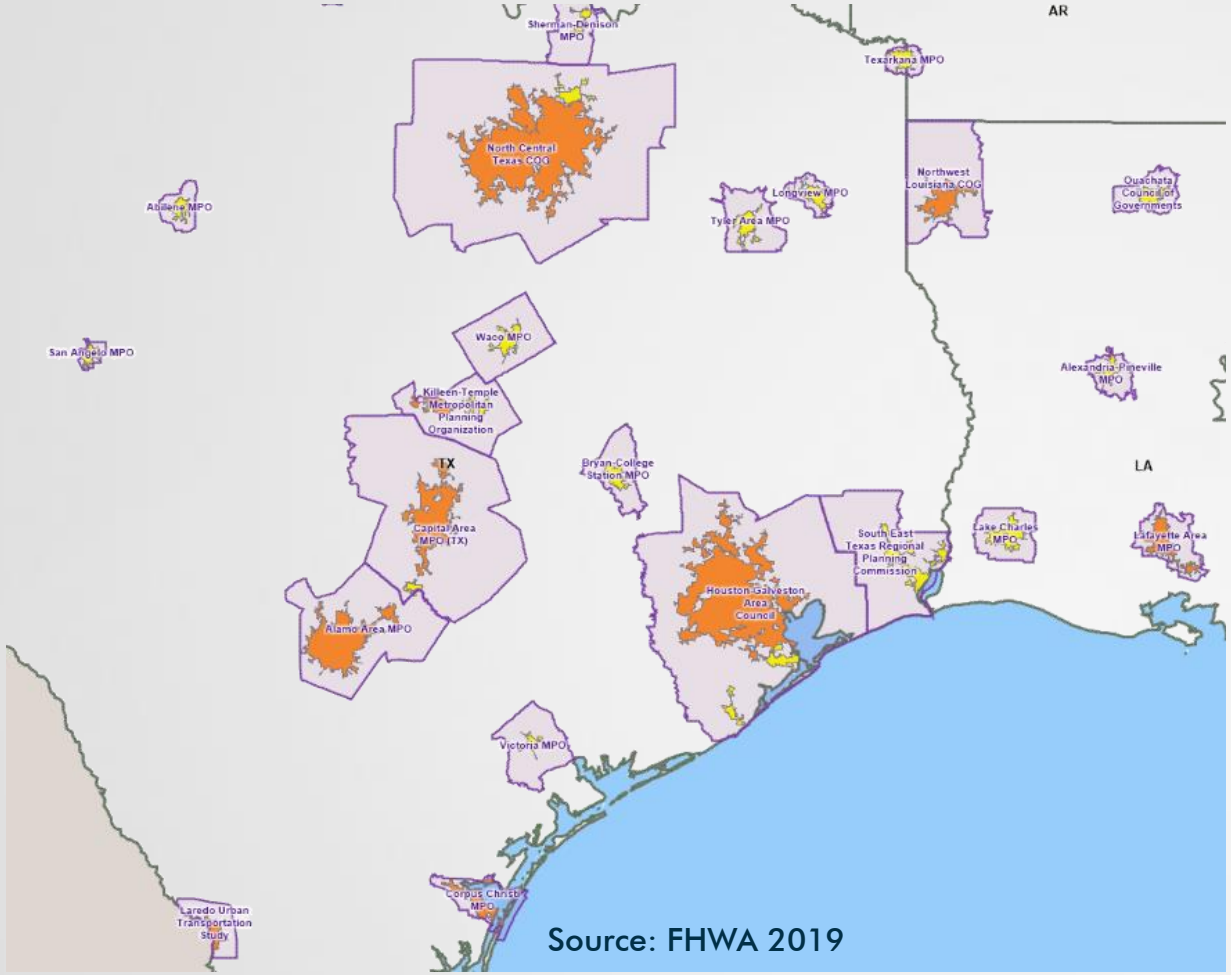
Council of Governments in Texas

1. Panhandle Regional Planning Commission
2. South Plains Association of Governments
3. Nortex Regional Planning Commission
4. North Central Texas Council of Governments
5. Ark-Tex Council of Governments
6. East Texas Council of Governments
7. West Central Texas Council of Governments
8. Rio Grande Council of Governments
9. Permian Basin Regional Planning Commission
10. Concho Valley Council of Governments
11. Heart of Texas Council of Governments
12. Capital Area Council of Governments



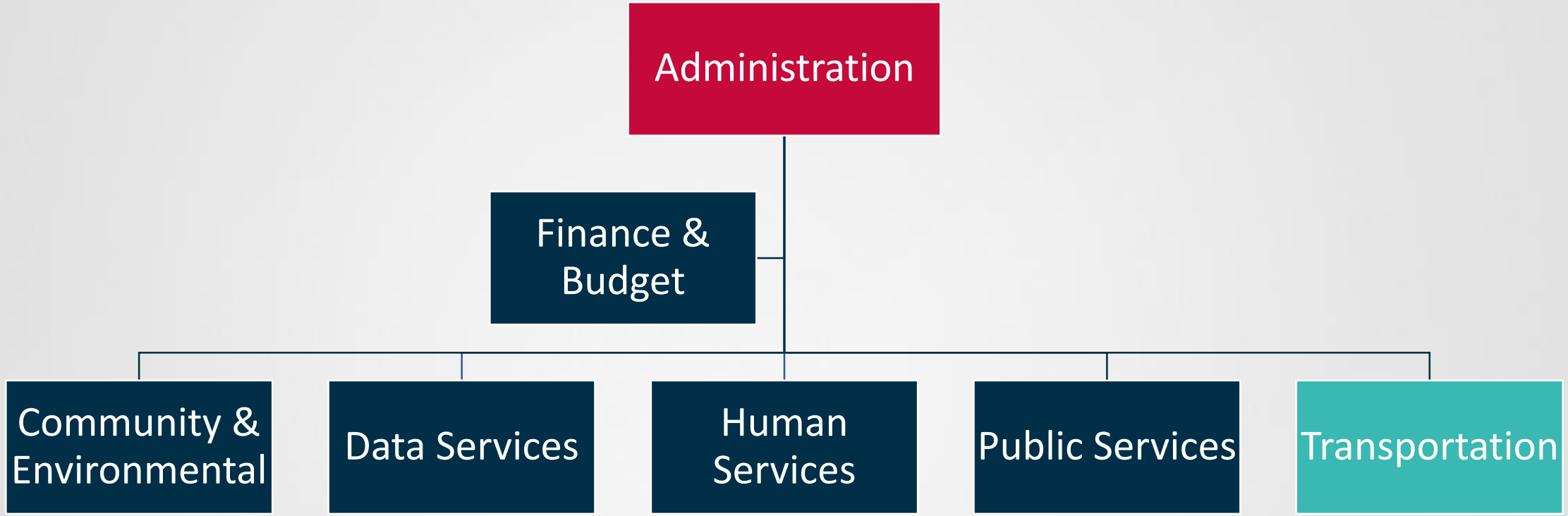
13. Brazos Valley Council of Governments
14. Deep East Texas Council of Governments
15. South East Texas Regional Planning Commission
16. Houston-Galveston Area Council
17. Golden Crescent Regional Planning Commission
18. Alamo Area Council of Governments
19. South Texas Development Council
20. Coastal Bend Council of Governments
21. Lower Rio Grande Valley Development Council
22. Texoma Council of Governments
23. Central Texas Council of Governments
24. Middle Rio Grande Development Council

MPOs in Texas



Source: FHWA 2019

Organizational Structure



Transportation at H-GAC

Allie Isbell
8 May 2019

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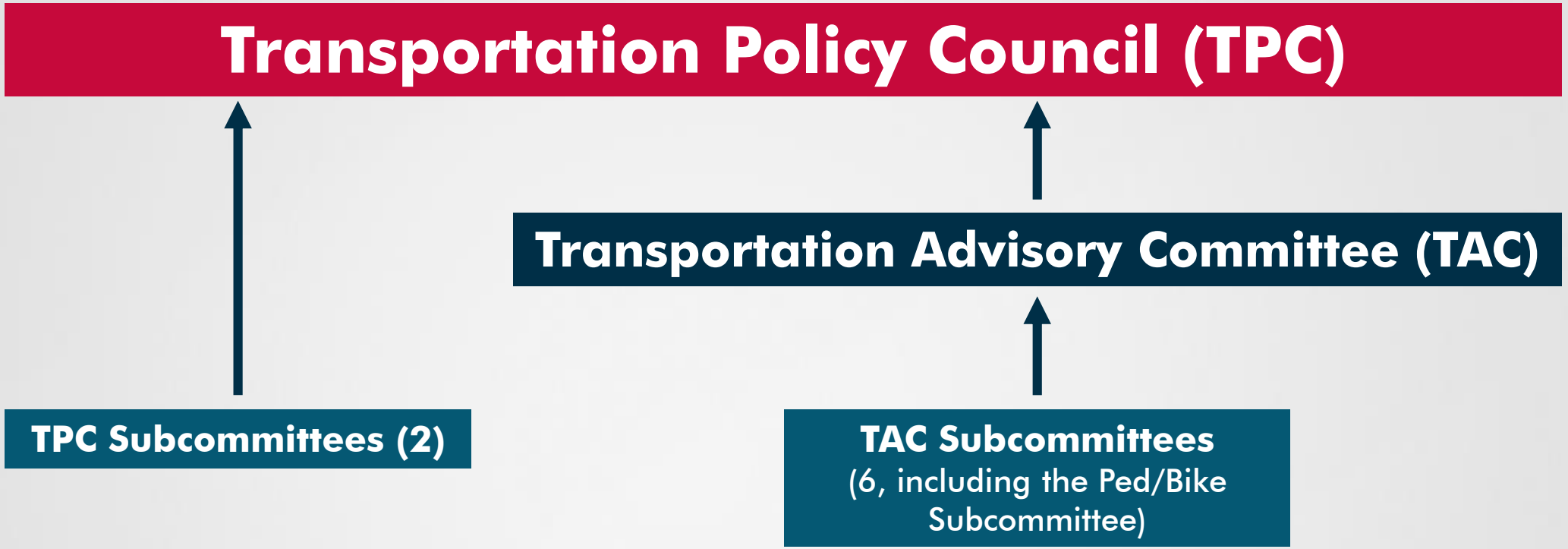
METROPOLITAN PLANNING ORGANIZATION

Metropolitan Planning Organization

- Governance
- Responsibilities

Governance


Transportation Policy Council (TPC)
Transportation Advisory Committee (TAC)
TPC Subcommittees (2)
TAC Subcommittees
(6, including the Ped/Bike Subcommittee)

Transportation Policy Council (TPC)

- Appointed annually
- 28 members
- Two subcommittees
  - Transportation Safety Committee
  - Greater Houston Freight Committee

Transportation Advisory Committee (TAC)

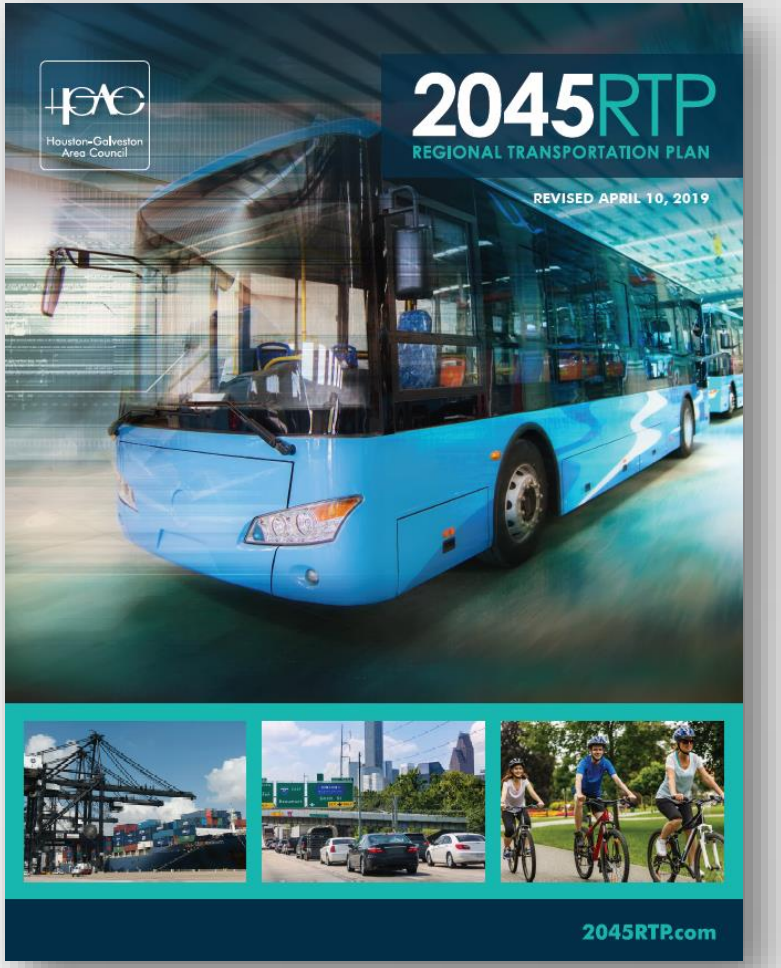
- Appointed annually
- 38 members
- Six subcommittees
  - Pedestrian-Bicyclist
  - Transportation Improvement Program (TIP)
  - Regional Transportation Plan (RTP)
  - Regional Transit Coordination
  - Transportation Air Quality
  - Operations Task Force

Responsibilities

Regional Transportation Plan (RTP)	Transportation Improvement Program (TIP)	Unified Planning Work Program (UPWP)
	Construction $	Planning $

Regional Transportation Plan (RTP)

- How will the region manage and operate our transportation system over the next 20 years?
- 2045rtp.com
- Active Transportation Plan is an appendix

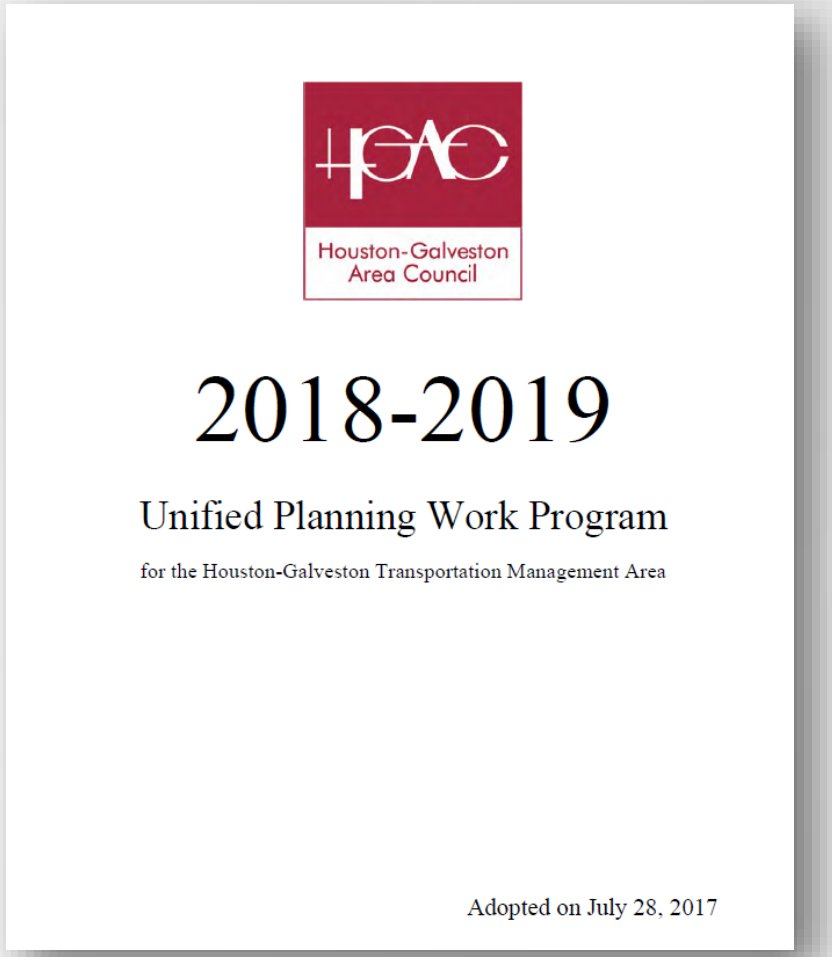


Transportation Improvement Program (TIP)

- A list of funded transportation projects for the next 4 years
- Includes walkway and bikeway projects
- Updated ~2 years

Unified Planning Work Program

- A statement of planning priorities that will use FHWA and FTA funds

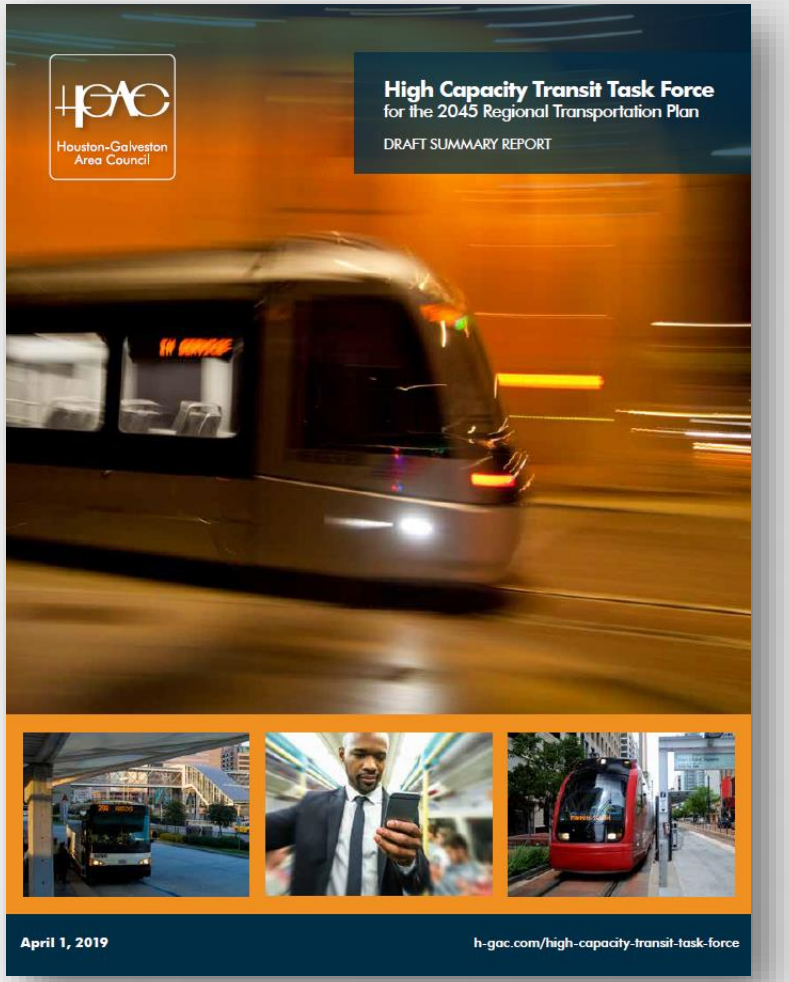


Safety

- 2018 Regional Safety Plan
- Transportation Safety Committee

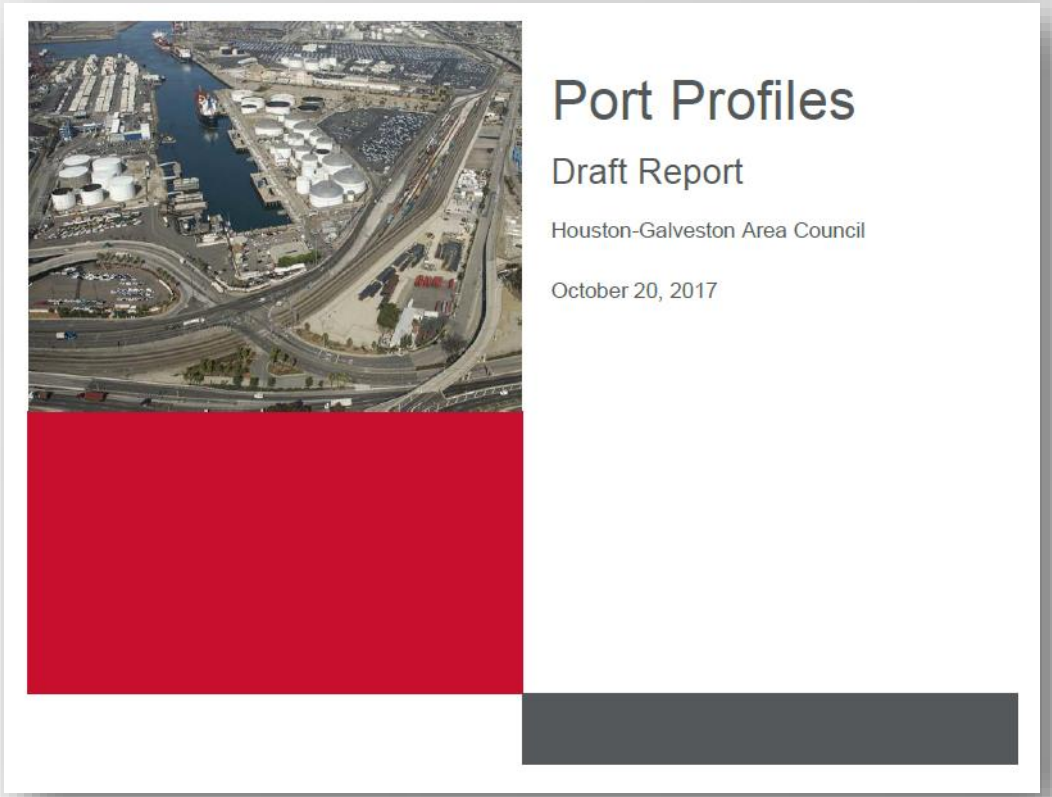
Transit

- High Capacity Transit Task Force
- Regional Transit Coordination Subcommittee



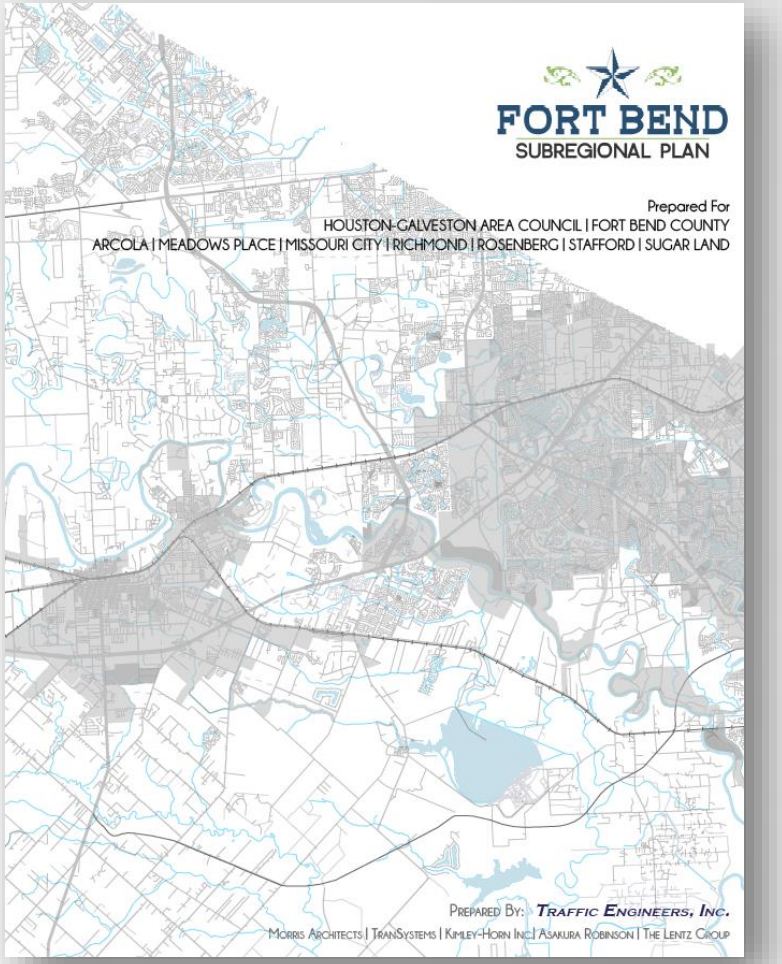
Freight

- Ports Area Mobility Study
- Greater Houston Freight Committee



Roadway Planning

- Subregional Planning Initiative
- Thoroughfare plans



Modeling

- Travel modeling
- Regional Growth Forecast

Overview of Resources

Clint McManus

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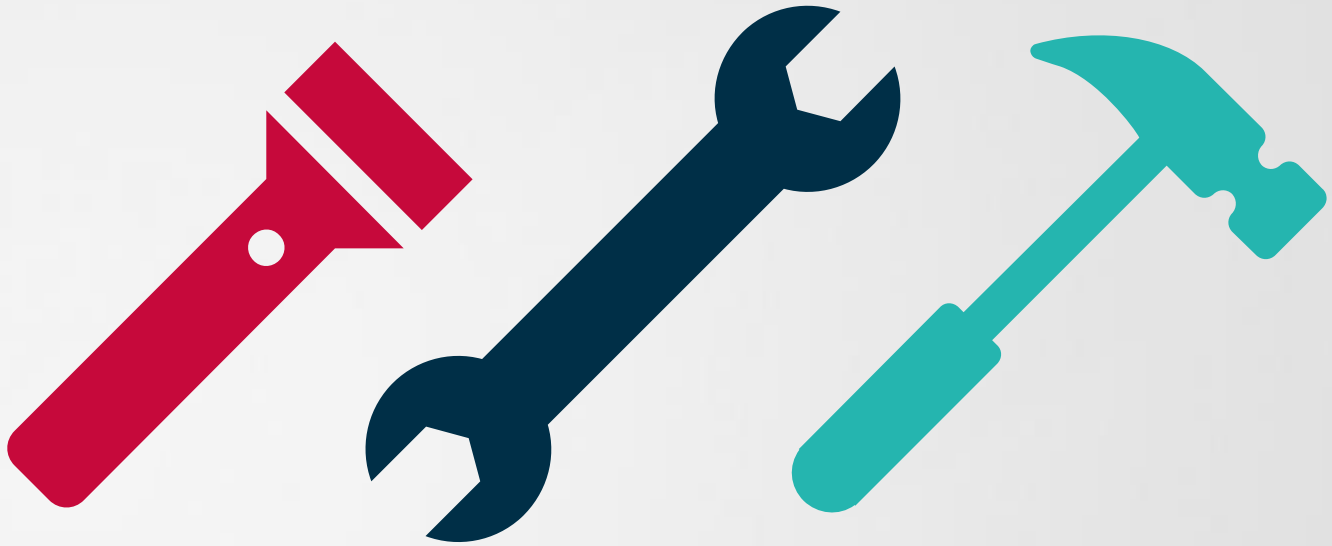
METROPOLITAN PLANNING ORGANIZATION

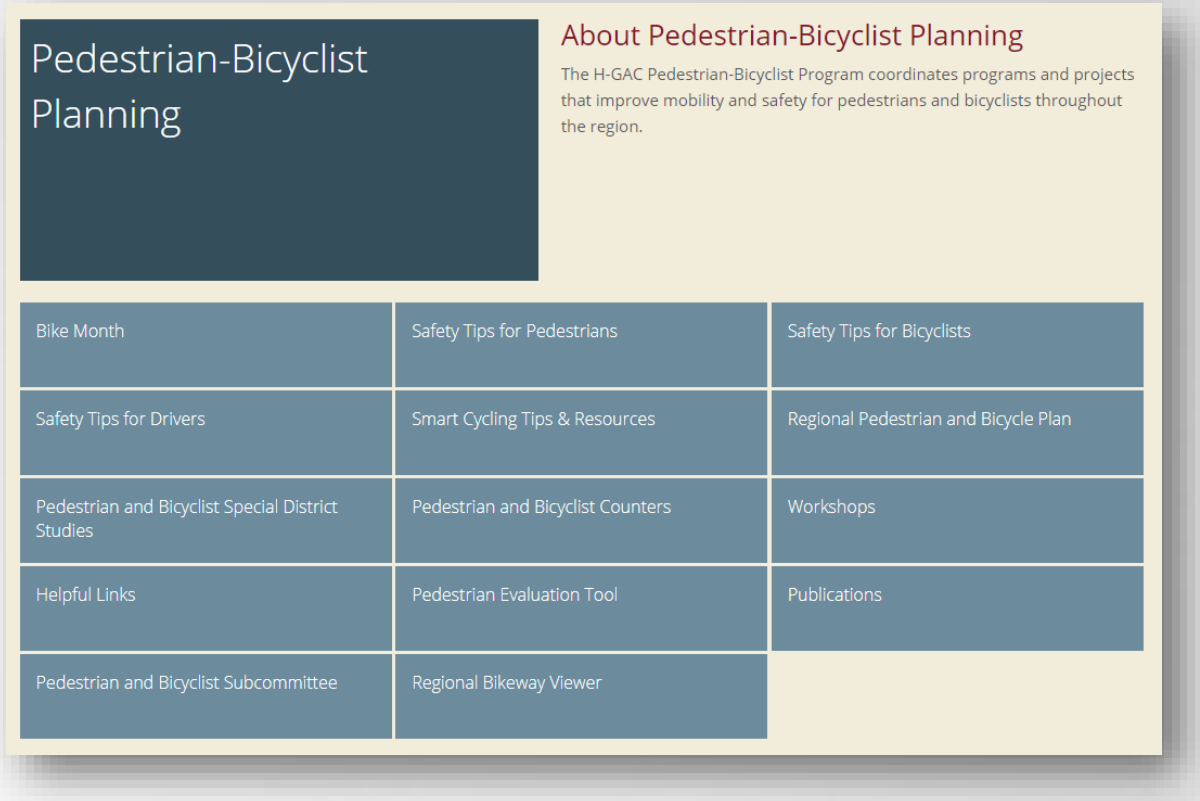
Overview of Resources

- Ped/Bike Info
- Data at H-GAC
- Data outside of H-GAC
- Funding and technical assistance



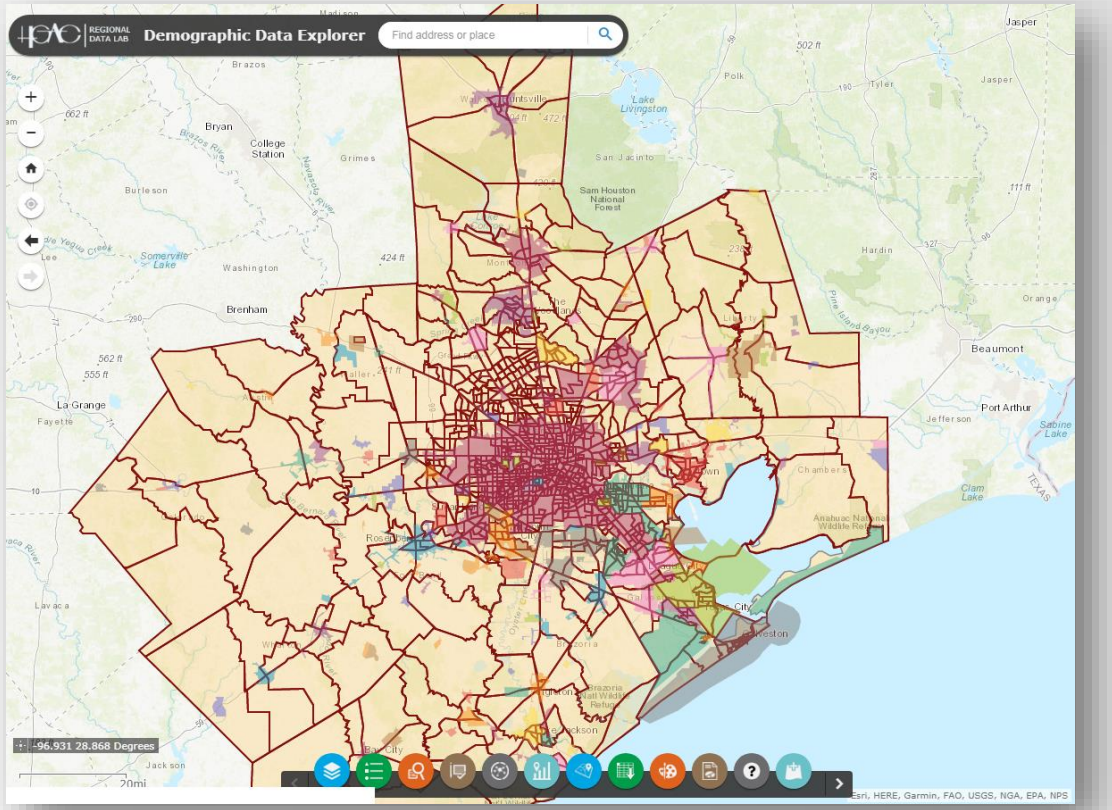
Ped/Bike Info at H-GAC

- H-GAC.com/go/pedbike
- Subcommittee agendas and minutes
- Resources
- Active Transportation Plan



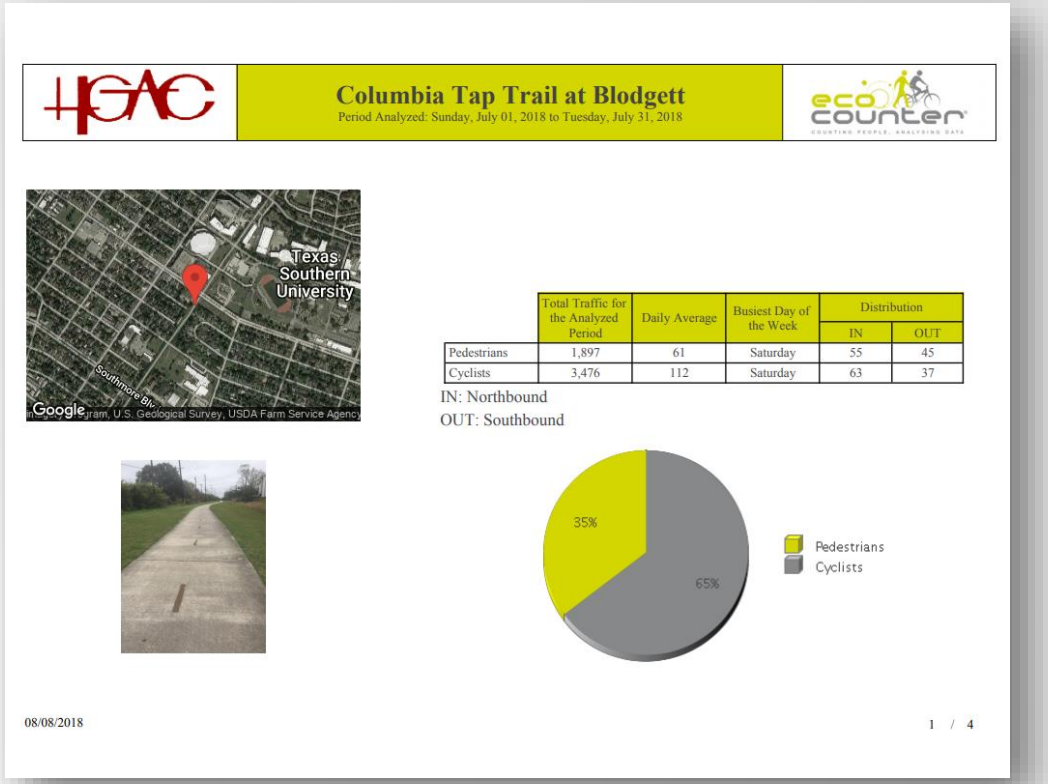
Data at H-GAC

- H-GAC.com/go/apps
- Interactive Web Applications
- Regional Bikeway Viewer
- Demographic and transportation data



Data at H-GAC

- Sidewalk GIS layer
- Pedestrian and Bicycle Count Data
- Additional transportation data and aerial imagery



Columbia Tap Trail at Blodgett

Period Analyzed: Sunday, July 01, 2018 to Tuesday, July 31, 2018

	Total Traffic for the Analyzed Period	Daily Average	Busiest Day of the Week	Distribution	
				IN	OUT
Pedestrians	1,897	61	Saturday	55	45
Cyclists	3,476	112	Saturday	63	37

IN: Northbound

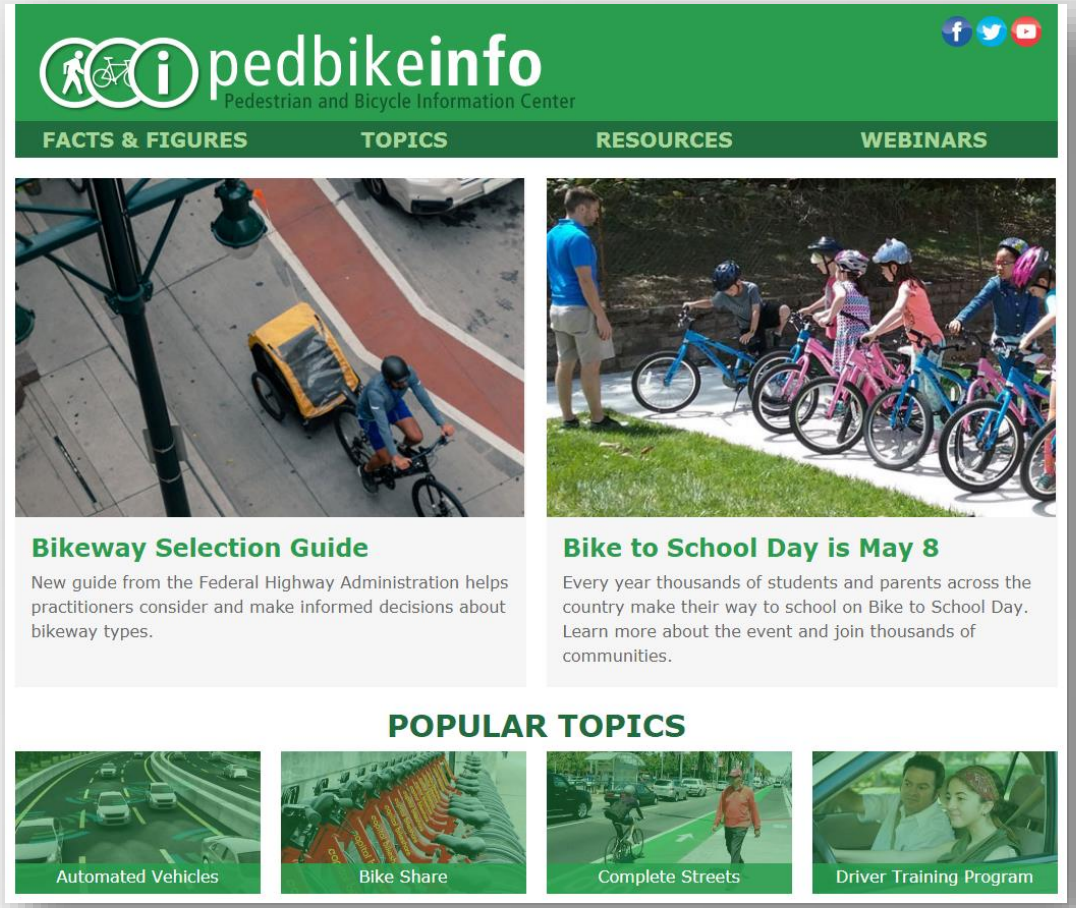
OUT: Southbound

08/08/2018

1 / 4

Data outside H-GAC

- Safety - TxDOT CRIS data
- TxDOT Statewide Planning Map
- PedBikeInfo.org



Funding and Technical Assistance

- 2040 Regional Pedestrian and Bicyclist Funding and Policy Guides
- FHWA resources
- Rails-to-Trails Conservancy
- To be updated

Pedestrian-Bicyclist Subcommittee

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TPAC
METROPOLITAN PLANNING ORGANIZATION

Action Items

- Approval of Minutes for January 24, 2019
- Election of Officers (Chair and Vice Chair)
- Approval of 2045 Active Transportation Plan

2045 Active Transportation Plan

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METROPOLITAN PLANNING ORGANIZATION

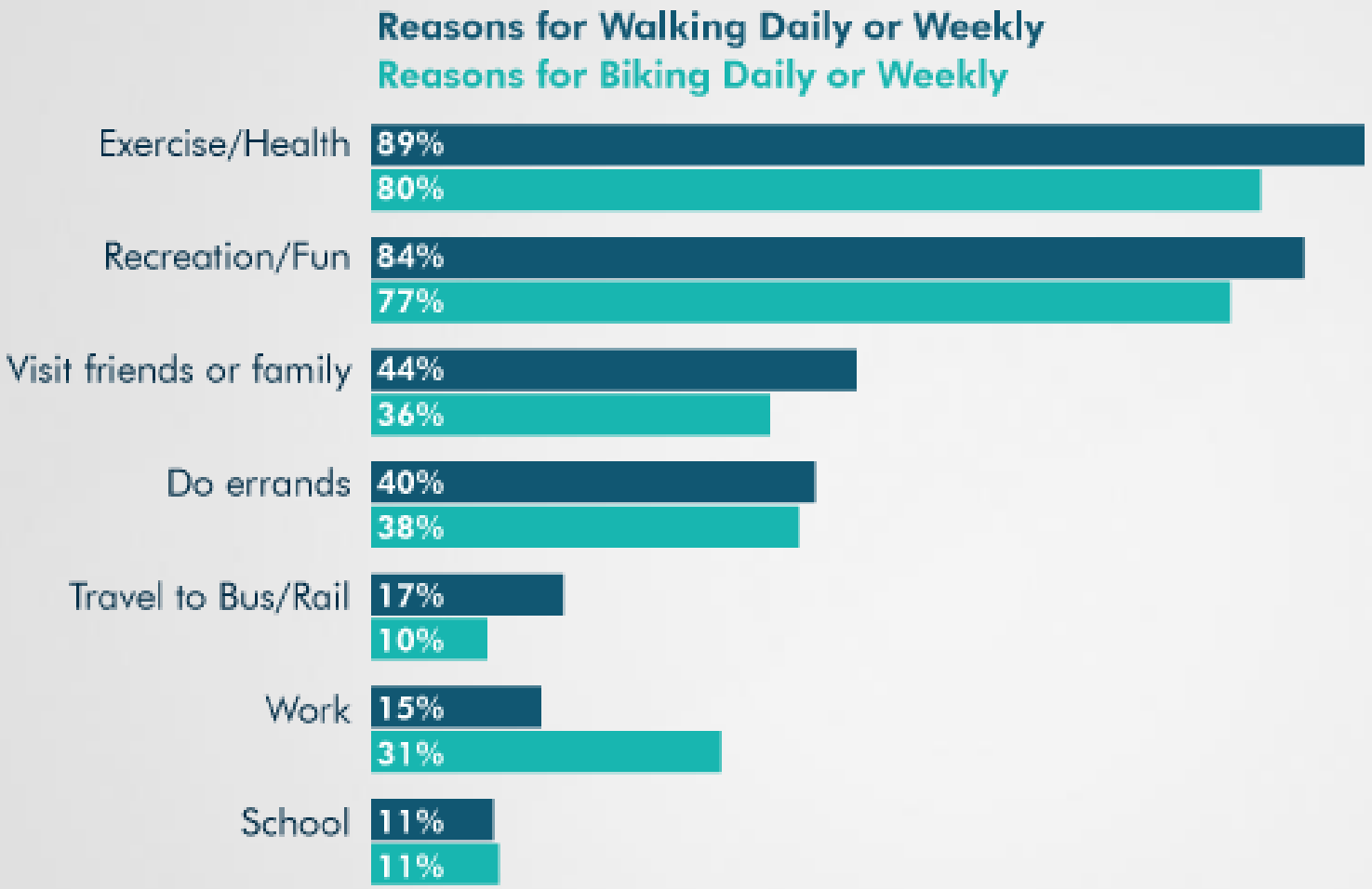
Plan Contents

- Existing Conditions
- Pedestrian & Bicycle Focus Areas
- A Vision for 2045
- Strategies & Measures

Existing Conditions

- Public Input
- Network
- Use
- Safety
- Health

Reasons for Walking and Biking



Why People Don't Walk More Often

Percent Agree/Strongly Agree

			Safety	Connectivity	Other
1	Fast traffic	59%	■		
2	Not enough light at night	58%	■		
3	Unsafe street crossings	57%	■	■	
4	Too many cars	53%	■		
5	Distances too far	50%		■	
6	Sidewalks/paths in poor condition	50%	■	■	
7	No nearby paths or trails	44%		■	
8	Weather	33%			■
9	No shops or interesting places to go	32%		■	
10	Poor road conditions	28%	■		

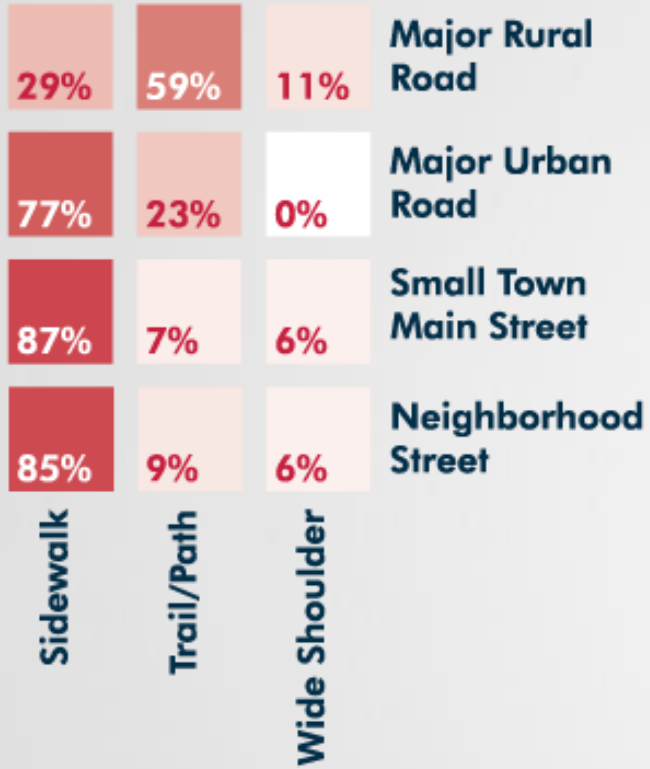
Why People Don't Bike More Often

Percent Agree/Strongly Agree

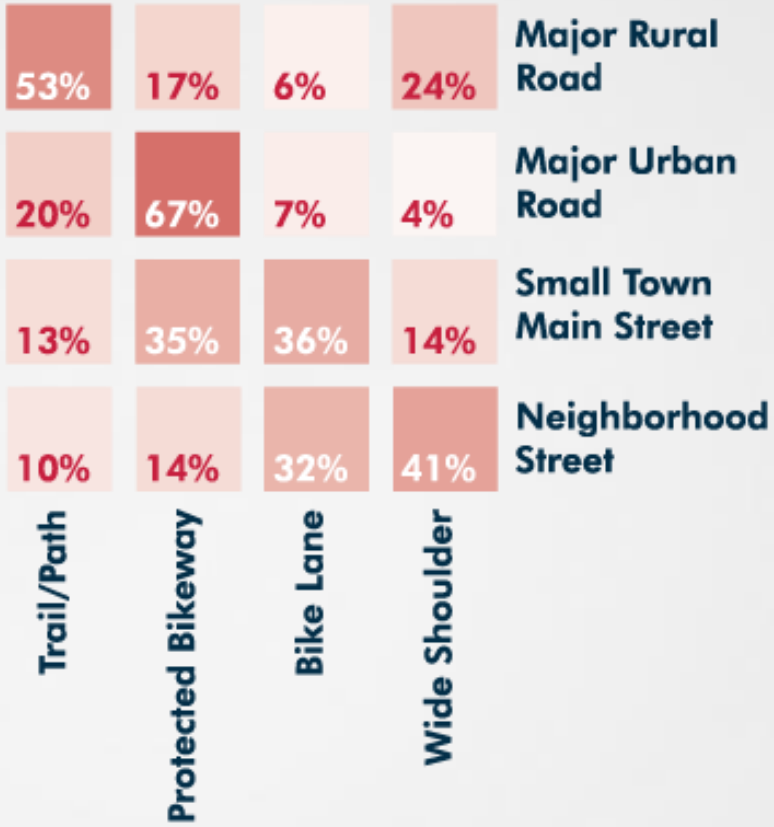
			Safety	Connectivity	Other
1	Not enough quality bike lanes, protected bike lanes	86%	■	■	
2	Fast traffic	71%	■		
3	Too many cars	66%	■		
4	Unsafe street crossings	63%	■	■	
5	Sidewalks/paths in poor condition	54%	■	■	
6	Poor road conditions	50%	■		
7	Not enough light at night	48%	■		
8	No nearby paths or trails	46%		■	
9	Not enough bike racks/other bike storage	41%		■	■
10	Debris	32%	■		■

Infrastructure Preferences

Walkway Infrastructure Preferences

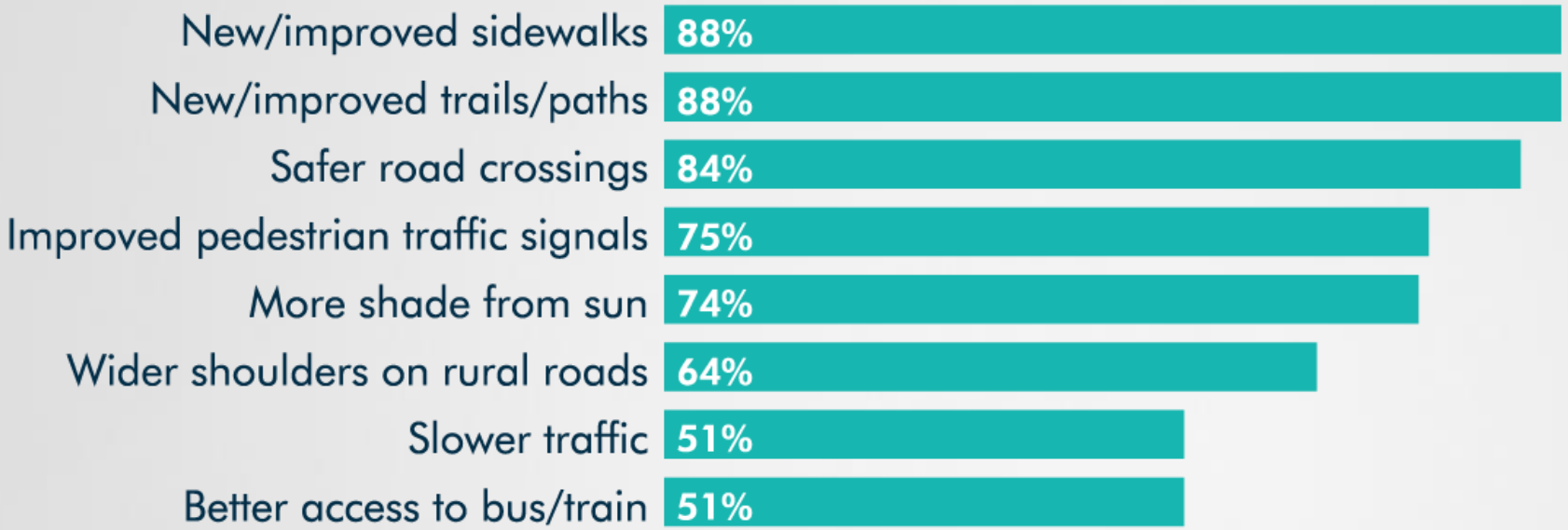


Bikeway Infrastructure Preferences



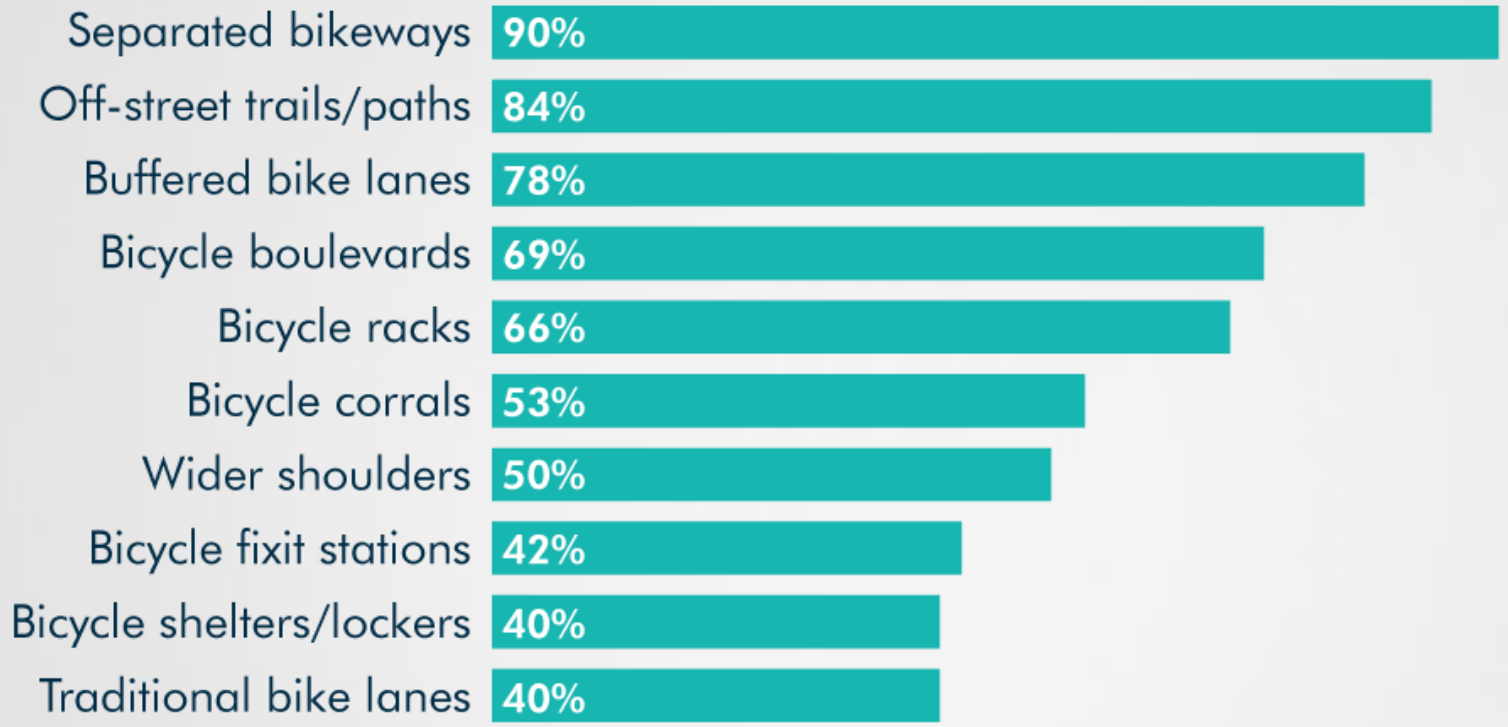
Preferred Walkway Improvements

Percent Agree/Strongly Agree



Preferred Bikeway Improvements

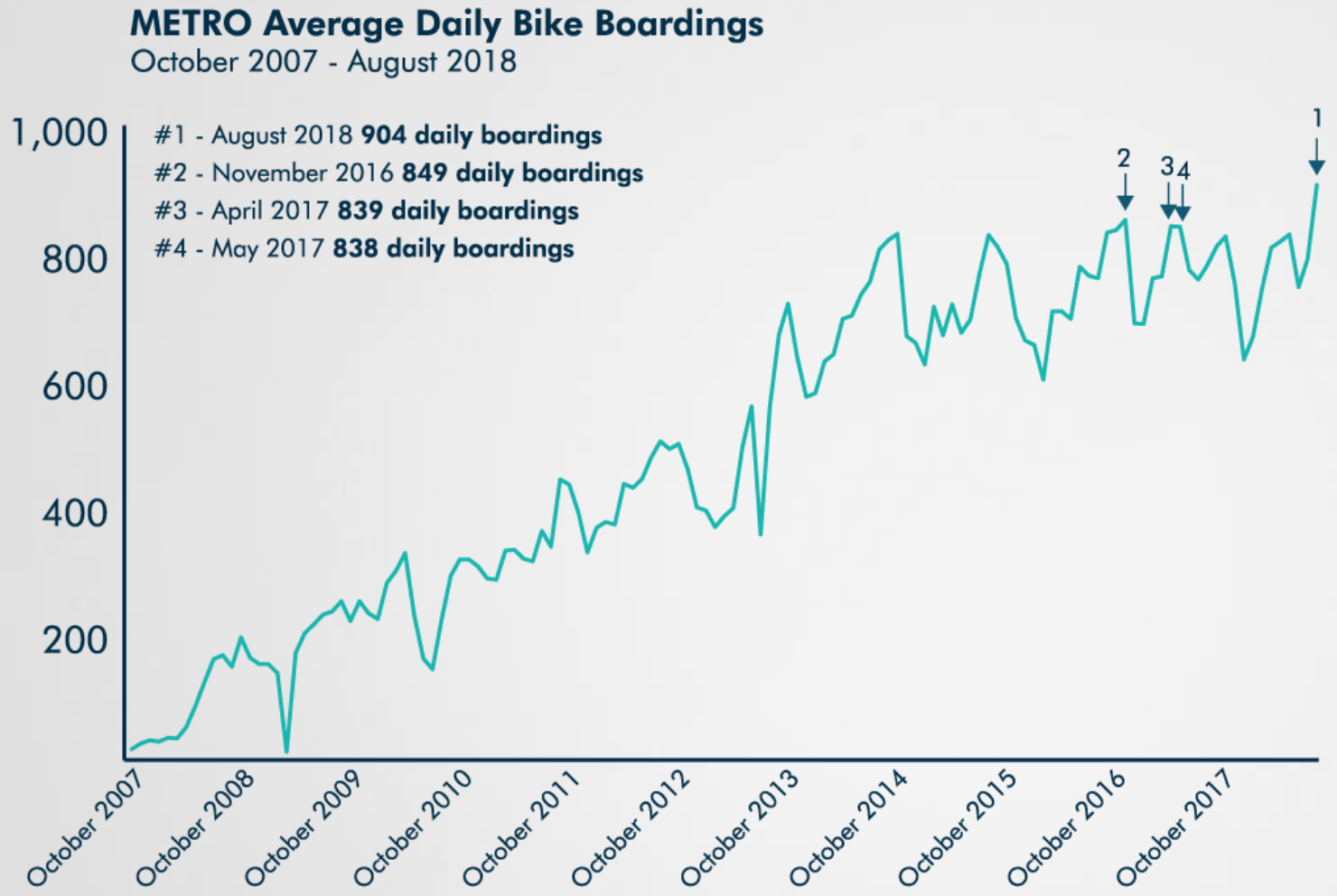
Percent Agree/Strongly Agree



Transit + Active Transportation

Source: H-GAC 2018 Transit O/D Study

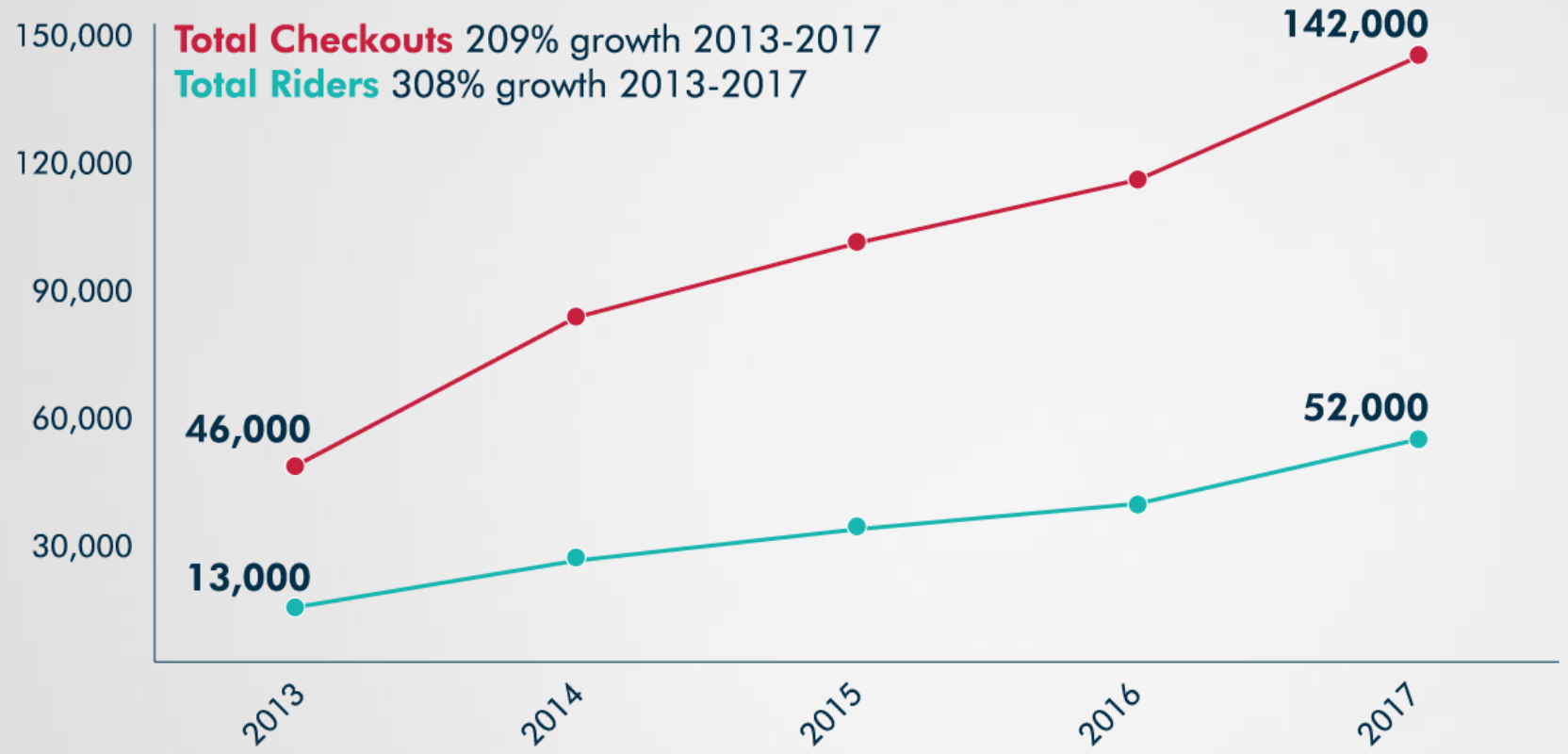
Transit + Active Transportation



Source: METRO's Bike on Buses

Bike Share Usage

Houston BCycle Usage
2013-2017

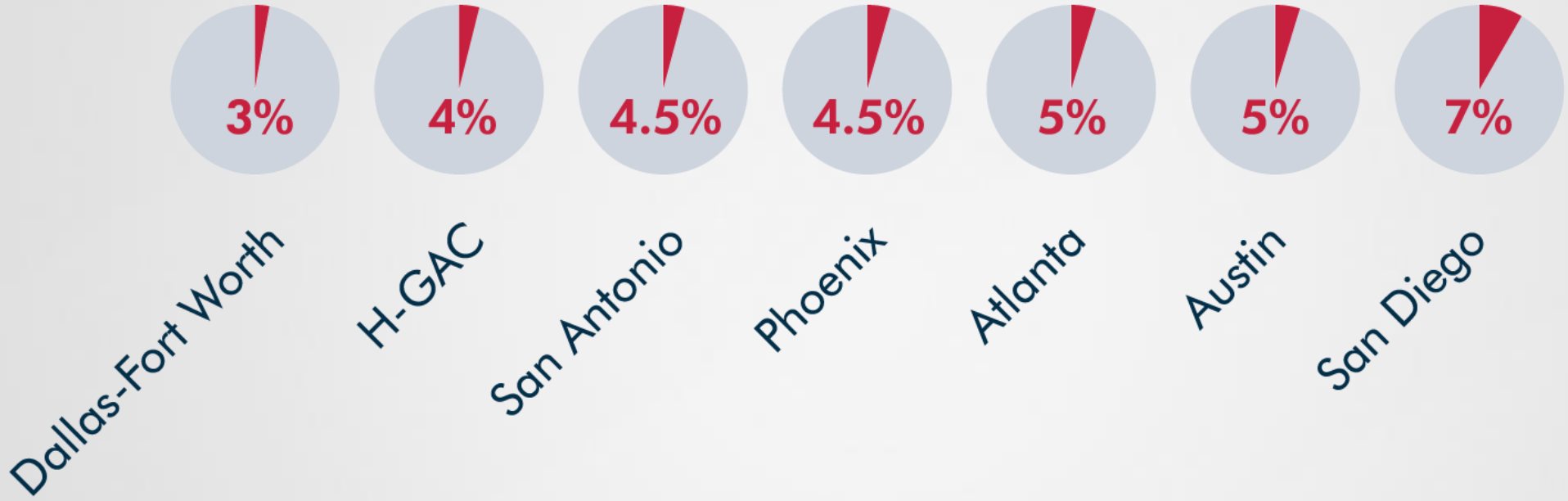


Source: Houston Bike Share

Commute Patterns

Workers Commuting by Active Transportation and Transit

Peer MPOs

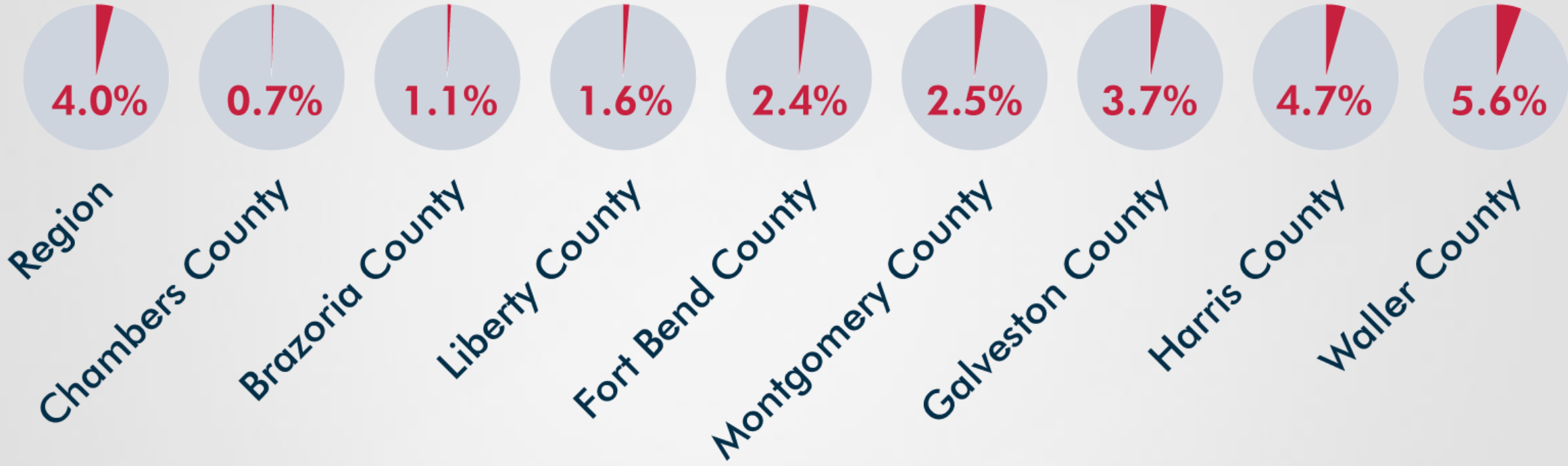


Source: U.S. Census Bureau 2012-2016 5-year estimates

Commute Patterns

Workers Commuting by Active Transportation and Transit

H-GAC Region

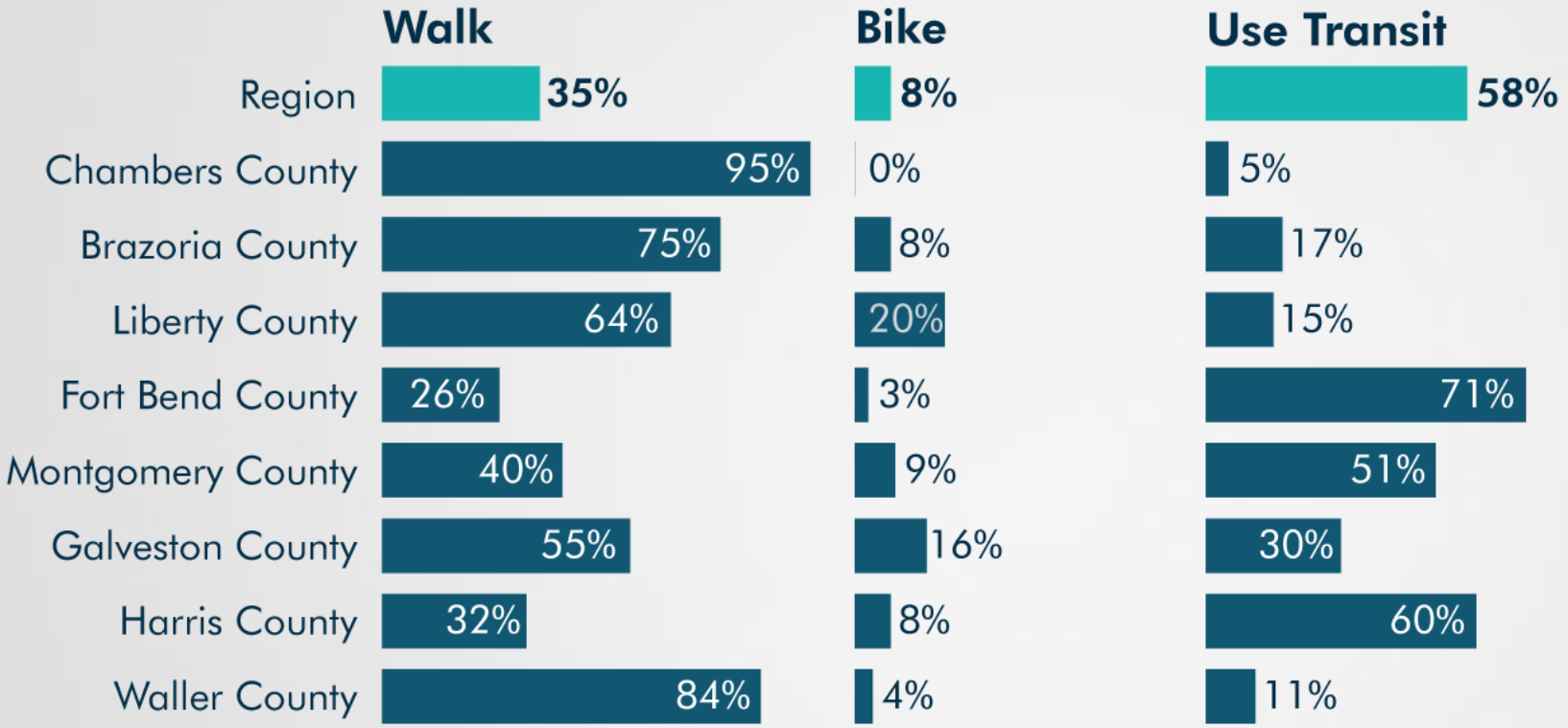


Source: U.S. Census Bureau 2012-2016 5-year estimates

Commute Patterns

Commute Mode for Non-Driving Workers

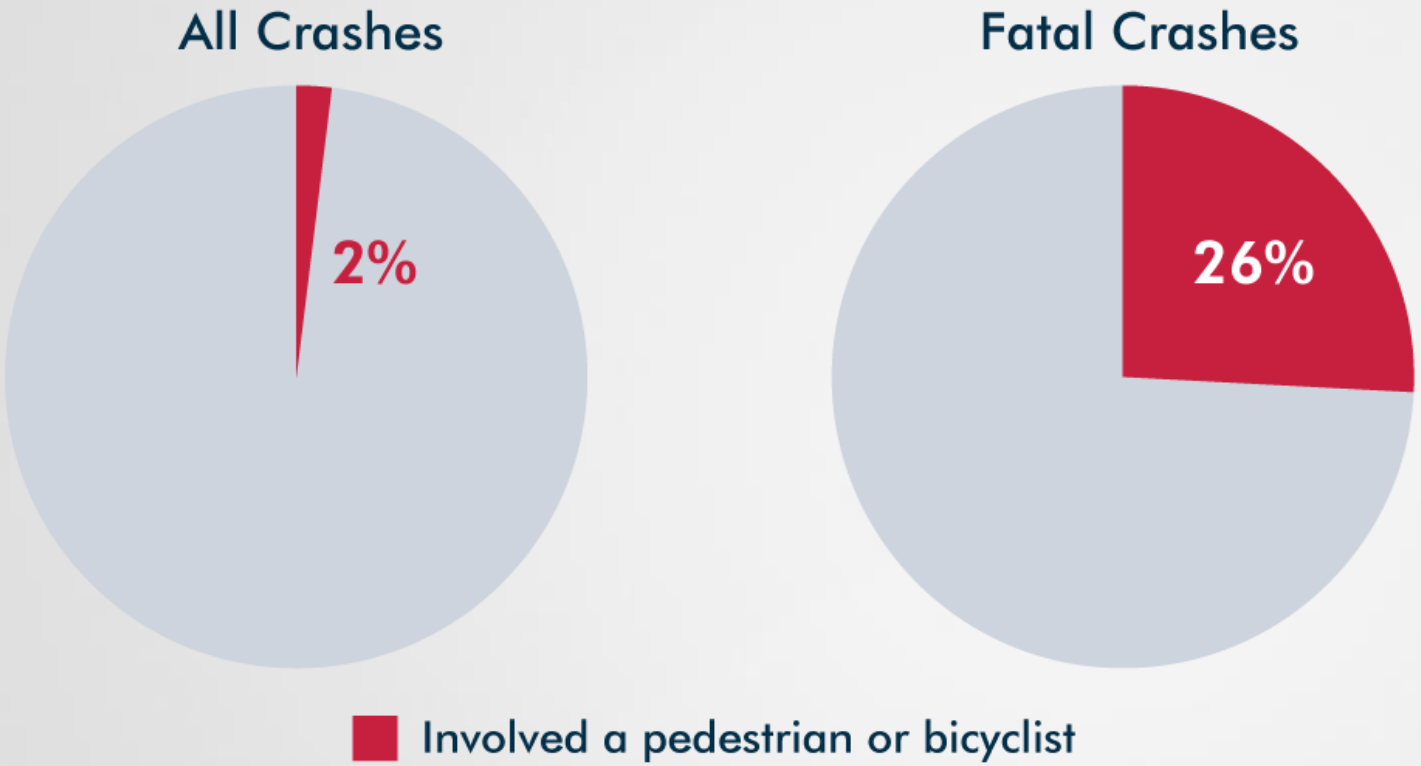
H-GAC Region



Source: U.S. Census Bureau 2012-2016 5-year estimates

Safety

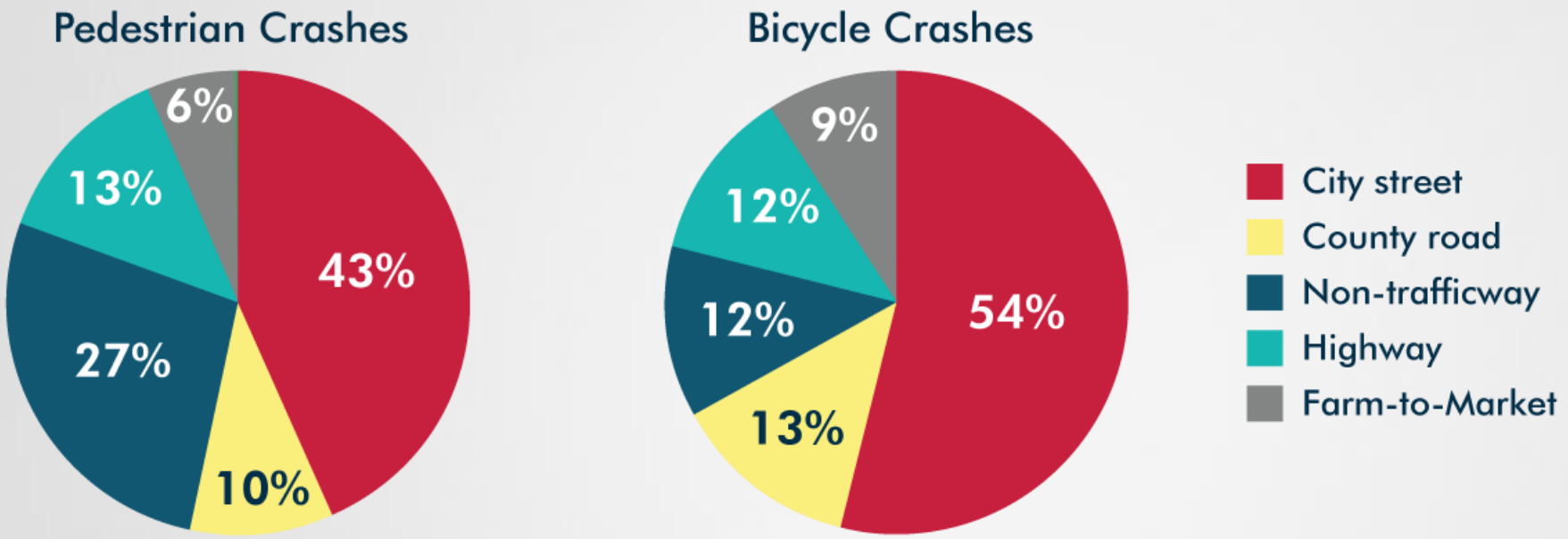
Pedestrian and Bicycle Crash Rates
H-GAC Region 2012-2016



Source: TxDOT CRIS, 2012-2016

Safety

Pedestrian and Bicycle Crash Locations
H-GAC Region 2012-2016

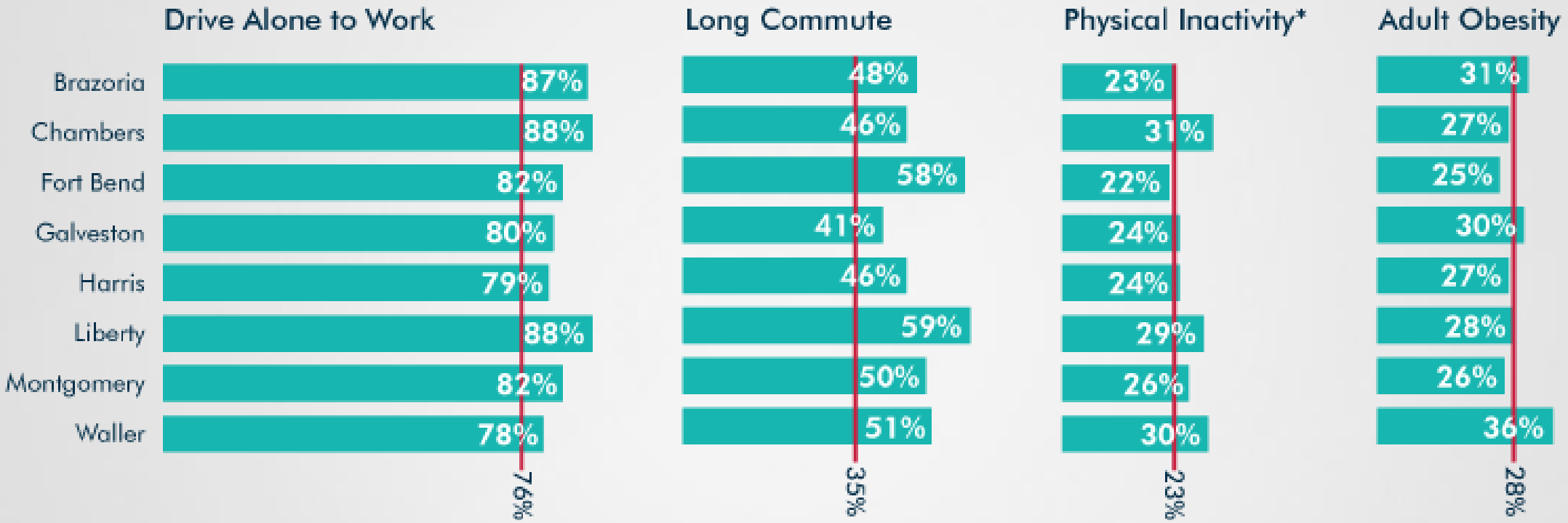


Source: TxDOT CRIS, 2012-2016

Health

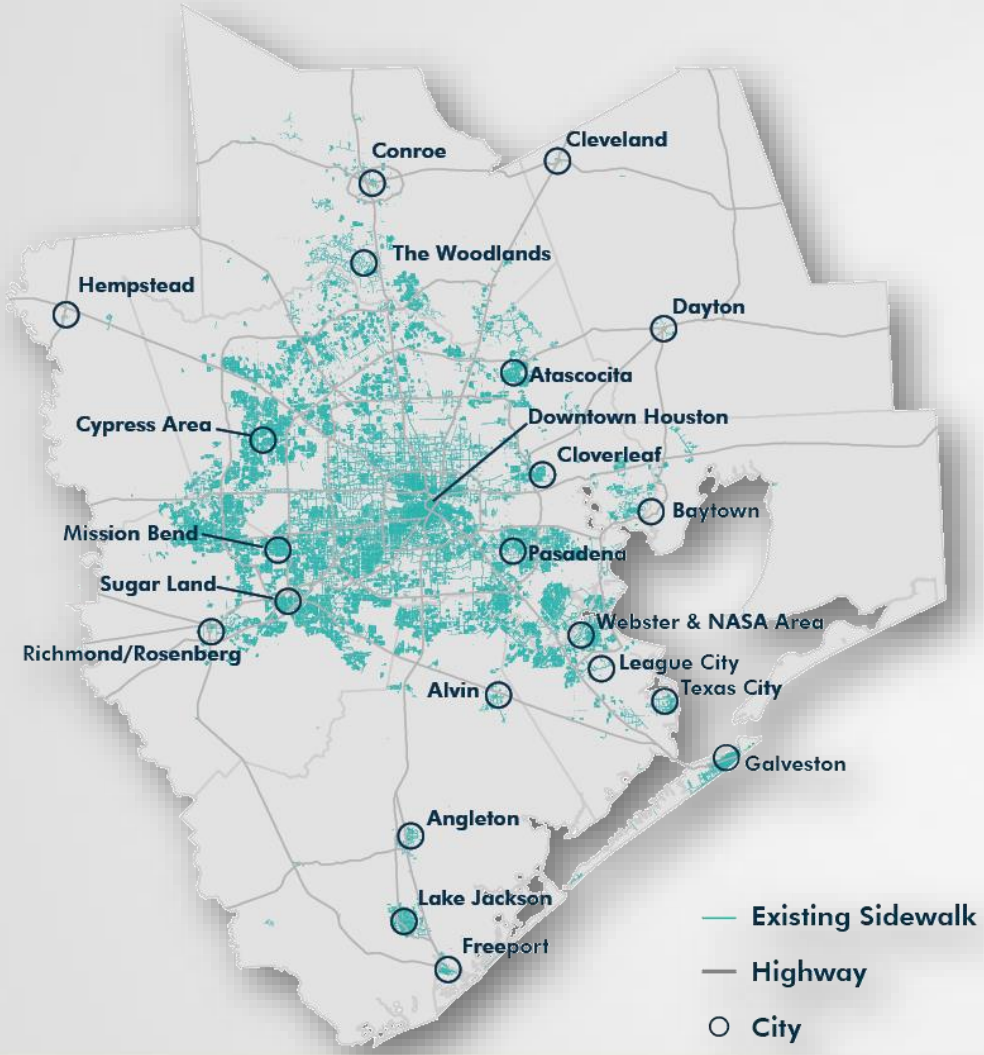
Health Factors Related to Active Transportation

2018 Robert Wood Johnson County Health Rankings



*Percentage of adults reporting no leisure-time physical activity.

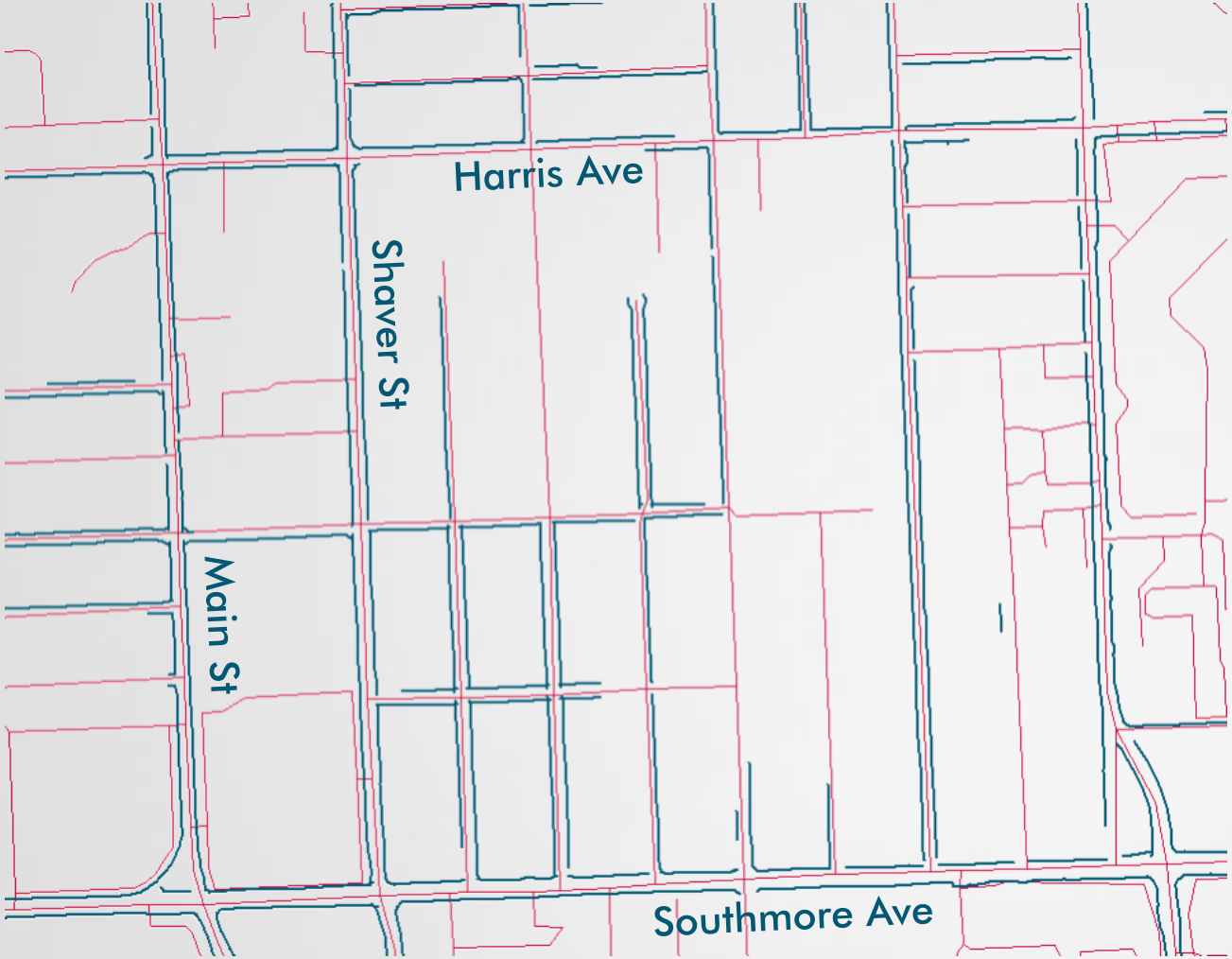
Sidewalk Network



- 19,300 miles existing
- 43,900 miles needed

Source: H-GAC Regional Sidewalks, 2018

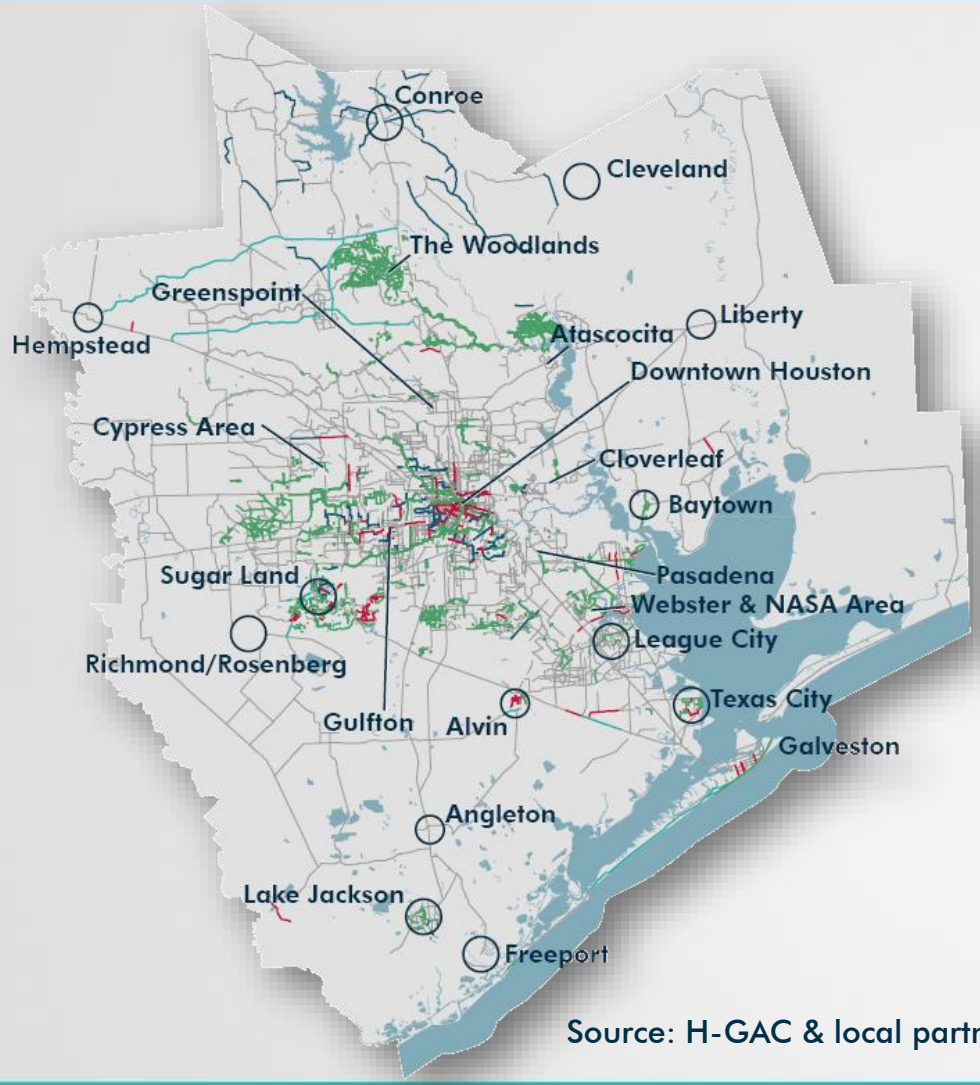
Sidewalk Network



Roadway

Existing Sidewalk

Bikeway Network

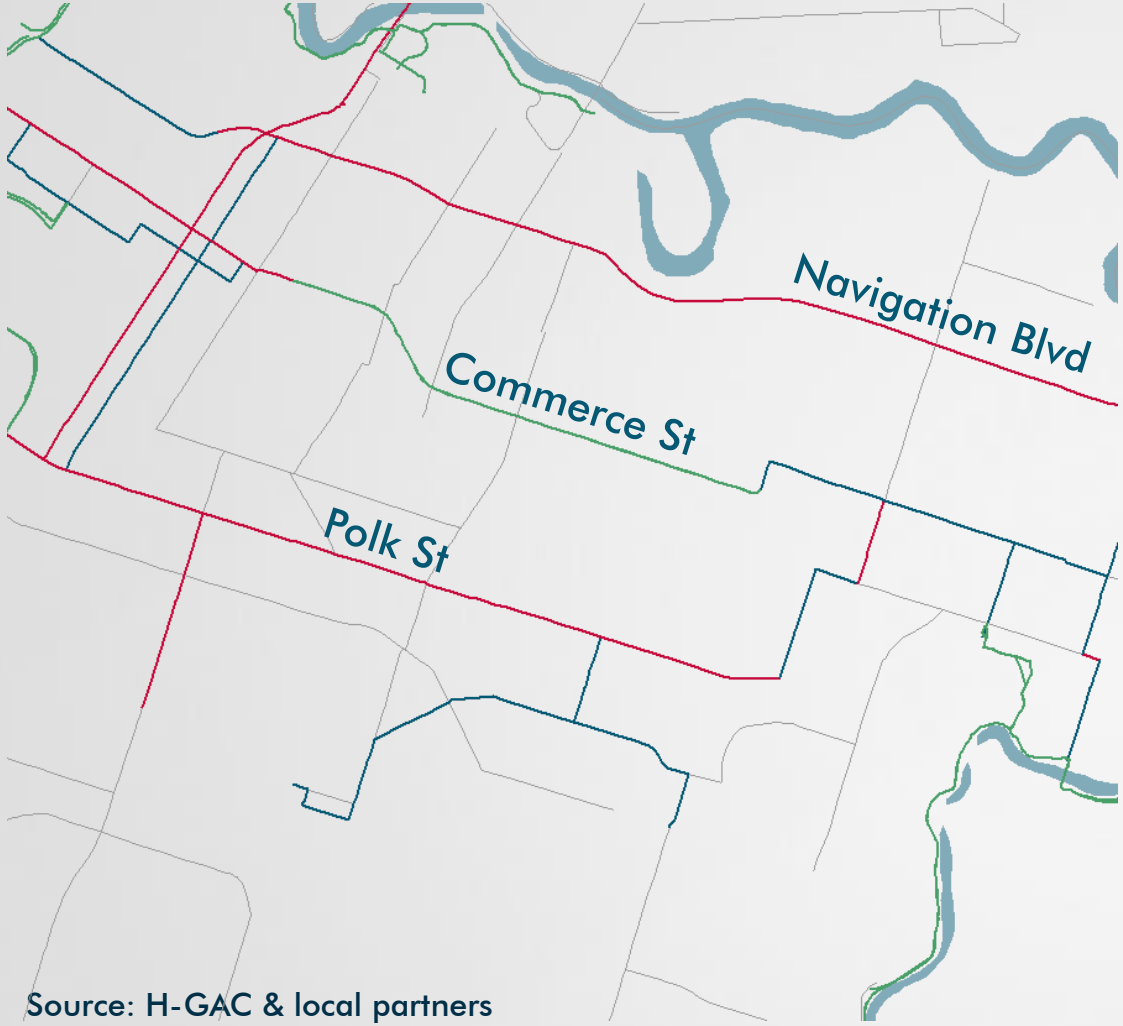


Source: H-GAC & local partners

- Bike Lane
- Shared-Use Path/Trail
- Signed Shared Roadway
- Signed Shoulder Bike Route
- Proposed

- 1,478 miles existing
- 3,803 miles proposed

Bikeway Network

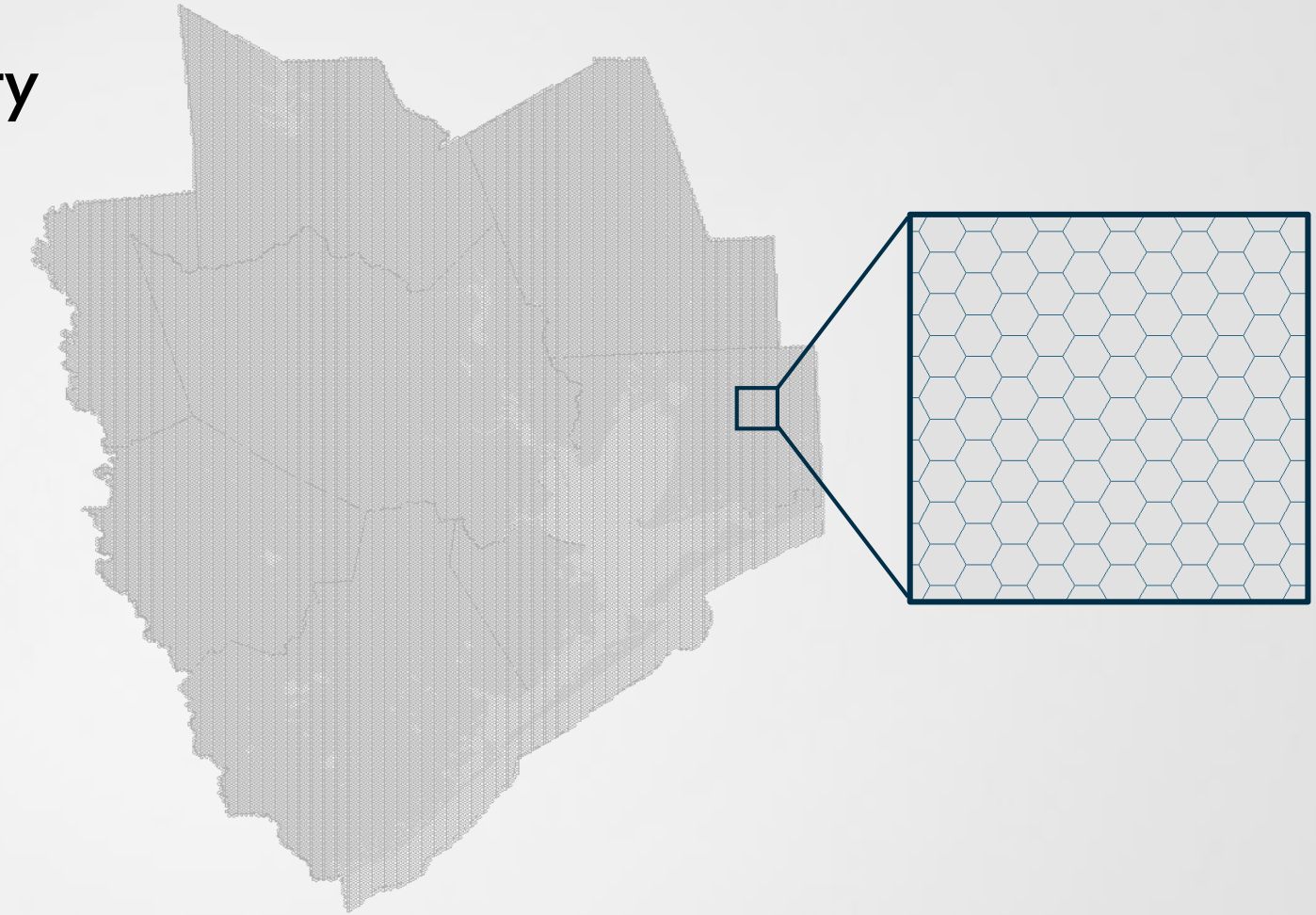


Source: H-GAC & local partners

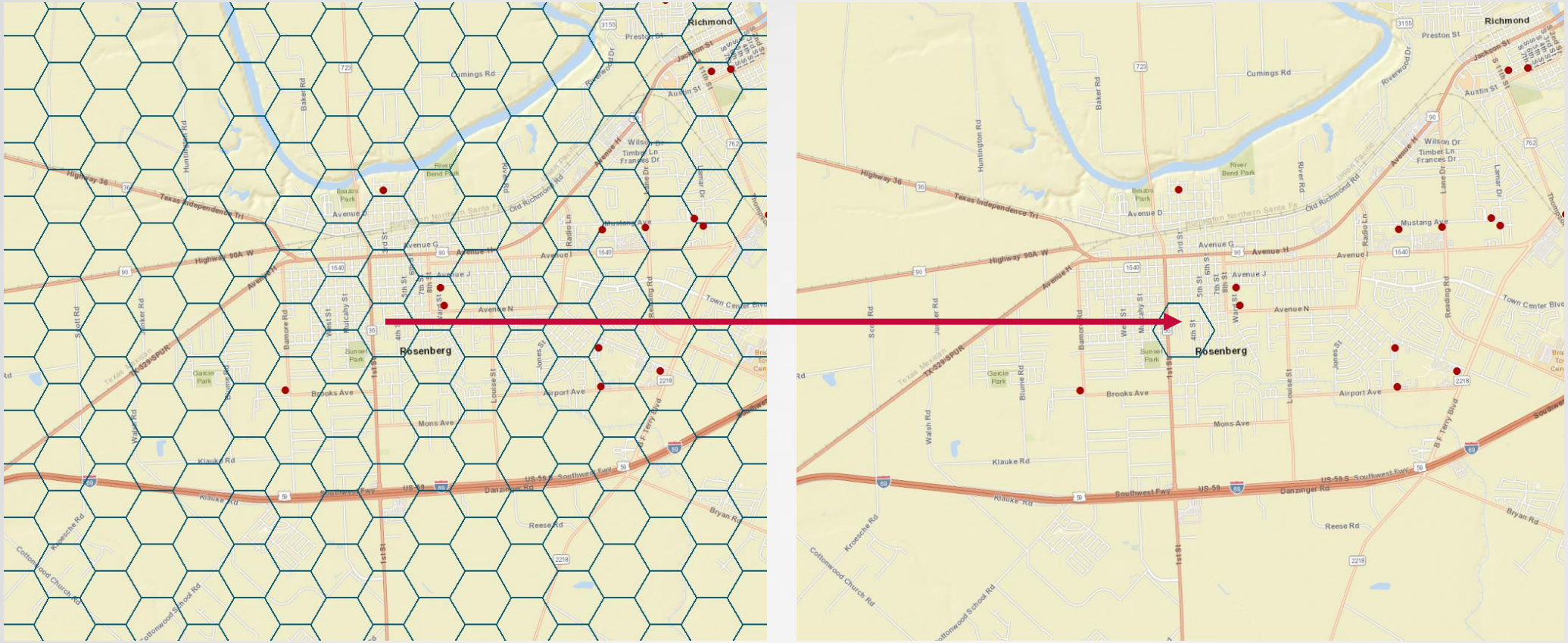
- Bike Lane
- Shared-Use Path/Trail
- Signed Shared Roadway
- Signed Shoulder Bike Route
- Proposed

Six Focus Area Criteria

- Job + Resident Density
- Intersection Density
- School Proximity
- Transit Proximity
- Crashes
- Environmental Justice

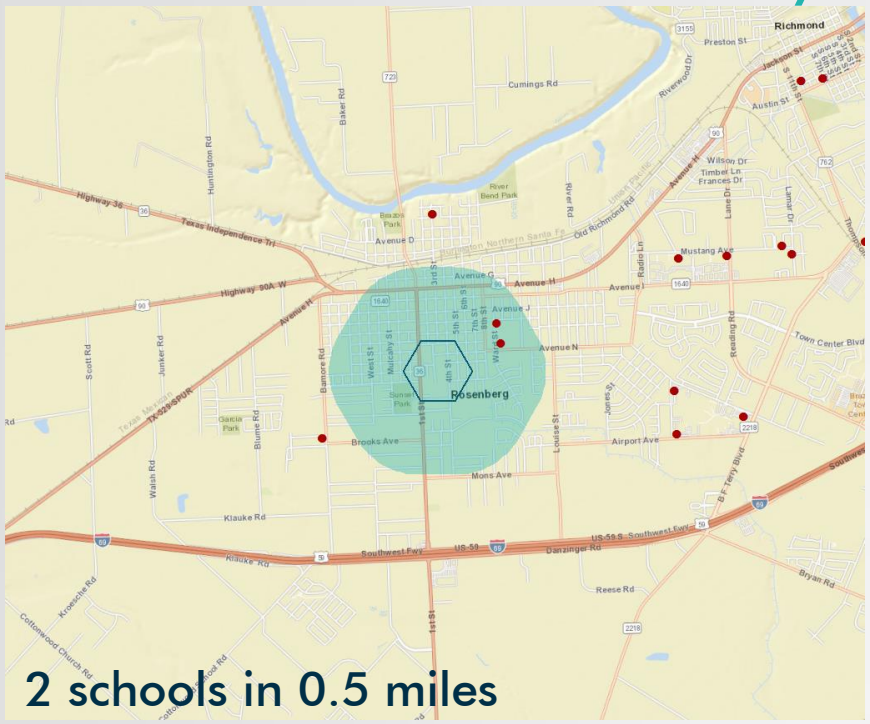


Example: School Proximity



Example: School Proximity

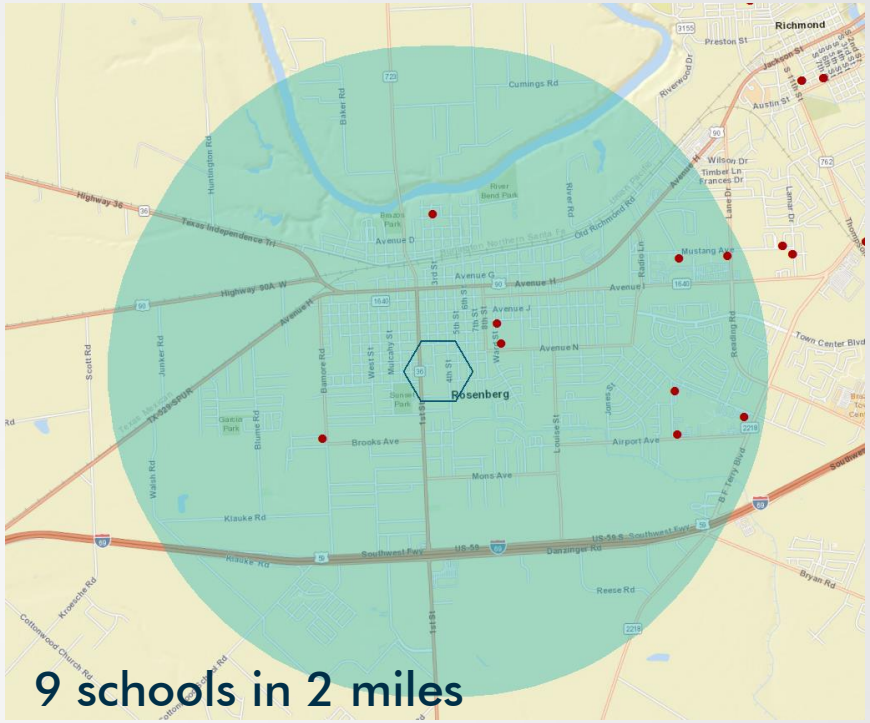
Pedestrian School Proximity



This hexagon has more schools within 0.5 miles than 76.5% of all hexagons.

School Proximity Score = 0.765

Bicycle School Proximity



This hexagon has more schools within 2 miles than 75.7% of all hexagons.

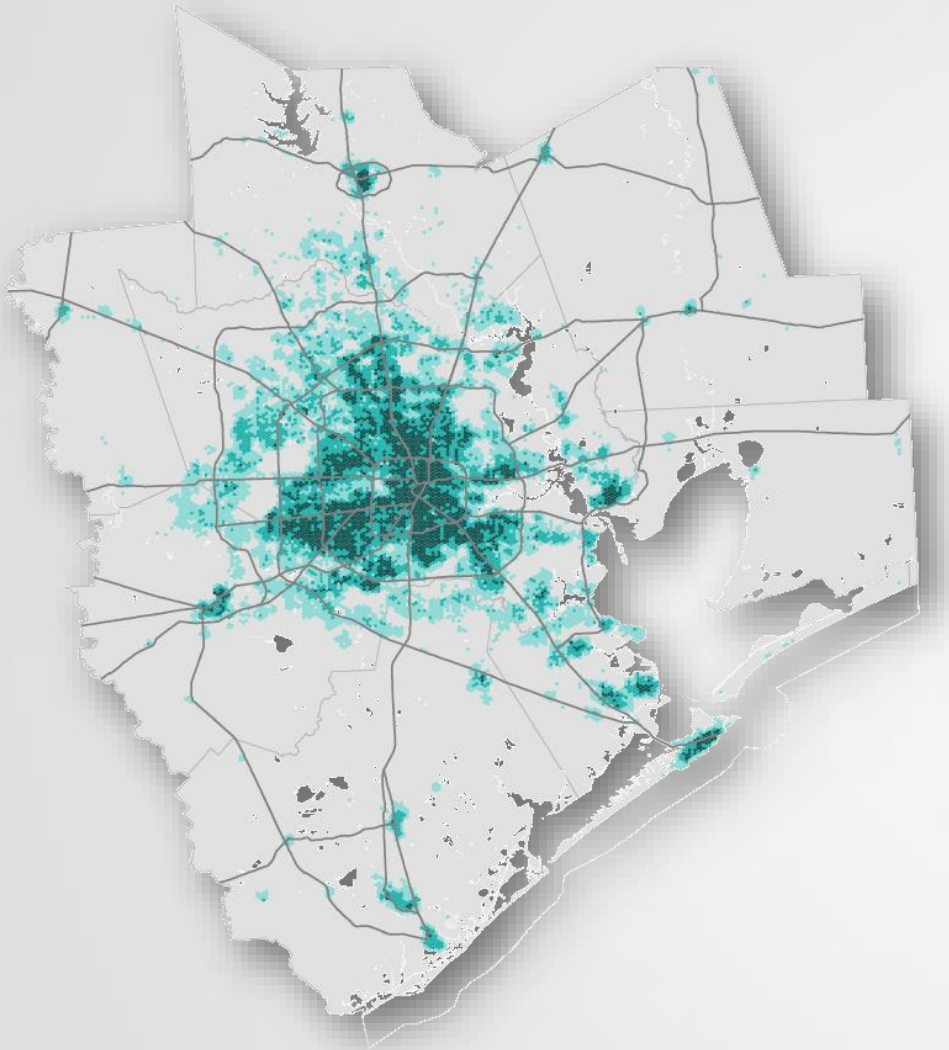
School Proximity Score = 0.757

Example: School Proximity

- Job + Resident Density
- Intersection Density
- **School Proximity**
- Transit Proximity
- Crashes
- \+ Environmental Justice

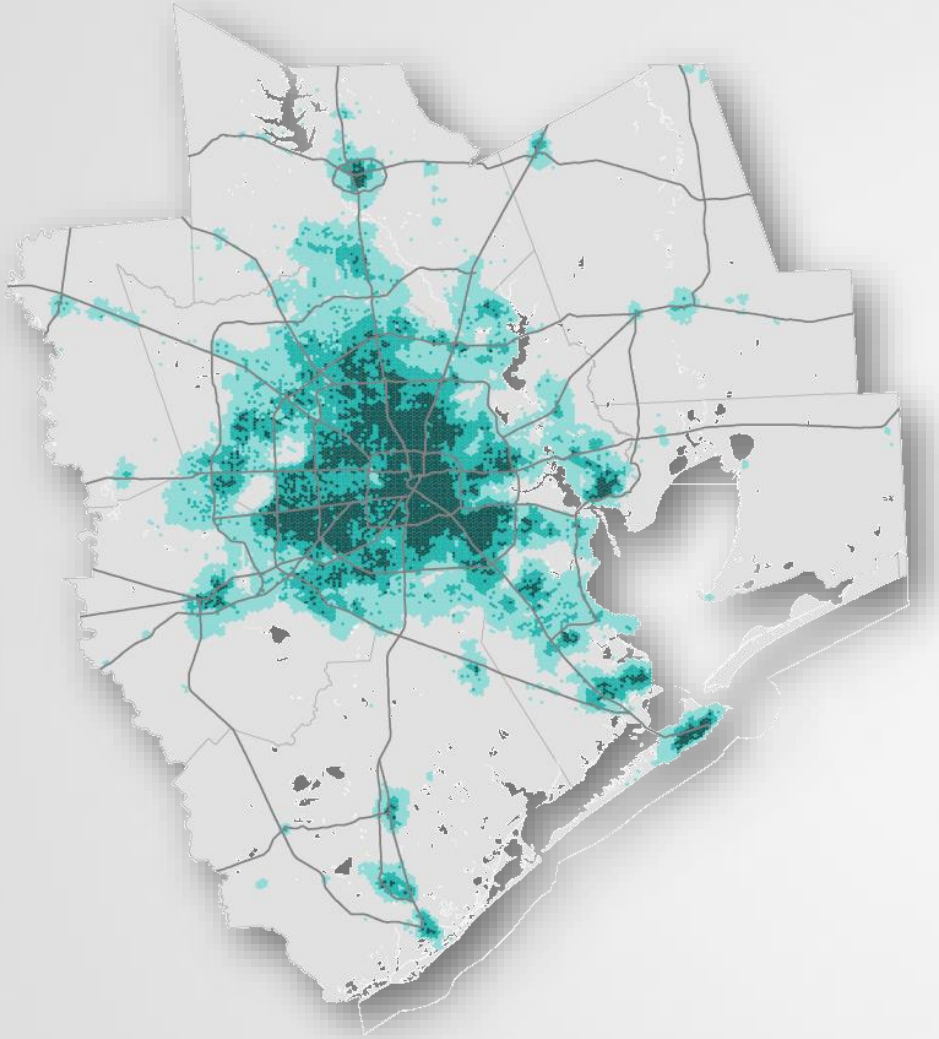
Hexagon Focus Area Score

Pedestrian Focus Areas



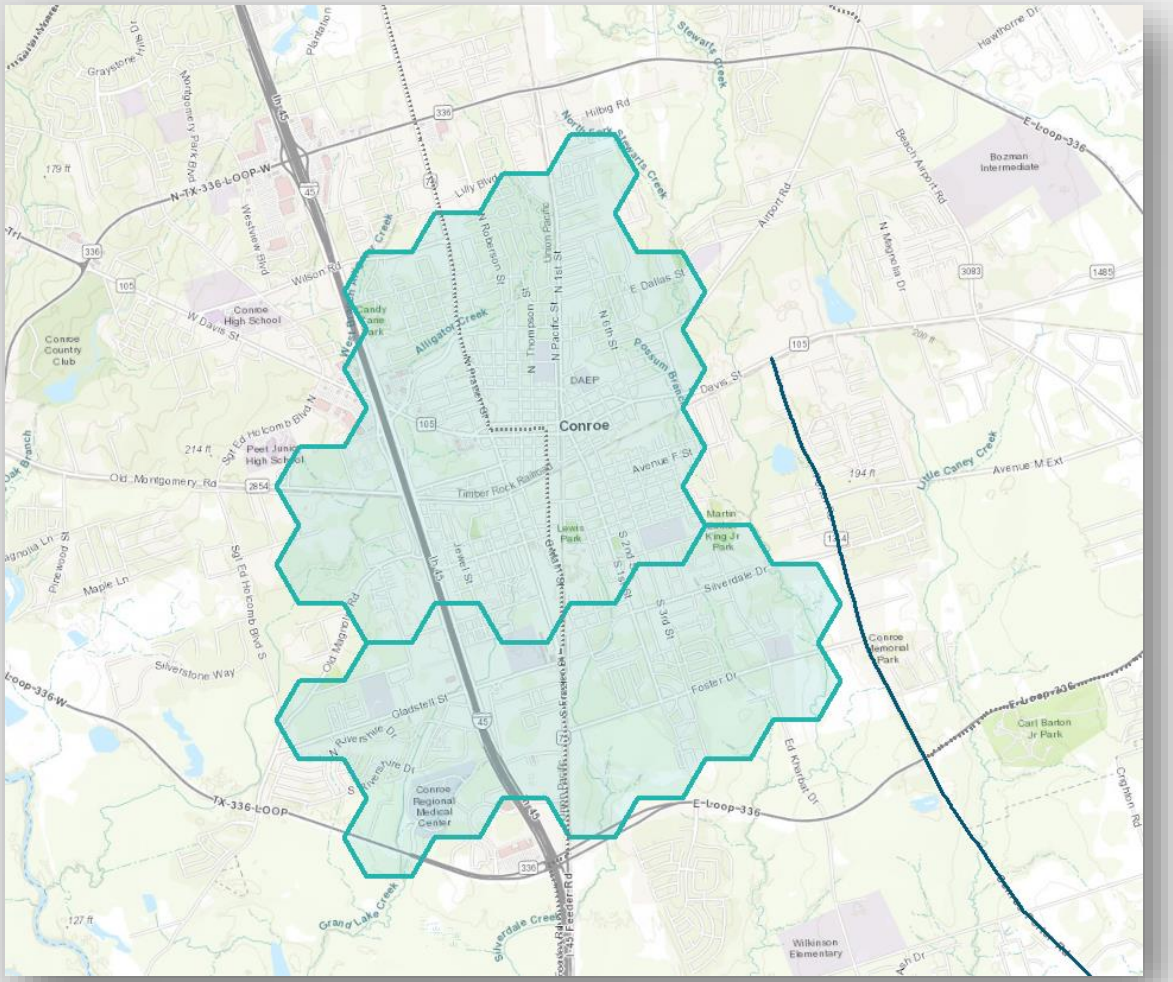
- Top 10% of Focus Area Scores
- Top 25%
- Top 50%

Bicycle Focus Areas



- Top 10% of Focus Area Scores
- Top 25%
- Top 50%

Focus Area Use



Focus Area

Existing Bike Facility

Proposed Bike Facility

A Vision for 2045

PEDESTRIANS AND BICYCLISTS OF ALL AGES AND ABILITIES CAN TRAVEL CONVENIENTLY AND COMFORTABLY IN ALL COMMUNITIES USING INTERCONNECTED, WELL-MAINTAINED NETWORKS OF WALKWAYS AND BIKEWAYS.

Recommendations

PRIORITIZE SAFETY

Improve safety for people walking, biking, and rolling.

Strategy Example: Create a regional Pedestrian/Bicycle Safety Action Plan.

Recommendations

ENSURE EQUITY

Ensure that all people – regardless of age, ability, or location within the region – have access to walkways and bikeways that are safe, convenient and comfortable.

Strategy Example: Complete the sidewalk networks within one-half mile of all transit stops in the region.

Recommendations

CONNECT

Build interconnected networks of walkways and bikeways in Focus Areas.

Strategy Example: Plan and build high-comfort bikeways in areas of high need based on the Focus Area analysis and where supported by local plans.

Recommendations, cont'd.

MAINTAIN & MONITOR

Maintain and improve the existing network of walkways and bikeways in the region and coordinate regional data collection for active transportation infrastructure.

Strategy Example: Develop a process and schedule for updating and sharing regional walkway and bikeway data.

Recommendations, cont'd.

ENCOURAGE

Encourage and incentivize the use of walkways and bikeways to mitigate congestion, improve air quality, and increase physical activity.

Strategy Example: Increase the number of communities in the region that are designated Walk Friendly and Bike Friendly communities.

Action Requested

- Approval of the 2045 Active Transportation Plan contingent on any additional public comments requiring changes to the document.

Active Transportation at H-GAC

Clint McManus

8 May 2019

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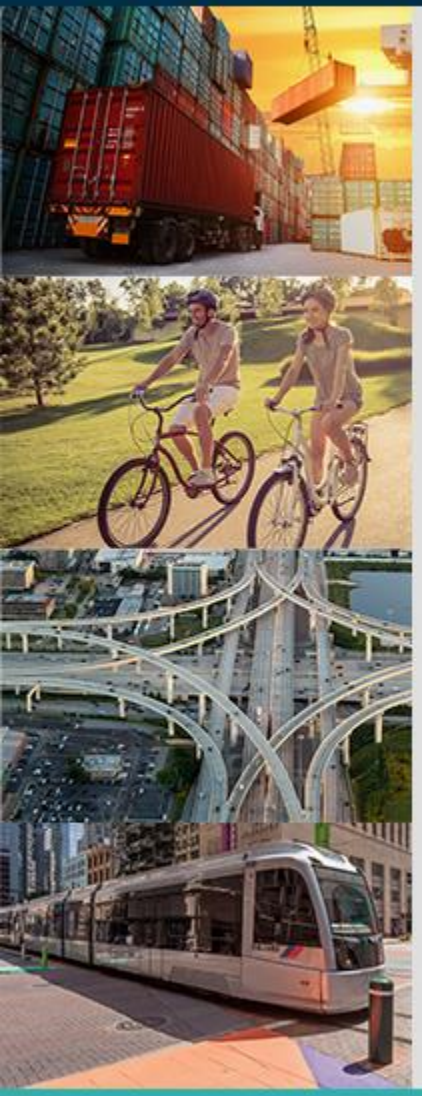
H-GAC
METROPOLITAN PLANNING ORGANIZATION

Staff Points of Contact



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  832-681-2513

- **Allie Isbell**
  Multimodal Planning Manager
  Allie.Isbell@h-gac.com

Active Transportation Plan

- Existing conditions of regional walkways and bikeways
- Analysis of need
- Vision of a safe and convenient network by 2045
- H-GAC.com/go/pedbike

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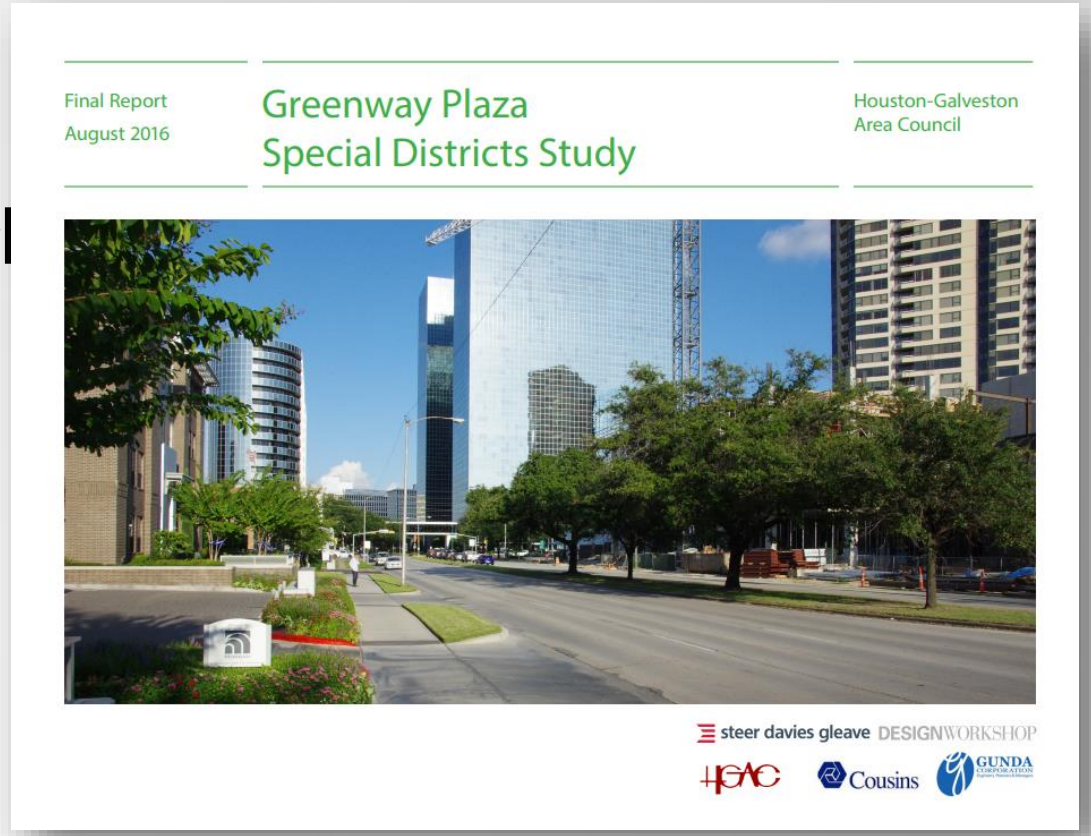
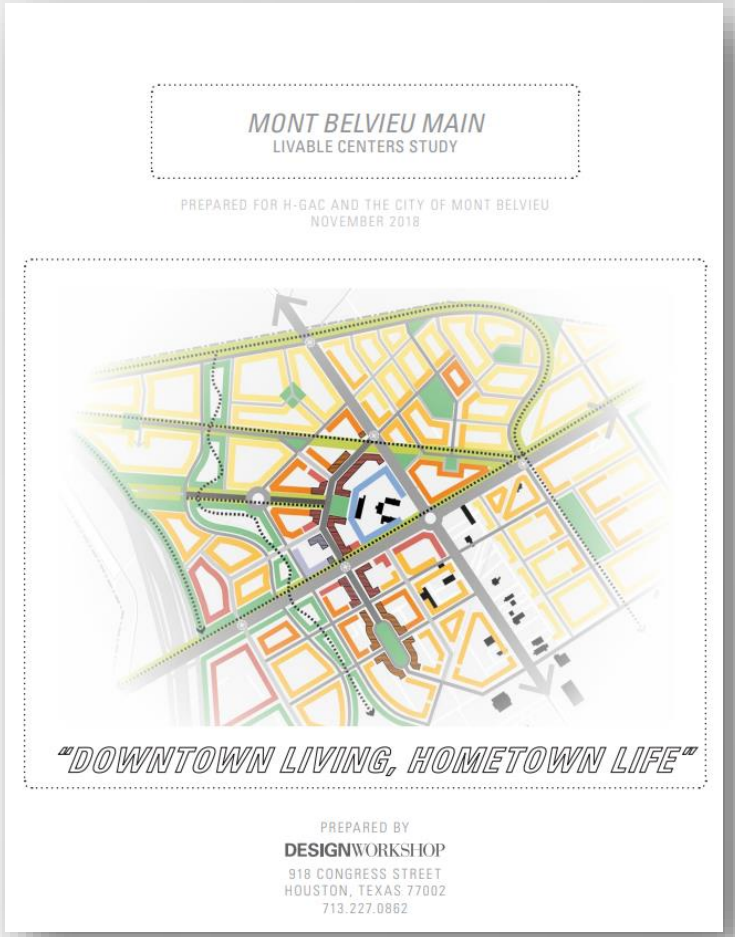
Special District Studies

- Small area plans
- Identify improvements to walkway and bikeway networl

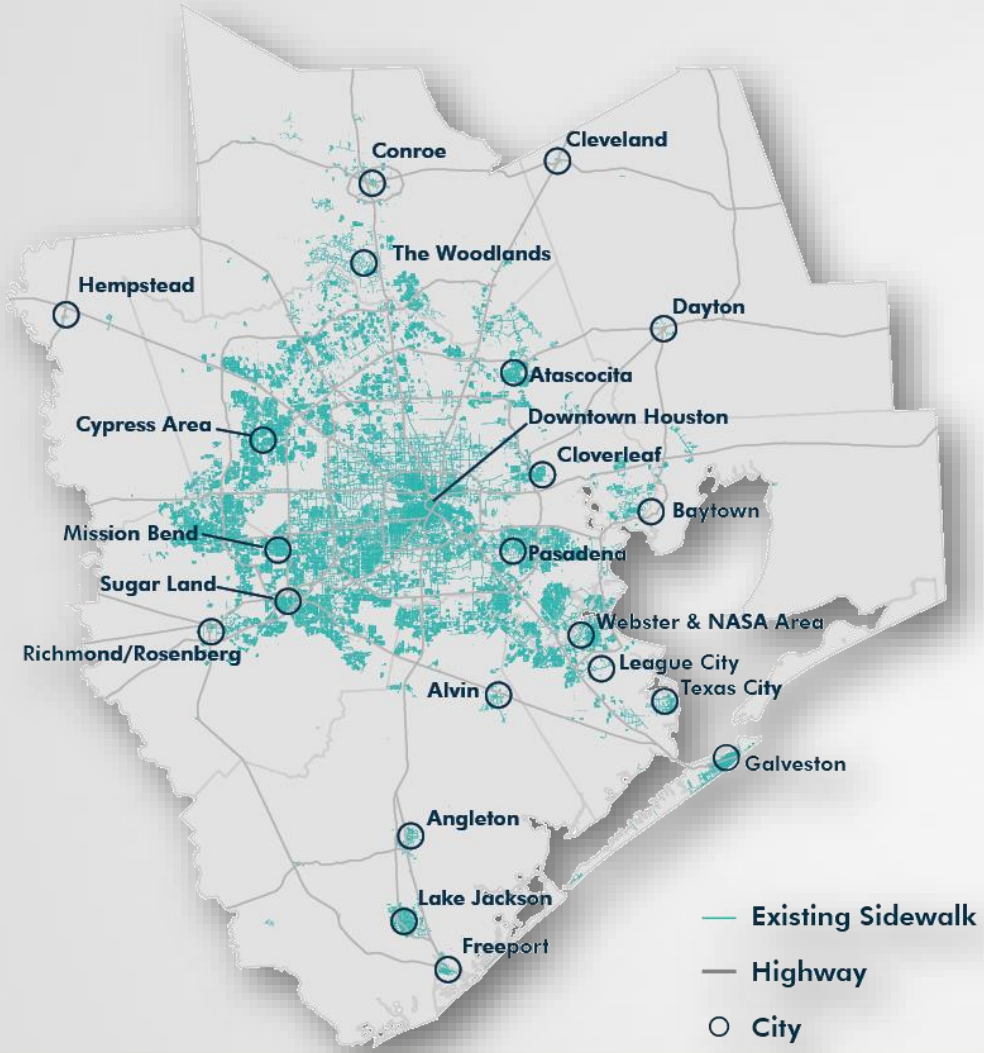


Livable Centers Studies

- Small area plans
- Identify improvements to create places where people can live, work and play without reliance on a vehicle



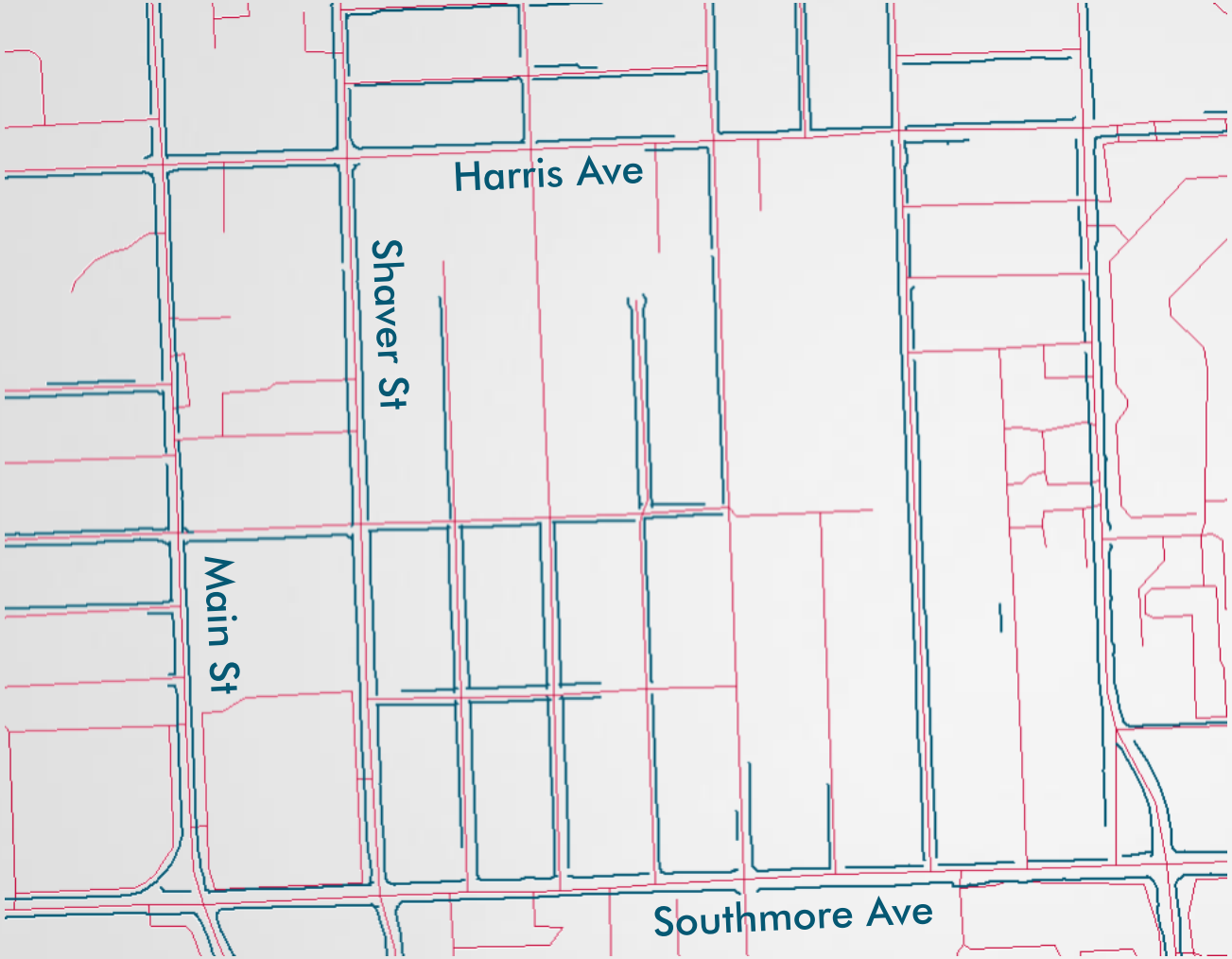
Sidewalk GIS Layer



- Existing sidewalks
- Next steps: crosswalks
- Email for access

Source: H-GAC Regional Sidewalks, 2018

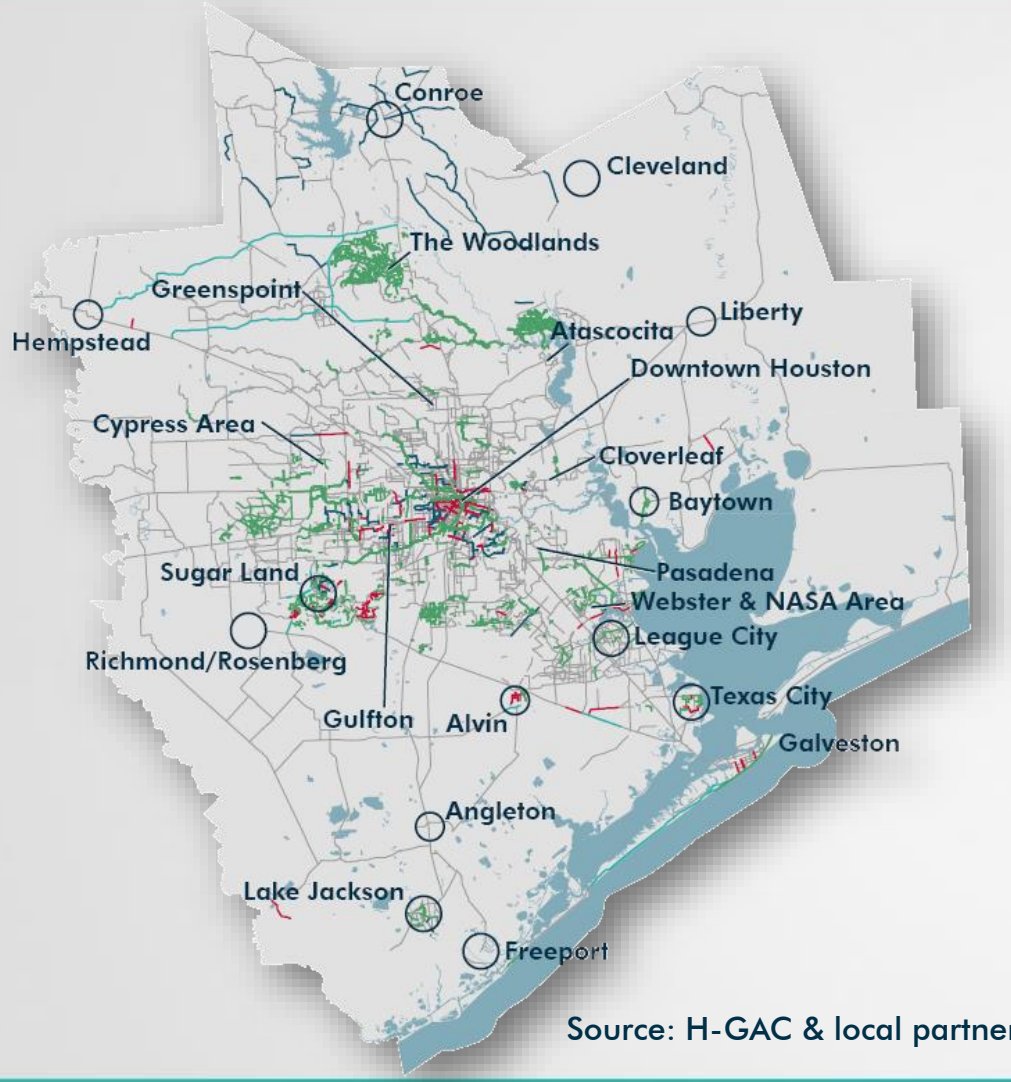
Sidewalk Network



Roadway

Existing Sidewalk

Bikeway Network

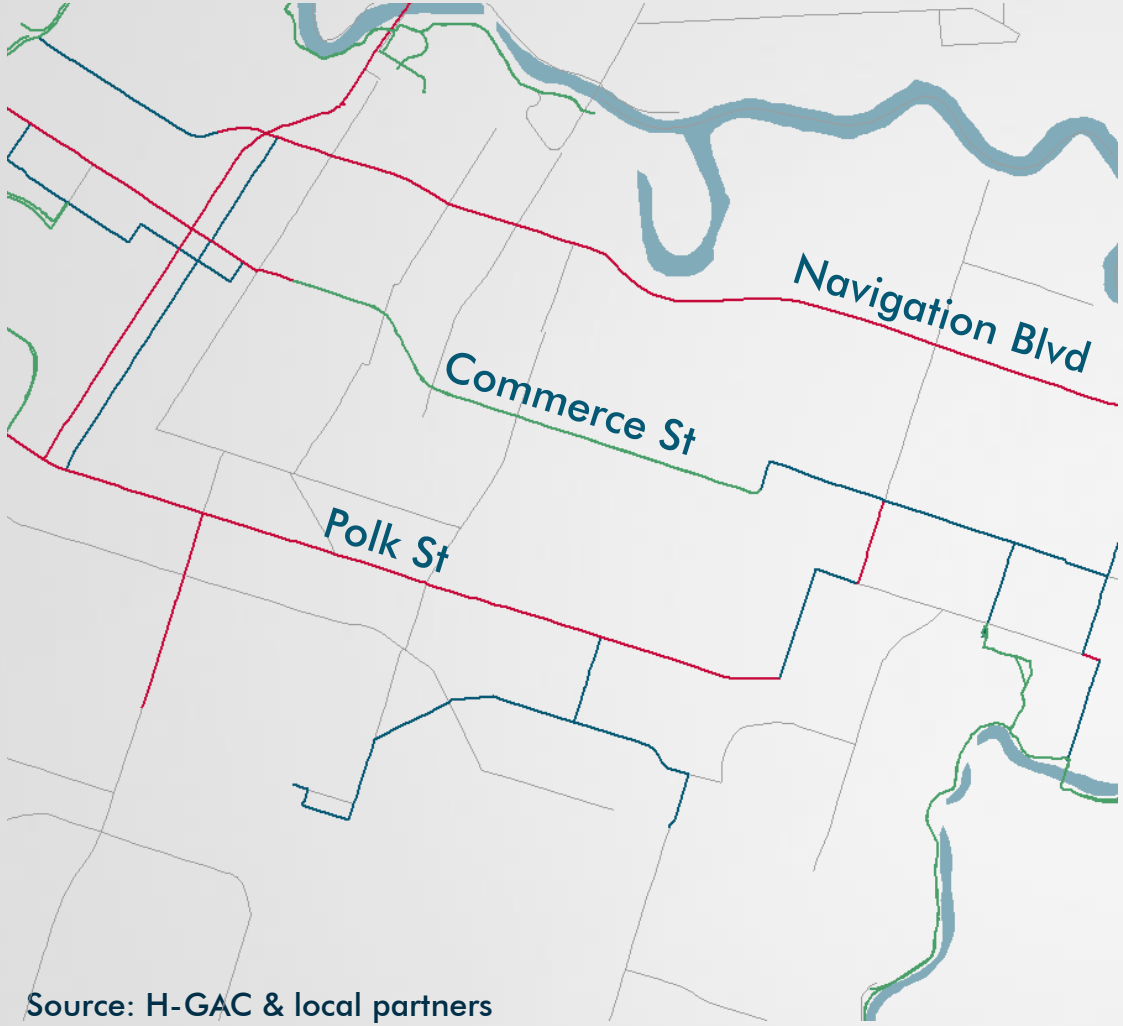


Source: H-GAC & local partners

- Bike Lane
- Shared-Use Path/Trail
- Signed Shared Roadway
- Signed Shoulder Bike Route
- Proposed

- Regional Bikeway Viewer
- Next step – uniform classification

Bikeway Network

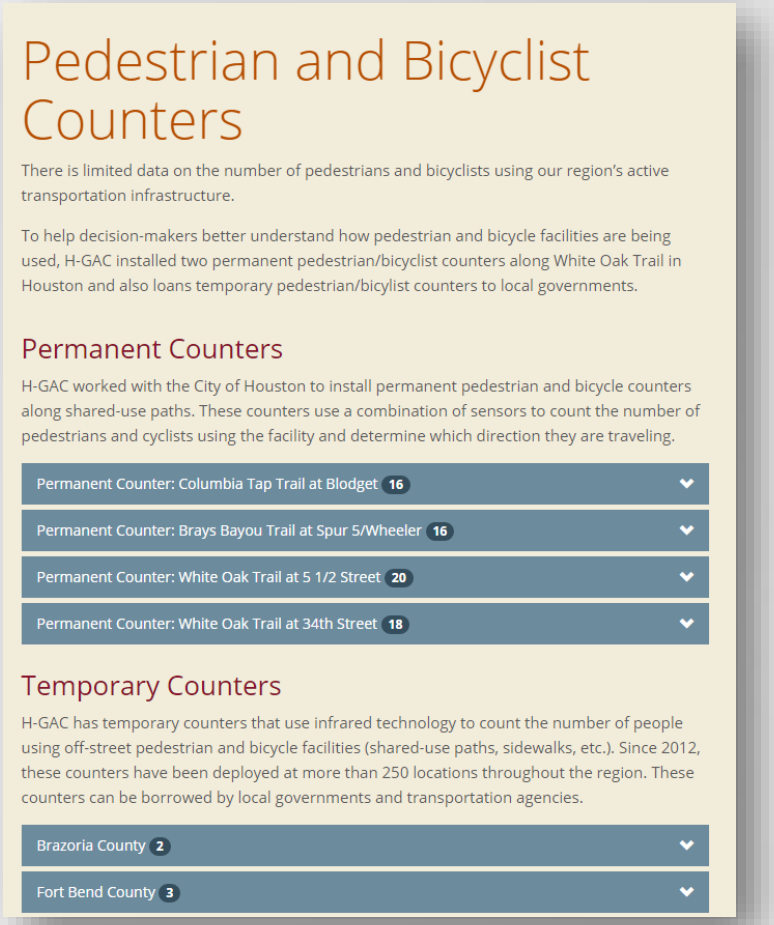


Source: H-GAC & local partners

- Bike Lane
- Shared-Use Path/Trail
- Signed Shared Roadway
- Signed Shoulder Bike Route
- Proposed

Pedestrian and Bicycle Counts

- Permanent counters
- Temporary, mobile counters
- Support for planning, project impact
- Next steps: expansion of program



Pedestrian and Bicyclist Counters

There is limited data on the number of pedestrians and bicyclists using our region's active transportation infrastructure.

To help decision-makers better understand how pedestrian and bicycle facilities are being used, H-GAC installed two permanent pedestrian/bicyclist counters along White Oak Trail in Houston and also loans temporary pedestrian/bicylist counters to local governments.

Permanent Counters

H-GAC worked with the City of Houston to install permanent pedestrian and bicycle counters along shared-use paths. These counters use a combination of sensors to count the number of pedestrians and cyclists using the facility and determine which direction they are traveling.

- Permanent Counter: Columbia Tap Trail at Blodget 16
- Permanent Counter: Brays Bayou Trail at Spur 5/Wheeler 16
- Permanent Counter: White Oak Trail at 5 1/2 Street 20
- Permanent Counter: White Oak Trail at 34th Street 18

Temporary Counters

H-GAC has temporary counters that use infrared technology to count the number of people using off-street pedestrian and bicycle facilities (shared-use paths, sidewalks, etc.). Since 2012, these counters have been deployed at more than 250 locations throughout the region. These counters can be borrowed by local governments and transportation agencies.

- Brazoria County 2
- Fort Bend County 3

Additional Initiatives

- Regional Safety Campaign
- Bike safety training
- Measuring connectivity
- Bike Month support
- Workshops and trainings

Regional Crosswalk Layer

Kat Vo
8 May 2019

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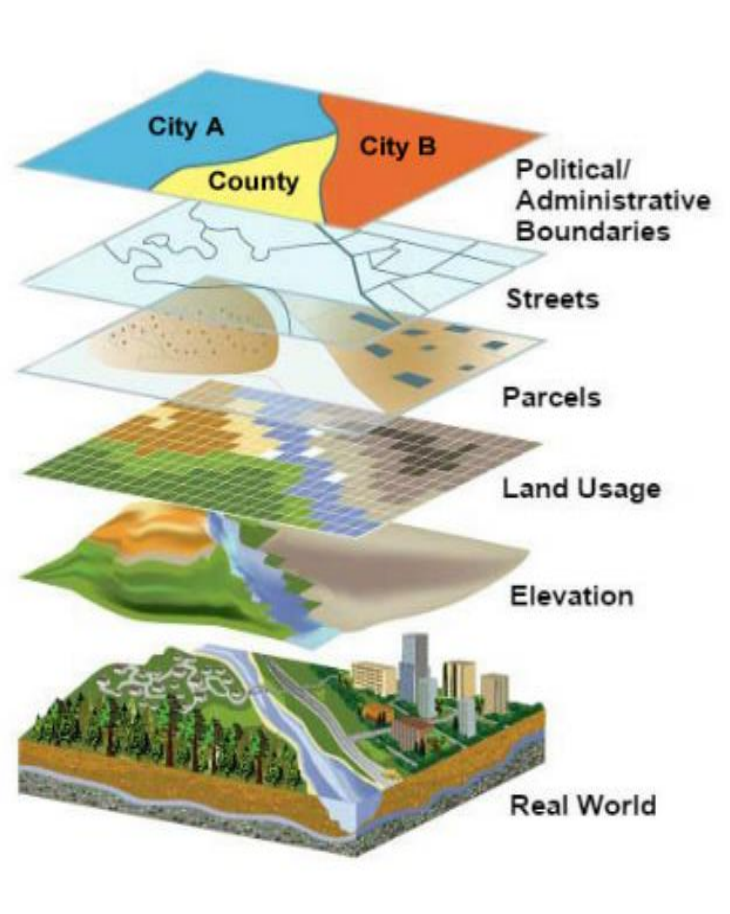
What is it?

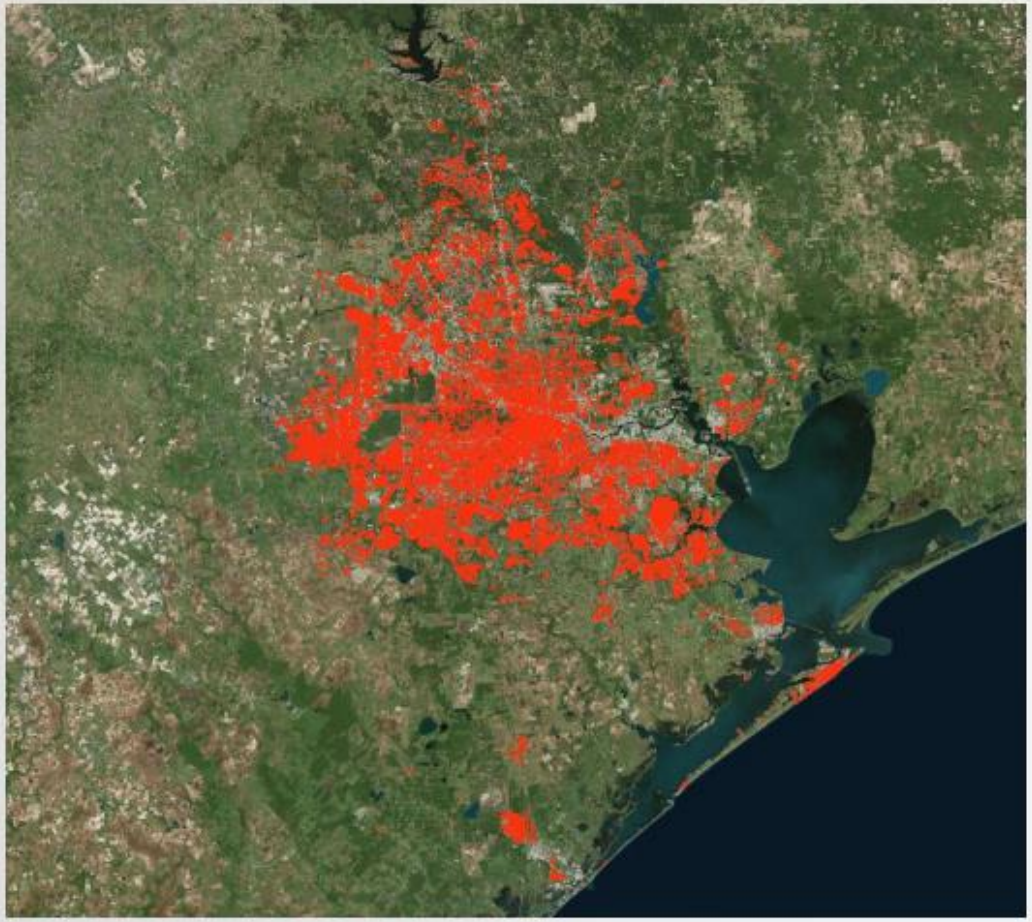


http://cms.sbcounty.gov/gis/GISDataServices/DataLayerCatalog.aspx

- The Crosswalk Layer will represent geographic data in ArcMap.
- 8-County TMA
- Identifies major intersections in need of pedestrian infrastructure improvements.

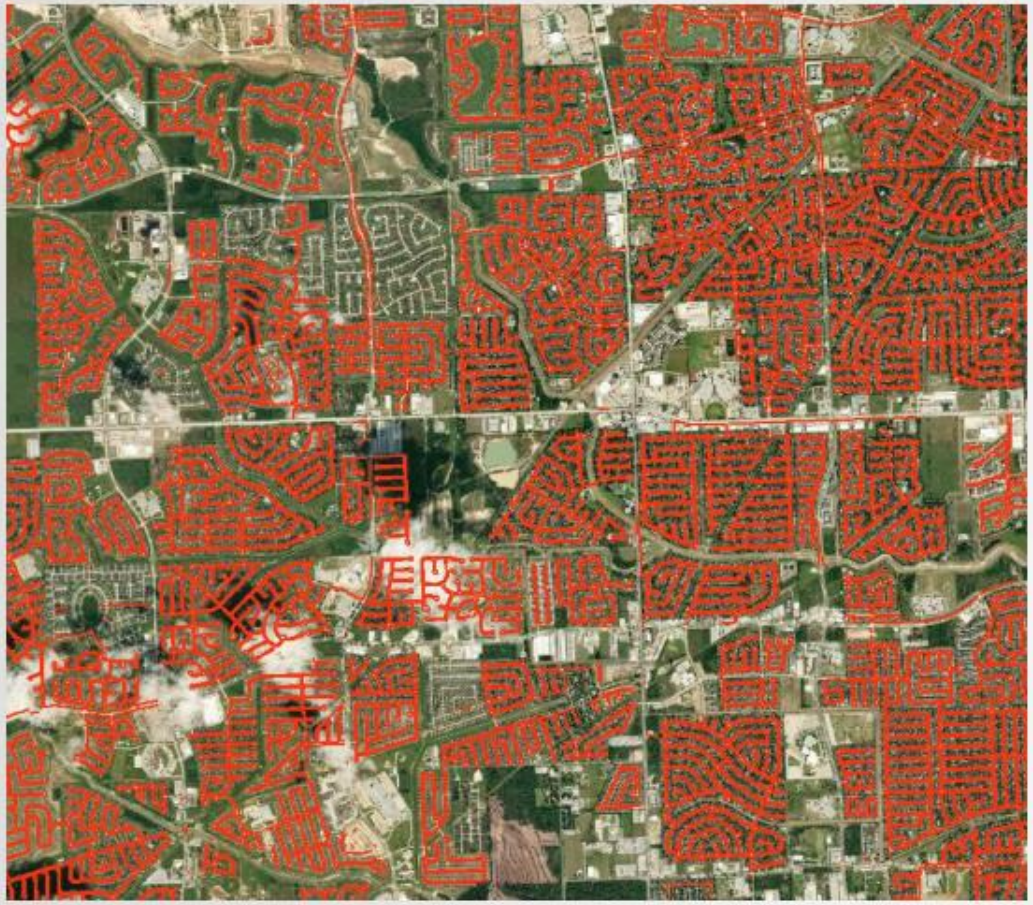
Regional Sidewalk Layer
+ Regional Crosswalk Layer
Pedestrian Connectivity Map

Regional Sidewalk Layer

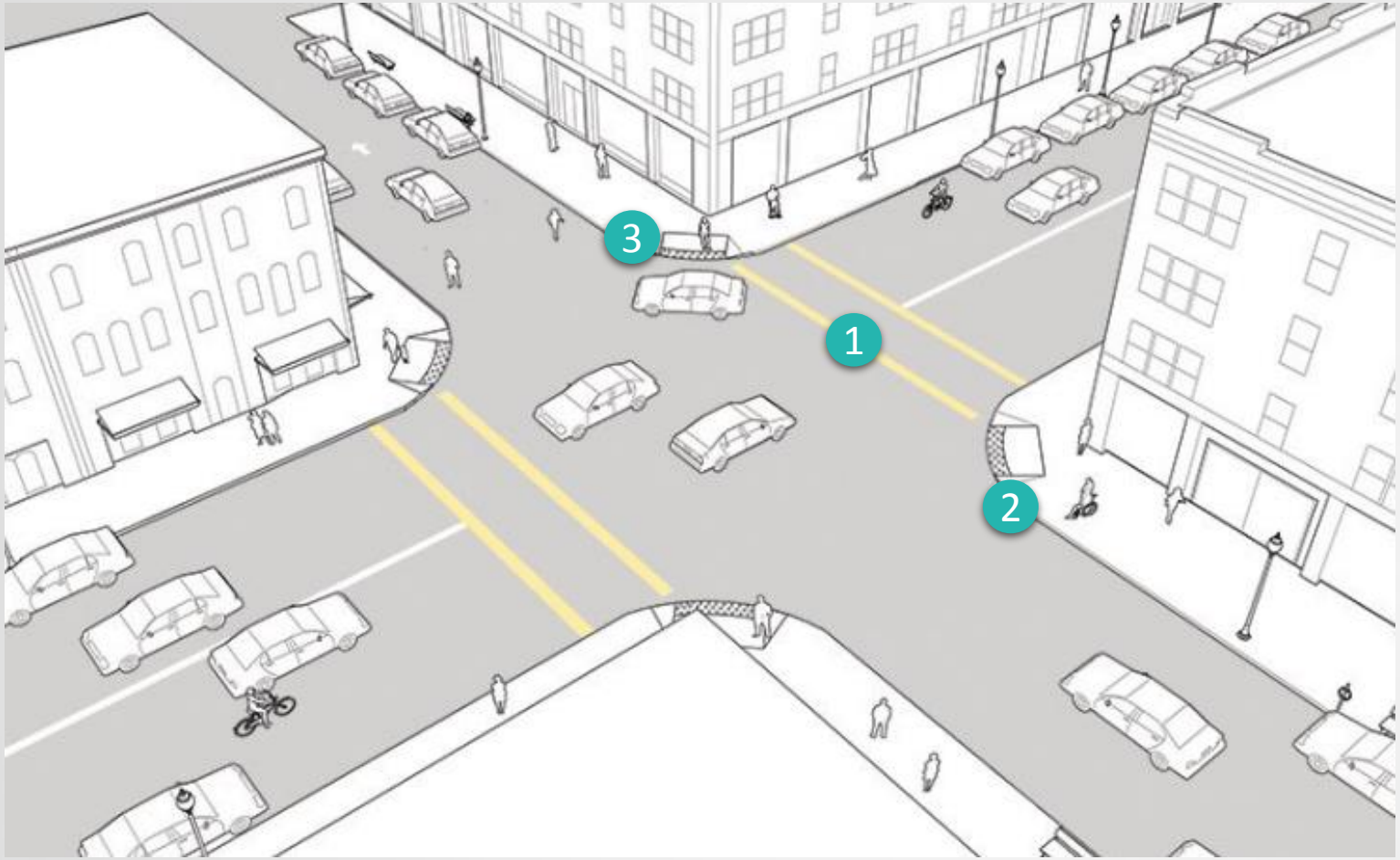


Regional Sidewalk Layer

Regional Sidewalk Layer



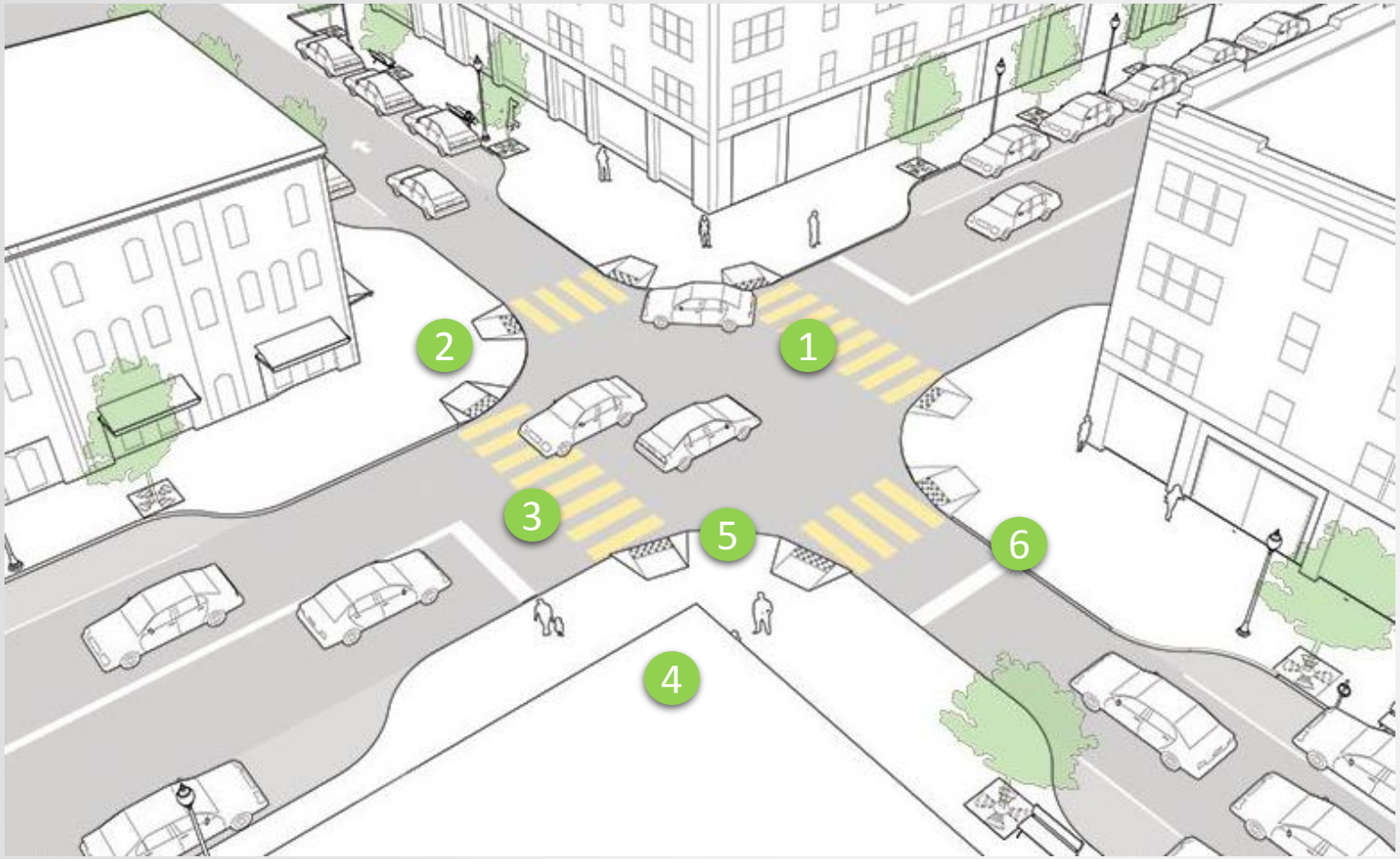
Conventional Crosswalk Design



1. Marked crosswalk only across major intersection
2. Long indirect paths
3. Poor visibility

NACTO, Urban Street Design Guide, 2013

Best Practice Crosswalk Design



1. Marked crossings at signalized intersections
2. Crosswalk as wide or wider than the walkway it connects to
3. High-visibility ladder crosswalk
4. Directional curb ramps guide users into safe ped zones
5. Shorter crossing distances
6. Advanced stop bar reinforces yielding to pedestrians

NACTO, Urban Street Design Guide, 2013

(Draft) Crosswalk Data

Characteristic	Data	Description
Coordinates	Latitude, Longitude (x,y)	Specific Crosswalk ID
Location 1	On-Street Crossing	Primary street at intersection
Location 2	At-Street Crossing	Secondary street at intersection
Crosswalk Designation	Marked or unmarked (implied) crossing	Refers specifically to roadway infrastructure of the crosswalk, not the intersection.
Crossing Type	Controlled or uncontrolled	Controlled by traffic signals or Stop signs.
Crosswalk Length (ft)	Length of crossing distance within a crosswalk.	What is the crossing distance for a pedestrian?
Crosswalk Width (ft)	Width measurement of pedestrian path in crosswalk.	How wide is the protected pedestrian zone?
Crosswalk Condition	Existing Good, Existing Poor, Non-Existing	Is the crosswalk visible to drivers?

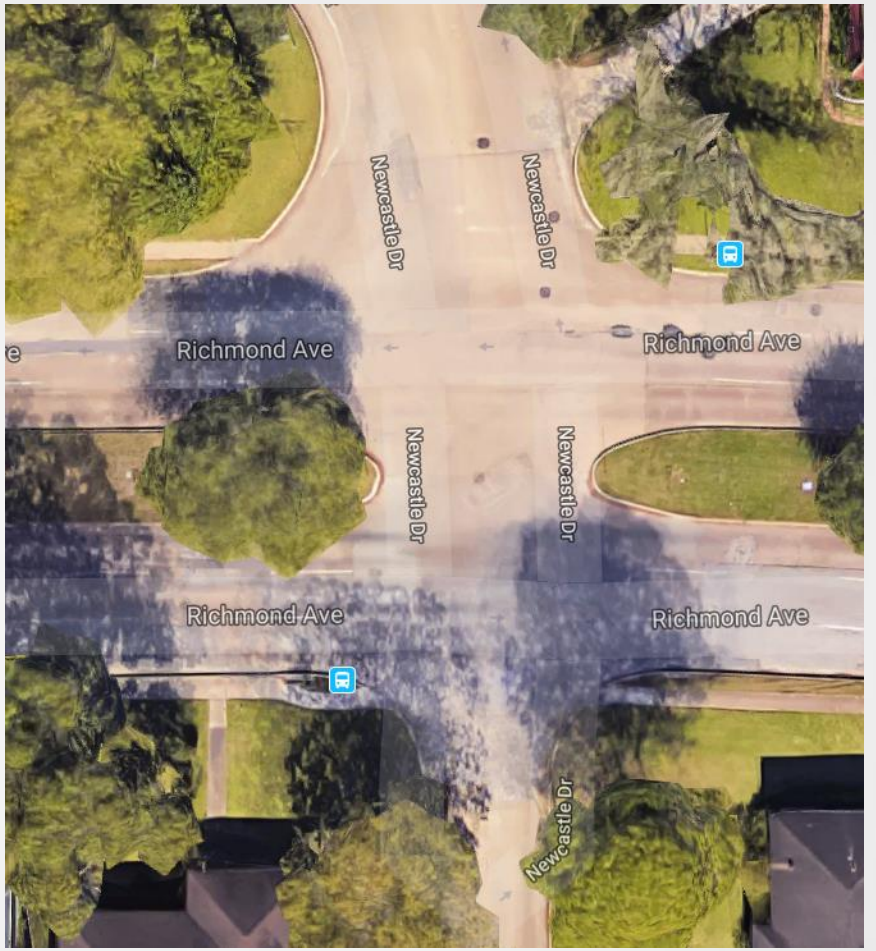
(Draft) Intersection Data

Characteristic	Data	Description
Street Type	Defined by *STAR Map	Example: major thoroughfare
Number of Lanes	Total number of traffic lanes being crossed.	How many traffic lanes must a pedestrian cross?
Median Strip Type	Pedestrian Refuge, cut-through refuge, porkchop, traffic median, non-existing	Is there a refuge for pedestrians crossing?
Median Strip Width (ft)	Measurement of median strip perpendicular to flow of traffic; or non-existing	Is there sufficient space for a pedestrian to safely wait to cross?
Street Width (ft)	Measurement of the road perpendicular to the flow of traffic	What is the crossing distance for a pedestrian?
Stop or Yield Bar	Faded, marked, unmarked	Is the stop or yield bar visible to drivers?
Stop or Yield Bar Distance (ft)	Distance between stop or yield bar and crosswalk; or N/A	What is the distance between drivers and crossing pedestrians?

Aerial View of Intersection Crossings

Marked Crossings

Unmarked Crossings

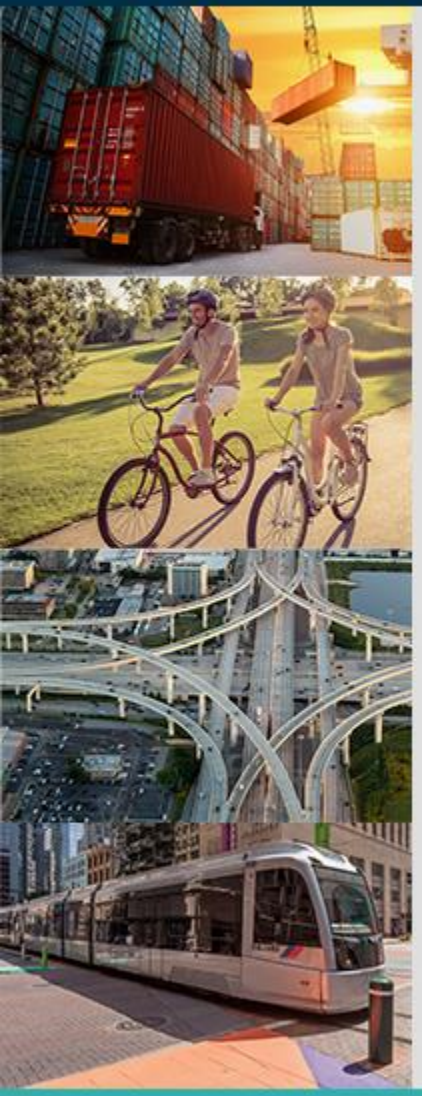


Regional Sidewalk Layer Update

- Enhance dataset
- Quickly gather supportive data for funding opportunities
- Understand pedestrian connectivity gaps

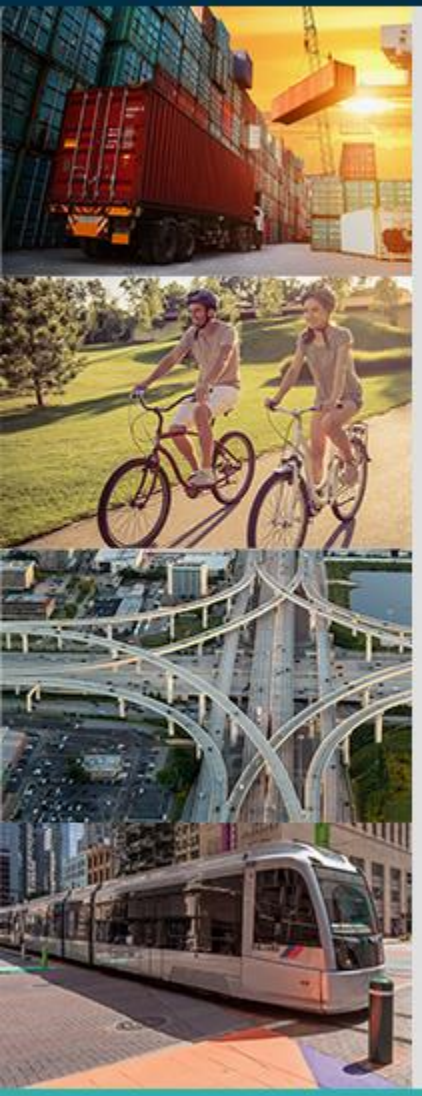
Regional Sidewalk Layer
+ Regional Crosswalk Layer
Pedestrian Connectivity Map

Next Steps



- Categorize data
  - Case Studies
- Develop Scope of Work for consultant
- Refine & explore additional analysis
- 2-Way Sharing

Regional Crosswalk Layer



- Any questions or suggestions?

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H-GAC Count Program

Clint McManus
8 May 2019

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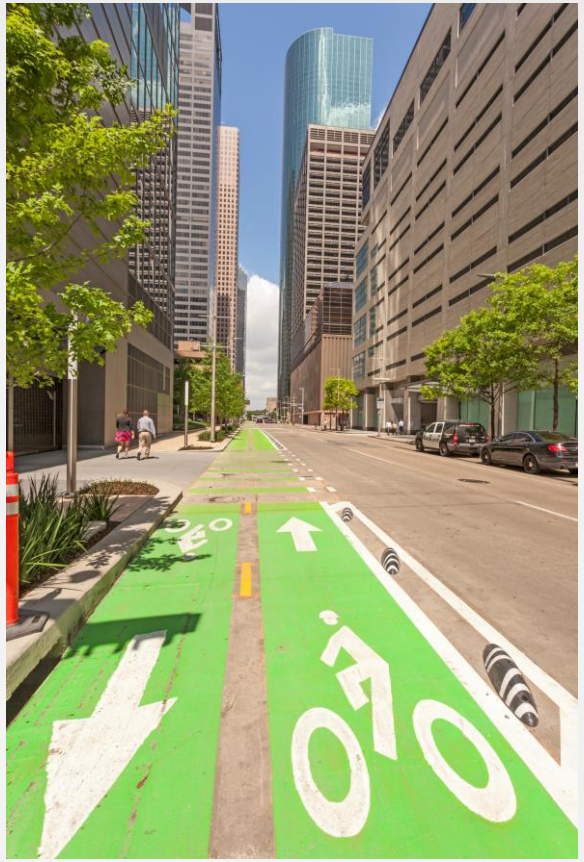
H-GAC METROPOLITAN PLANNING ORGANIZATION

Overview

- Technology
- Use
- Next steps



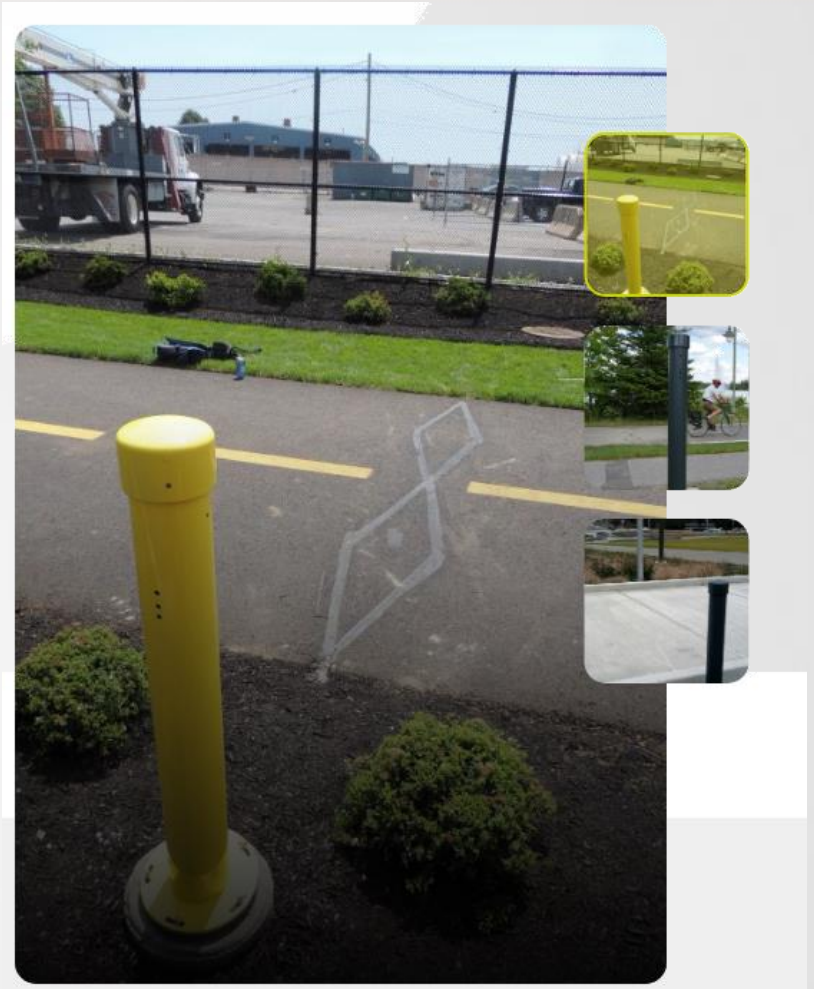
Temporary Counters

- Off-street facilities
- Groups pedestrians and bicyclists
- Cannot differentiate direction
- 2 week count periods

Source: TRAFx

Permanent Counters

- Off-street facilities
- Differentiates pedestrians and bicyclists
- Differentiates direction



Source: Eco-Counter

Next Steps

- Criteria development
- Online request form
- Formalized counter
- Regular counter updates to subcommittee

Subcommittee Roundtable

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Upcoming Meeting Dates

- July 18 - 9:30-11:00AM
- October 17 - 9:30-11:00AM