

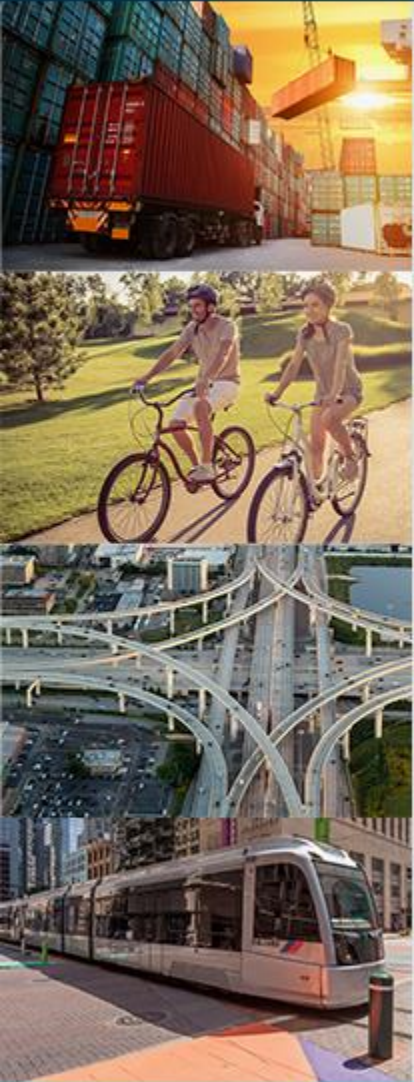


High Capacity Transit Task Force



February 15, 2019

Today's Agenda



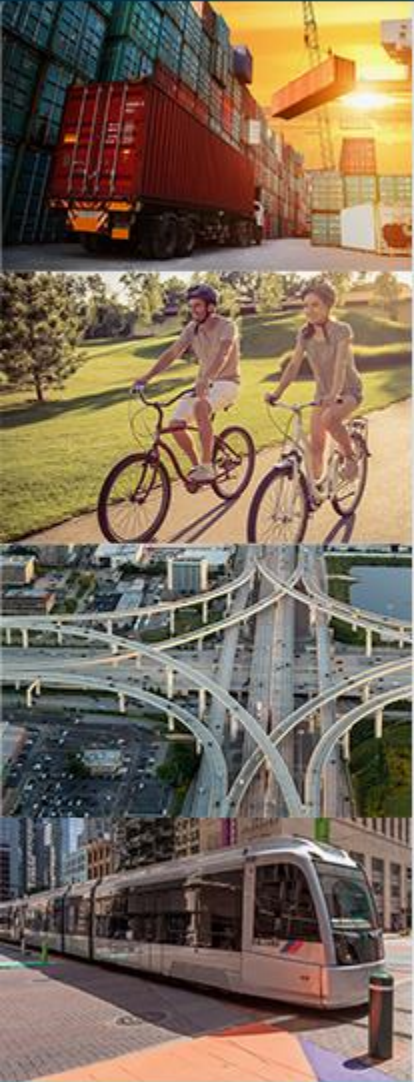
- Introductions
- Public Comment
- Review of Previous Work
- Additional Cost/Benefit Analysis
- Potential Priority Components
- Next Steps

Public Comment

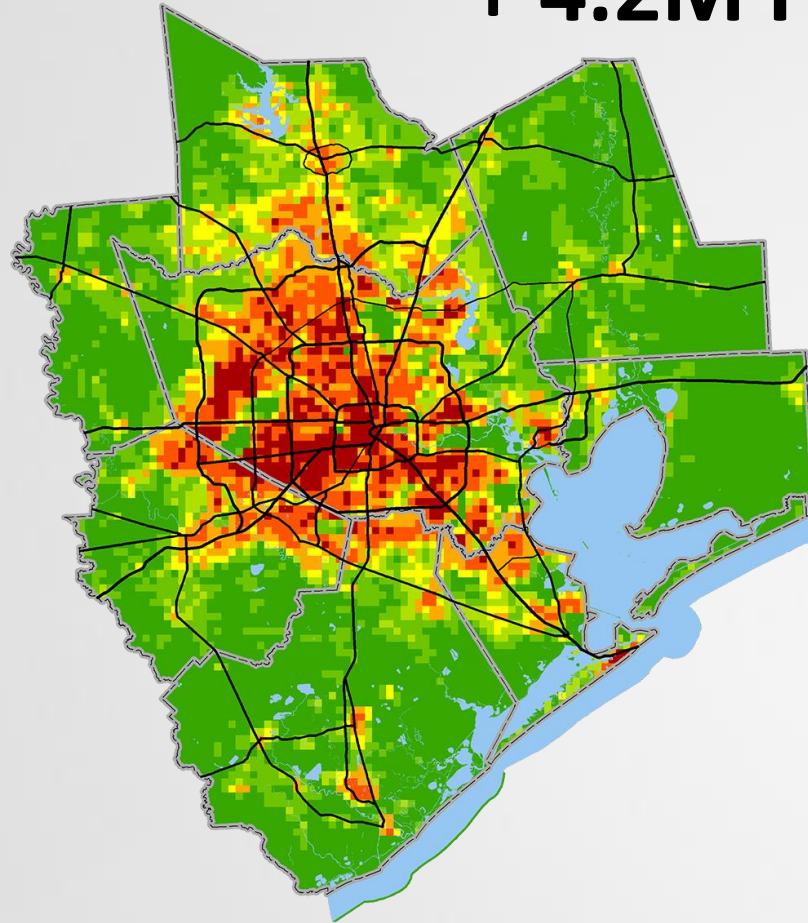


Please limit your remarks to three minutes. Thank you!

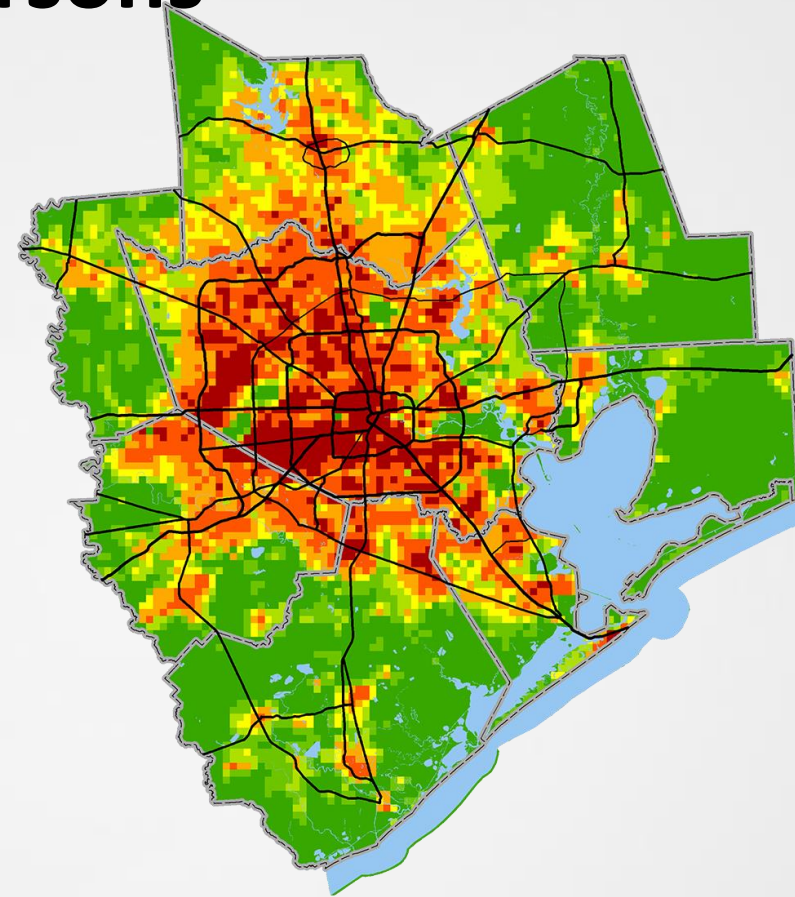
Population Growth



+ 4.2M Persons

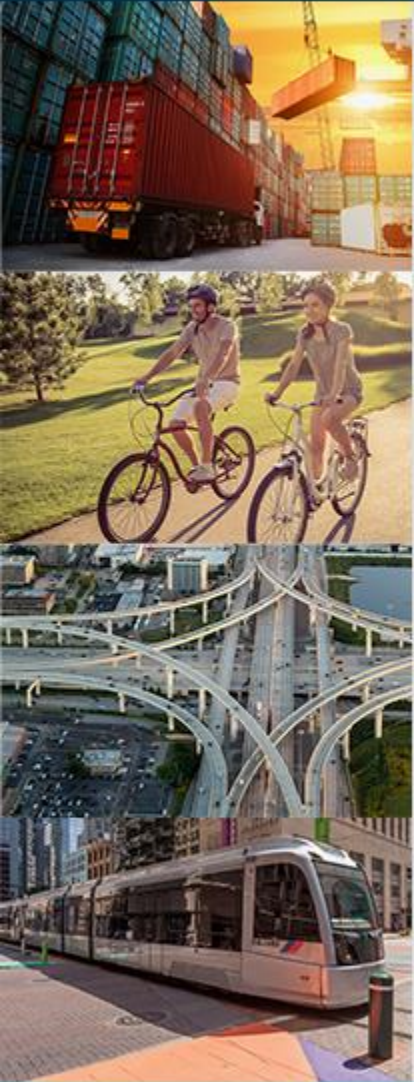


2017

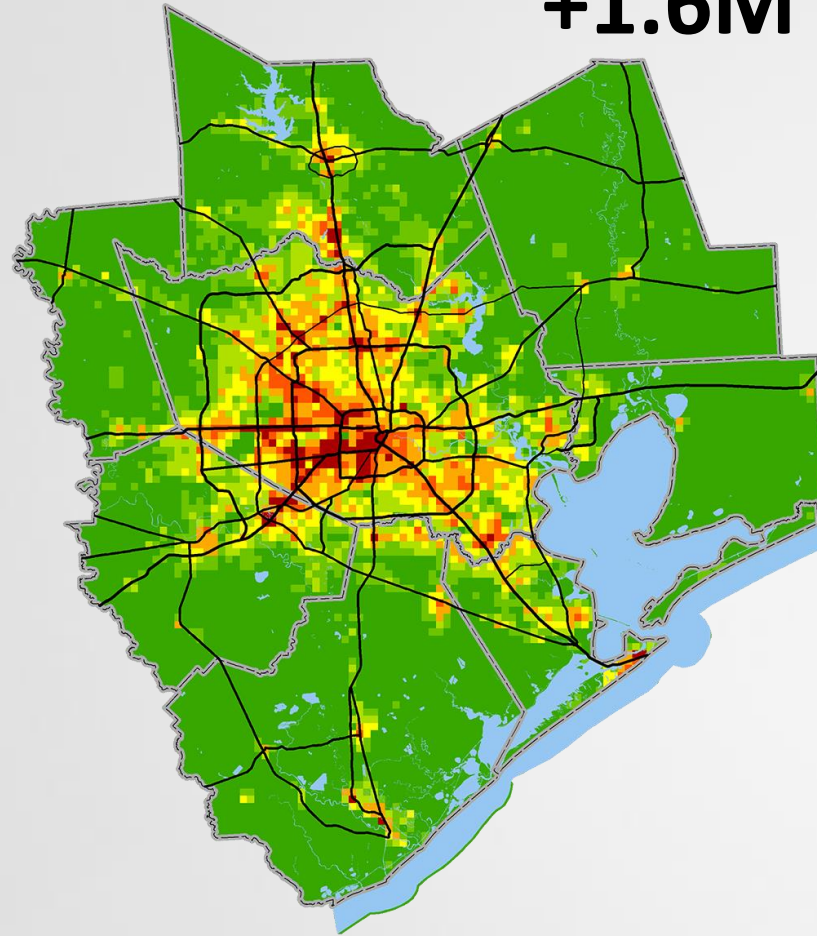


2045

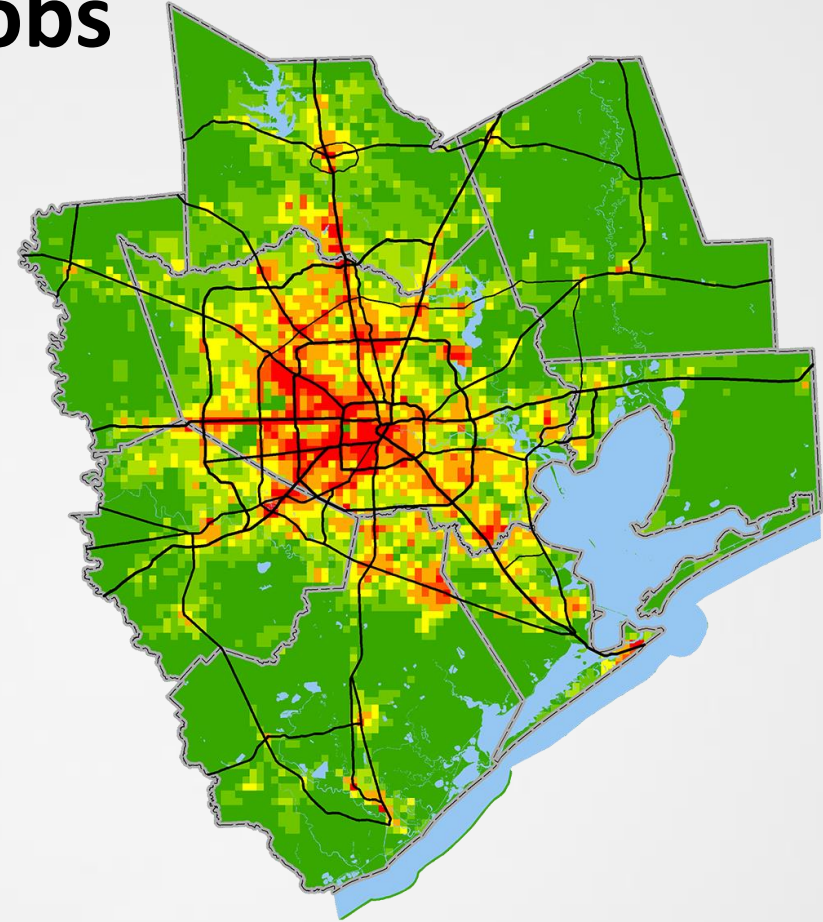
Employment Growth



+1.6M Jobs



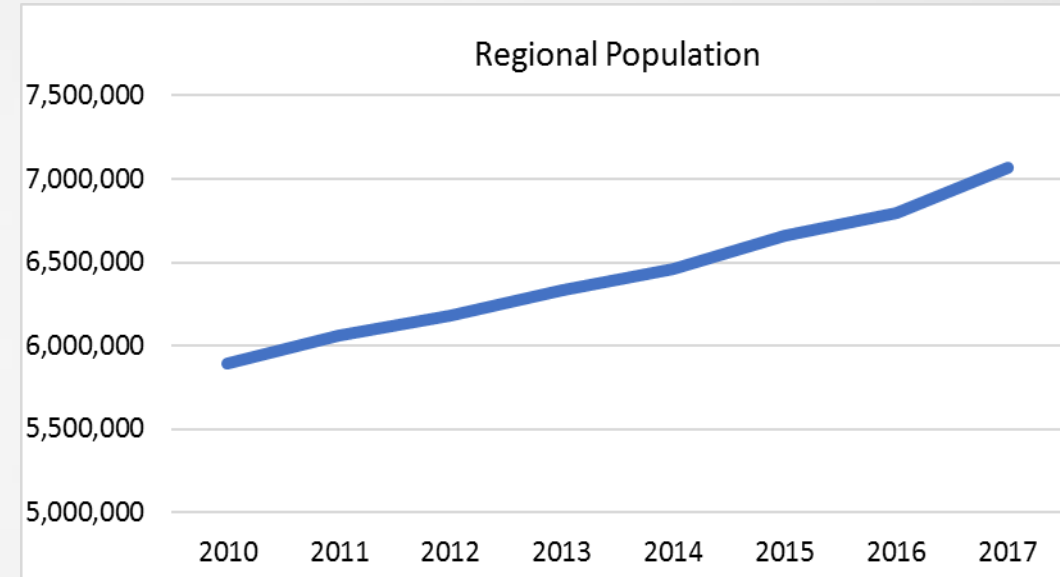
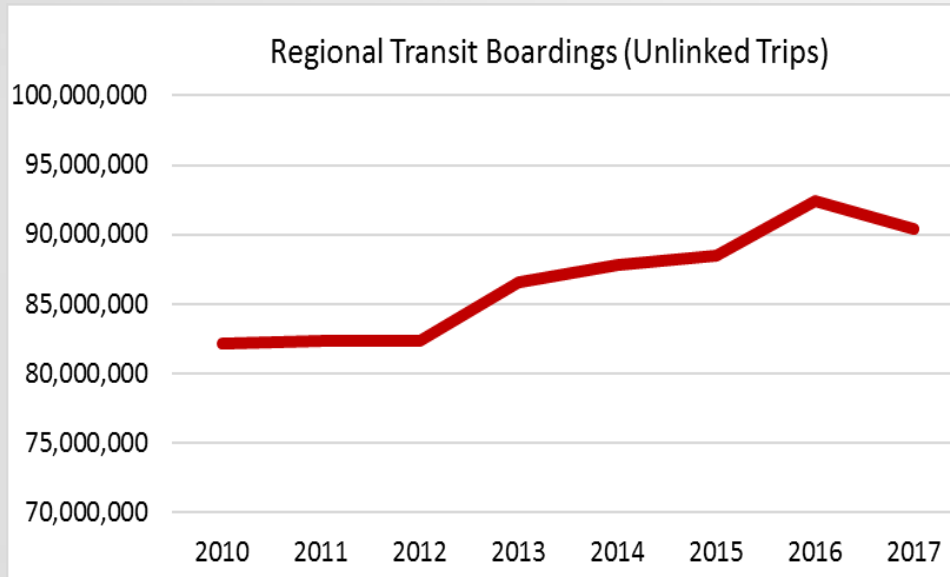
2017



2045

Why High Capacity Transit?

- Regional public transit ridership growth not keeping up with population growth
 - Growth is occurring in areas not well-served by transit
 - Network still tends to serve “traditional” commute patterns

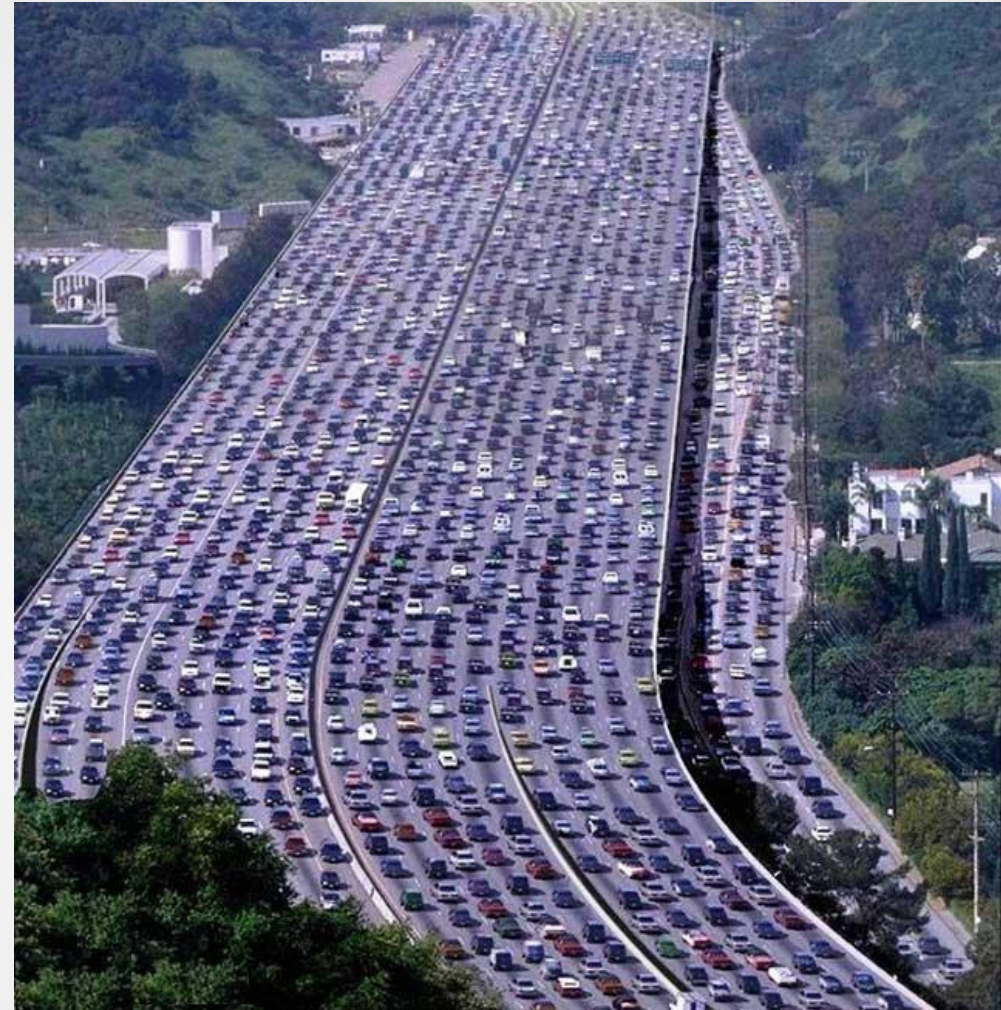
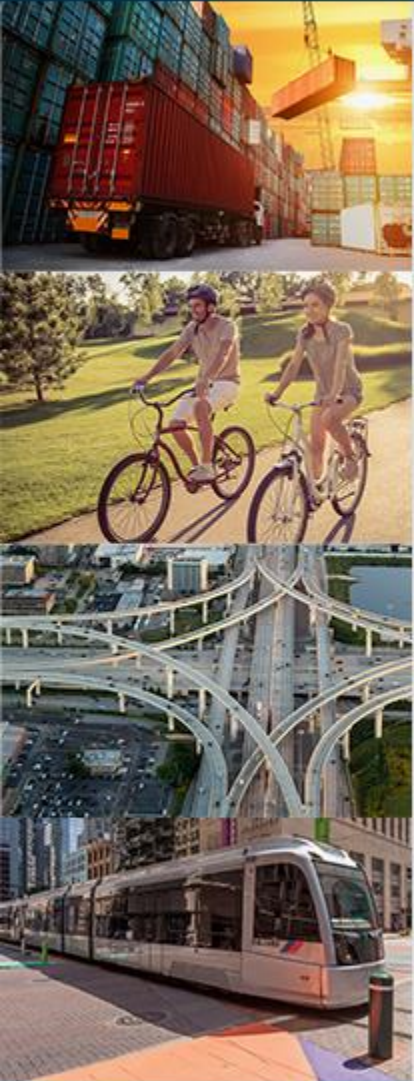


Source: National Transit Database, US Census Estimates



Why High Capacity Transit?

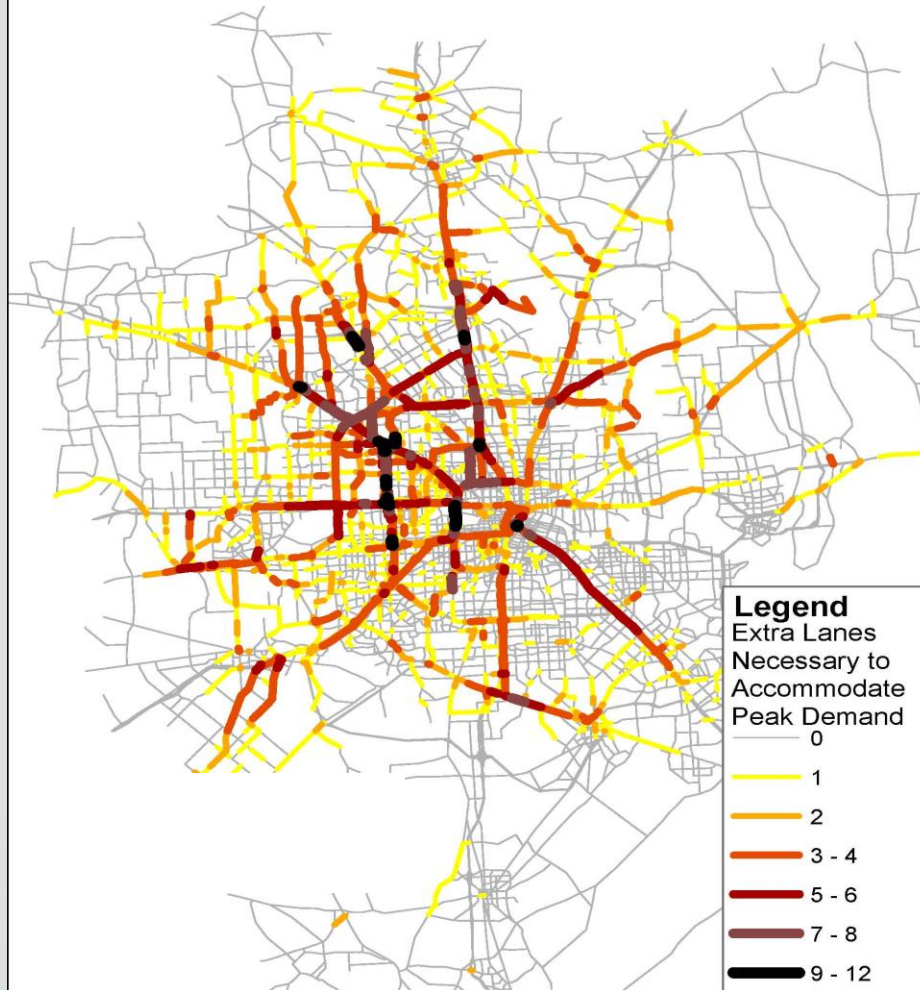
- 100 Million more vehicle miles traveled daily ?
- Widening highways alone cannot handle growth !



Impact of Regional Growth



Additional Lane Miles Needed

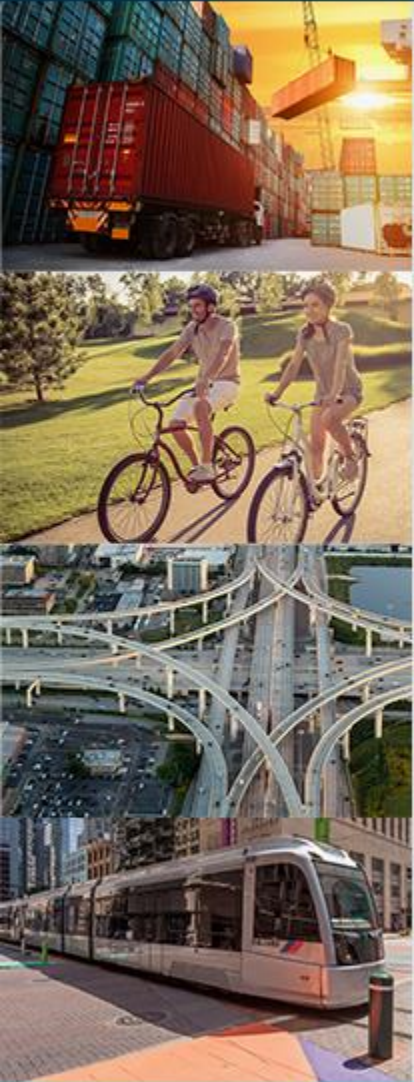


6,000 More Lane
Miles Needed Than
in 2040 RTP

What is High Capacity Transit?

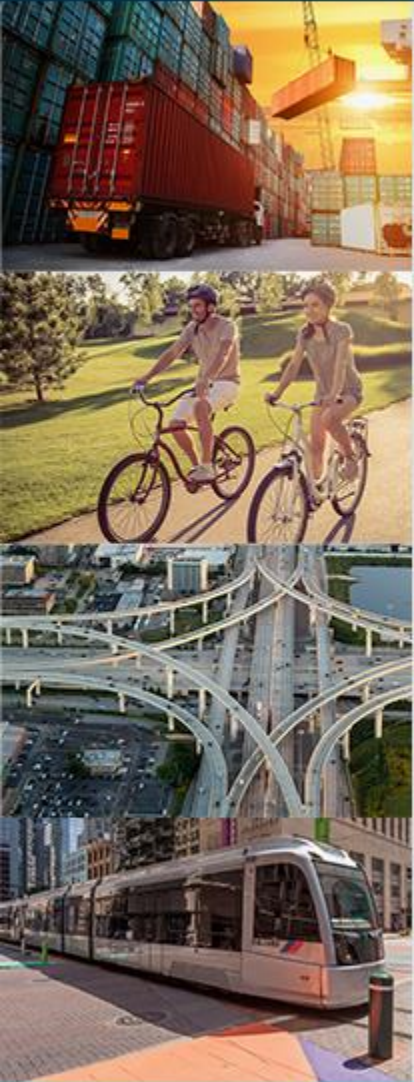


Purpose of Task Force



- Identify extent to which High Capacity Transit is needed to support economic growth, mobility and quality of life
- Estimate what investment is needed
- Determine if there is a “Business Case” for investment in HCT

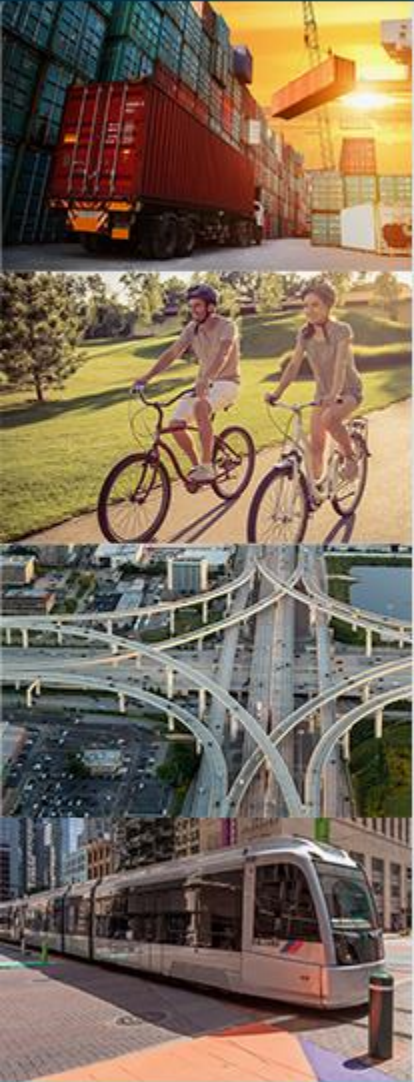
Task Force Structure and Major Events



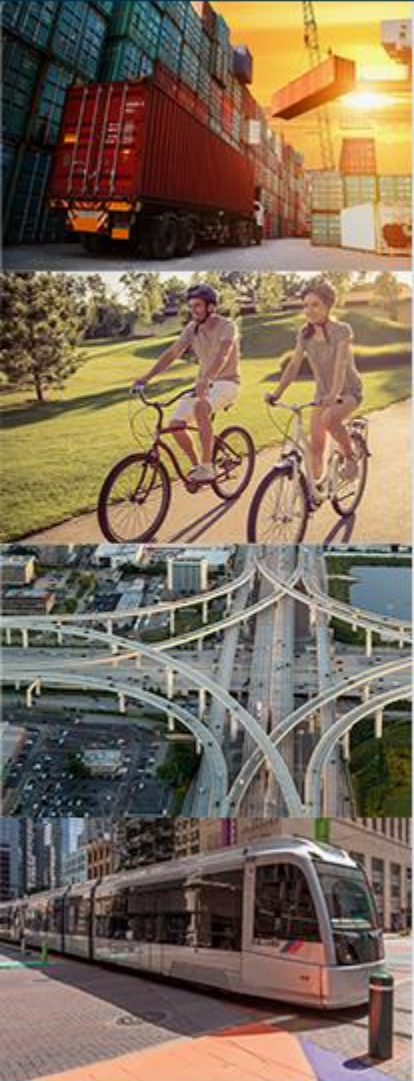
- Three Workgroups:
 - Service Concepts
 - Innovative Finance
 - Economic Development
- Workshop (September 2017)
- Rail~Volution Panel (August 2018)













Tasks Completed – Service Concepts

- Reviewed examples of service types from other regions
- Created “Vision” network
 - Four capital expenditure scenarios
- Generated list of evaluation criteria
- Generated list of general principles and supportive concepts

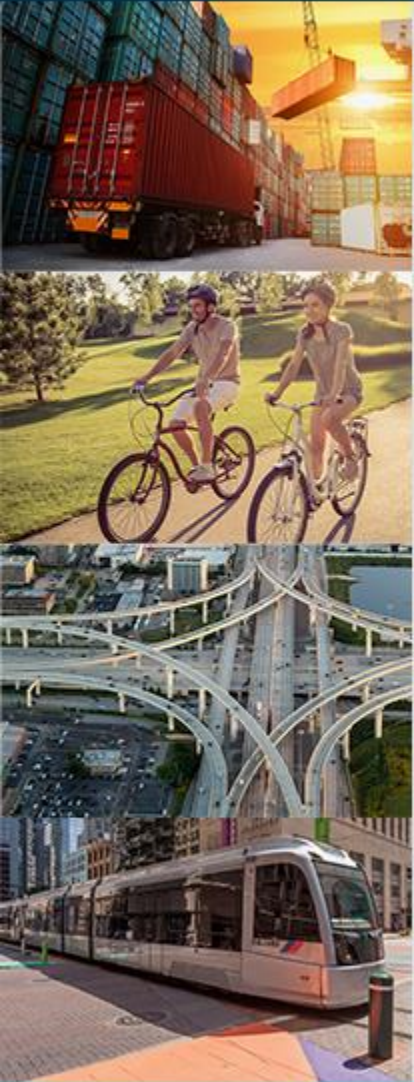


Example Regions Review



Country	City or Region	Economic Impact	Service Concepts	Innovative Funding
	Atlanta	✓	✓	
	Austin		✓	
	Cleveland	✓	✓	✓
	Dallas/Fort Worth	✓	✓	
	Denver	✓		✓
	Los Angeles		✓	
	Miami		✓	✓
	Seattle	✓		✓
	Washington, DC	✓	✓	✓
	Ottawa			✓
	Vancouver		✓	
	Dubai		✓	

Evaluation Criteria



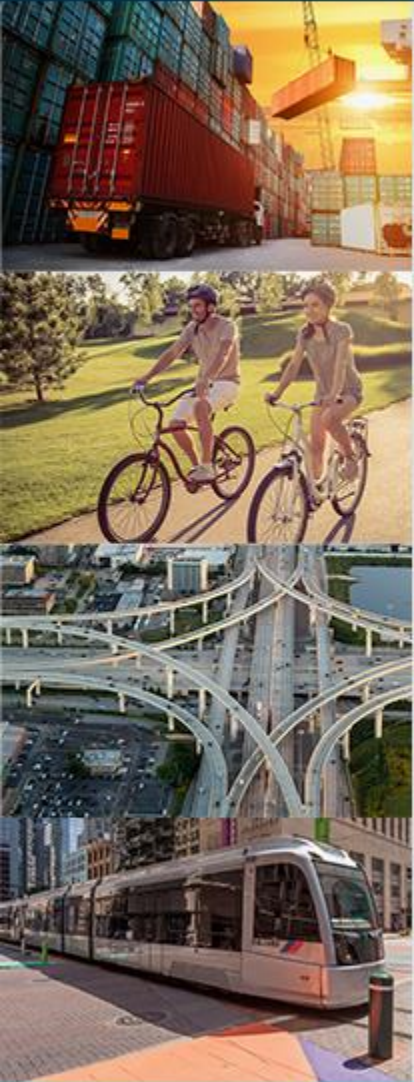
- Does the proposed option improve access and mobility from communities to and from major activity centers such as:
 - Workplaces/Employment Centers?
 - Health and Education Centers?
 - Economic Centers?
 - High Capacity Transit Hubs?
- Does the proposed option present the best travel alternatives to heavily congested freeways and roadways?

Evaluation Criteria



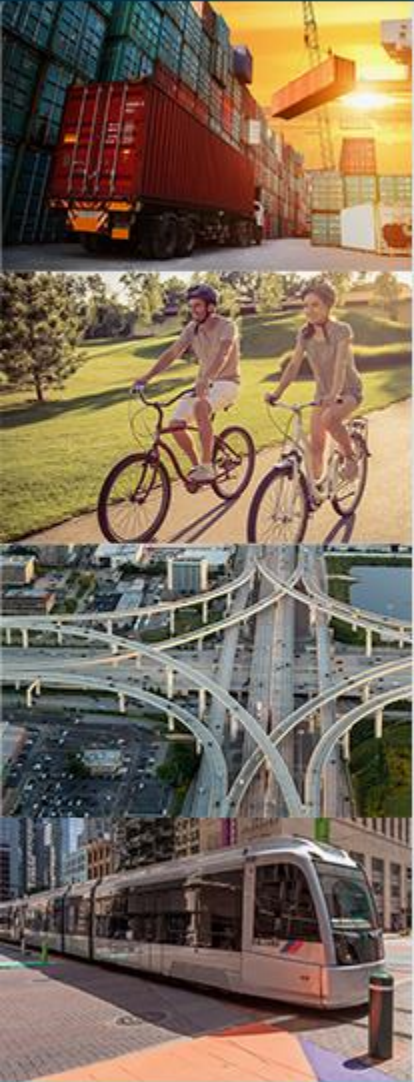
- Does the proposed option contribute to the economic development of the region or its standing as an international City/Hub?
- Does the proposed option enhance the full spectrum of livability (live, work, play; see H-GAC Livable Centers studies) for people of all incomes, abilities, and ages?

Evaluation Criteria



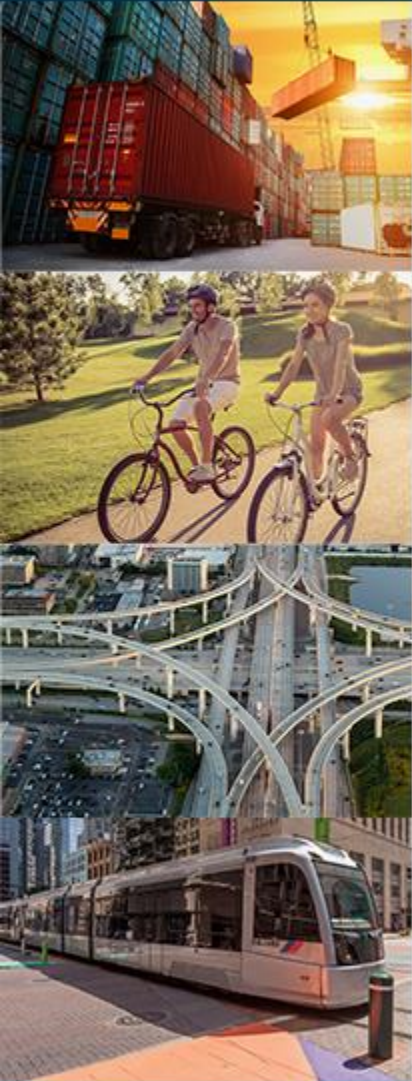
- Does the proposed option allow sufficient flexibility to change service patterns as warranted by evolving demand?
- Does the proposed option provide connectivity for an integrated multimodal HCT system with system-wide, cohesive connections from start-to-finish (for the maximum span of service hours possible)?

Evaluation Criteria



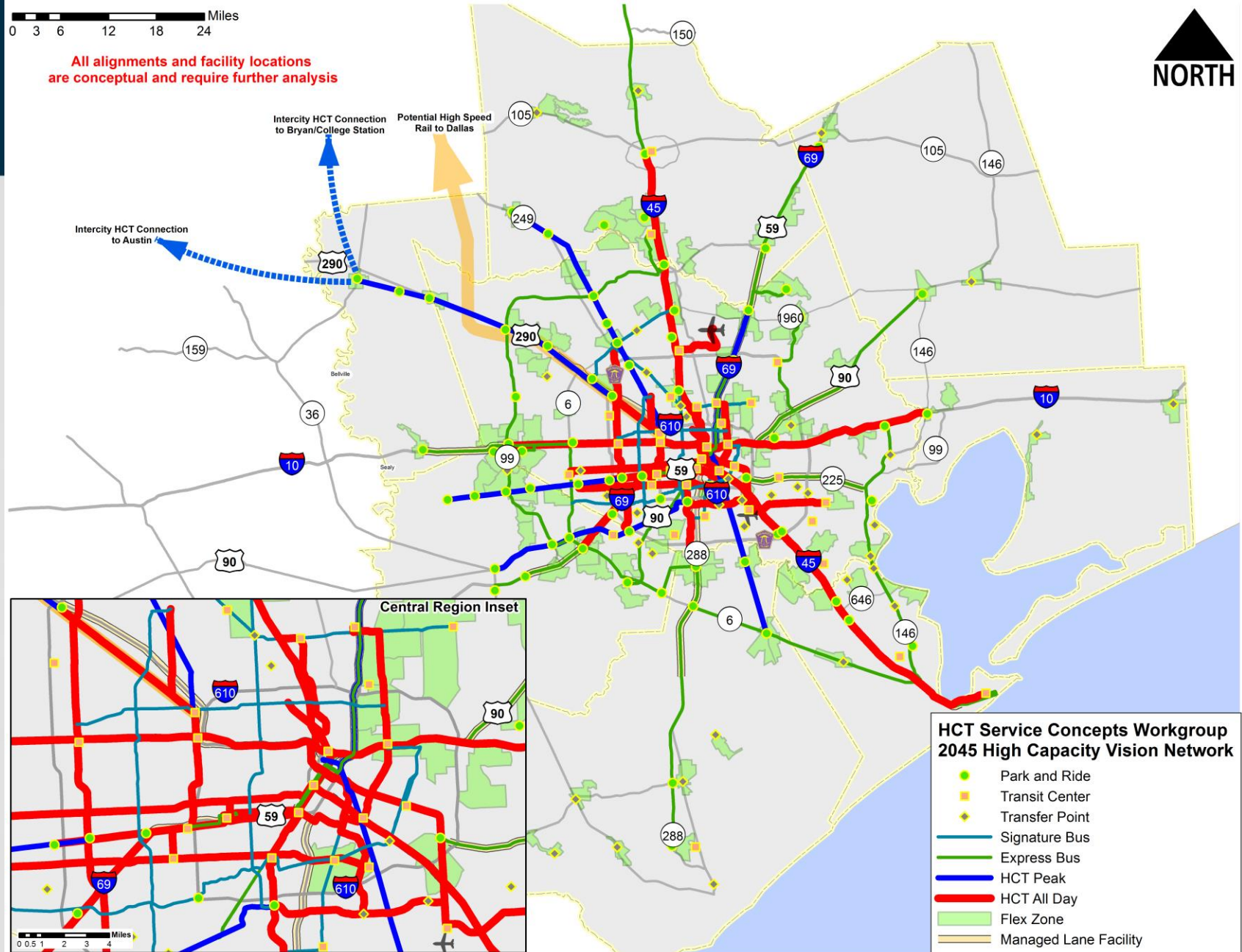
- Does the proposed option make the transit system more resilient in the event of extreme demand or catastrophe?
- Does the proposed option allow transit users and non-users to travel safely?
- Does the proposed option contribute to emissions reductions?

Vision



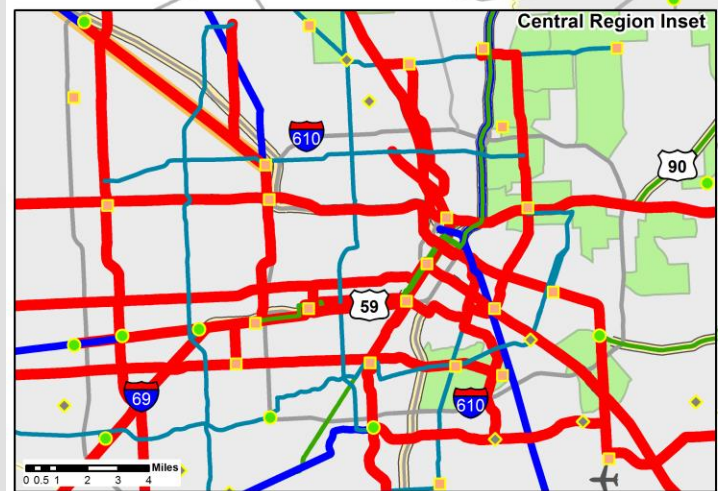
0 3 6 12 18 24 Miles

All alignments and facility locations are conceptual and require further analysis



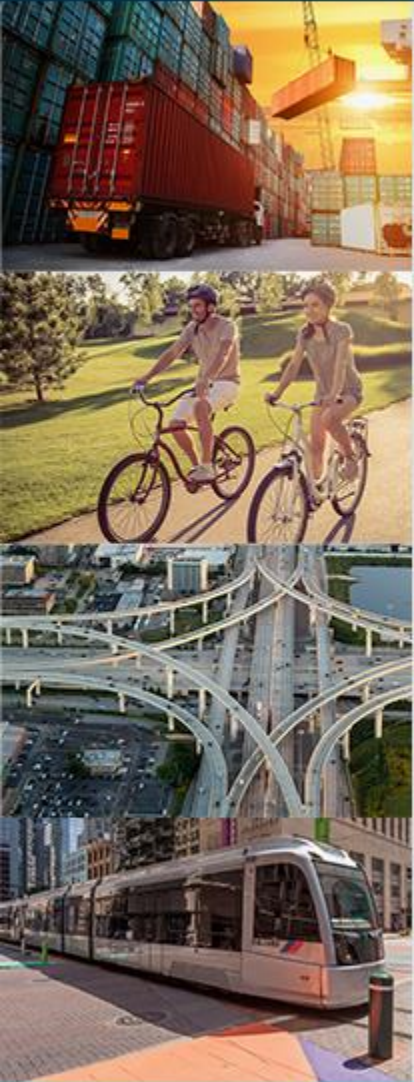
**HCT Service Concepts Workgroup
2045 High Capacity Vision Network**

- Park and Ride
- Transit Center
- ◆ Transfer Point
- Signature Bus
- Express Bus
- HCT Peak
- HCT All Day
- Flex Zone
- Managed Lane Facility



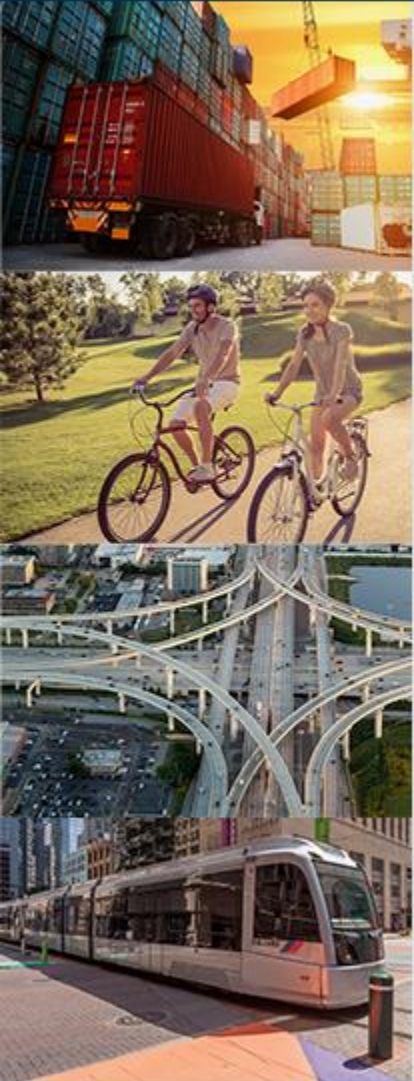
0 0.5 1 2 3 4 Miles

Included in Vision Network



- Expanded local services (areas indicating high transit need that do not currently have service, e.g. Pasadena, Channelview, etc.)
- Regional services (connecting outlying communities to each other and urban core)
- Flex Zones (Community Connectors)
- Suburb-to-Suburb express bus services
- All services feed into HCT network (First Mile/Last Mile)

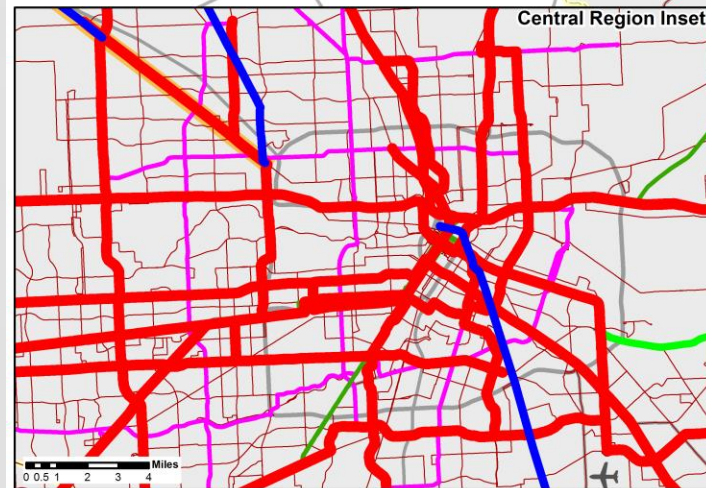
High



0 3 6 12 18 24 Miles

All alignments and facility locations are conceptual and require further analysis

Potential High Speed Rail to Dallas



HCT Service Concepts Workgroup
2045 High Capacity Vision Network
HIGH Capital Scenario

- Local or Regional Route
- Signature Bus
- Express Bus
- At-Grade commuter Rail
- In-Freeway BRT
- Grade-Separated Rail

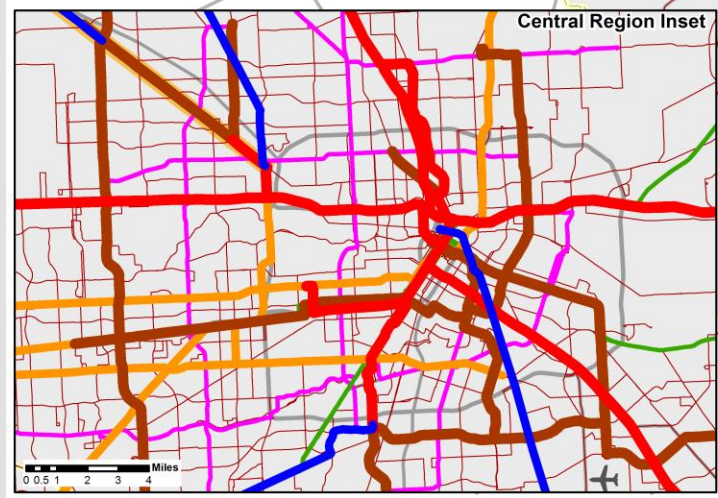
Medium High



0 3 6 12 18 24 Miles

All alignments and facility locations are conceptual and require further analysis

Potential High Speed Rail to Dallas

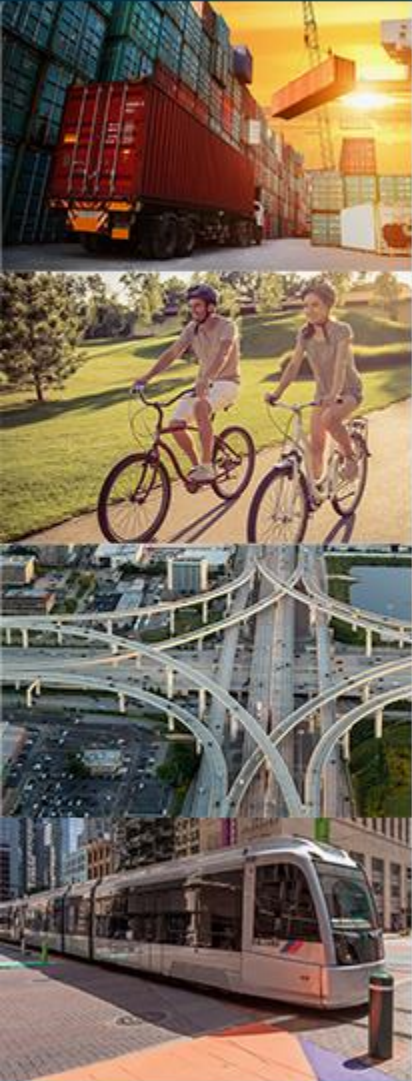


HCT Service Concepts Workgroup
2045 High Capacity Vision Network
MEDIUM-HIGH Capital Scenario

- Local or Regional Route
- Signature Bus
- Express Bus
- Grade-Separated BRT
- At-Grade Commuter Rail
- At-Grade Light Rail
- Grade-Separated Rail



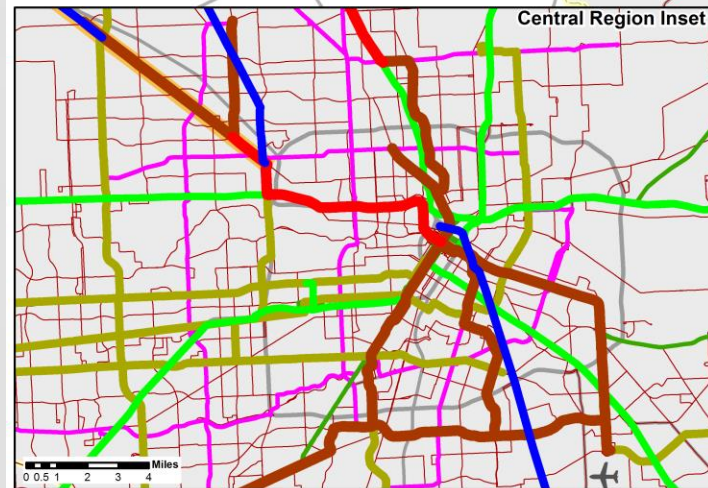
Medium Low



0 3 6 12 18 24 Miles

All alignments and facility locations are conceptual and require further analysis

Potential High Speed Rail to Dallas



HCT Service Concepts Workgroup
2045 High Capacity Vision Network
MEDIUM-LOW Capital Scenario

- Local or Regional Route
- Signature Bus
- Express Bus
- In-Freeway BRT
- At-Grade BRT
- At-Grade Commuter Rail
- At-Grade Light Rail
- Grade-Separated Rail

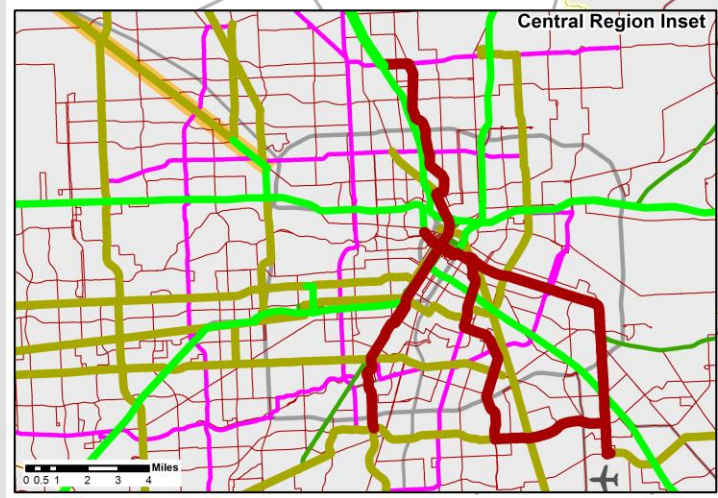
Low



0 3 6 12 18 24 Miles

All alignments and facility locations are conceptual and require further analysis

Potential High Speed Rail to Dallas

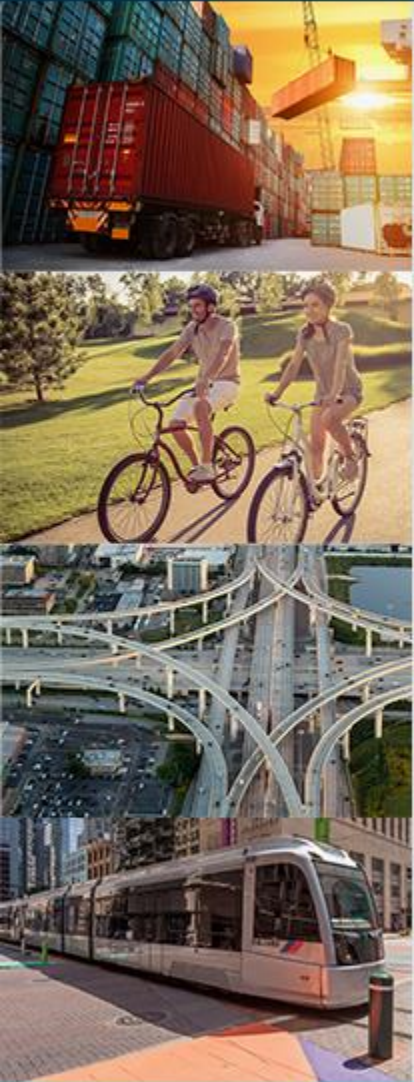


HCT Service Concepts Workgroup
2045 High Capacity Vision Network
LOW Capital Scenario

- Local or Regional Route
- Signature Bus
- Express Bus
- In-Freeway BRT
- At-Grade BRT
- At-Grade Light Rail



Capital Costs



- We generated a range of scenarios, from “low” (everything BRT at-grade) to “high” (everything LRT grade-separated)
- Same unit costs as used for METRONext
- Higher level of investment: faster speeds; more capacity, reliability, safety
- Passenger facility, O&M facility, and fleet costs (non-HCT) the same across all scenarios
- All scenarios include allowances for SOGR and Universal Accessibility

Capital Cost Scenarios

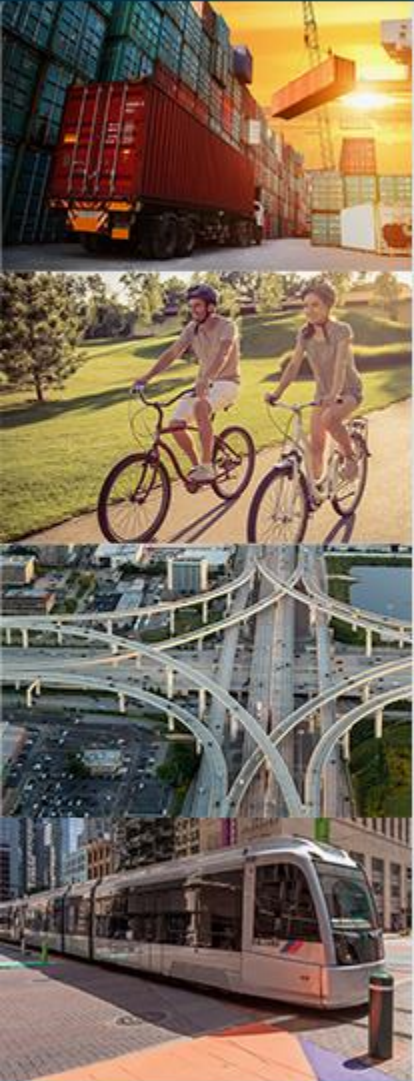


- **Low:** \$34.4 B
- **Medium Low*:** \$42.9 B
- **Medium High:** \$81.0 B
- **High:** \$100.1 B

* Closest to draft METRONext Vision Plan

General Principles/Supporting Concepts

- Policies that should be in place to support/promote HCT in the region
 - Regional Fare & Marketing
 - Universal Accessibility
 - First Mile/Last Mile
 - Transit-friendly design and parking
- Regional HCT requires regional cooperation



General Findings – Service Concepts

- Don't focus only on HCT services
- People need to get to transit in order to be able to use it
- Equity is a critical consideration
- Automation will create opportunities and challenges
 - AVs could substantially reduce cost of, and expand access to, transit service
 - AVs could worsen congestion

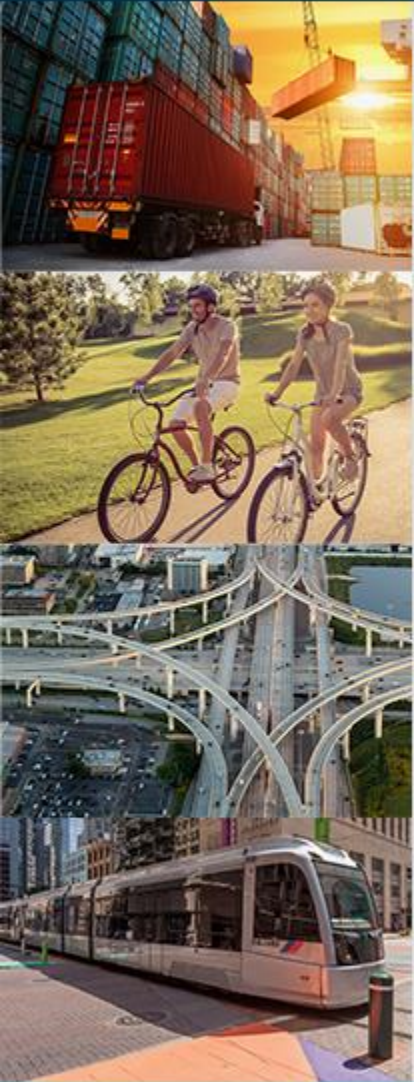


Tasks Completed - Finance

- Reviewed examples of innovative finance from other regions
- Reviewed examples of governance structures from other regions
- Developed a list of potential finance and funding options
 - Some options might not necessarily be feasible or appropriate for the region at this time




General Findings - Finance



- Any significant expansion of HCT in the region will require revenue sources that do not currently exist
- No single revenue source is a “magic bullet” – multiple strategies are required
- The region must “speak with one voice” to lawmakers

Estimated Revenues (if nothing changes)



■ METRO Farebox:	\$ 2.2 B
■ METRO Sales Tax (less GMP):	\$ 18.2 B
■ Federal Formula:	\$ 3.3 B
■ Federal Discretionary:	\$ 1.4 B
■ Non-METRO Farebox:	\$.2 B
■ Non-METRO Local:	\$.3 B

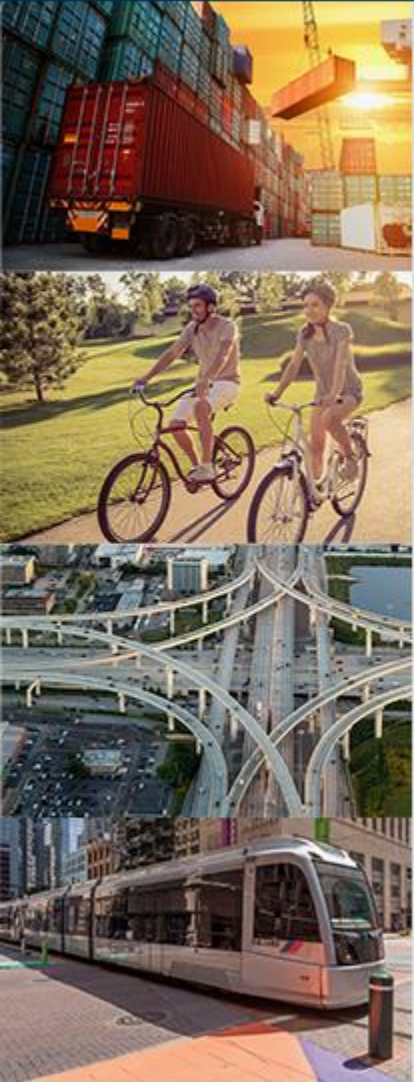
ESTIMATED REVENUES **\$ 25.6 B**

(Based on 2040 RTP revenue model and current NTD data, extrapolated to 2045 using current dollars)

Potential Base Strategies

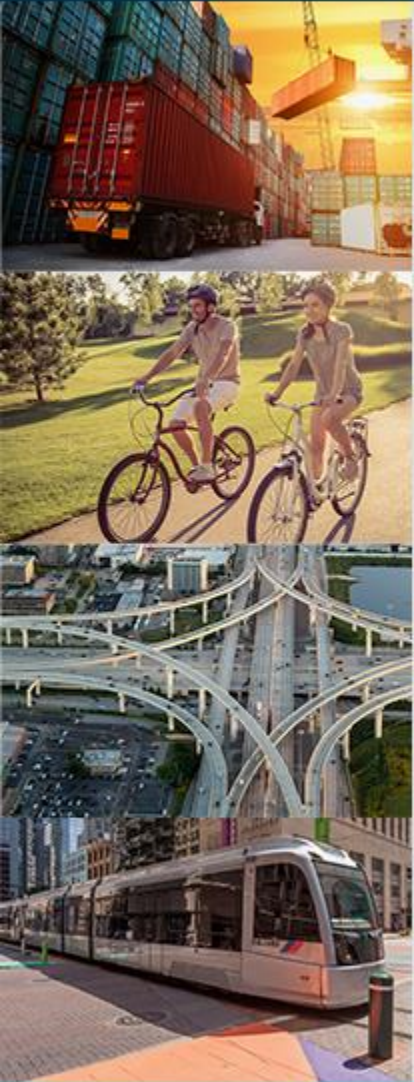
■ Public-Private Partnerships

- FTA new guidance re: Private Investment Project Procedures (PIPP) - intended to “address impediments to the greater use of public-private partnerships and private investment in public transportation capital projects.”
- Not all transit projects will be eligible or appropriate for PPPs
- Private participation is usually “the last dollar in the bucket”



Potential Base Strategies

- Federal Loans (TIFIA, RRIF)
- Value Capture Strategies
 - Impact Fees
 - Special Assessment Districts (SAD)
 - Tax increment financing (TIF)
 - Parking and Station Revenues
 - Naming Rights
 - Joint Development/TOD



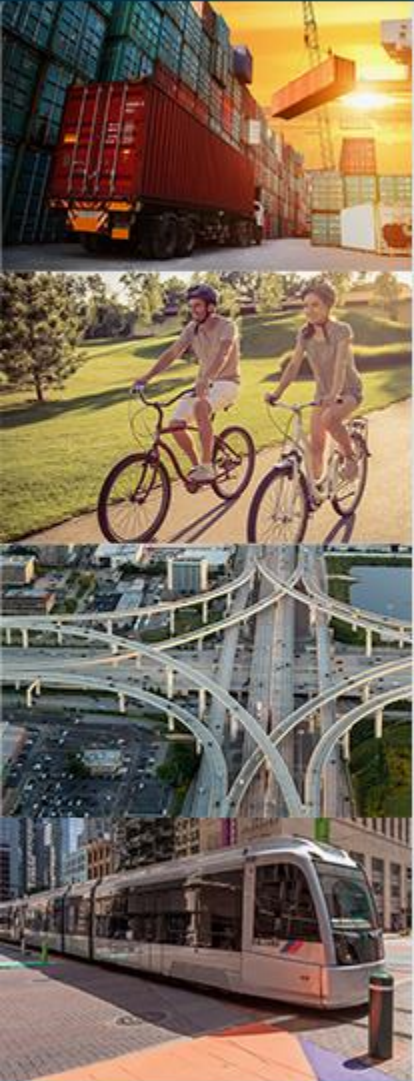
Potential Local Strategies



- Allow transit projects to compete for highway funding based on performance criteria established by TPC
- Increase municipal and county funding support for transit outside METRO service area
 - Almost every regional municipality has reached 8.25% local sales tax cap

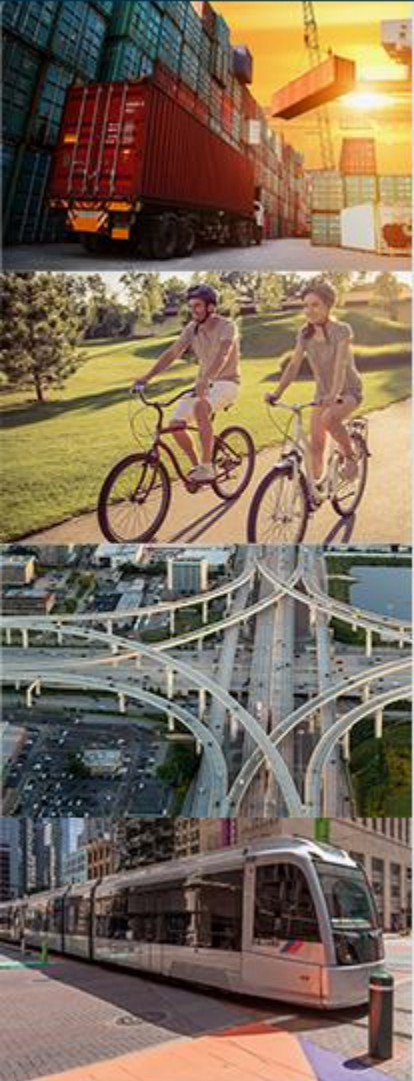
Strategies Requiring Legislative Action

- Increase transit projects' eligibility for state funding
- Implement local/regional option tax
- Raise 8.25% local sales tax cap
- Congestion pricing programs



Tasks Completed – Economic Development

- Reviewed examples of economic impact of transit projects from other regions
- Reviewed benefit/cost analysis of Vision network - “High” capital expenditure scenario

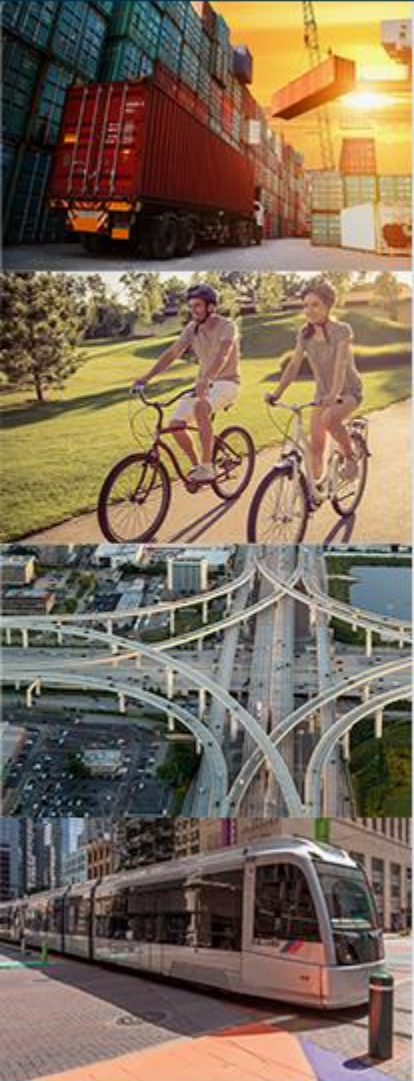


General Findings – Economic Development

- Three types of economic benefit
 - Individual/social
 - Business
 - Regional/community
- This region is going to pay for growth/congestion, one way or another



Benefit/Cost Analysis



REMI TranSight Inputs for Transportation Projects

From Project Specific Data

- Construction Costs
- Operation & Maintenance
- Finance Options
- Regional Effects

From Travel Model

- VMT
- VHT
- VTT

Fuel Demand
Emissions
Safety
Time Savings

TranSight

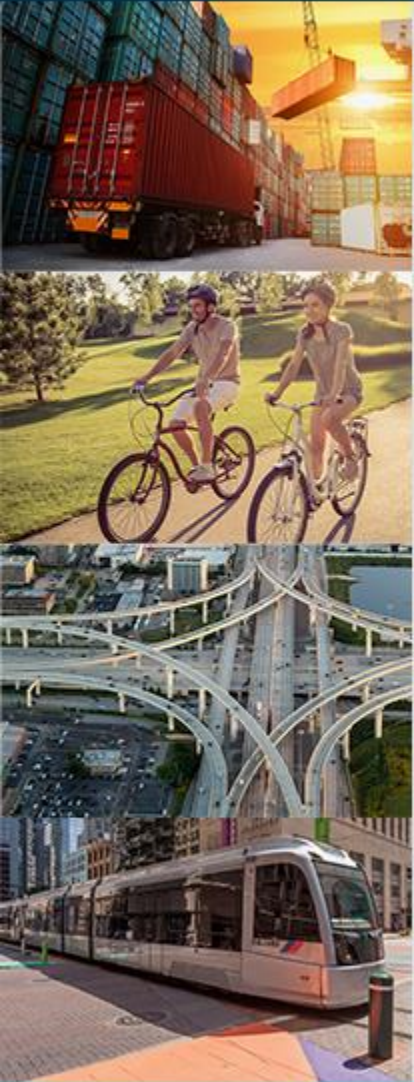
Economic Results

Run Economic Model

REMI Policy Variables

Transportation
Cost Matrices

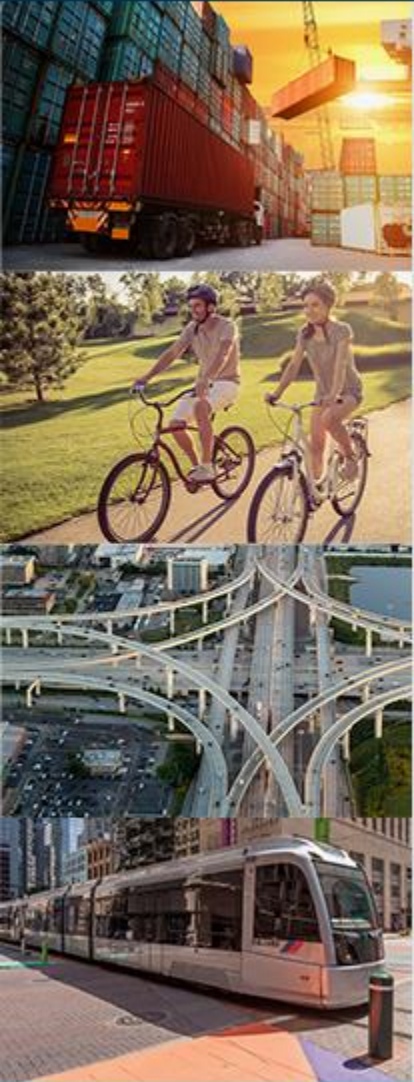
REMI Benefit/Cost Analysis



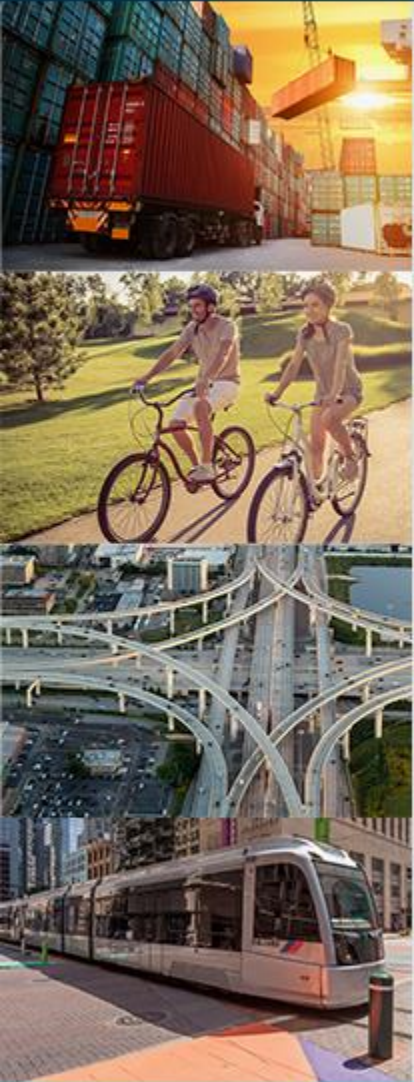
- Economic impacts: employment, personal income, output, regional product, property value, and productivity
- Societal (user) benefits measurement: emission reduction, safety improvement, vehicle operating cost, and value of time
- Costs and benefits converted to net present value (7% discount rate)

Next Steps

- Complete Benefit/Cost Analysis
- Develop “Priority Network” for fiscally constrained 2045 RTP
- Finalize report and present to TPC in March
- Continued Public Outreach

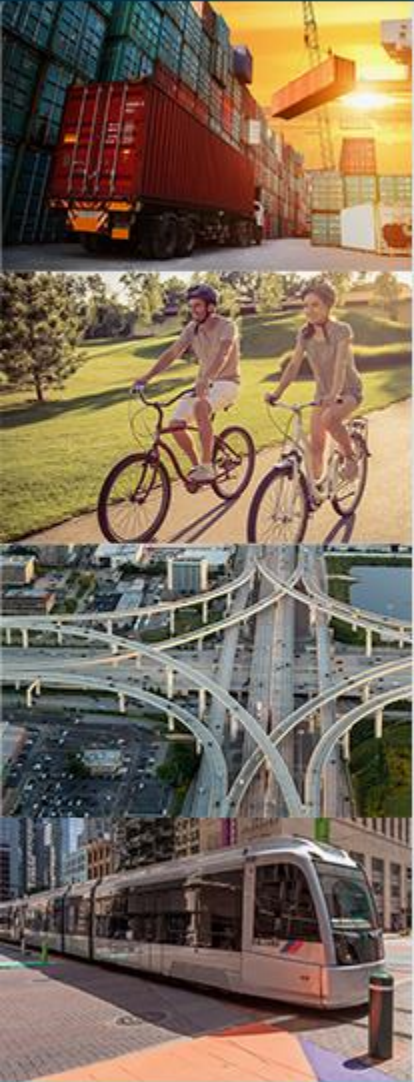


Example of Priority Network Elements



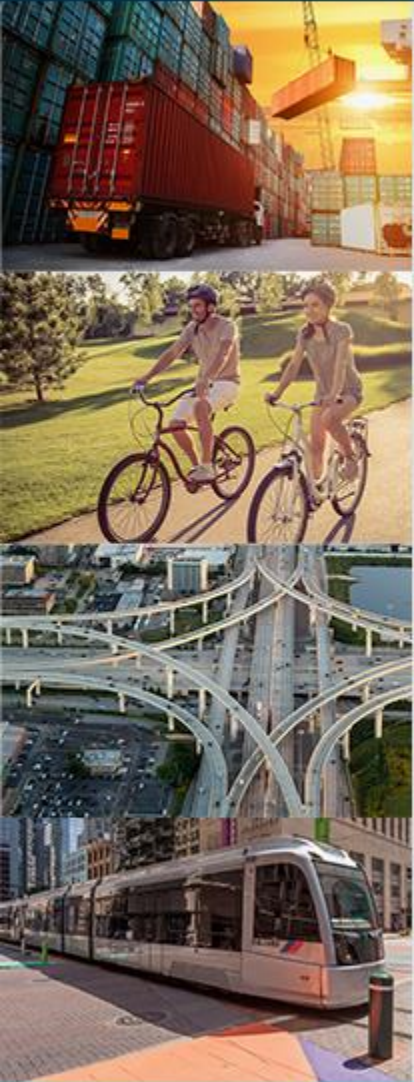
- METRONext Moving Forward Plan
- Expansions of Commuter, Local Transit Services in all eight counties
 - I-45 North and South HOV in Montgomery, Harris and Galveston Counties
 - New commuter corridors: SH 288 (Pearland), SH 249, US 90
 - Expanded P&R from Fort Bend County

High Capacity Transit Task Force



What are we missing?

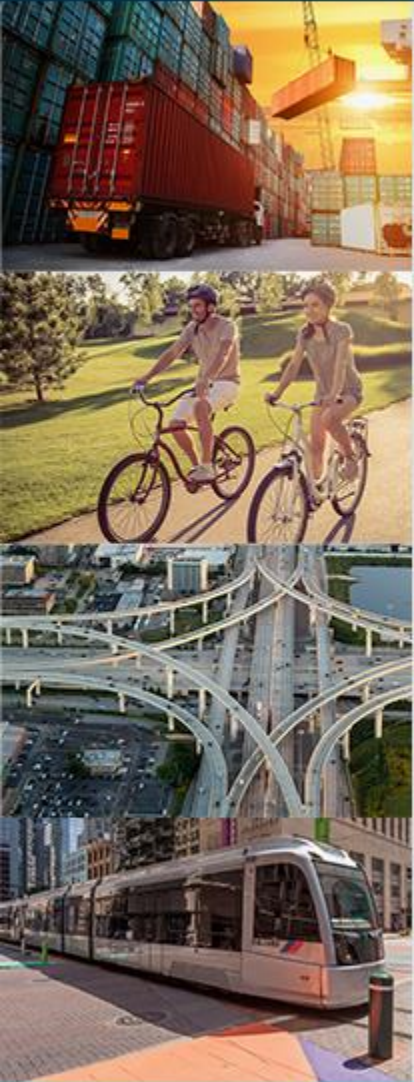
High Capacity Transit Task Force



“Make no little plans; they have no magic to stir men’s blood and probably themselves will not be realized.”

-Daniel Burnham

HCTTF Service Concepts Workgroup



**THANK YOU FOR
PARTICIPATING!!!**