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United States Experiences in Advancing the Transportation Elements of Smart Cities

Submitted by: United States



**Conference on Promoting Smart Cities
Through Quality Infrastructure Investment
in Rapidly Urbanizing APEC Region
15 September 2021**



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APEC 2021

U.S. Experiences in Advancing the Transportation Elements of Smart Cities

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Workshop on Smart
Cities
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**Advancing Free Trade
for Asia-Pacific Prosperity**

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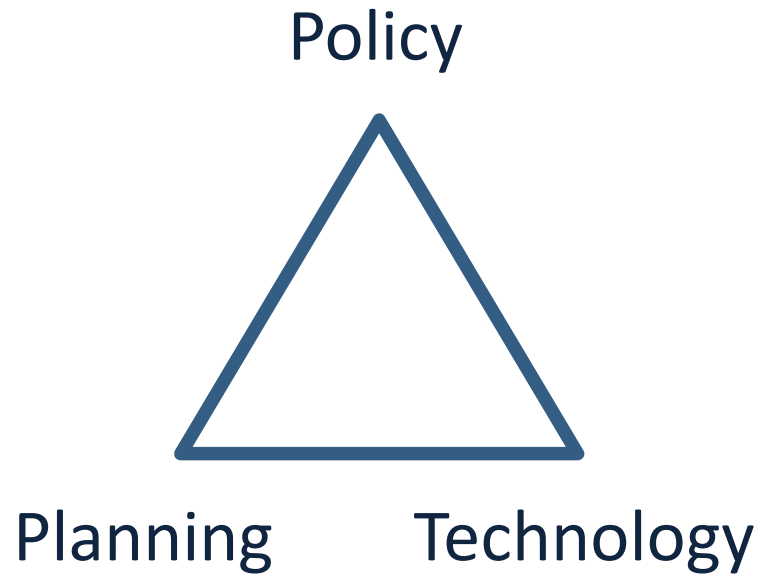


U.S. Approach to Smart Cities

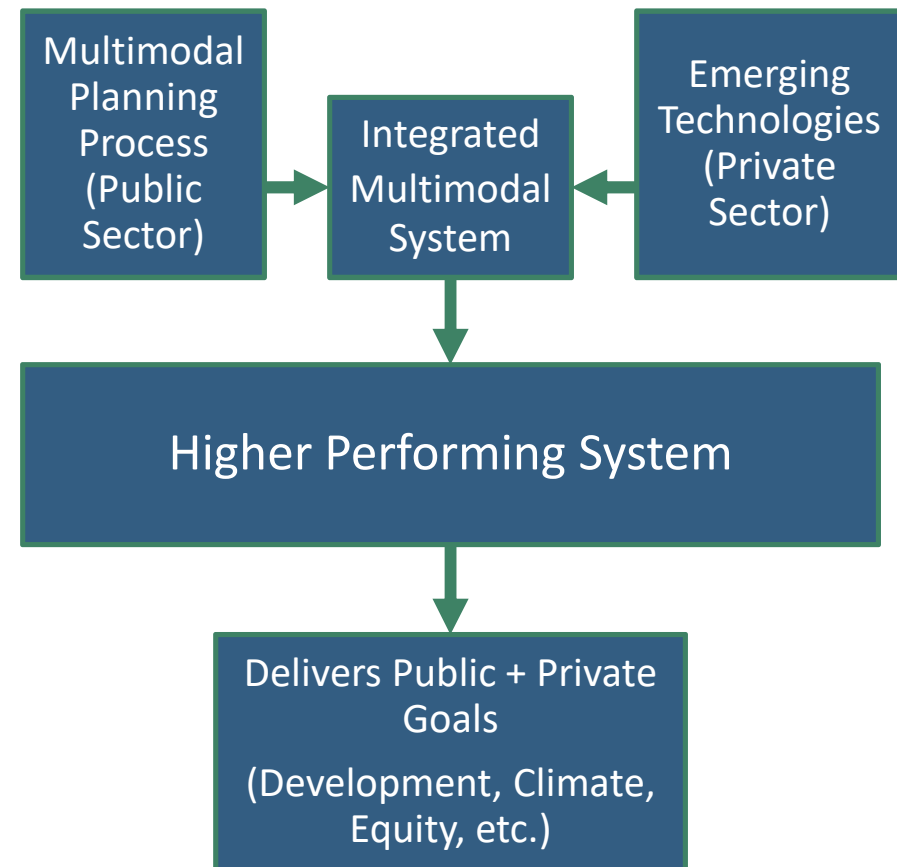
- Importantly, the U.S. approach to mobility, emerging transportation technologies, and urban transportation planning, commonly thought of as “Smart Cities” solutions, are decided at the state, metropolitan, and local levels. The U.S. does not have economy-level regulations governing mobility technologies or other transportation elements of Smart Cities.
- Instead, the U.S. Department of Transportation conducts extensive research on emerging technologies in the Smart Cities and Smart Mobility space and develops guidance and grant programs that localities can use to support their efforts.
- At an economy-level, the U.S. requires that all urbanized areas with populations greater than 50,000 be represented by Metropolitan Planning Organizations (MPOs). These MPOs develop long-term master plans.
- These MPOs focus on policy and planning, and then can integrate technologies in conjunction with local partners.

Policy and Planning Driven

INTERCONNECTION



INTEGRATION



Developed an APEC-Funded Project (TPT 07 2019A)

- Understand economies' approaches to adaptation of transportation apps.
- Consider how existing policies impact vulnerable or traditionally underserved populations.
- Host a workshop to identify best practices to integrate these technologies into the transportation planning process, build capacity of decision makers, and improve transportation performance.
- Develop APEC guidance on best practices and effective policies at economy-wide or local levels.

Conducted APEC-wide Survey

50% response rate

11 economy-level responses

7 metropolitan-level responses

- Australia
- Canada
- Chile
- Chinese Taipei
- Japan
- Malaysia
- New Zealand
- Peru
- The Philippines
- Singapore
- United States



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Identified Twelve Key Principles

- Role of Policy
- Role of Multimodal Planning
- Gender and Social Inclusion (Equity)
- Modal Neutrality
- Tech Neutrality
- Open Data
- Privacy Protection
- Public-Private Collaboration
- Monitoring and Evaluation
- Safety
- Sustainability and Climate Resilience
- Future Proofing

Dallas Area Rapid Transit (“DART”) – Texas, USA

Establishing policies and procedures that encourage and reward coordination

- Implementation of on-demand, curb-to-curb service, which uses Uber to supplement DART’s existing microtransit capabilities ([GoLink](#))

Improving interaction between public, private-for-profit, and private-non-profit transit providers

- Integration of microtransit, carpooling, taxi, TNC, bikesharing, and other mobility options through one payment and trip planning interface that also includes existing public transportation options ([GoPass](#))

Encouraging coordinated fare structure

- Multi-year agreement with Vix Technology, a system integration firm, to streamline DART’s fare payment environment by utilizing new innovative technologies.



Dallas Policy Challenge

Population:

1.3 million (city)

7.7 million (region)

Size: 383.44 sq mi (993.10 km²)



Like many U.S. and ASEAN peer metro areas, Dallas, Texas suffered from peak-time congestion due to suburban commuters driving single-passenger private vehicles into the central business district.

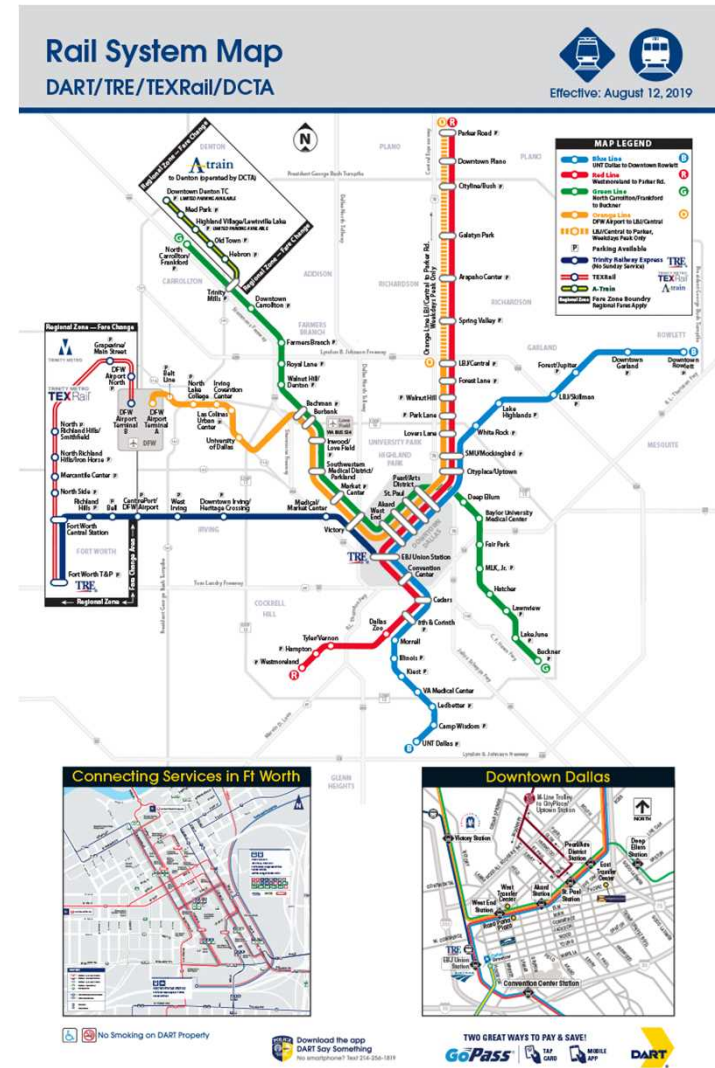


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Dallas Policy Challenge (con't)



Dallas has a strong regional rail and bus network, but 25% of people and jobs within DART's service area are more than 400 meters from bus stops or rail stations.



Dallas Policy Approach

- Expand and enhance public transit service by working with regional public transit providers and private operators (TNCs) to ensure a seamless multimodal transit system through:
 - Seamless connections
 - Coordinated fare structure
 - One-stop access to services
 - Standardization of assets, technologies, and service characteristics for interoperability
 - Improved interaction between public, private-for-profit, and private-nonprofit transit providers
 - Elimination of gaps in service to establish a minimum level of service
 - Service expansion



Dallas Policy Implementation

- DART implemented a project to develop an integrated, multimodal application that leverages ride-sharing services to improve ease of access to rail stations, particularly in non-walkable areas underserved by transit.
- **Anticipated outcomes:**
 - Improve first mile/last mile access to DART transit for all people including individuals with disabilities
 - Increase transit ridership on DART
 - Improve the experience of transit
 - Provide alternative transportation/multimodal travel options
 - Expand service within certain areas and improve access to jobs
 - Replace ineffective and costly fixed-route transit with MOD services
 - Improve customer satisfaction



Dallas Policy Outcome

- As a result of efforts to improve transit ridership by enhancing and expanding service, Dallas has seen:
 - Significant ridership increases
 - Improved customer satisfaction
 - Extended transit service coverage
 - Reduced travel and wait times
- However, Dallas experienced the following challenges:
 - Reluctance of riders to adopt new technologies
 - High costs associated with tailoring service to different neighborhoods
 - Lack of drivers for microtransit service due to competition with other providers



Did Dallas Accomplish the Twelve Key Principles?

- ✓ Role of Policy
- ✓ Role of Multimodal Planning
- ✓ Gender and Social Inclusion (Equity)
- ✓ Modal Neutrality
- ✓ Tech Neutrality
- ✓ Open Data
- ✓ Privacy Protection
- ✓ Public-Private Collaboration
- ✓ Monitoring and Evaluation
- ✓ Safety
- ✓ Sustainability and Climate Resilience
- ✓ Future Proofing



Conclusion

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