Crossing Into the Future: Borderplex Transportation and the ChatGPT Moment

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Where's Our ChatGPT Moment?

- In late 2022, ChatGPT changed how the world sees AI

- Other sectors—healthcare, software, finance—raced ahead

- Transportation? Still stuck in legacy modes, static tools, outdated processes

- What would it look like if we had a ChatGPT moment?

- And what would it take to get there—especially here, in the Borderplex?

Other Industries

ChatGPT
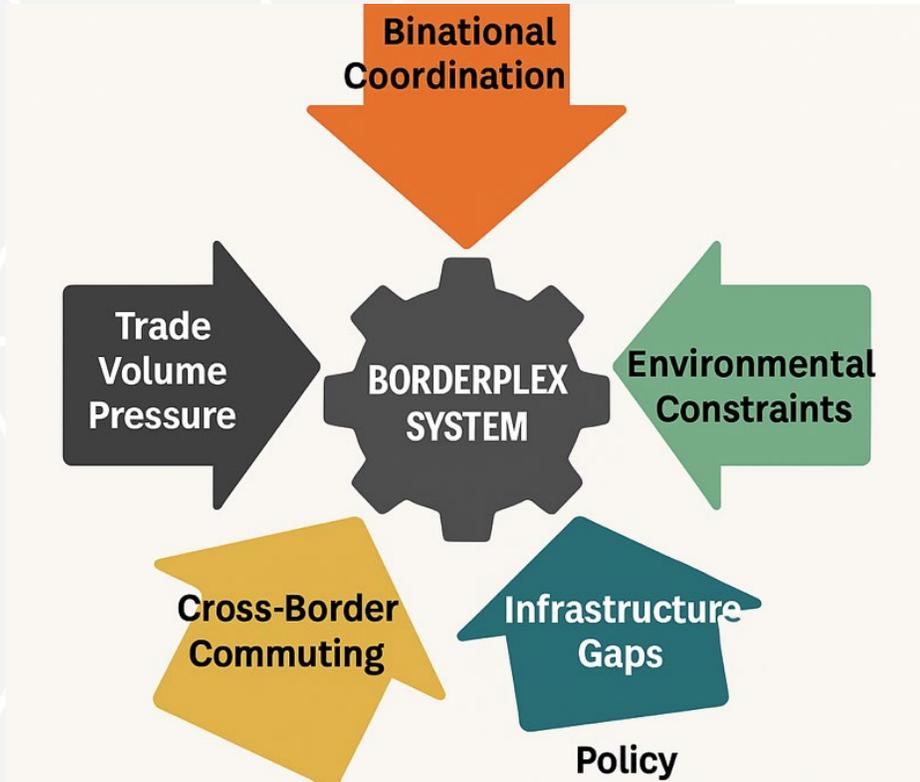2022

AI in Finance
2020

Telemedicine
2020

Transportation

TTI's CIITR – Center for International Intelligent Transportation Research: Innovation from the Border

- Established by the Texas Legislature in 2005, based in El Paso
- A living laboratory for international and cross-border transportation innovation
- Focus areas:
  - Real-time data fusion and predictive analytics
  - Traveler info systems and border-crossing optimization
  - Binational stakeholder coordination
  - Emerging technologies: UAVs, AI, satellite imagery
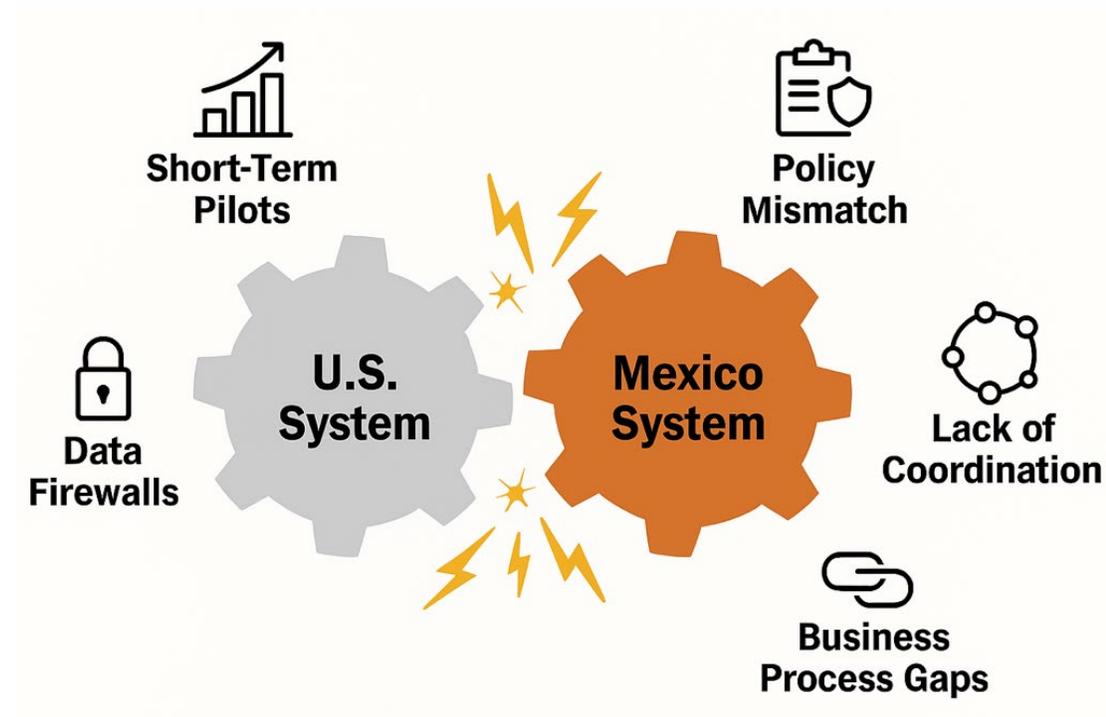- Nationally scalable solutions, tested where complexity is highest

Borderplex: Complexity, Urgency, and Opportunity
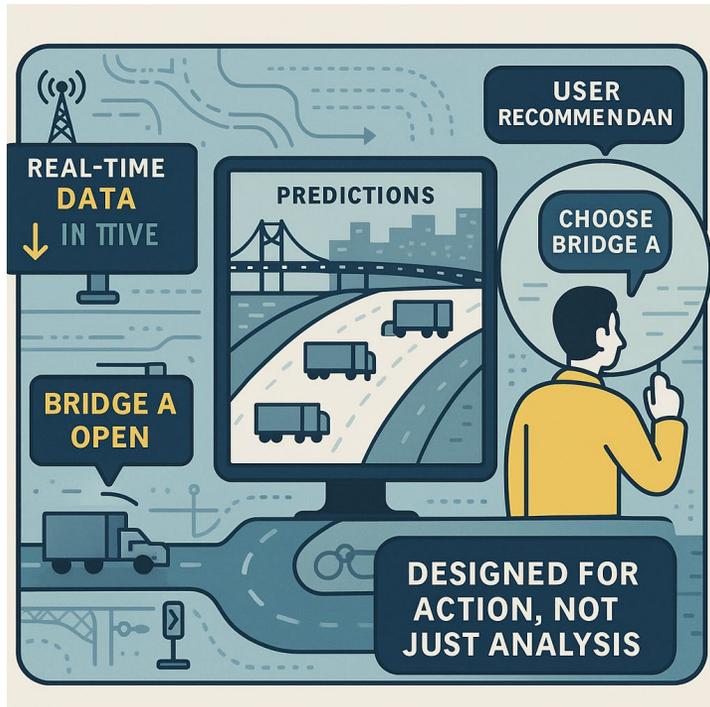

- 2.7 million people in a binational urban region

- Critical gateway for $134+ billion in annual U.S.–Mexico trade

- Daily challenges: congestion, emissions, delays, unpredictable flow

- 3+ levels of government, 2 countries, 3 states, dozens of agencies

- If innovation can work here, it can work anywhere

Why Innovation Often Struggles at the Border

- Binational complexity:
  - Border-connected urban systems must operate across two countries
  - Each operates different policies, laws, and operating procedures
  - Yet they must function together as one integrated system

- Innovation needs sustained commitment, trust, and interoperability

What Would a ChatGPT Moment Look Like in Transportation?

- Not just better tech—better timing, trust, and usability
- Systems that are:
  - Intuitive — easy to use, even across borders
  - Real-time — responding to what's happening now
  - Predictive — helping us act before congestion or delays occur
  - Scalable — works at one bridge or across a national network
- Bottom line:
  - Tech that integrates with how transportation actually works
  - Designed for action, not just analysis
  - Interpretable and easily accessible to the public

From Research to Deployment: Border Tech in Action

- CIITR develops and pilots real-time, tech-driven solutions for complex border challenges, working closely with local stakeholders on both sides of the border to prepare them for deployment
- TxDOT and City of El Paso are scaling these innovations through major projects expanding the BCIS into the most advanced cross-border ATIS on the U.S. southern and northern borders

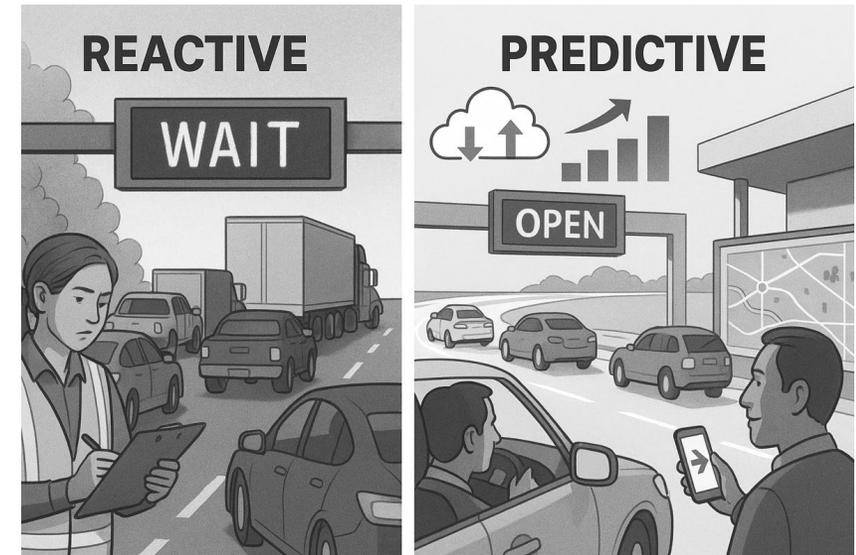| **Southbound BCIS Expansion at Zaragoza and BOTA Crossings** |
| --- |
| • Real-time forecasts
• Cross-border travel times
• Traveler info via DMS, web, and app |

USDOT SMART Grant Stage 1 expands BCIS to Paso del Norte and Stanton:
• Full integration of all El Paso ports • Decision-support tools for city and stakeholder agencies

Changing the Decision Cycle: From Reactive to Predictive

- Traditional operations = reacting after congestion or delays occur
- New systems will allow stakeholder agencies:
  - Forecast congestion before it builds
  - Inform drivers in real time
  - Shift demand across ports with accurate, actionable info
- Decision-makers can simulate scenarios and test responses before they're needed
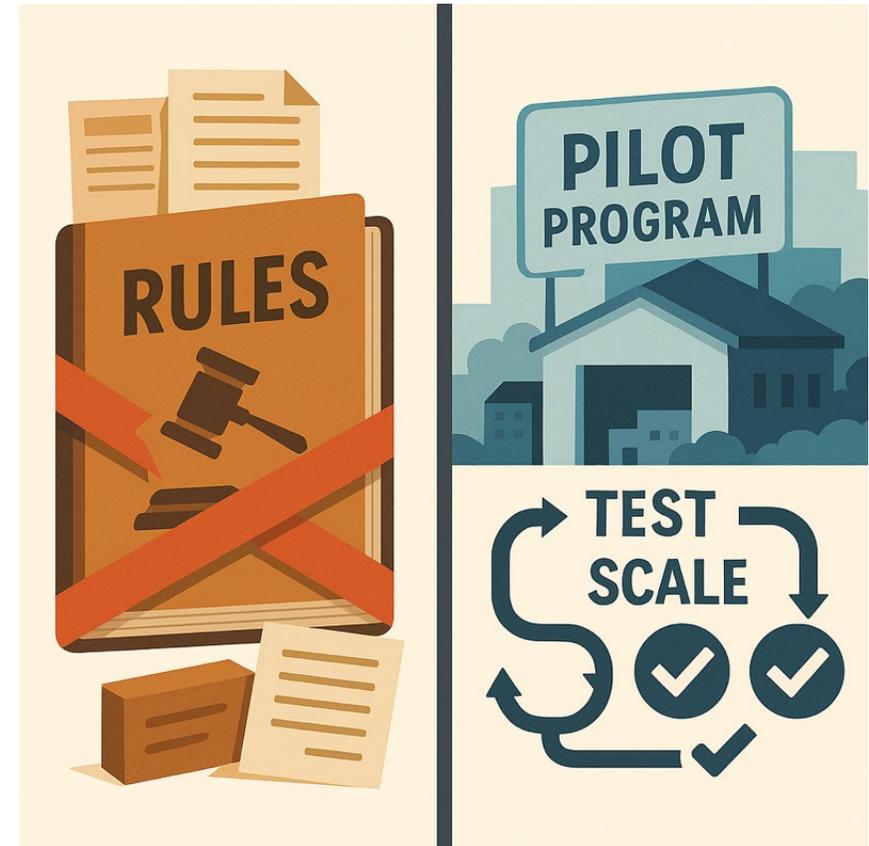
Why Stay on the Ground? Advanced Air and Uncrewed Freight Mobility

- Ground border crossings are capacity-constrained

- FAA's BVLOS rulemaking opens new doors for UAV freight corridors

- UAVs can bypass chokepoints—ideal for lightweight, high-value cargo

- Opportunities for public-private testbeds in cross-border UAV logistics

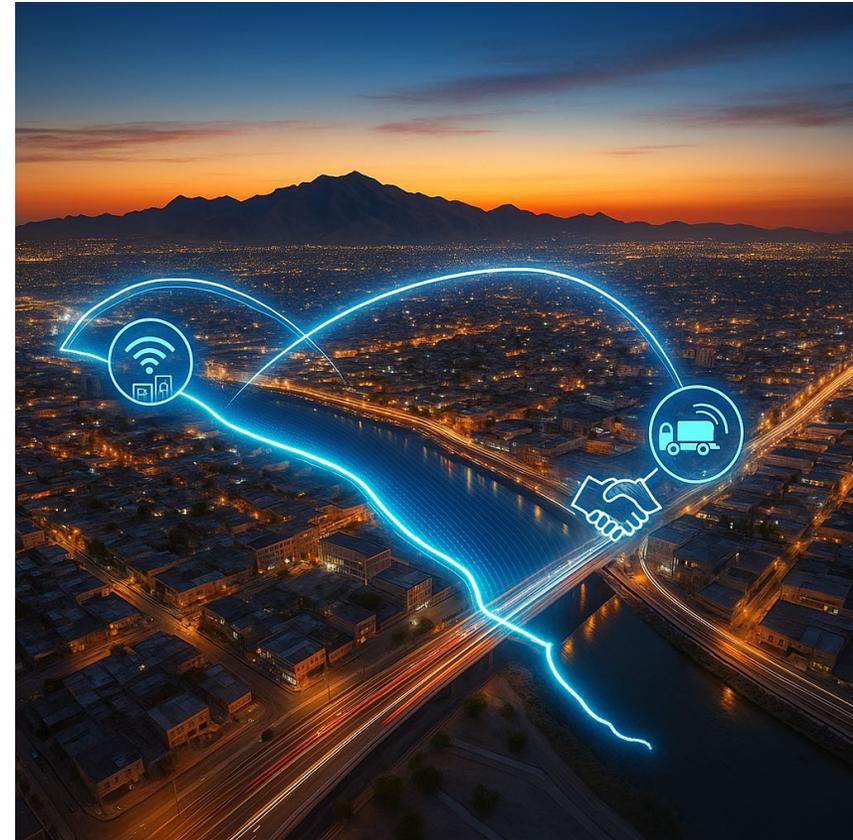- Heavy-lift drones may open opportunities for future implementation

Making Regulation Work for Innovation

- Many transportation rules were built for a pre-digital era
- Agencies often can't use better tools, even when they exist
- Temporary pilots struggle without sustained commitment (e.g., extended hours trial)
- Innovation testbeds can help us prove what works before scaling
- We need rules that reward outcomes—not just compliance

If Any Border Region Should Lead, It's El Paso

- The Borderplex faces some of the most complex transportation challenges in Texas

- We also have:
  - Active research pilots and real-time traveler information system deployments
  - Cross-agency collaboration (City, TxDOT, CBP, MPO, Mexican Partners)

- What we build here can scale nationwide

Transportation's Future Isn't Waiting at the Border — It's Crossing It

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Inspired by "Where is Transportation's ChatGPT Moment?" by Jatish Patel, Flow Labs (ITS International, Sept. 2025)