Tolling Today

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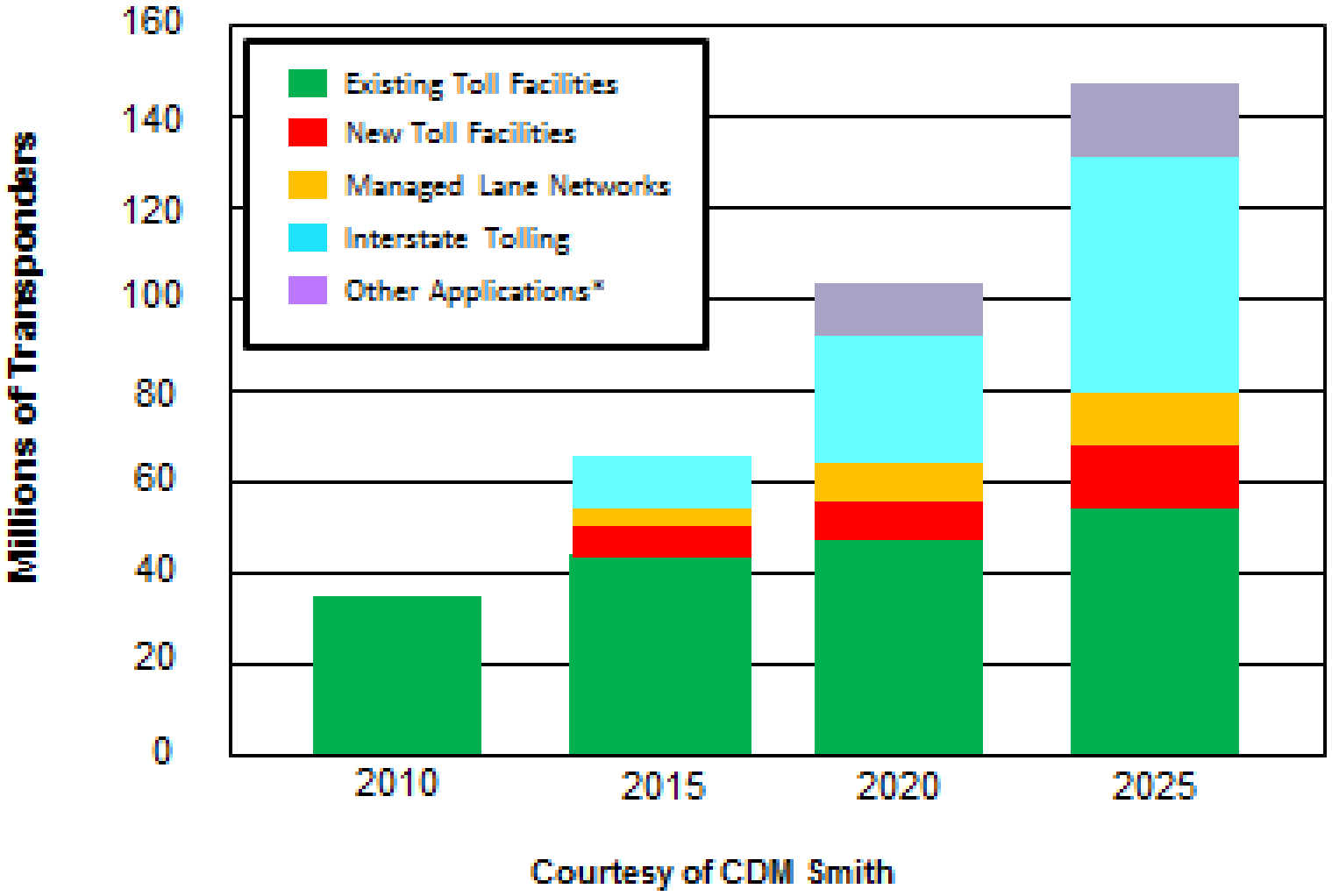
USA Tolling

- Limited regional interoperability exists in USA currently
  - E-ZPass, SunPass, TxTag, FastTrack
    - Limited by technological differences
    - Restrictions in current business rules and some state statutes
  - Federal government is pushing forward on legislative interoperability mandate (MAP 21)

Future of Tolling in North America



Courtesy of CDM Smith

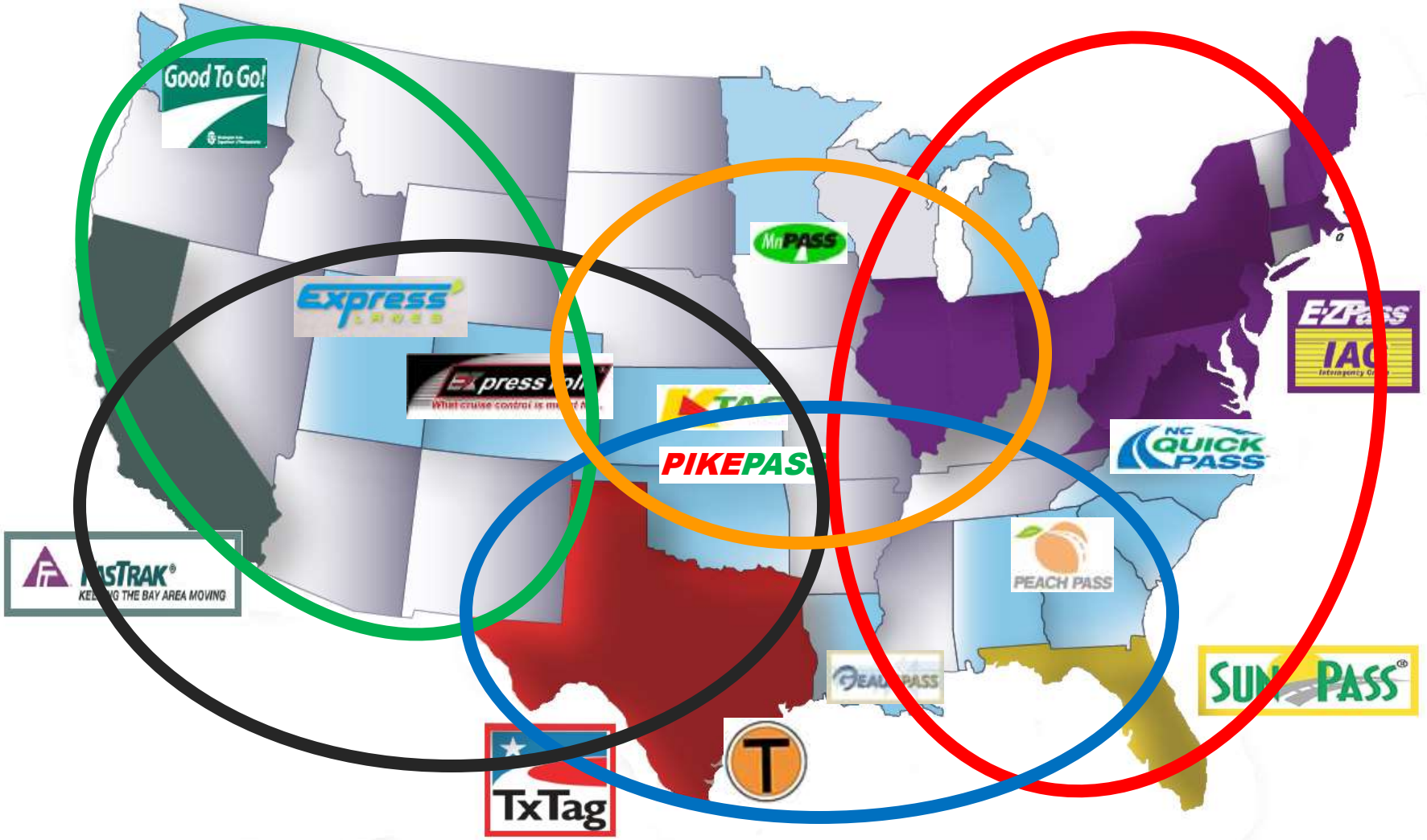
Interoperability Today

Four Primary Regional Areas

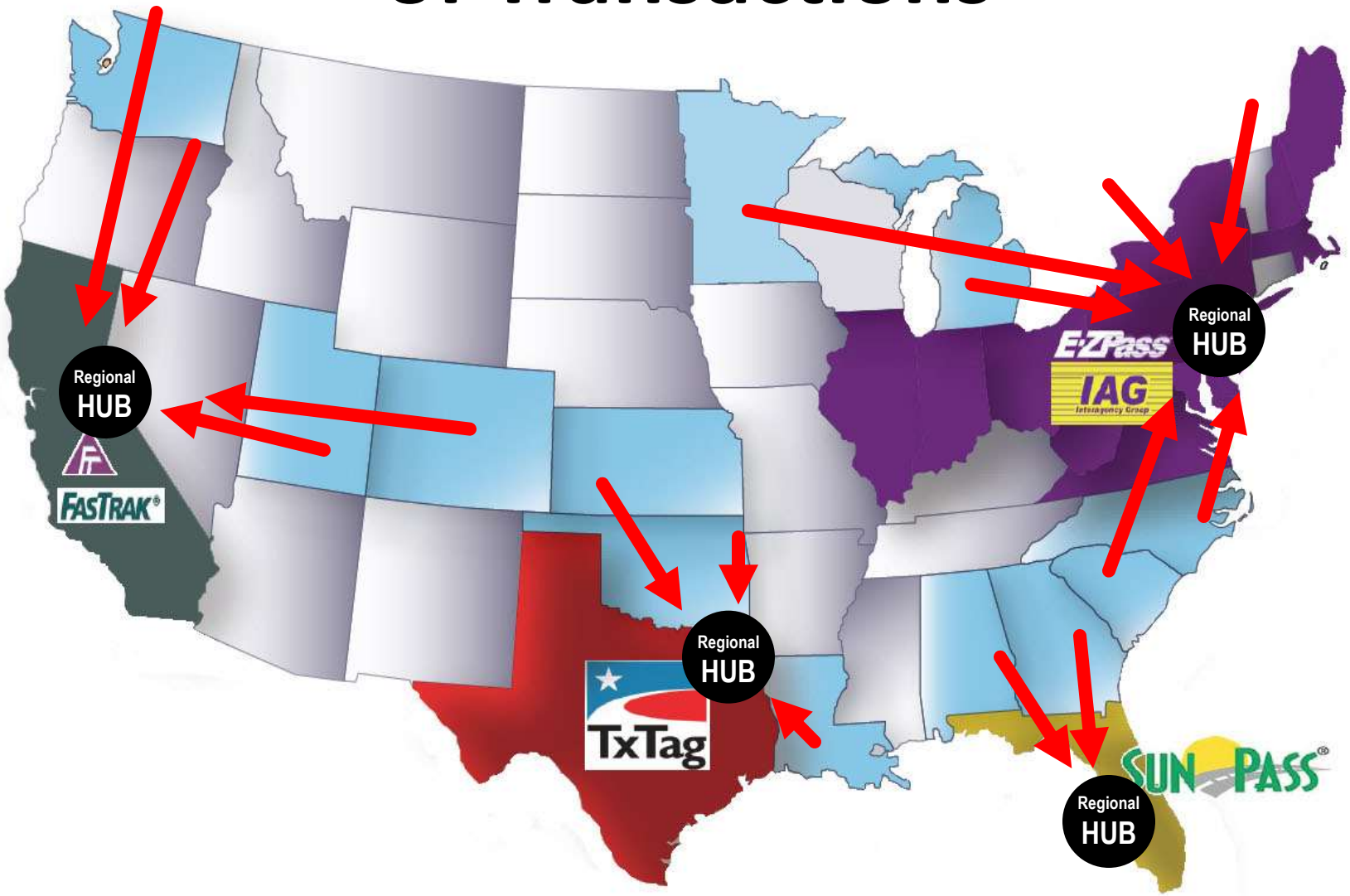
100+ Independent Toll Operators

Interoperability Solution

Inter-Regional



National Exchange and Settlement of Transactions



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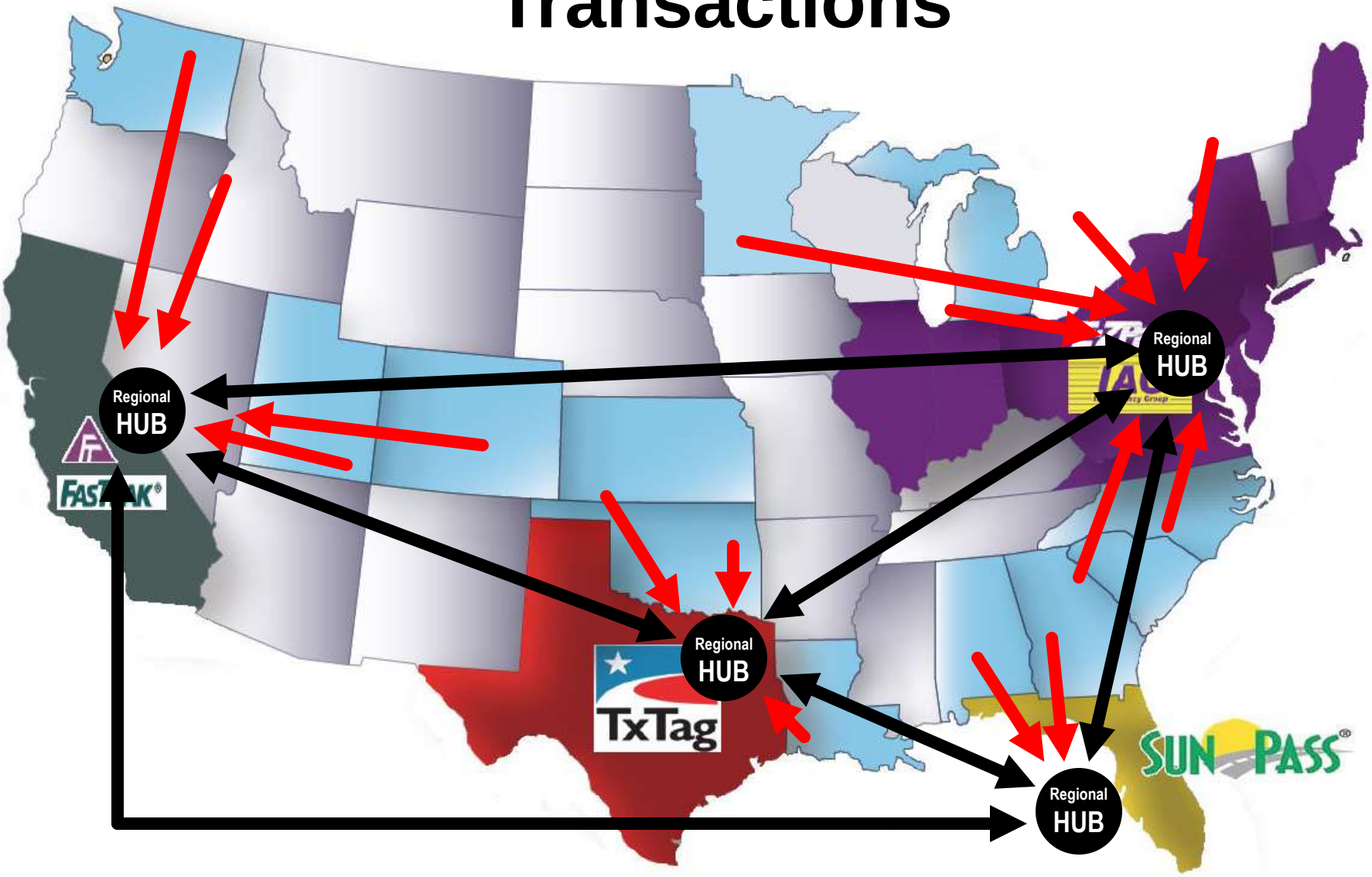

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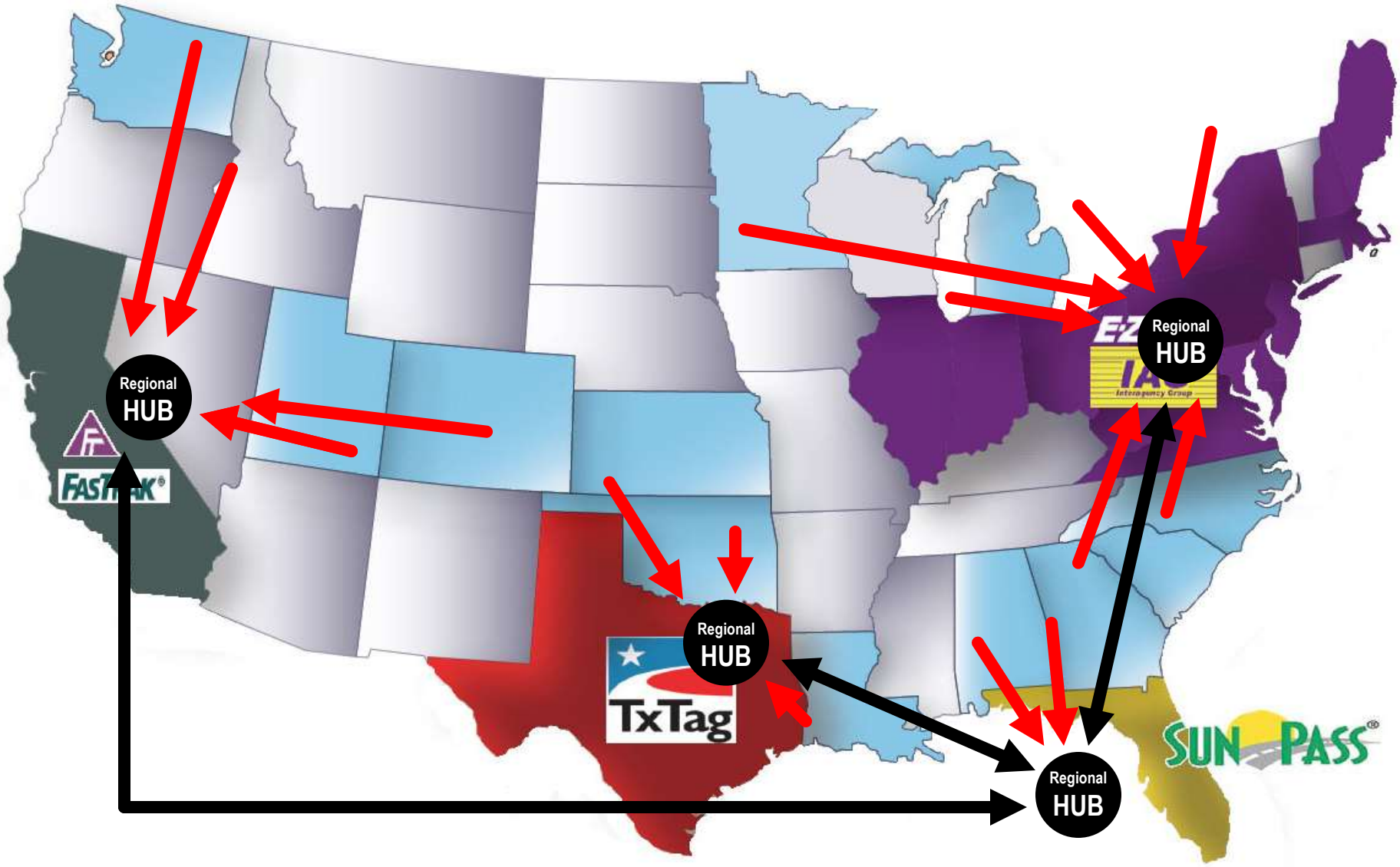

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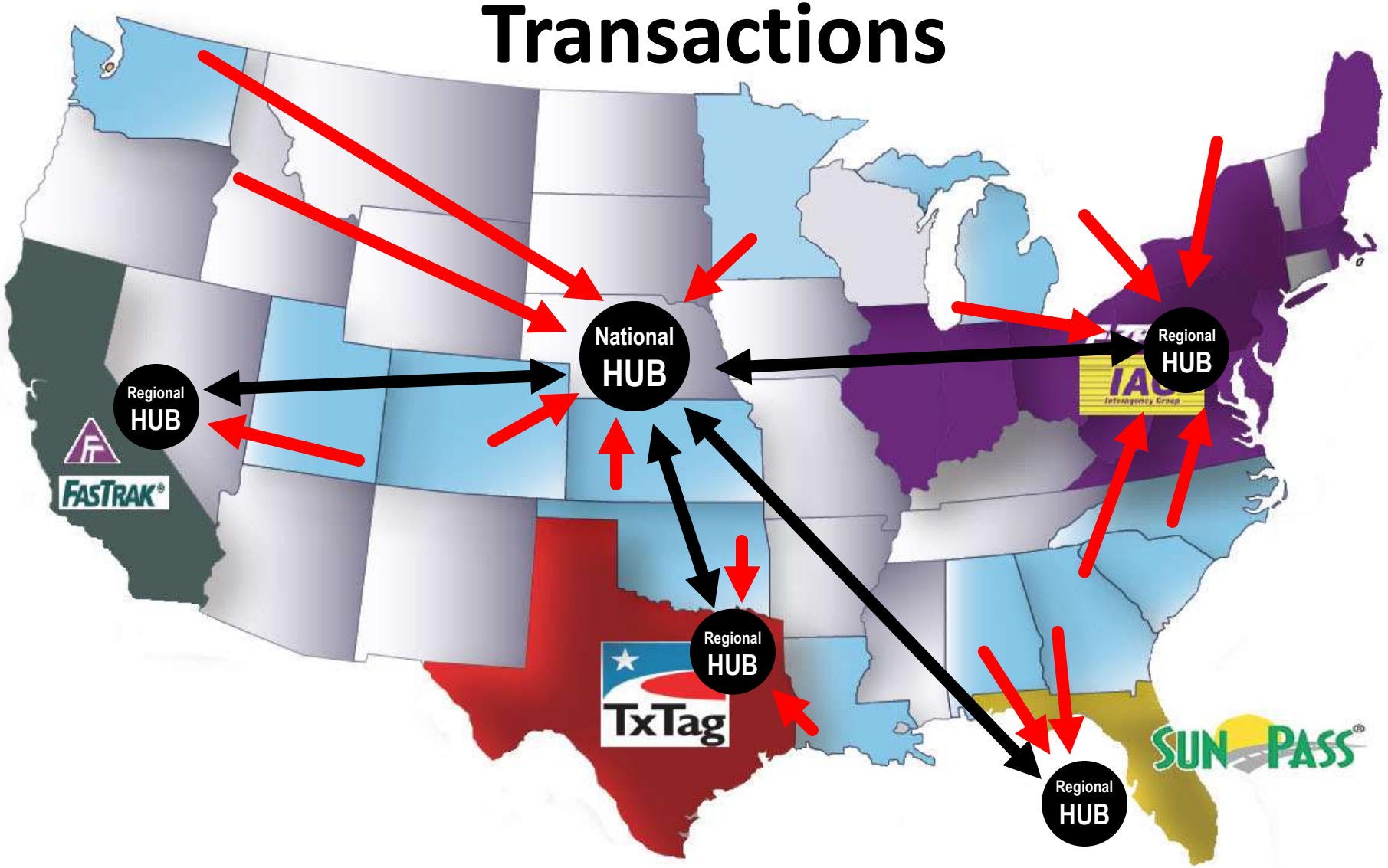


The Congressional Challenge

Map-21: "… plan and implement technologies and business practices leading to electronic toll collection interoperability …" by 2016

IBTTA IOP Committee IOP Definition:
Interoperability means pre-paid electronic toll customers may pay for travel across jurisdictions with a single account and a choice of payment methods.

IBTTA IOP Committee Objectives

Find an evolutionary path to interoperability that takes advantage of the industry's large investment in roadside, vehicle and back office technologies and infrastructure within North America … in a manner that:

(1) fosters open competition and

(2) minimizes legal and financial barriers to anyone wishing to provide products and services to toll agencies and customers.

Tolling Challenges

- Development of “Business Rules” to guide operation of interoperable toll systems
- Development of model contracts and state legislation to implement interoperability
- Mitigation of potential patent infringement issues with current toll technology
- Identify and contract with partners to process data and transfer funds among agencies
- Public awareness & acceptance

Society Today

- **Next Generation Customers:** Cash use continues to shrink
- **Mobile Funds:** Technology, i.e. cell phones, allow for electronic funds exchange
- **Connectivity:** Combined billing efforts more popular
- **Convenience:** Immediate results / payment are in demand

ALLIANCE FOR TOLL INTEROPERABILITY

All-Electronic Tolling
(AET)

Three Major Issues of AET:

- Inability to be technologically interoperable
- Inability to share current customer information via license plate image
- Inability to enforce tolls across state or province lines

Potential AET Solutions

- New multi-protocol tags and readers may allow for regional or national interoperability
- The definition of 'violator' has changed dramatically

> **Through AET every toll patron is a customer, registered or unregistered, and not a violator.**

- Incorporating new trends in tolling
  - Managed lanes (HOT/HOV)
  - Vehicle Miles Travels (VMT)

Interoperability

- **Improved ability of toll agencies to identify vehicles traveling on toll facilities**
  - **Allow customers the seamless use of toll facilities across state/province lines**
  - **Maximize toll revenues and reduce toll collection and operations costs to agencies**
  - **Free up tax dollars to further other transportation initiatives**
  - **Dwindling Funds**
  - **Demanding Environmentally-Friendly Approaches**

The Challenge

To find an evolutionary path to interoperability that takes advantage of the existing large investment in roadside, vehicle and back office technologies and infrastructure.

Issues: (1) Technology & (2) Institutional

Solutions:

- ❑ **Independent Evaluation of Operating and Economic Information**
- ❑ **Standards for Testing & Certification**
- ❑ **Competitive Marketplace**

Future Solutions

Changes in roadside and vehicle technology may occur without major changes to the institutional solutions:

- **Connected Vehicle program (on board instrumentation primarily for safer and more efficient vehicle operations)**
- **In-vehicle and external mobile payment technologies and systems**
- **Independent 3rd-party account providers with guaranteed toll payments**

Overcoming the Technology Disparity

To provide interoperability for customers with pre-paid ETC accounts …

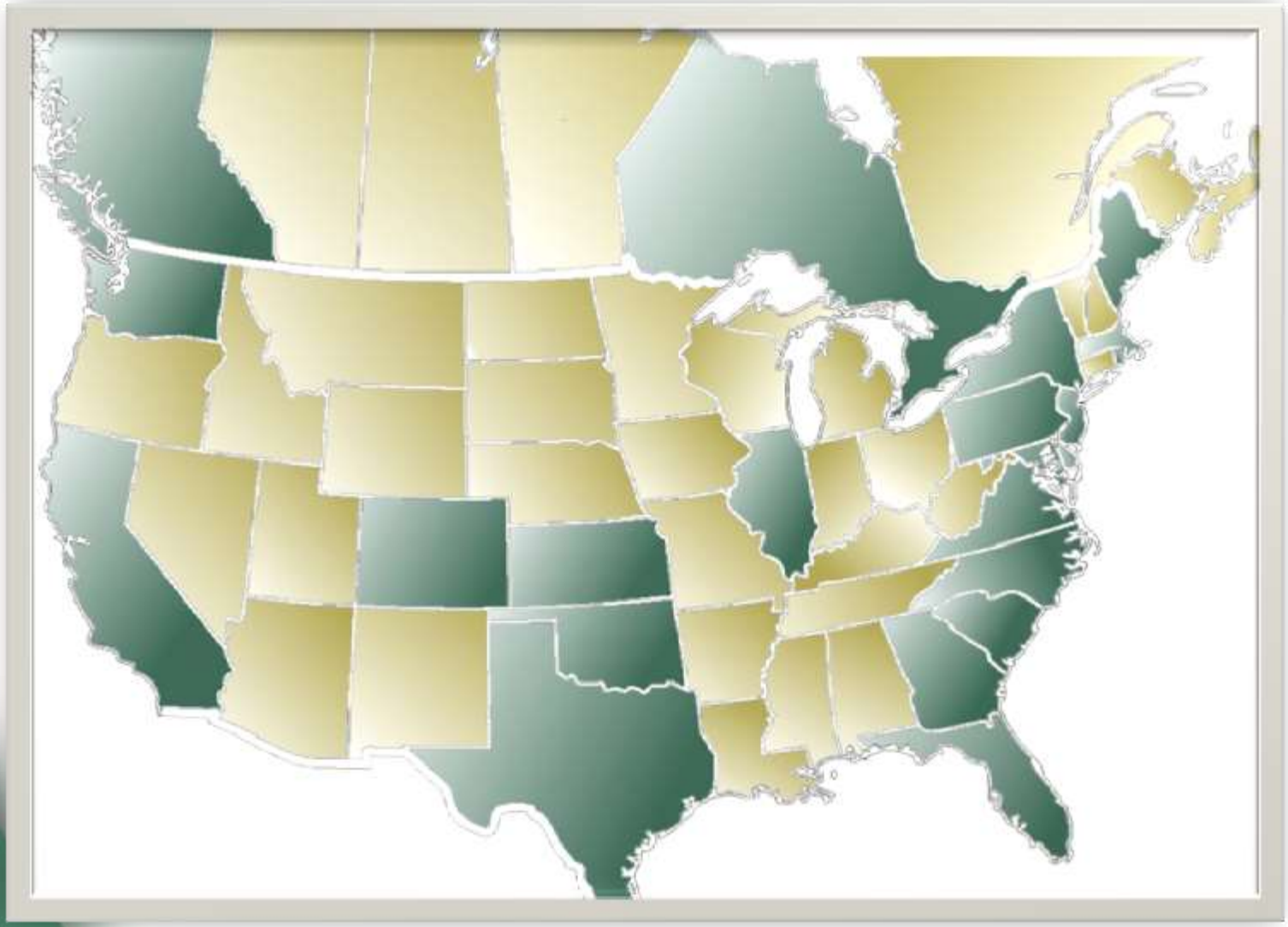
- **Readers and transponders using multiple protocols**
- **Video**
  (based on existing toll industry business processes for image tolling for valid pre-paid ETC accounts that do not get a proper tag read in the lane – an option for those agencies already equipped for I-Tolling)

Alliance for Toll Interoperability

SUPPORTING A NATIONAL STANDARD APPROACH TO TOLLS FOR THE PUBLIC TRANSPORTATION NETWORK

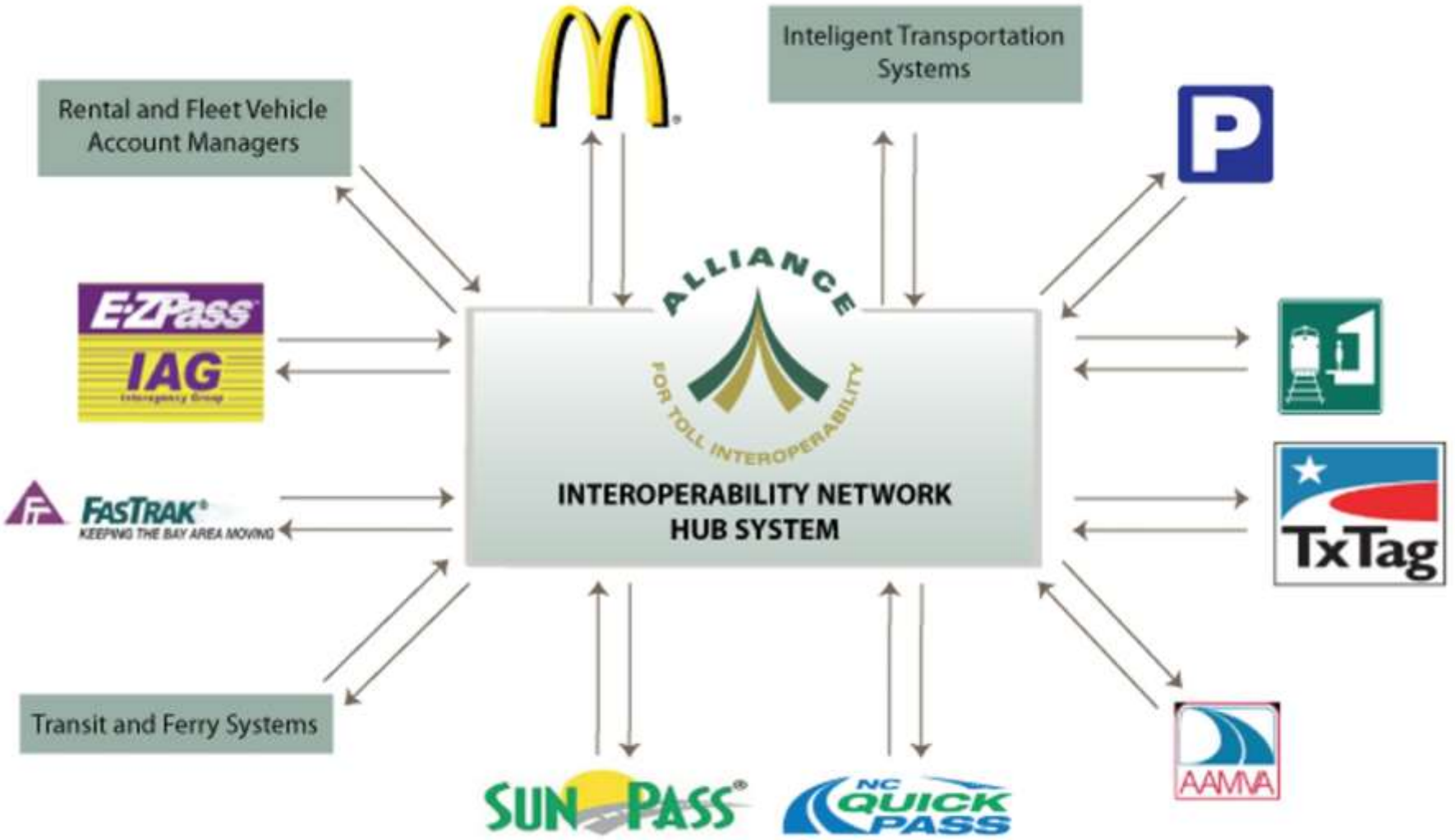
- **Non-profit corporation**
- **Board of Directors from public-sector toll agencies from across North America**
- **Forum for collaboration**
- **45 member agencies in North America**

ATI Membership



Current Initiatives

- Regional & national toll interoperability programs
- Violation Enforcement Reciprocity
- RFID Certification
- DMV plate exchange & state legislation
- Interoperability HUB


Rental and Fleet Vehicle Account Managers
Inteligent Transportation Systems
E-ZPass
IAG
ALLIANCE
FOR TOLL INTEROPERABILITY
INTEROPERABILITY NETWORK HUB SYSTEM
FASTRAK
KEEPING THE BAY AREA MOVING
TxTag
Transit and Ferry Systems
SUN PASS
NC QUICK PASS
AAMVA