



U.S. Department of Transportation
Federal Highway Administration

**Office of Freight Management
and Operations**

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Freight Advanced Traveler Information System (FRATIS) Demonstration Project Overview

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Operations Problem Statement

Lack of freight planning and real-time information has negative effect on:

- **Freight movement**
- **Road congestion**
- **Adjacent communities**
- **Energy consumption**
- **Traffic safety**

Project Goals

- **Improve communications**
- **Improve traveler information**
- **Proof of concept**

FRATIS Application

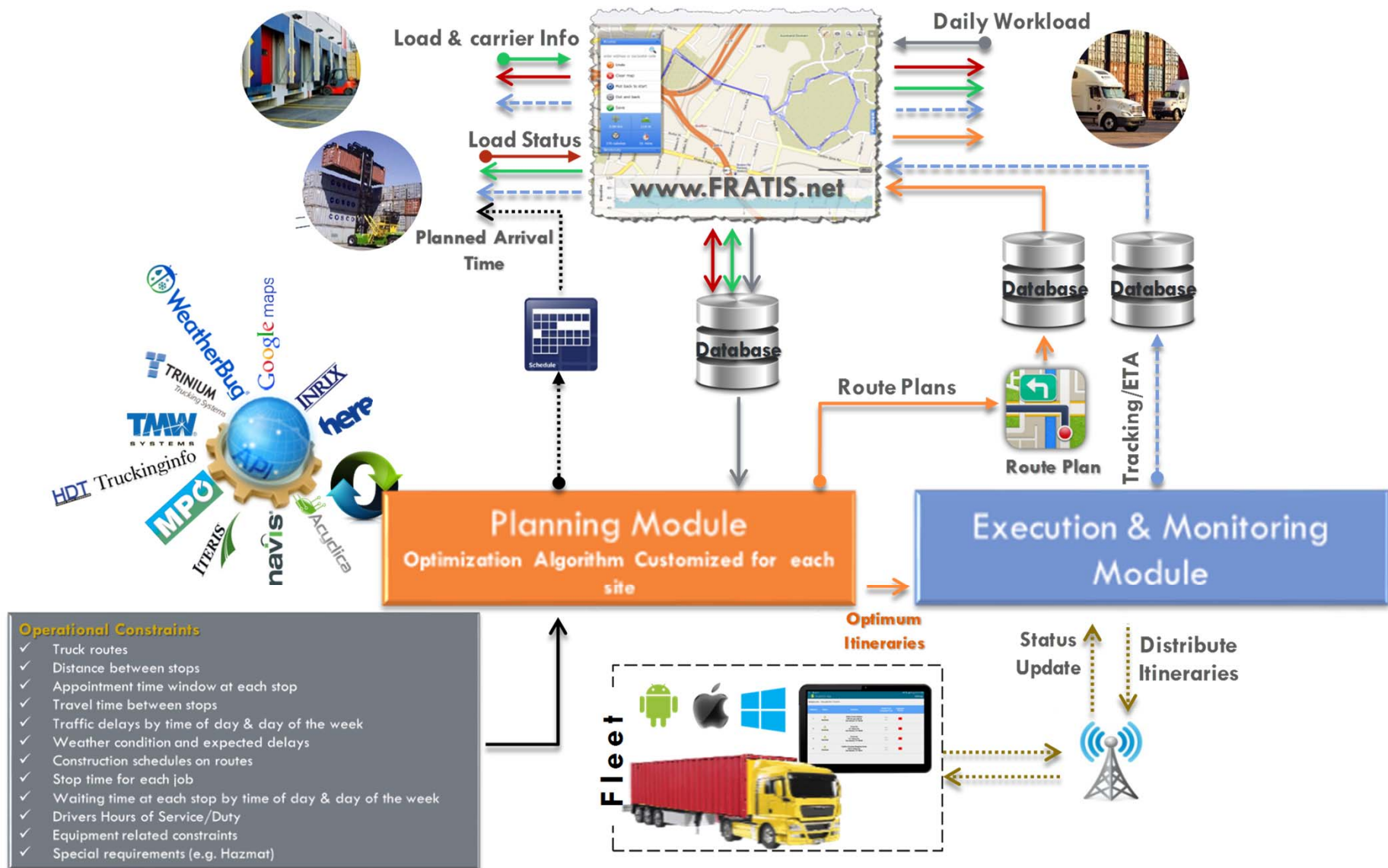
- **Optimization tool**
- **Truck assignment**
- **Real-time traffic information**
- **Status updates and data consistency**

FRATIS Solution

- Drayage and truck routing optimization
- Freight-specific dynamic travel planning and performance



FRATIS Architecture



Example Pilot Deployments

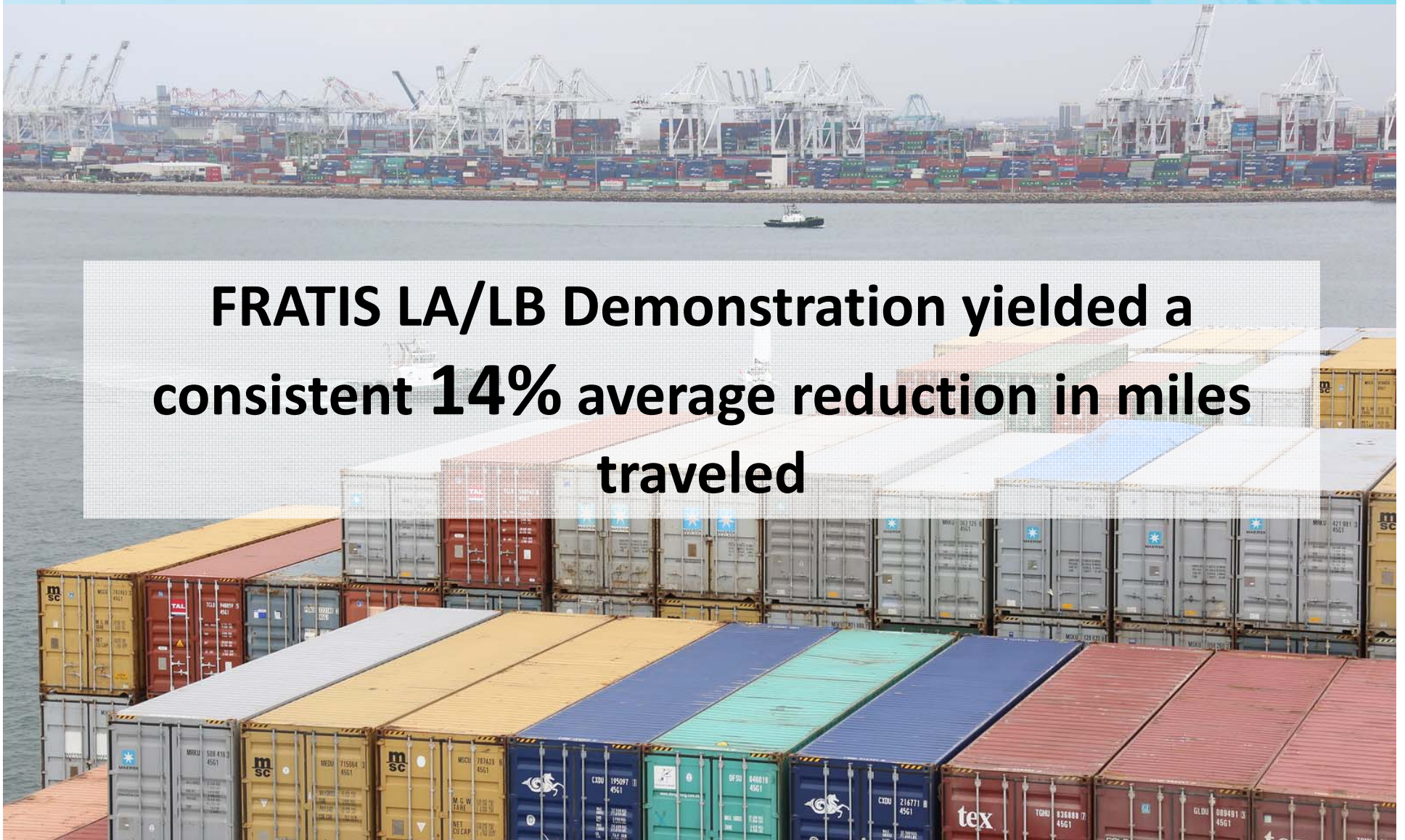
- **Dallas-Fort Worth, Texas**
- **South Florida**
- **Southern California (Ports of Los Angeles & Long Beach)**

FRATIS Los Angeles/Long Beach

- **Algorithm to reduce unproductive truck moves**
- **Real-time travel information**
- **Web-based communication interface**
- **Mobile app for drivers**

FRATIS Los Angeles/Long Beach Results

**FRATIS LA/LB Demonstration yielded a
consistent **14%** average reduction in miles
traveled**

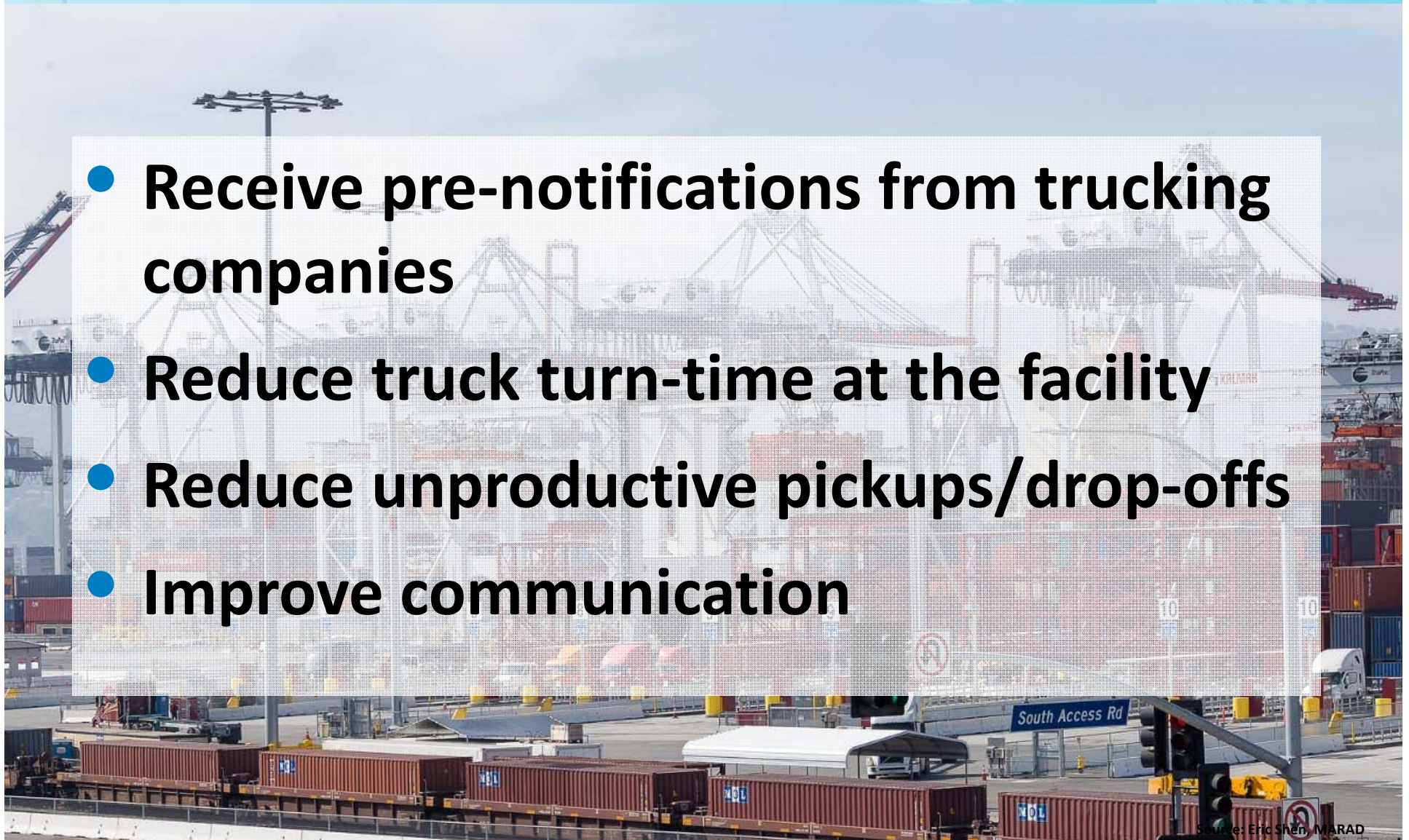


Benefits to Trucking Companies

- **Improve productivity and efficiency**
- **Incorporate real-time information**
- **Optimize routing decisions**

Benefits to Intermodal Facilities and Ports

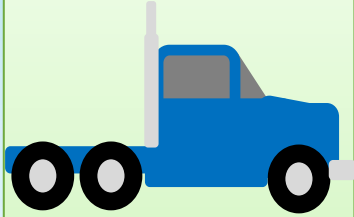
- **Receive pre-notifications from trucking companies**
- **Reduce truck turn-time at the facility**
- **Reduce unproductive pickups/drop-offs**
- **Improve communication**



Public Benefits

- 
- **Promote better planning and policy**
 - **Improve air quality**
 - **Better use infrastructure and capacity**
 - **Improve traffic safety**

Performance Goals



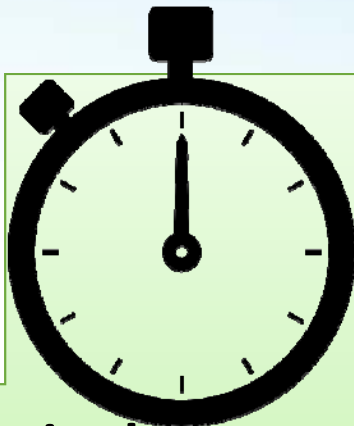
**Bobtail trips
reduced by
10%**



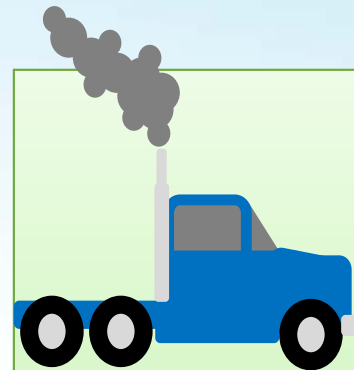
**Travel time
reduced by
15%**



**Fuel consumption
reduced by
5%**



**Terminal queue time
reduced by
20%**



**Emissions
reduced by
5%**

Additional Lessons Learned

- **Potential opportunities shown from demonstrations**
- **Consideration of the human factor**
- **Importance of communication**
- **Potential opportunities for support on future deployments**
- **Industry a critical partner**

Future Opportunities

- ✓ Useful proof concepts
- ✓ No more funding for additional FRATIS
- ✓ FRATIS source codes – open and free
- ✓ ACTMTD Grants (\$60 mil in '18, '19 & '20; fed to fund up to 50% cost)
- ✓ Other grant opportunities