I-10 Corridor Coalition Truck Parking Availability System (TPAS)

PROJECT OVERVIEW

The I-10 Corridor Coalition, a volunteer coalition of state Departments of Transportation for California, Arizona, New Mexico, and Texas, was awarded a $6.85 million U.S. Department of Transportation (USDOT) Advanced Transportation and Congestion Management Technologies Deployment (ATCMTD) grant in April 2019 to implement a Truck Parking Availability System (TPAS) along the I-10 corridor. In addition to the grant, the Coalition states are matching the funds 1:1, allowing the Coalition to leverage $13.7 million for the TPAS project.

TPAS is a technology system that will detect, monitor, and disseminate truck parking availability information at 37 public truck parking locations along I-10 in California, Arizona, New Mexico, and Texas. The system will assist truck drivers and dispatchers in making informed parking decisions by providing real-time truck parking information through dynamic message signs, smartphone and in-cab applications, and via website and traveler information sites.

The implementation of TPAS may also serve as the foundation for future technology implementation along the I-10 Corridor, including integration of weather or other alert systems, a truck parking reservation system, and automated and connected vehicle and infrastructure technology.

PROJECT BENEFITS

The I-10 Freight Corridor Study estimates the economic impact of freight moving along the I-10 Corridor at $1.38 trillion annually. The I-10 Corridor Coalition TPAS project can help support the economic productivity of this critical commerce route.

- ✓ *Improves mobility and safety along this critical freight corridor.*

- ✓ *Reduces infrastructure damage and diesel emissions.*

- ✓ *Saves commercial truck drivers thousands of dollars a year in lost earnings and productivity.*

I-10 TPAS TRUCK PARKING SITES

LEGEND

- I-10 Corridor Coalition States
- Interstate Highway 10
- U.S. Interstates
- I-10 Corridor Coalition TPAS Truck Parking Site

	Miles	Sites
California	243 Miles	6 Sites
Arizona	392 Miles	8 Sites
New Mexico	164 Miles	5 Sites
Texas	881 Miles	18 Sites
Total	1,680 Miles	37 Sites

CONCEPT OF OPERATIONS

The Coalition completed the draft I-10 TPAS Concept of Operations (ConOps) document providing a high-level understanding of a proposed system that collects and disseminates real-time truck parking availability information along I-10 in California, Arizona, New Mexico, and Texas. The ConOps gives guidance on the design of the system and outlines how it will be operated and maintained.

In Summer 2020, the Coalition posted a request for information (RFI) to solicit input from qualified industry experts on detection technology, data distribution, and smartphone and web-based applications. In addition, a Truck Driver and Dispatcher Baseline Survey was conducted and workshops were held with state trucking associations and the Owner-Operator Independent Drivers Association (OOIDA) to understand truck parking needs and driver behaviors. The RFI, the survey, and input from industry workshops provided valuable information for the development of the ConOps.

HOW TPAS WORKS

1 Vehicle detection systems measure available parking in public sector lots across each state

2 Parking data goes to states and 3rd party processors

3 Data is delivered to drivers

Navigation Applications and Systems

Dynamic Message Signs

Central Processing

SPACES OPEN
REST AREAS
WARD CO - 5 MI   19
HOWARD CO - 127 MI   5
NOLAN CO - 262 MI   8

DriveTexas Website

* Examples are for illustrative purposes only

1 Vehicle detection systems will measure the availability of spaces by using technologies that count trucks entering and exiting the parking area or by detecting the presence of a truck at each parking space. The technologies used will vary based on site characteristics and other factors.

2 Each state will gather and process their truck parking availability data, either through a contractor, within their own systems, or a combination of the two. The Coalition will work with application developers to integrate the data into existing applications.

3 Real-time truck parking information will be disseminated through dynamic parking availability signs (DPAS) placed upstream from the parking areas and through smartphone and web-based applications.

Real-time truck parking availability will be provided on each Coalition state's traveler information site.

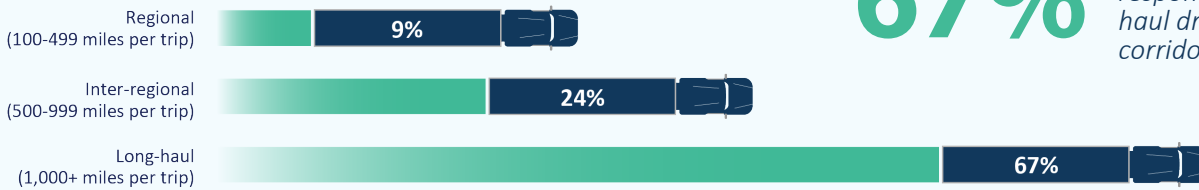CALIFORNIA REAL-TIME TRAFFIC   ARIZONA DOT 511   NEW MEXICO NMROADS   DRIVE TEXAS

TRUCK DRIVER AND DISPATCHER BASELINE SURVEY

In Fall 2020, the Coalition conducted a survey to gather input from commercial vehicle drivers and dispatchers to understand the challenges and issues drivers experience when attempting to park along the I-10 Corridor. The survey was announced through social media channels, posters at future truck parking sites, press releases, and online industry publication articles. The Coalition received over 500 responses to the survey from drivers and dispatchers.
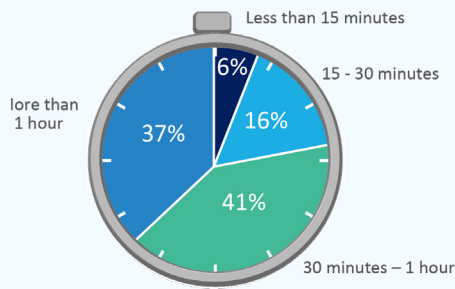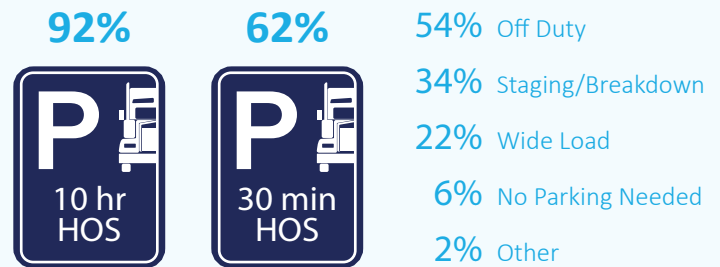
AVERAGE LENGTH OF HAUL

Regional
(100-499 miles per trip) — **9%**

Inter-regional
(500-999 miles per trip) — **24%**

Long-haul
(1,000+ miles per trip) — **67%**

67%

Sixty-seven percent of respondents were long-haul drivers who use the corridor.

AVERAGE TIME TO FIND PARKING

Less than 15 minutes — **6%**
15 - 30 minutes — **16%**
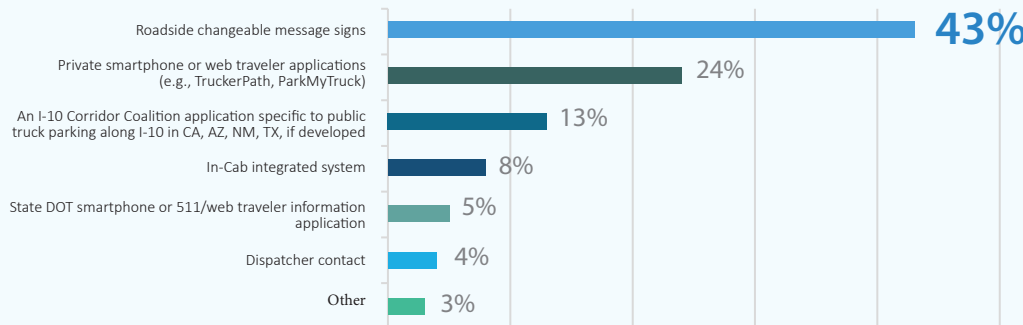30 minutes – 1 hour — **41%**
More than 1 hour — **37%**

Forty-one percent of the respondents indicated it takes 30 minutes to an hour to find parking; 37 percent responded it takes longer than an hour to find parking.

TRUCK PARKING NEEDED BY TYPE

92%
P
10 hr HOS

62%
P
30 min HOS

54% Off Duty
34% Staging/Breakdown
22% Wide Load
6% No Parking Needed
2% Other

Parking is needed to meet the mandated 10-hour hours of service (HOS) breaks for 93 percent of respondents and parking for 30-minute breaks for 62 percent of respondents.

PREFERRED METHOD FOR RECEIVING REAL-TIME INFORMATION

Roadside changeable message signs — **43%**
Private smartphone or web traveler applications (e.g., TruckerPath, ParkMyTruck) — **24%**
An I-10 Corridor Coalition application specific to public truck parking along I-10 in CA, AZ, NM, TX, if developed — **13%**
In-Cab integrated system — **8%**
State DOT smartphone or 511/web traveler information application — **5%**
Dispatcher contact — **4%**
Other — **3%**

Respondents prefer roadside changeable message signs for receiving information, followed by mobile applications such as private smartphone applications or in-cab navigation systems.
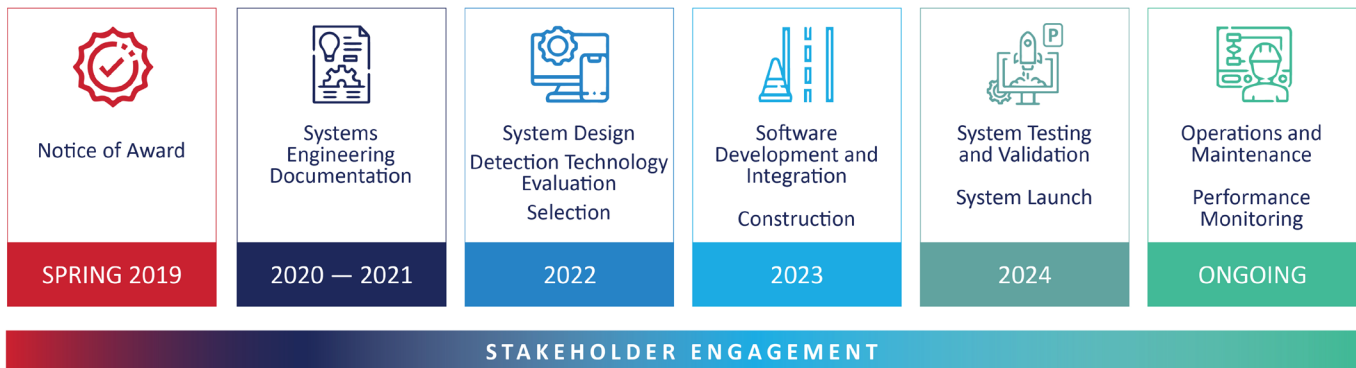
PREFERRED DYNAMIC MESSAGE SIGN

P SPACES OPEN
REST AREAS
5 MILES   50
45 MILES   75

Respondents expressed a preference for signs that display at least two or three upcoming sites. They also preferred a sign that shows rest areas within five to 45 miles and the total number of available spaces.

PROJECT SCHEDULE

The I-10 Corridor Coalition TPAS project will be fully deployed and operating within four years from the ATCMTD grant filing date of April 20, 2020. The tentative deployment date is scheduled for July 2024. Following deployment, the Coalition states will operate and maintain the system.

TPAS SCHEDULE

Notice of Award	Systems Engineering Documentation	System Design Detection Technology Evaluation Selection	Software Development and Integration Construction	System Testing and Validation System Launch	Operations and Maintenance Performance Monitoring
SPRING 2019	2020 — 2021	2022	2023	2024	ONGOING

STAKEHOLDER ENGAGEMENT

NEXT STEPS

Environmental Documentation: All Coalition states have initiated environmental review and analysis for improvements in the rest areas where the TPAS technology will be deployed.

System Design: The Coalition states will develop final design plans, technical requirements, and specifications for the deployment of the TPAS system. The design will build upon the input gathered from virtual workshops with the trucking industry, the online I-10 TPAS Truck Driver and Dispatcher Survey, the I-10 TPAS ConOps, and high-level system requirements.

Software Integration: Each state will initiate the integration of truck parking availability software into their existing traffic management system and state traveler information system.

Stakeholder Engagement: Stakeholder engagement will be conducted throughout all phases of development to gather industry input and ensure the system meets the needs of the end users. Outreach efforts will continue to raise awareness of the I-10 TPAS and promote its benefits.

For More Information Contact:

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