

Request for Information No.3

Data Sharing

**Issued by: MAASTO TPIMS Partnership
Task Force**

**Regarding: Truck Parking Information
Management System**

RFI Issuance Date: 08/15/2016

RFI Closing Date: 09/12/2016



**MAASTO
TPIMS
Project**

1. PURPOSE OF THE RFI

The Mid America Association of State Transportation Officials (MAASTO) Regional Truck Parking Information Management System (TPIMS) Partnership Task Force is seeking information to assist it in development of the Regional Truck Parking Information Management System (TPIMS), an eight-state, federally funded initiative to provide real-time information related to truck parking availability.

The purpose of this Request for Information (RFI) is to generate responsive information that may help participating states in the MAASTO TPIMS Partnership Task Force and the Federal Highway Administration confirm and/or refine certain assumptions in connection with planning for and structuring the MAASTO TPIMS Project.

This RFI does not constitute an RFQ, an RFP, or any other solicitation document. Responding to this RFI is not a pre-requisite to participating in a future procurement process of any of the participating states. By responding to this RFI, Respondents can provide valuable input and help shape the framework for the development of the MAASTO TPIMS Project. Information provided in response to this RFI may be publicly disclosed and will not be considered protected or proprietary to the provider.

2. PROJECT OVERVIEW

Access to safe and convenient parking areas for trucks is essential for a robust freight transportation network, yet truck drivers consistently have difficulty finding areas to safely rest. Drivers who have not located parking before reaching their hours of service limits are often forced to park illegally or unsafely, often on the shoulders of highways, on off-ramps or at abandoned facilities. In response to these concerns, the State of Kansas in partnership with Indiana, Iowa, Kentucky, Michigan, Minnesota, Ohio and Wisconsin are developing a multi-state

Regional Truck Parking Information and Management System. The project is funded through a \$25 million Federal TIGER grant and additional state funds.

The MAASTO Regional TPIMS project is America's first such regional effort, leveraging efforts already underway in Michigan, Wisconsin and Minnesota. The Regional TPIMS is envisioned to be a network of safe, convenient parking areas with the ability to collect and broadcast real-time parking availability to drivers through a variety of media outlets including dynamic roadside signs, smart phone applications, in-cab systems, and traveler information websites. This will help drivers proactively plan their routes and make safer, smarter parking decisions. With implementation of the Regional TPIMS in 2018, truck drivers will have the ability to weigh the value of driving an extra distance to secure available parking without fearing the unknown or experiencing a lack of availability upon arrival. This will increase drivers' overall productivity and efficiency.

The MAASTO Partnership will deploy the regional TPIMS throughout the eight-state region on high-volume freight corridors including: I-35, I-64, I-65, I-70, I-71, I-75, I-80, I-94 and I-135. These routes are among some of the most important corridors in the MAASTO region with truck volumes on many of these routes already exceeding 25,000 trucks per day and expected to grow. These high truck volumes create congestion at parking sites, making it difficult for truck traffic to easily locate safe, convenient parking during peak rest hours. That will change when the Regional TPIMS Project is completed.

The system will use existing intelligent transportation systems (ITS) infrastructure and capabilities, along with vehicle detection and data collection technologies, to monitor the availability of truck parking at public and private truck parking sites. It will then provide real-time information through multiple platforms to commercial vehicle operators for over 150 parking facilities across the MAASTO region. Since over-the-road truck drivers typically travel at least 500 miles in a day, they will benefit most from this seamless system unbound by state lines and capable of future expansion to additional freight corridors and states.

3. TPIMS PROCUREMENT, DELIVERY AND SCHEDULE

Each of the participating states is responsible for procuring and delivering its portion of the TPIMS project; however, the Kansas Department of Transportation (KDOT) is serving as Lead Agency and will be administering the project through the Federal TIGER Grant process on behalf of the MAASTO TPIMS Partnership Task Force. More information on the schedule and procurement/delivery method of the individual states is available at the project website (<http://trucksparkhere.com/>) The Federal TIGER Grant process requires that each state deliver its portion of the project by Fall 2018.

4. INFORMATION REQUESTED

Through this RFI, the MAASTO TPIMS Partnership Task Force is interested in soliciting views and suggestions from interested parties regarding the MAASTO TPIMS Project, specifically regarding data needs and private sector application development requirements. The Partnership Task Force asks that parties responding to this RFI submit their perspectives on issues and questions for which they are qualified, with a preference for broad-based perspectives and insights on the full range of questions. Respondents are not required to respond to each question or information request. Respondents are requested to include the information identified below. Please provide numbered responses to match the questions and information requests identified in this RFI.

A. General Information

A1. Identify a single point of contact for the Respondent, along with full contact information.

A2. Provide a brief (no more than two pages) summary of the Respondent's organization and any previous experience with similar projects.

B. Data Distribution

The MAASTO TPIMS Partnership Task Force is requesting information on data needs and private sector application development requirements. The preliminary data feed document is attached as an appendix for reference. The current plan is to include two separate data feeds, one for static data and one for dynamic data. The static data feed is designed for data that does not regularly change over time, reducing the bandwidth necessary to transmit the data and the storage space necessary to store the data. The dynamic data feed includes the data that updates on a regular interval (e.g., every 5 minutes). Users would be required to pull both the static and dynamic data, however, the user would have to pull the static data at a less frequent rate (daily, weekly, monthly).

B1. In terms of the data format provided, can you provide any comments or feedback to the design team on data that is either missing or not necessary? Does the format raise any issues or concerns? Are there any issues or concerns about having the two data feeds (static and dynamic) that need to be addressed in the design or operations?

B2. Do you currently have a business model that ingests data from multiple sources and provides it to users at no direct cost to the users? How do you define users (public agencies, end users, etc.)? If you do have a business model for data distribution, can you share that business model in whole or in part?

B3. How should the participating state agencies distribute the data? Should it be a free, open distribution available to everyone or should the agencies put out a procurement that has providers bid on the real-time data?

B4. What issues are there associated with establishing a data agreement with multiple entities (e.g., each of the eight participating states separately) as opposed to just one entity (both in terms of data users/aggregators and in terms of data providers)?

B5. Each state will have its own architecture for data collection and distribution and each state will publish a uniform data feed (see appendix) with their own data as opposed to having a centralized data source. Will this distributed architecture impact your willingness to obtain and distribute the data? Is there an architecture you would prefer for the data collection and distribution? Is there a desire for data from all of the participating states or would you only want data from specific individual states or corridors?

B6. What other data sources do you have that you would plan to integrate the truck parking data into?

C. End-User Interfaces

The MAASTO TPIMS Partnership Task Force is requesting information on potential applications that could disseminate real-time truck parking availability data.

C1. Do you currently have an application that has been developed to provide traveler information to commercial truck drivers? If so, what information is provided via this application? How widespread is the use of the application?

C2. If you have an application, is it currently branded or is it available as an unbranded application (white label)? If it's a white label application, can you share a license agreement?

C3. If you have an application, does it currently provide truck parking information? Is information provided on parking capacity, availability, or both? How are you currently obtaining data to populate the application?

C4. If your application currently does not provide truck parking information, how interested would you be in integrating real-time truck parking data into your application(s) once it is available from the MAASTO TPIMS deployment?

C5. Regarding your application, what usage metrics do you have for the application, such as market penetration, download counts, daily active users, etc.? What ability do you have to collect this data in the future to support performance metrics?

C6. Regarding your application, what platforms do you currently support? Are you limited to mobile devices over cellular data network (iPhone, Android, tablet, etc.)? Are you using embedded systems in trucks? Are you installed as part of a fleet deployment, as part of an OE installation or as an individual aftermarket deployment?

C7. How does your application show/acknowledge the source of data? If it was required that your application show/acknowledge the source of the data, would you still be interested in using the parking availability data feed?

C8. What control over the final data and application will the participating states have, given that the application development is not funded by the individual states, to ensure that there are quality standards in place within the application that meet the requirements of the MAASTO TPIMS Partnership Task Force?

C9. What methods would you use to assure your application was marketed to end users?

C10. Are you aware of any patent or intellectual property infringement claims involving your proposed process or application? If so, please explain.

5. CONFIDENTIALITY

Respondents are advised that any responses to the RFI may be made available to each state within the MAASTO TPIMS Partnership Task Force, stakeholders and the public in general. In addition, portions of RFI responses may be published publicly in newsletter articles, social media sites, websites or other public-facing media channels for purposes of informing stakeholders about market interest and ideas for the TPIMS Project.

6. GENERAL INFORMATION

A. Guidelines for Responses

Page limits: Respondents are requested to limit responses to this RFI to a maximum of 10 pages.

Content: The MAASTO TPIMS Partnership Task Force is requesting the specific information identified in this RFI, but is not requesting proposals, detailed plans, marketing materials, or proprietary information from Respondents.

Delivery: Responses to this RFI are due by 4:00 p.m. central time on September 12, 2016. Respondents are requested to submit an electronic version of the written response (in Adobe PDF format) to the Point of Contact identified in section 6(D).

B. Questions from Respondents

Questions regarding this RFI and/or the status of the MAASTO TPIMS Project should be submitted electronically through the Project's email address at: procurement@trucksparkhere.com. All questions may be made publically available under the FAQ section of the website procurement page at <http://trucksparkhere.com/procurement/>. When submitting questions, Respondents are requested to identify the RFI No. and contact identified in 6(D).

C. Changes and Additional Project Information

Changes to this RFI will be posted as addenda to the RFI on the MAASTO TPIMS Project Website (<http://trucksparkhere.com/>). Respondents are encouraged to monitor the website on a regular basis for updates, questions and responses, addenda, and additional information.

D. Point of Contact

All responses must be addressed to the following point of contact:

Davonna C. Moore
Assistant Bureau Chief-Transportation Planning and MAASTO TPIMS Project Manager
Kansas Department of Transportation
procurement@trucksparkhere.com

Appendix Truck Parking Data Elements

08/04/2016

Data Element	In Public Data Feed	Description
Location Identifier	Dynamic Feed Updated every 1 to 5 minutes	Unique fixed-length identifier including state, route number, route type, mile marker, side of road and unique location number or name abbreviation. See more detailed description below.
Time Stamp of Dynamic Feed Update		Provides the date and time that the site record was last updated (YYYYMMDDHHMMSS). Time reported in UTC
Available Spots Reported		Number of available spots shared through the data feed. The number is capped at the total number of parking spots at the site and "Low" is reported if the low threshold is reached.
Trend		Reports whether the site is emptying, steady or filling.
Open or Closed		Will report open unless the parking site is closed to parking for maintenance or another situation.
Last Static Update		Provides the date and time that the site record was last updated (YYYYMMDDHHMMSS). Time reported in UTC Will alert user when Static Feed is updated (Time Stamp of Static Feed Update)
Site Failure Flag		This flag will report that no data or erroneous data is being provided for a site.
Location Identifier		Static Feed Updated periodically
Time Stamp of Static Feed Update	Provides the date and time that the site record was last updated (YYYYMMDDHHMMSS). Time reported in UTC	
Mile Marker	Provides the mile marker for the center of the rest area or interchange.	
Exit Number	At interchanges, the designated interchange number is provided. For rest areas and weigh stations that do not have an exit number the value will be set to <i>null</i> .	
Direction of Travel	Text indicating the direction(s) of travel that can access the site. For sites that can be accessed by either direction of travel, a bi-directional identifier such as "NS" or "EW" can be used.	
GPS Coordinates	The latitude and longitude in a decimal format.	
Private or Public	Text such as "PR" and "PU" used to indicate whether a parking site is privately owned or publicly owned.	
Number of Spots	Total number of parking spots within the site. Could also be called "Capacity".	
Name	Name of facility as text (e.g., Rest Area or Flying J Truck Stop).	
Street address	Text based address number and street name.	

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City		Name of city in which the parking area is located. If not in a city, the county name can be used (e.g., Johnson County).
State		Abbreviation for state in which the parking area is located.
Amenities		List of text based amenities descriptions. Data structure would allow a varying number of amenities to be listed.
Image links (logo of public or private stop)		Provides a link to an image file on a server that shows the private truck stop logo or TPIMS logo.
Image Link		Provides a link to an image file on a server that shows the lot status visually. This is only used if images are being captured and shared from a surveillance camera, otherwise it will be <i>null</i> .
Location Identifier	Archiving Only (not public)	Unique fixed-length identifier including state, route number, route type, mile marker, side of road and unique location number or name abbreviation. See more detailed description below.
Manual Reset Flag		This flag will note that the report value of available spots is based on a manual reset. Used for performance measures and system monitoring, not for public consumption.
"Low" Number of Spots Threshold		If the parking spot availability in the lot drops below this value, the data feed will report "Low" instead of a number.
Number of Spots Available		This will be the actual number of spots the detection system is reporting is available. This number can exceed the maximum number of spots and will report actual values under the "Low" threshold. Used for performance measures and system monitoring, not for public consumption.

Appendix
Truck Parking Data Elements
08/04/2016

Dynamic data feed example

```
{
  "SiteId": "WI00094IS0008450WGALESBRA",
  "TimeStamp": 20160815203515,
  "Available": 25,
  "Trend": "FILLING",
  "Open": Y,
  "LastStaticUpdate": 20160815203515,
  "TrustData": Y
}
```

Static data feed example

```
{
  "SiteId": "WI00094IS000845NSGALESBRA",
  "TimeStamp": 20160815203515,
  "MileMarker": 123,
  "ExitNumber": "NA",
  "DirectionOfTravel": "NS",
  "name": "House of the happy trucker",
  "Location": { "latitude": 43.0000, "longitude": -89.0000,
    "street": "34 State Street", "city": "Madison",
    "state": "WI",
    "zip": "53703"
  },
  "Ownership": "PU",
  "Capacity": 25,
  "Amenities": [ "Shop", "Showers", "ATMs"
  ],
  "Images": [ "http://.../image1.jpg",
    "http://.../image2.jpg",
    "http://.../image3.jpg"
  ],
  "Logos": [ "http://.../logo1.jpg",
    "http://.../image2.jpg"
  ]
}
```

Appendix Truck Parking Data Elements

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Field Position	Field Size	Location Identifier (Fixed Length)	
		Filed Name	Description
0	2	State	Two letter state abbreviation.
2	5	Route number	Five digits with zeros padded to the left.
7	2	Route type	Two letter abbreviation (e.g., IS for interstate, US for US highway, SH for state highway, etc.).
9	6	Mile marker	Six-digit number with implied 1/10 decimal point and zeros padded to the left.
15	2	Side of Road	Two letter designation indicating the direction(s) of travel that can access the site. Site accessed from one direction are "ON", "OS", "OE" or "OW". For sites that can be accessed by either direction of travel, a bi-directional identifier such as "NS" or "EW" can be used.
17	8	Unique Site Designation	Eight character unique location number or name abbreviation to differentiate between multiple truck stops at the same interchange.

Example: MI00094IS0008450WGALESBRA is the Galesburg Rest Area on westbound I-94 in Michigan at mile marker 84.5.