

State of Florida  
Department of Highway Safety and Motor Vehicles  
Request for Information No.: DHSMV-RFI-035-19  
Actionable Predictive Analysis of Traffic Incidents

The Florida Department of Highway Safety and Motor Vehicles (DHSMV/Department) is re-issuing the Request for Information (RFI), for those vendors who are interested in providing a response or requesting a demonstration please submit or contact the procurement officer. Vendors who submitted responses to the previous RFI No. DHSMV-RFI-013-19 do not need to resubmit. Any previous responses and demonstrations are still considered active and part of the process. If you submitted a response but did not receive an invitation for a demonstration, please respond with only your request for a demonstration.

## 1.0 INTRODUCTION

The Department, Division of Florida Highway Patrol (DHSMV/FHP), hereby re-issues this RFI seeking information from interested parties who can provide the Department with the latest information on real-time actionable predictive analysis of traffic incidents for Florida Highway Patrol Troopers.

The FHP is seeking information regarding potential opportunities to provide near real-time predictive analytics of traffic incidents to improve public service, prevent injuries, and expedite FHP incident responses. Any proposed solution must allow field personnel to access actionable analysis of their assigned areas from remote computers in patrol cars and field offices.

The Department desires to receive information from the vendor community regarding available solutions designed and suitable to produce actionable intelligence regarding the time and location of traffic incidents, specifically traffic crashes, to better allocate personnel to prevent, mitigate, and quickly respond to such incidents.

This RFI is designed to explore all avenues available in the current technology market, including necessary components of a solution that the Department can employ to protect the integrity of its data throughout the life of a current project and beyond.

All responses to this Request for Information (RFI) issued by the DHSMV/FHP must encompass all core components contained herein. Note that this RFI is not a Request for Proposal (RFP) or any other form of competitive solicitation, and a contract will not be awarded on the basis of a vendor response. Propriety or confidential information should be clearly marked. The requested information is for planning purposes only.

This request is for a solution that can be provided by or integrated by a single vendor. If third-party hardware or service providers are needed to complete the solution, these entities will be subcontractors and will not be additional contracted/providers to DHSMV/FHP. The respondent will be responsible for providing deployment, warranty and maintenance of the proposed system for the term of a potential future contract.

The solution may be single or linked platforms or software, including front-end and back-end clients and infrastructure, cloud computing or browser-based applications, but should include at a minimum the following components and capabilities:

- Provide off-the-shelf data analysis functions or provide modeling services to build an intuitive predictive modeling application. The Department currently uses Tableau and is looking for a tool to provide these functions, including ready-built models that can accept imported data sets.
- Ingest and analyze data points from multiple sources for the purposes of providing down to an hourly projection of where traffic crashes are likely to occur based on historical data and current conditions. Examples of data to consider include:
  - Traffic crash reports
  - Archival and current weather data
  - Event sites and sales (i.e. sporting events, concerts, festivals, etc.)
  - Road condition and construction data
  - Alcohol sales and establishments
  - School schedules
  - Theme park traffic and events
  - Florida e511, Waze, etc.
- Present modeling results to command staff, analysts and field personnel in an easy-to-read and easy-to-understand user interface to enable patrol staff to make decisions on when and where to best allocate personnel and to focus patrols on a daily or hourly basis.
- Provide an opportunity to enable public-facing tools (i.e. interactive website) to educate and inform the motoring public on when and where crashes may occur.

The Department anticipates releasing a solicitation during Fiscal Years 2019-2020 or 2020-2021. The resultant contract of that solicitation is anticipated to be for a term of three (3) years with an optional three (3) year renewal term.

## 2.0 DEFINITIONS

- A. **Fiscal Year (FY):** When used herein, refers to the state of Florida twelve-month accounting period which begins July 1<sup>st</sup> and ends June 30<sup>th</sup>.
- B. **Vendor:** Any firm or person who submits a response to the Department regarding this RFI.
- C. **Response:** All information, documentation, and other materials submitted by the Vendor in answering to this RFI.
- D. **Florida Highway Patrol Troopers:** Sworn law enforcement officers of the Florida Highway Patrol authorized to enforce the penal, traffic, and highway laws of the state of Florida.

## 3.0 PURPOSE OF AN RFI

Rule 60A-1.042, Florida Administrative Code (F.A.C.), provides that an agency may request information by issuing a written RFI. Agencies are authorized to use an RFI in circumstances including, but not limited to, determining whether or not to competitively procure a commodity or contractual service, determining what solicitation process to use for a particular need, or researching general, special, and/or technical specifications for a solicitation.

A Vendor's response to a RFI is not an offer (Rule 60A-1.042, F.A.C) and the agency may not use the Vendor's submission to justify a contract with that Vendor without otherwise complying with Chapter 287, Florida Statutes (Fla. Stat.). Vendor responses to this RFI will be reviewed for informational purposes only and will not result in award of a contract.

Vendors submitting a response to an agency’s RFI are not prohibited from responding to any related subsequent solicitation. Vendors are not required to submit a RFI response to participate in any subsequent solicitation.

#### **4.0 BACKGROUND**

In recent years, Florida has experienced a noticeable increase in traffic crashes, especially crashes that resulted in serious injury or fatality. The state currently boasts a population of over 20 million residents and hosted over 116 million visitors in 2017, with an anticipated increase of population of approximately a quarter million per year, reaching a population of 26 million by 2040.

Considering the projected, continued population increase, the number of visitors each year and the amount of highway freight transportation, the Florida Highway Patrol recognizes that leveraging data analysis and emerging technologies is a crucial component to improving traffic safety in our efforts to reduce injuries and save lives.

The Florida Highway Patrol, along with our public safety and infrastructure partners, currently employs a Data Driven Approach to Crime and Traffic Safety (DDACTS) model to identify key locations and corridors where crashes have been occurring, noting a correlation between serious crashes and occurrence of crime. It is our hope that through the use of a predictive crash analysis model, the Florida Highway Patrol can further reduce serious crashes, injuries, fatalities and crime throughout Florida. The Department’s geographic preference for the predictive analysis is two to five (2-5) square mile grids; however, one to two (1-2) mile road segments would also be considered.

The Florida Highway Patrol envisions a system in which FHP Troopers can receive notifications or access information several times through an eight or twelve-hour shift to identify where crashes are most likely to occur during specified periods of time, so that they can then position themselves accordingly. This in turn would enable Troopers to provide a visible enforcement presence in these areas to potentially reduce the occurrence of crashes and to respond quickly when they occur. The Department currently uses iOS devices for their mobile platform.

Such a system would also provide critical information for Highway Patrol command officers to project likelihoods and probabilities of traffic incident for the purpose of future planning, staffing and scheduling.

#### **5.0 REQUESTED INFORMATION**

The Vendor shall prepare its RFI response simply and economically, providing a straightforward, concise description of the solution(s) available. Elaborate responses with colored displays and promotional material are not desired. Responses are to be organized as directed below.

- A.** Provide a cover letter identifying the Vendor’s contact information.

**If applicable**, the cover letter shall also include a statement that a “Redacted” response **is not** included, and that the “Original” response is suitable for public release. See Section 6.0, Response Submission.

Provide a description for the requirements below by reprinting each TAB requirement in the RFI response:

**Tab A - Overview**

1. Describe your organization.
2. Provide the names of the predictive analytics software product(s) you provide and whether they are available for purchase through GSA, a State of Florida State Term Contract or Alternate Contract Source.
3. Provide information or use cases regarding your Predictive Analytics software and utilization by highway, traffic and public safety organizations or agencies.
4. Describe your understanding and approach to accomplishing the goals described in Section 4.0, Background.
5. Describe your proposed solution, emphasizing open standards based on Commercial Off-the-Shelf (COTS) technologies, as appropriate.
6. Explain why the suggested solution was chosen.

**Tab B - Vendor Background**

Provide the following information about your company and proposed partner(s), if applicable:

1. Provide a statement giving a brief history of your company, how it is organized and summary of available products and services.
2. Provide the company's official name, address and website URL.
3. Describe how long the company has been in business.
4. List and explain your company's experience working with public safety agencies.
5. Provide a list of other states, jurisdictions, and companies that have utilized the solution.
6. Describe the history of your suggested solution.
7. Describe how much reliance the company places on Commercial Off-the-Shelf, non-proprietary equipment.

**Tab C - Product Components and Capabilities**

Provide a detailed list of products that would likely be necessary, including system requirements, to support the solution as intended by this RFI, and describe the solution capabilities in regard to the following questions:

1. Describe any features or capabilities that are unique to your product.
2. Does your product feature built-in machine learning capabilities?
3. Describe how your technology can enable any emerging trends (e.g., IoT device data feeding predictive analytics models).
4. Provide an overall list of features such as:
  - a. Data preparation or preprocessing (during training and/or deployment of any models)
  - b. Predictive modeling
  - c. Predictive scoring
  - d. Advanced data visualization
  - e. R integration
  - f. Statistical reports
  - g. Decision trees
  - h. Ensemble models
  - i. Model management and comparison
  - j. Real time or batch analytics
5. Provide an overview of your Predictive Modeling lifecycle, including typical timeframes.
6. Describe how your solution addresses the needs of regression, classification, clustering, forecasting, association, and optimization.

7. Describe the algorithms used (mark “trade secret as defined in section 812.081, Fla. Stat.” as necessary).
8. Describe the support for multiple browsers, mobile platforms, and other technical considerations for external users.
9. Provide information regarding industry security standards and any other security features supported by your system (data segregation, accessibility, user authentication, etc.).
10. Do you have any preferred data types or exclusions?
11. Describe any commercially available software products with which your solution is capable of direct integration, i.e. *Tableau*, *Power BI*, etc.
12. Describe availability of published API integration tools and developer API training programs.
13. Describe any integration limitations or additional layers that need to be built to integrate with internal and external data sources to drive real-time decisions.
14. Describe the reporting capabilities of your product. Provide sample reports (if possible), and describe any exclusions to export results to popular third-party tools.
15. Describe what type(s) of notification and alert services are provided.
16. Describe any relevant latency considerations. Is the analytics generated real-time or is there a batch process that uploads the data for machine learning?
17. Provide a high-level data flow from the source system to the predictive analytics tool.
18. Does this tool need a separate copy of operational data?
19. Does this technology leverage any open source tools (e.g., Spark, Hadoop, R, etc.)?

**Tab D – Cost**

Provide sample cost information that would apply to a solution as described in your RFI response, including but not limited to, the following:

1. Describe your pricing model and typical fees associated with your product.
2. Do you also provide additional training, managed integration services, enhanced support, and/or consulting services? If so, describe the services and include pricing structure or typical associated fees.
3. Product or Line Item.
4. Quantity Required – Number of each product/line item required. Cost per product or line item.
5. Overall Initial Cost (3-year term).
6. Optional Renewal term (3-years).
7. License fees associated with the solution.

NOTE: To preserve your company’s ability to bid on any future procurements related to this RFI, it is important to provide general pricing information only (i.e., competitive ranges, and variable impacting price, etc., not a specific price quote).

**Tab E – Implementation/Maintenance**

Provide the following details for the proposed solution:

1. An overview of the implementation process and its complexity, along with a realistic estimate of the timeframe required for the implementation phase. What type(s) of infrastructure is needed to effectively leverage your predictive analytics technology?
2. What skills would be required of Department personnel to leverage your technology?
3. What strategies are your current customers using to ensure the skills required to leverage the technology are accessible?
4. How long would implementation of your solution take? Provide a typical project plan for implementation.

5. Describe the complete level of effort by your company and the DHSMV to implement the solution described.
6. Describe the requirements (both financially and staffing related) to maintain the solution.
7. Describe the method(s) by which the products would be supported during a continuous contractual period. Describe the level of effort required to update and maintain the models produced by these algorithms.
8. Describe the flexibility to customize the machine learning algorithms.
9. Describe the overall application (e.g., cloud) architecture, including how the architecture supports continuous system availability and how the architecture scales in response to peak usage loads.
10. Describe how future product upgrades are released (i.e., how the change is communicated, upgrade schedules, and whether there is associated user training).
11. Describe the release management process, including how future product upgrades are communicated and scheduled (including user training, if applicable).

**TAB F – ADDITIONAL INFORMATION**

Provide any additional information not already requested in this RFI that your company believes would be helpful to the Department in considering solutions to the goals outlined herein.

**6.0 RESPONSE SUBMISSION**

The Vendor shall submit:

1. One (1) **ORIGINAL** version (marked “Original”) of the response submittal and six (6) **COPIES** (marked “copy”).
2. One (1) **REDACTED** copy (marked “Redacted”) of the response, if applicable. See Section 11.0 PROPRIETARY INFORMATION.
3. One (1) electronic copy of the entire “Original” response, and one (1) redacted electronic response, if applicable, in Adobe (.pdf) on a USB flash drive.

Sealed packages to be delivered to the Department shall be clearly marked on the outside of the package with the RFI number and company name. Vendors shall submit the RFI response to the Procurement Officer at the address indicated in Section 13.0, Procurement Officer.

**7.0 CALENDAR OF EVENTS**

The table below contains the Calendar of Events for this RFI. Vendors should become familiar with the Calendar of Events as the dates and times may be subject to change. It is the Vendor’s responsibility to check the Vendor Bid System (VBS) for any changes. All changes to the Calendar of Events will be through an addendum to the RFI. Vendors are responsible for submitting all required documentation by the dates and times indicated below (Eastern Time).

<b>DATE</b>	<b>TIME</b>	<b>ACTIVITY</b>
April 2, 2019		RFI is released on the VBS.
April 9, 2019	3:00 PM	Questions are due.
April 16, 2019		Anticipated answers to questions are released.

April 30, 2019	3:00 PM	RFI responses are due.
May – June 2019		Vendor Demonstrations.

**8.0 ADDENDA TO THE RFI**

The Department will post any addenda to this RFI, including its responses to written questions submitted by the vendors, on the Florida Vendor Bid System (VBS) at:

[http://vbs.dms.state.fl.us/vbs/search.criteria\\_form](http://vbs.dms.state.fl.us/vbs/search.criteria_form)

Each Vendor is responsible for monitoring the VBS for new or changing information.

**9.0 QUESTIONS**

Questions or requests for clarification regarding this RFI shall be submitted in writing to the Issuing Officer identified in Section 13.0, Procurement Officer, by the date and time specified in the Calendar of Events or as amended by the Department. Questions will not be answered via telephone. The Department anticipates posting answers to questions received on the Vendor Bid System (VBS) by the close of business on the date stated in Section 7.0, Calendar of Events.

**10.0 DEMONSTRATIONS**

After the Department receives responses to this RFI, and at the sole discretion of the Department, the Department will request responding vendors to demonstrate to the Department the Vendor’s products and services relating to the information submitted in its RFI response, at no cost to the Department.

The demonstrations shall consist of a visual product overview and walkthrough conducted onsite or via WebEx, followed by a 90-day trial period during which the Department will have the opportunity to use and test the proposed solution using publicly-available Department data.

The purpose of the demonstration is to permit the Department to visually see and confirm stated functionalities and capabilities and to ask questions related thereto. A vendor’s non-participation in any demonstration will not preclude the vendor from participating in any subsequent procurement resulting from this RFI.

**11.0 PROPRIETARY INFORMATION**

Any portion of the submitted response which is asserted to be exempt from disclosure under Chapter 119, Fla. Stat., shall be clearly marked “exempt”, “confidential”, or “trade secret” (as applicable) and shall also contain the statutory basis for such claims on every page. Pages containing trade secrets shall be marked “trade secret as defined in section 812.081, Fla. Stat.” Failure to segregate and identify such portions shall constitute a waiver of any claimed exemption and the Department will provide such records in response to public records requests without notifying the Vendor. Designating material simply as “proprietary” will not necessarily protect it from disclosure under Chapter 119, Fla. Stat.

**12.0 VENDOR COSTS**

Vendors are responsible for all costs associated with the preparation and submission of their Request for Information response and any potential demonstration. The state of Florida,

Department of Highway Safety and Motor Vehicles will not be responsible for any vendor-related costs associated with responding to this request.

**13.0 PROCUREMENT OFFICER**

The Procurement Officer, acting on the behalf of the Department, is the sole point-of-contact regarding all matters relating to this RFI. All questions and requests for clarification are to be directed to:

Ashley Balkcom  
Sr. Procurement Consultant, Bureau of Purchasing and Contracts  
Department of Highway Safety & Motor Vehicles  
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