

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

REQUEST FOR INFORMATION

No. 310-16-067

Specifications, Instructions and
Submittal Information for a

Project Programming, Scheduling,
and Financial System

Due Date: June 20, 2016



Rudy Malfabon, P.E., Director
DEPARTMENT of Transportation

Table of Contents

- 1. General Information 3
 - 1.1. Introduction 3
 - 1.2. Vendor Submissions 3
 - 1.3. RFI Schedule 3
 - 1.4. RFI Coordinator 4
 - 1.5. Submission of Questions 4
 - 1.6. Response Format..... 5
 - 1.7. Vendor Presentation 5
 - 1.8. Cost of Preparing Response..... 5
 - 1.9. General Terms and Conditions 5
 - 1.10. Request for Confidential Treatment..... 6
- 2. Background 6
 - 2.1. Current Working System 7
- 3. Information to be provided by submitting vendors 7
 - 3.1. DEPARTMENT Needs: 7
 - 3.2. Optional Functionality 9
- 4. Appendix A - DEPARTMENT Technical Standards 10
 - 4.1. INTRODUCTION 10
 - 4.2. DATABASE PRODUCTS AND STANDARDS..... 10
 - 4.3. APPLICATION DEVELOPMENT PRODUCTS AND STANDARDS..... 11
 - 4.4. SYSTEM PRODUCTS AND STANDARDS..... 12
 - 4.5. WEB PRODUCTS AND STANDARDS..... 12
 - 4.6. GEOGRAPHIC INFORMATION SYSTEMS PRODUCTS AND STANDARDS..... 13
 - GIS Software Compatibility 13
 - GIS Data and Services 13
 - Data Dictionary, Metadata and Data Projections 13
 - GIS Applications..... 14
 - Mobile Data Collection 14

1. General Information

1.1. Introduction

The purpose of this Request for Information (RFI) is to allow all interested vendors an opportunity to present information of available products and solutions that address the specifications within this RFI. The Nevada Department of Transportation, herein "DEPARTMENT", is seeking information for the purpose of identifying a solution for the management of transportation project scheduling, programming, and financial information, herein "SOLUTION", for use in the programming and management of DEPARTMENT transportation projects, to meet federally mandated reporting requirements and to replace certain legacy systems.

The intent of this RFI is to elicit the advice and the best recommendations of knowledgeable persons in the vendor community, not to select a proposed solution or a vendor. Subsequently, and depending upon knowledge gained from the response to this RFI, the DEPARTMENT may, in its sole discretion, prepare and issue a Request for Proposal (RFP) that will meet the requirements of its stakeholders. The collective information provided by vendors will be used to develop alternatives for consideration and to estimate costs related to acquisition of a proposed solution.

Vendors may respond to this RFI with information about deploying a project management solution using the latest data governance practices and budgetary costs the DEPARTMENT should expect to incur when procuring, implementing and supporting such project management solution.

1.2. Vendor Submissions

Vendor responses are due by **11:00 A.M. PT, June 20, 2016**. Please include **one (1) electronic PDF** submitted to agreeservices@dot.state.nv.us. If a vendor has multiple solutions, each solution must be submitted separately.

Confidential Information, Trade Secrets, and/or Proprietary Information must be marked as such in the Response. The failure to mark this information as per NRS 333.020 and 333.333 shall constitute a complete waiver of any and all claims for damages caused by release of the information by the DEPARTMENT. If the DEPARTMENT reviews the confidential information and determines that the information is not considered confidential pursuant to NRS Chapter 333, the DEPARTMENT will contact the Vendor. The Vendor must advise the DEPARTMENT as to whether it either accepts the DEPARTMENT's determination that the information is not confidential, or withdraws the information. The Vendor will not be allowed to alter the Response after the date and time set for receipt of Responses shown above. Notwithstanding the provisions in NRS Chapter 333, the DEPARTMENT retains its immunity pursuant to the provisions of NRS 239.012 for any "good faith" release of information, and the immunities from liability provided to it pursuant to NRS Chapter 41.

1.3. RFI Schedule

Description	Timeline
Release of RFI	May 16, 2016
Submission of Questions	May 27, 2016 by 11:00 A.M. PT

Responses to Submitted Questions	June 6, 2016
Vendor Submissions	June 20, 2016 by 11:00 A.M. PT

1.4. RFI Coordinator

The following rules of contact shall apply during this RFI:

After release of the RFI the Vendors shall ONLY correspond with the DEPARTMENT regarding this RFI through the DEPARTMENT's designated representative as per NAC 333.155. The designated representative's contact information is:

RFI Coordinator	Procurement Person
Name	Lucy Koury
Address	Nevada Department of Transportation Administrative Services Division 1263 S. Stewart Street, # 101A Carson City, NV 89712
Phone	(775) 888-7070, ext. 2058
E-mail	agreeservices@dot.state.nv.us

The Vendors shall not contact the DEPARTMENT's employees, including DEPARTMENT heads and/or any official who will participate in the review of Responses, except through the process identified above. Any communications determined to be improper may result in disqualification, at the sole discretion of the DEPARTMENT. Any official information regarding the RFI will be disseminated by the DEPARTMENT. Specific information necessary for the preparation of Responses will be disclosed to all Vendors. The DEPARTMENT will not be responsible for any oral exchange or any other information or exchange that occurs outside the official process specified herein. Failure to comply with these rules of contact may result in a Response being rejected in the DEPARTMENT's sole discretion.

1.5. Submission of Questions

Any irregularities or lack of clarity in the RFI must be brought to Agreement Service's attention, in writing, as soon as possible, so that corrective addenda may be furnished by the DEPARTMENT in a timely manner to all Vendors.

Any questions raised by Vendors must be submitted in writing to Agreement Services, emailed to agreeservices@dot.state.nv.us no later than **11:00 A.M. PT, on May 27, 2016**. The DEPARTMENT will respond to questions regarding the RFI, including requests for clarification and requests to correct errors, on or before **June 6, 2016**. Only requests submitted through email will be considered. No

requests for additional information or clarification to any other DEPARTMENT office, consultant, employee, or the Federal Highway Administration (FHWA) will be considered.

1.6. Response Format

Vendors should recommend a solution to the DEPARTMENT based on the minimum criteria in Section 3 below. In addition to the below required format for responses, vendors may include letters of interest and technical submittals to the DEPARTMENT that identify, at a minimum, the company and contact person, product/services offered, experience and qualification of the firm, and include sales brochures and catalogs, technical data sheets, list price schedules and references.

The responses shall be submitted in the following format (see Section 1.3):

- Section 1 – Executive Summary
- Section 2 – Implementation Approach
- Section 3 – Proposed Solution
- Section 4 – Concept of Operations
- Section 5 – Cost
- Section 6 – Past Performance
- Section 7 – Project Questions

1.7. Vendor Presentation

Vendors **may** be invited to give a presentation at a time and date to be determined after review of the responses. In the event such presentations are deemed necessary, the DEPARTMENT anticipates that vendor demonstrations will be scheduled between **July 11, 2016, and July 20, 2016 in Carson City, Nevada**. The DEPARTMENT reserves the right to change these dates.

1.8. Cost of Preparing Response

The DEPARTMENT assumes no financial responsibility in connection with the vendors' costs incurred in the preparation and submission of the RFI response, or by attending the presentation, if such presentations are conducted by the DEPARTMENT in its sole discretion.

1.9. General Terms and Conditions

Issuance of this RFI shall in no way constitute a commitment by the DEPARTMENT to issue a Request for Proposal (RFP) or execute an agreement. The DEPARTMENT reserves the right to reject any or all submittals received in response to this RFI, or to cancel this RFI if it is deemed in the best interest of the State to do so.

Information submitted in response to this RFI will become the property of the DEPARTMENT. The DEPARTMENT will not pay for any information herein requested, nor will it be liable for any other costs incurred by any respondent related to the preparation or delivery of the response to this RFI or any subsequent presentation.

The DEPARTMENT reserves the right to issue addenda to this RFI prior to the closing date. If a vendor chooses to download this RFI from the www.nevadadot.com website, it is the vendor's responsibility to check for any addendums to this RFI from the www.nevadadot.com website.

By submitting a response, the vendor agrees that the DEPARTMENT may copy the response information for purposes of facilitating review or to respond to requests for public records. The vendor consents to such copy by submitting a response and warrants that such copying will not violate the rights of any third party. The DEPARTMENT will have the right to use ideas or adaptations presented in the responses.

The DEPARTMENT reserves the right to reject any and all responses to the RFI, in whole and in part, at any time. This RFI is designed to provide vendors with the information necessary for the preparation of informative response proposals and demonstrations of product. This RFI process is for DEPARTMENT's benefit and is intended to provide future selection of goods and services. The RFI is not intended to be comprehensive and each vendor is responsible for determining all factors necessary for submission of comprehensive response and complete product capability demonstration. The RFI response and demonstration will not be subject to an RFP type evaluation but only to a review of suggested product performance, cost of processes offered, and abilities to perform services that may be of use to DEPARTMENT. Cost shall be estimated by the vendor. When the estimated cost is submitted, the vendor shall state that it is an estimated or approximate cost.

The DEPARTMENT will not be responsible for any oral exchange or any other information or exchange that occurs outside the official process specified herein.

1.10. Request for Confidential Treatment

The State of Nevada will treat all information submitted by a vendor as public information unless the vendor properly requests that the information be treated as confidential at the time of submitting the response. Any requests for confidential treatment of information must be included in a cover letter with the vendor's RFI response. The request must also include the name, address, and telephone number of the person authorized by the vendor to respond to any inquiries concerning the confidential status of the materials.

A single confidential page in the document will classify the whole document as being confidential. Each page shall be marked as containing confidential information. The confidential information must be clearly identifiable to the reader on the outside of the document, cover letter, and on each page of the document.

2. Background

The Nevada Department of Transportation was established in 1917 and is responsible for the planning, construction, maintenance and operations of 5,400 miles of highway and 1,100 bridges. The DEPARTMENT is divided into 3 districts, each managed by a District Engineer and 2-3 Assistant District Engineers for construction and maintenance operations. Each District is responsible for supervising all state transportation activities within their geographic locations. The DEPARTMENT's headquarters are located in Carson City and the three main District Offices are in Las Vegas, Reno and Elko.

One of the DEPARTMENT's strategic goals is to effectively manage its transportation projects and efficiently operate the State transportation system of Nevada. A new system for allocating funding, managing, and scheduling transportation programs and projects will assist staff in achieving this goal.

2.1. Current Working System

The DEPARTMENT's current Project Scheduling and Management System (PSAMS) administers data on transportation-related projects for the purpose of communicating relative financial and project information department wide. The system includes tracking and managing project obligation and funding data, scheduling, milestones, project resource management, and provides access to pertinent project documents, certifications and records. The purpose of the PSAMS is to provide essential financial information and the current status of construction projects at any point in time. PSAMS interfaces with several other internal Department applications, including the state's Integrated Financial System, and the electronic bidding and construction documentation systems.

This web-based system is at its end of life and is no longer compatible with current technologies. It was initially designed by an external contractor, built internally and deployed by the DEPARTMENT in 2006-2007. The DEPARTMENT took possession of the system code at that time and has been developing in-house enhancements to the system continually since that date.

The PSAMS application currently functions as initially intended on older versions of Internet Explorer, but is incompatible with newer browser versions. A recent major enhancement to the system was the 2014 development of a new user interface for the financial management component of the system utilizing the legacy PSAMS back-end database, but the full functionality was not fully completed.

In addition to the web browser incompatibility issues, the system also lacks the ability to provide many requested additional features and functionality that are common with new technologies, such as GIS mapping.

3. Information to be provided by submitting vendors

Submitting vendors should recommend a solution to the DEPARTMENT based upon the desired criteria below.

3.1. DEPARTMENT Needs:

- 1. The DEPARTMENT needs a project programming, scheduling and financial system (SOLUTION) to enter, edit, view and manage transportation project and program data.**
 - a. Import of all existing legacy system data to the new system.
 - b. A Web-based, intuitive user interface for desktop and mobile devices.
 - c. Customizable dashboards that better represent the needs of particular business areas.

- d. Ability to enter and edit project and program information; e.g. project descriptions, project dates, identification numbers, funding data, project history, comments.
 - e. System needs to meet DEPARTMENT technology standards; e.g. data security, data validation, role-based user access, system administrator functionality.
- 2. The DEPARTMENT needs the SOLUTION to manage project and program funding and financial information.**
- a. Ability to enter, update, view and print financial information; e.g. funding categories, obligation authority, funding amounts, project phases, expenditures.
 - b. Ability to create, edit, view and print “Programming Papers”; e.g. Project Approval and Engineering Authorization Form.
 - i. Ability to create, view and print other standard financial forms; e.g. Scope Budget Change Form.
 - c. Ability to perform data validation on Financial Data, including the use of triggers and notifications of data changes.
 - d. Ability to create, submit and view required State and Federal reports.
 - e. Ability to create and retain a Project Diary containing notes, comments, dates and change history throughout the life of a project.
- 3. The DEPARTMENT needs the SOLUTION to manage milestones, schedules, tasks and work assignments on single and multiple projects.**
- a. Ability to enter and manage Project and Program Team resources; e.g. resource allocations, scheduling information, progress reporting.
 - b. Project and Program Milestone tracking.
 - c. Gantt chart view of project schedules.
 - d. Project team notifications and communication functionality.
- 4. The DEPARTMENT needs the SOLUTION to provide users with project locations on an interactive web map that supports the ArcGIS platform for online applications.**
- a. Geospatial data must reside in the ESRI Enterprise Geodatabase
 - b. Geospatial data for the web map must be consumed using an ArcGIS Server map service.
 - c. Mapping component within the user interface that displays project locations and project information. The map will be interactive and will allow users basic web-map functionality; e.g. pan and zoom, select, draw, zoom to and display search results.
 - d. System needs to be compatible with and meet the DEPARTMENT’s GIS standards.
 - e. System will utilize DEPARTMENT-authorized data sets; e.g. standardized DEPARTMENT Linear Referencing System, Base maps, map templates, etc.

- f. System will automatically create project GIS features within the enterprise geodatabase from tabular location data; e.g. From-To Mileposts, Latitude-Longitude, route names.
5. **The DEPARTMENT needs the SOLUTION to provide the ability for users to store and retrieve project-related files and documents.**
 - a. Link to copies of existing project documentation from other systems; e.g. Plans, Permits, Agreement Documents, correspondence, memos.
 - b. Ability to attach files and documents to a project record, e.g. agreement estimates, copies of certifications.
 6. **The DEPARTMENT needs the SOLUTION to provide users with the ability to search and filter data and create reports.**
 - a. Ability to create and print reports.
 - b. Ability to search for projects and create ad hoc filters of data for display by multiple fields and criteria, including the ability to export results into various formats, including Microsoft Excel and Electronic Data Transfer File (EDT).
 - c. Ability to transfer data to Oracle BI tables.
 7. **The DEPARTMENT needs the SOLUTION to create interfaces and exchange data with other DEPARTMENT and Federal systems.**
 - a. Ability to develop an interface and exchange data with DEPARTMENT and state systems; e.g. Integrated Financial System (IFS), contracting and bidding, business intelligence, geographic information.
 - b. Ability to develop and interface and exchange data with Federal systems; e.g. U.S. Department of Transportation's financial system (FMIS-5).

3.2. Optional Functionality

1. **The DEPARTMENT would like the SOLUTION to create selected project information for display on the DEPARTMENT's public-facing website.**
 - a. Ability to create and edit a Public Project Information page that displays selected general project and status information.
 - b. Ability for the public to search for and view projects on a GIS map.

4. Appendix A – DEPARTMENT Technical Standards

4.1. INTRODUCTION

The purpose of this document is to provide Nevada Department of Transportation (DEPARTMENT) vendors with the following IT Architectural Standards as a guideline to facilitate the implementation and management of DEPARTMENT enterprise information systems. This document will provide standards that includes but is not limited to planning, designing, building, creating, developing, enhancing, implementing, maintaining, and using DEPARTMENT networks, gateways, front-ends, information systems, applications, databases, computer-based tools, and information assets.

The following products and standards pertain to all vendors that the DEPARTMENT engages to conduct business. The vendor's product and/or service must comply with these standards. In addition, these standards apply to any entity connecting to DEPARTMENT IT resources in order to conduct business. Vendors are responsible for developing and maintaining procedures to facilitate and monitor the implementation of these standards. The following information will provide a baseline of requirements and specifications and should be included in the completed specific projects, tasks, deliverables, or functions.

The following products and standards are effective as of 21 April 2016. The standards are constantly changing due to technological advances at the DEPARTMENT; therefore consultants should follow these guidelines but should also check with the DEPARTMENT IT Division for any recent changes to the current specifications or requirements. Depending upon individual project specifications, there may or may not be additional policies, procedures or standards to which vendors must adhere. However, these will be discussed on an as-needed basis.

4.2. DATABASE PRODUCTS AND STANDARDS

DEPARTMENT has established Microsoft SQL-Server as the Relational Database Management System (RDBMS) for the primary database standard.

- Database management system (DBMS) based on relational or object-oriented model.
- Microsoft SQL Server 2008 R2 or newer. *Please note that the DEPARTMENT will upgrade to SQL 2014 by 2017.*
- Estimate of database size.
- Setup and maintain separate environments (development, test, and production).
- Restrict vendor from direct database access.
- Provide contact list.
- Personal Identifiable Information (PII) data and Payment Card Information (PCI) data must be encrypted per Nevada Revised Statute (NRS 603A).
- SQL Server database deployments and changes will be scripted, Oracle schemas will be scripted.
- Oracle NLS_Character set needs to be we8mswin1252.
- Oracle NLS_NChar_Character set needs to be AL16UTF16.

4.3. APPLICATION DEVELOPMENT PRODUCTS AND STANDARDS

Application developers and administrators must follow the Software Development Life Cycle (SDLC) process to ensure proper coding and avoid programming deficiencies. The SDLC procedures include fundamentals to ensure security risks do not expose the DEPARTMENT's data and information systems. Applications for end users should be developed in the web software environment. Application developers should keep in mind that some remote offices and public access users still only have limited internet connectivity. Additional requirements on Web, database, network security, and other IT related issues should be investigated with the IT division.

- Must be developed on thin client.
- Must use the DEPARTMENT's standard User Interface theme (look and feel).
- The use of beta software is prohibited unless approved by the DEPARTMENT IT Chief.
- Development based on three-tier architecture (client, business logic, and database tier):
 - All user interactions with the database are through the middle tier.
 - The middle tier calls stored procedures in the database tier.
 - The middle tier returns data to the User Interactions tier.
- Windows Communication Foundation (WCF) is used for web services and other communications in the middle tier.
- Following coding standards:
 - Web-based Applications:
 - ASP.net using VB.net (used only for maintenance of existing products), C#.net (new Projects)
 - MVC using C#.net
 - HTML5
 - Bootstrap
 - Java-script for client-side
 - JQuery
 - Ext.net (used only for maintenance of existing products)
 - Site.css stylesheet (no inline css)
 - Desktop Applications (Developing this type of application must be approved by management):
 - C#
- Applications should be developed and coded in .NET framework v.4.5. as a minimum.
- All reporting modules will use Crystal Reports for generating reports.
- Restrict development tools in Production environment.
- Documentation standard:
 - Code will be documented with comments.
 - Sand Castle documentation.
 - The database will be documented at a minimum with:
 - Entity Relationship Diagram (ERD).
 - Data Dictionary.

- Follow database programming standards:
 - SQL Server and/or Oracle.
 - All database interactions will be through stored procedures or LINQ.
 - Users will be limited to the minimum level needed to complete their tasks.
 - The database will be normalized.
 - Existing DEPARTMENT data and data models will be used where appropriate:
 - DEPARTMENT will provide to the vendor data tables with data when they are to be used by the vendor in their development.

4.4. SYSTEM PRODUCTS AND STANDARDS

It is important to maintain the configuration of DEPARTMENT servers. These servers store, process and transmit critical information. Privileged access must be strictly limited. System administrators will control granting access privileges to users in accordance to the DEPARTMENT's policies.

Only DEPARTMENT-approved software shall be installed on any DEPARTMENT workstations, laptop, or server. To avoid technological incompatibility issues, security exposures, software incompatibility issues, and management issues, no one can install non-DEPARTMENT issued software.

- Windows Server 2008 R2 & newer.
- Desktop Operating System: Windows 7. Please note DEPARTMENT started migration to Windows 10 in 2016.
- Server: Dell (Model and specifics to be specified by Staff based on application needs).
- Redundant power supply.
- Minimum 8GB RAM or higher.
- Minimum 300GB Hard-drive.
- Redundant raid array.
- 1gb Network Interface Controller (NIC).
- DRAC Capable if branch office.

4.5. WEB PRODUCTS AND STANDARDS

The following products and standards should be considered when developing web-based solutions.

- Browser support- Current version plus one previous version:
 - Internet Explorer (11.x and newer)
 - Firefox (latest version plus two previous versions)
 - Safari (latest version plus two previous versions).
 - Chrome (latest version plus two previous versions).
- webDAV usage is not allowed.
- Must support mobile browsing and be functional on all browsers listed above.
- Use of Flash is prohibited.

4.6. GEOGRAPHIC INFORMATION SYSTEMS PRODUCTS AND STANDARDS

The DEPARTMENT is implementing an Enterprise Geographic Information System built upon the ESRI software platform and utilizing the ESRI Roads and Highways ArcGIS Extension.

GIS Software Compatibility

- All routes and event tables must support ESRI's Roads and Highways version 10.3 or newer.
- Any geoprocessing or models for analysis must use Server Object Extensions (SOE) or Server Object Interceptor (SOI) for ArcGIS Server 10.3 or newer. ArcGIS Desktop or other client-based software cannot be installed on Department servers.
- ArcGIS Server 10.3 or newer with SQL Server 2008 R2 or newer.

GIS Data and Services

- All spatial data developed and delivered by the vendor must reside on the Department's enterprise geodatabase.
- All data should be delivered as a file geodatabase with dataset schema and structure approved by the Department's business unit.
- All routing layers and event tables shall be built upon the DEPARTMENT's standard Linear Referencing System (LRS).
- Department-owned GIS data utilized by a web application will be delivered using a Map Service hosted by DEPARTMENT or on DEPARTMENT's ArcGIS Online organizational account.
- In an effort to keep data current and prevent import/export work by staff, GIS data used in a web application will be provided using a map service hosted by the organization who is responsible for maintaining the data.
- Vendors who deliver solution based on web services must provide a map document for publishing that has been approved and finalized by the business unit including all symbology, map scales, labels or annotation, and map projection prior to delivery to the IT GIS team.
- Map document for map service must be installed on Development, Test and Production service environments. The addition and removal of fields in any dataset can only happen in the Development and Test environments. Due to web application and geoprocessing tool dependencies, users do not have permission to add/remove fields or add new datasets in the Production environment.

Data Dictionary, Metadata and Data Projections

- We prefer that all data sets use the UTM NAD83 Zone 11N map projection.
- All geospatial data must be provided with a data dictionary approved by the business unit, including the full names of attributes, meanings of codes, scale of source data, accuracies of locations.
- All geospatial data must contain Federal Geographic Data Committee (FGDC) metadata within the dataset or as a separate XML file.

GIS Applications

- Custom-built mapping applications must utilize the ArcGIS Platform for Developers.
- Custom tools running within client software will not be supported by Department GIS staff after the developer contract is terminated.

Mobile Data Collection

- Collector for ArcGIS or Survey123 is preferred.
- Mobile web applications must be built to support the iOS platform.
- If the business unit is planning to collect data on a GPS unit, please refer back to the business unit for hardware requirements.
- Mobile Devices utilizing geospatial data must allow disconnected editing of spatial data.