DoubleMAP

RFP No. RTSX-160004-DS: Fixed Route Scheduling Software

The City of Gainesville, Florida

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Lafayette CityBus Transit System
Bloomington-Normal Public Transit System (Connect Transit)
University of Michigan (MagicBus)
Financial Statement
Team References
Ilya Rekhter – Lead Project Manager
Eric Jiang – Director of Product Development
Reid Young – Project Operations and Lead On-site Installation/Training Director

Dan Leathers – On-Site Operations, Installation
Proposed Solution Overview
Mandatory Scope Components

Technical Proposal

5.4 Project Timeline

Proposers shall confirm whether RTS'S expectation of a 6 month project timeline is achievable and if not, specify an alternative timeline and explain rationale given the requirements of this RFP. At the end of the 6 month period it is RTS's expectation that installation and acceptance testing will be completed.

DoubleMap is able to meet RTS' expectation of a 6 month project timeline. DoubleMap will have conducted a full installation of the system, as well as acceptance testing, within that timeline.

5.4.1 Delays

If services under the contract should be unavoidably delayed, RTS shall extend the time for completion of the contract for the determined number of days of excusable delay. A delay is unavoidable only if the delay was not reasonably expected to occur in connection with or during the proposer's performance, and was not caused directly or substantially by acts, omissions, negligence or mistakes of the proposer, the proposer's sub-proposers, or their agents, and was substantial and in fact caused the proposer to miss delivery dates, and could not adequately have been guarded against by contractual or legal means. Delays beyond control of RTS or caused by RTS will be sufficient justification for delay of services and proposer will be allowed a day for day extension.

DoubleMap does not anticipate any delays and will be able to comply. DoubleMap has a satellite office in Orlando, allowing DoubleMap the ability to quickly troubleshoot and meet in person if deemed necessary. DoubleMap is able to directly assist any issues that RTS may encounter through this Orlando office. Additionally, DoubleMap has a successful implementation in the area in the University of Florida - DoubleMap has done work in the area.

5.4.1.1 Notification of Delays

The proposer shall notify RTS as soon as the proposer has, or should have, knowledge that an event has occurred which will delay delivery or installation. Within five calendar days, the proposer shall confirm such notice in writing, furnishing as much detail as available.

DoubleMap will notify RTS if an event occurs that will delay delivery or installation. As noted in the previous section, DoubleMap has an office in close proximity to RTS' implementation site, which will

assist in avoiding delays. Additionally, DoubleMap is able to offer constant communication and project management through the Trello board system. Trello is a web-based project management application, pictured on the above right. Trello allows clients to add bug reports, implementation issues, and feature requests while following DoubleMap's progress on each task. With these kinds of requests, DoubleMap is able to supply responses within a three hour timeframe.

5.4.1.2 Request for Extension

The proposer agrees to supply, as soon as such data are available, any reasonable proofs that are required by RTS to make a decision on any request for extension. RTS shall examine the request and any documents supplied by the proposer and shall determine if the proposer is entitled to an extension and the duration of such extension. RTS shall notify the proposer of their decision in writing. It is expressly understood and agreed that the proposer shall not be entitled to damages or compensation and shall not be reimbursed for losses on account of delays resulting from any cause under this provision.

DoubleMap will comply with this requirement. DoubleMap will utilize Trello, the aforementioned project management tool, as a means of constant communication with RTS. Movement on the board allows the client to stay in the loop on the status of the project, as well as see the steps taken to ensure each project's success.

5.5 Project Plan

5.5.1 Project Plan Approach

The proposal shall describe the proposer's approach to manage the delivery of this project including, but not limited to, how the proposer intends to:

Manage schedule (includes slippage in timelines)

Manage scope (includes changes)

Manage technical and administrative work (system design, revisions and change management, etc.)

Manage resources (vacation, illness, attrition, training, and any other absences during project execution)

Effectively work with RTS staff

Manage communications (lines of reporting, frequency, and content)

Manage risk/issues

The proposed project management approach shall also take into consideration the COTS solutions managed by RTS and utilize the following environments:

Configuration (servers and workstations)

Acceptance/test (servers and workstations)

Production (servers and workstations)

DoubleMap will comply with this requirement - see section 5.5.4 for more information.

5.5.2 Delivery Methodology

The proposal shall describe the methodology to which the proposer will use in solution delivery including, but not limited to, project phases and tasks that are needed for the successful delivery of project deliverables and services.

DoubleMap will comply with this requirement - see section 5.5.4 for more information.

5.5.3 Deliverables

Draft copies of all documentation, plan, materials, etc., shall be submitted to RTS for review, comment and approval, prior to final printing. RTS shall have the right to require additional interim drafts at no additional cost shall draft documentation submitted not be of adequate quality or have missing or incorrect information.

The proposer shall, for all deliverables, include the filename in the document footer along with version and revision numbers and include in the filename the file release date. The proposer shall prepare all deliverables described in this section in both

Microsoft Office (Word, Excel or PowerPoint) and Adobe Portable Document Format (PDF) formats, with RTS granted full rights to reprint as needed.

RTS's written approval will be required for designated submittals. RTS will approve or reject such submittals, providing an explanation of any reasons for rejection. Such approval or rejection will ordinarily be provided within 14 calendar days of the submittal unless prior to the expiration of the 14-day review period, RTS will provide the proposer with written notification (email is acceptable) that the review period for a particular submittal will be extended and stating the time in which it will be completed. In any instance where RTS does not provide approval, rejection, or written notification of an extended review period within the 14-day period, the submittal shall be deemed approved.4 In the event that the review period expires on a non-working day, the review period shall be extended through the next working day. RTS's right to extend the review period is intended to allow flexibility in special circumstances where the nature of the submittal requires more involved review, and not as a diminution of RTS's obligation to promptly review the proposer's deliverables.

The proposer shall at a minimum deliver a draft and final version of the following documents as described in this RFP to RTS:

- *Design document*
- *Implementation plan*
- *Asset list*
- *Test plan*
- *Training plan*
- *Manuals/documentation*
- *Disaster recovery procedures*

- *Functional (software usage) documentation*
- *As-Built documents*
- *Quality assurance plan*
- *Meeting and conference call minutes*
- *Final acceptance test report*
- *Monthly Progress Reports and Schedule Updates*
- *"Punch list"*

The proposer is responsible for the quality, technical accuracy, timely completion and delivery of all deliverables and other services to be furnished by the proposer under the contract. The approval of interim deliverables furnished under the contract shall not in any way relieve the proposer of fulfilling all of its obligations under the contract.

DoubleMap will comply with these requirements - see section 5.5.4 for more information.

5.5.4 Project Work Plan and Schedule

The proposal work plan shall be in sufficient detail to demonstrate a clear understanding of the project and include the following:

- *A work breakdown structure (WBS) inclusive of phases (design, installation, testing, and deployment), tasks, and milestones*
- *Start and end times (applicable to phases, tasks etc…) and submittal dates – beginning with Notice to Proceed (NTP) and ending with system acceptance*
- *Task description and predecessor tasks*
- *Acceptance activities*
- *Assigned resources by functional role*
- *Accounting of RTS holidays and business days (RTS administration employs a 4 day - 10 hour work week)55*
- *Gantt chart representation of proposed schedule in electronic file format, i.e. Microsoft Excel or PDF.*

The proposal shall describe how the proposed work plan will strive to meet the project timelines outlined in 0 5.4 Project Timeline. At a minimum, the project schedule shall include dates, tasks, and milestones involving:

- *Notice to proceed*
- *System requirements document approved*
- *System design document approved*
- *Implementation plan approved*
- *Installation and existing system integration*
- *Testing plan approved*
- *Testing*
- *Training*
- *System documentation approved*

- *System acceptance*

DoubleMap's project management procedures can be summarized in five holistic phases, which take us from initial, basic ITS discussions thru the project's overall acceptance and the "Go-Live" phase.

❖ Phase 1: Initiate – DoubleMap and COG will discuss the project scope, goals and deliverables. DoubleMap proposes a rigid timeline for data migration, training, installation, testing and the go-live phases. Recurring meetings are scheduled, and the appropriate COG RTS staff is assigned to specific project needs and/or oversight. DoubleMap also collects any GTFS, routing, scheduling and existing manifests for use in the new overall ITS system. Completed within 3 weeks of notice to proceed.

❖ Phase 2: Design – DoubleMap's development and operations teams will cleanse and import critical data to the new City of Gainesville CAD/AVL module. If no such data exists, these teams will work alongside COG RTS staff to analyze, design and input the necessary data. The resulting CAD/AVL system framework will be launched internally, although the system will not be functional until phase 3 is complete. Completed within 6 weeks of notice to proceed.

❖ Phase 3: Build & Deploy – Mobile Data Terminals (MDTs) are installed with software modules at this point. Next, the physical installation and on-board wiring takes place for each vehicle. DoubleMap then begins internal testing of the CAD/AVL modules, based on success metrics compared across existing client base. The system collects historical timing data for use in DoubleMap's estimated time of arrival (ETA) algorithms. Completed within 10 weeks of notice to proceed.

❖ Phase 4: System Acceptance – An internal pilot of the whole system takes place. The City of Gainesville staff is trained across all practical uses of DoubleMap hardware and software modules. COG staff members join DoubleMap in monitoring the deployed system in real-time for feedback and system acceptance. ETA predictions will be released internally to COG for review and acceptance prior to public launch. Completed within 15 weeks of notice to proceed.

❖ Phase 5: Go-Live – Live map, mobile applications, and smartphone apps will be released to your riders. ETA predictions will also be available on all DoubleMap interfaces for public use. COG staff will be presented with bus stop branding options, and any public facing kiosks or displays can be used to showcase COG RTS' real-time tracking technology. Completed within 20 weeks of notice to proceed.

Additionally, DoubleMap will be utilizing the Trello management system, previously mentioned, to communicate with RTS on the status of this project. The Trello tool, shown on the right, is used in the nearby DoubleMap implementation at University of Florida to great success, and DoubleMap has seen an increased transparency tied to the tool. DoubleMap will use Trello during each Implementation Phase.

Each task can be associated with a number of subtasks that detail the activities which compose the discrete unit of work. For each task, the proposer shall identify the item/deliverable resulting from its successful completion. Deliverable items can be listed after each task, or may be listed in a summary schedule and cross-referenced by the appropriate task number.

RTS responsibilities shall be clearly identified in the project schedule and will be limited to:

- *Oversight of the design documents*
- *Oversight of installation and integration of the system*
- *Oversight of installation of hardware and software*
- *Receiving training on the use, operations, and maintenance of the various solutions*
- *Conducting live testing of the system prior to going live*
- *Actively monitoring system during burn in and initial system commissioning periods*
- *Working with the proposer on troubleshooting and repairs of technology components*
- *Operate and maintain system elements and work with proposer on troubleshooting and repairs.*

The proposer's responsibilities shall be clearly identified in the project schedule and include but not will be limited to:

- *Completing design of the system based on the project goals and objectives and RTS feedback.*
- *Completing installation, integration and testing of the system.*
- *Ensuring all system components are integrated and operating into the new system properly.*
- *Responding, troubleshooting, and correcting any deficiencies during the burn in and system commissioning periods.*
- *Providing repairs of the system in a timely manner and providing technical support (pending contract terms)*
- *Providing training on all system components*

DoubleMap acknowledges and will comply with these requirements.

5.5.4.1 Status Reporting

The proposal shall describe the proposer`s approach to status reporting. RTS reporting requirements include but are not limited to the following elements to be reported on a weekly basis to the RTS project manager:

- *Executive summary of project progress*
- *Current period accomplishments*
- *Next period activities*
- *Issues*
- *Items requiring direction/decision*
- *Major milestones and deliverables (related to task and milestone IDs in project schedule)*
- *Budget information*
- *Percentage of work completed to date*
- *Schedule adherence*
- *Change requests*

Bi-weekly (every two weeks) phone calls (or in person meetings) will also be held between RTS and proposer's project manager. The proposer's project manager shall ensure that the appropriate personnel are present at these meetings, who can provide the required project status and information. The proposer's project manager will prepare and distribute an agenda at least 24 hours prior to each meeting. The meeting agenda will consist of those items pertaining to work activity since the last meeting and work activity that will occur between the present meeting and next future meeting.

All issues recorded since the last meeting shall be discussed and any conflicts resolved. A "punch list" shall be maintained for any outstanding work items related to the project, and the proposer's project manager shall be prepared to discuss the punch list at these meetings. The proposer's project manager shall identify and communicate any issues on a timely basis. The project manager will provide minutes for all of these meetings, documenting all decisions made, recommendations, results of reviews, requested change orders, etc.

DoubleMap will comply with these requirements. DoubleMap will use the Trello project management system, detailed earlier in the response. By using Trello, DoubleMap is able to show clients each individual step in each Implementation Phase, as well as show the status of each new installation or update. DoubleMap is also able to meet a rigorous turnaround time on Trello - administrators can expect to see a response from their Project Management team within three hours. See section 5.5.4 for more information.

5.5.4.1.1 Punch List

The proposer shall maintain a "punch list" for RTS. The "punch list" shall have each action item numbered and indicate the date generated, item description, person assigned to item, date resolved and ongoing notes on resolution. The "punch list" shall be revised and resubmitted to RTS on a weekly basis.

DoubleMap will comply with these requirements. DoubleMap uses a board-based organization system called Trello, which acts as a virtual punch list for projects. DoubleMap will use Trello for the RTS project.

5.5.5 Approach to Working with RTS Information Technology (IT), Transit Staff, and Existing Solutions

The successful proposer is expected to work with RTS staff, as well as other RTS partners to successfully deliver the TSS solution.

The proposal shall describe proposer's approach for engaging RTS staff. The approach shall include the timing of involvement and the effort expected from each of the RTS business areas in order to successfully implement the solutions. Include any roles required by RTS to supply, as well as estimate the time required of them, and linkage to appropriate WBS.

RTS will provide a project steering committee to provide project oversight, high-level guidance, and necessary decision-making. The committee will review the project design plan, participate in design reviews, review test plans, training materials, and documents, participate in system acceptance, and support the transition into full operation.

All proposed resources shall be available during RTS core working hours (07:00 am – 6:00 pm, Monday to Thursday, Eastern Standard Time).

5.5.5.1 Kick-off Meeting

RTS will hold a "kick-off" meeting with the proposer within one week from the NTP for the project. The proposer shall attend the kick-off meeting and shall also ensure any sub-proposers and their appropriate personnel are present at the meeting. The administrative and technical aspects of the project will be discussed at the kick-off meeting. Prior to the kick-off meeting, the proposer project manager will provide an agenda to all potential meeting participants.

The proposer shall submit a project schedule within 10 days from the kick-off meeting that explains its proposed methodology to completing the project scope and its approach to work including design, customization of software, implementation, training and on-going support.

DoubleMap will comply with this requirement. Due to the Orlando office being in close proximity to the RTS implementation site, the scheduling and attendance of a kick off call will be simple. On this kick-off call, DoubleMap will propose a project schedule, as well as offering a proposed methodology plan.

5.5.6 Project Performance

The proposal shall describe the Proposer's approach to measuring project performance as it relates to schedule, scope, and cost.

DoubleMap will comply with this requirement - see section 5.5.4 for more information.

5.5.7 Project Functionality and Documentation

The proposal shall describe the proposer's approach to achieve RTS functional requirements as outlined in Section 0 6 Functional and Technical REQUIREMENTS. Additionally, the proposer will provide a detailed specifications document specific to RTS's operating environment that identifies the system design, configuration settings, and any customizations or modifications required to comply with RTS's work rules and business needs.

DoubleMap will comply with this requirement - see section 5.5.4 for more information. DoubleMap will also provide detailed specifications and documentation as necessary.

5.5.8 Risk Mitigation Plan

The Proposal shall describe the proposer's approach to risk management.

DoubleMap implementation plan is deliberately built so that each stage is risk-averse. The DoubleMap system goes through rigorous testing at each stage, helping to avoid any risks with the system going online. Since DoubleMap has University of Florida as a client, DoubleMap is familiar with the area and the way that transit systems in the area are built.

5.5.9 Quality Assurance Plan

The proposer shall provide a Quality Assurance/Quality Control (QA/QC) Plan in accordance with the Federal Transit Administration (FTA) Quality Management System Guidelines. The quality assurance process shall ensure adequate quality throughout all areas of the performance of this project. The quality control process shall ensure accurate problem description and recording, assignment of personnel, tracking of progress for corrections/revisions, and disposition of the problem throughout the design, testing, and implementation phases of the project.

The QA/QC program shall provide for the prevention and ready detection of discrepancies and for timely and positive corrective action. The proposer shall make objective evidence of quality conformance readily available to RTS. The QA/ QC program shall include effective control of purchased materials and subcontracted work.

The proposer shall maintain records or data essential to providing objective evidence of quality until the expiration of the warranty period (see 5.14) and they shall be made available to RTS upon request. Examples of quality-related data include: inspection and test results, records of sub-proposer quality

programs, cost records pertinent to acceptance of nonconforming material, support for change order documentation, design reviews and walkthroughs, and the results of internal and proposer audits.

DoubleMap will comply with this requirement - see section 5.5.4 for more information.

5.6 Project Design Configuration

5.6.1 System Requirements Plan

The proposer shall conduct one or more user needs and system requirements review meetings with RTS staff. The purpose of this review is for the proposer to confirm the preliminary system requirements contained in this specification, to ensure the documented requirements reflect the current knowledge of the customer, to identify requirements that may not be consistent with product development constraints, to create and develop a final system requirements document, and to put this document under version control to serve as a stable baseline for continued development of the system requirements.

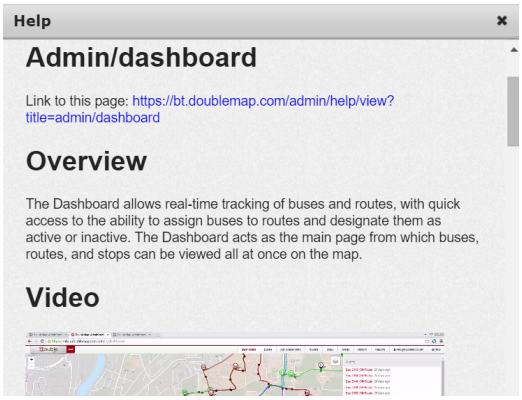
At these meetings, the proposer team members are to work closely with RTS subject matter experts to complete the following tasks:

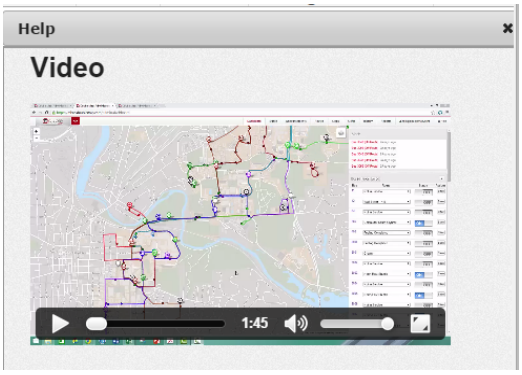
- *Assess any impacts on existing and future required business processes such as:*
  - *o Dispatch*
  - *o Control Center*
  - *o Planning and Scheduling*
  - *o Customer Service*
  - *o Transit Management*
- *Develop the product configuration to meet RTS business needs as well as associated configuration documentation.*
- *Identify system architecture representing a fully interoperating collection of distinct systems, subsystems, and components (including all technologies exercised now or in the future by RTS).*
- *Identify and document individual infrastructure requirements*
  - *o Servers (processor, RAM, hardware, network adapters, redundant power supplies and fans)*
  - *o Desktop computers*
  - *o Peripherals*
  - *o Communication and network hardware*
- *Work with RTS in the development of an implementation plan that will be inclusive of how transition will occur from current to new TSS solution.*
- *Work with RTS to develop acceptance test plans, procedures, scenarios and scripts.*
- *Develop and deliver associated user and system manuals and training guides*
- *Data backup and recovery plan.*
- *Following the requirements gathering process, RTS will arrive at a decision on whether to deploy the optional items covered by this scope of work and the proposer's proposal. The proposer's cost proposal shall be valid for a minimum of 180 days from the solicitation closing date.*

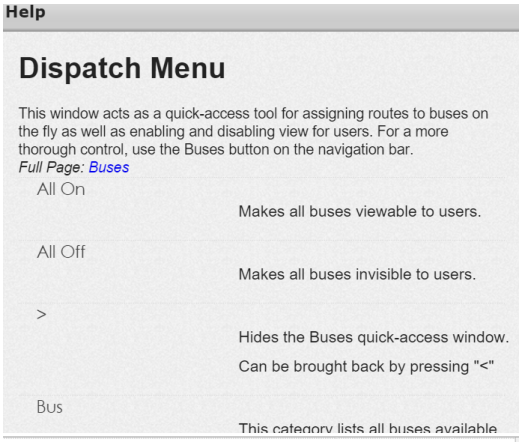
- *The proposer shall incorporate any optional functionality selected by RTS into the system requirements document and submit to RTS for written approval. Approval of the system requirements document shall be the basis for the development of the system design document.*

DoubleMap is able to comply with this requirement. The DoubleMap project management team has weekly calls with clients in order to ensure proper functionality and deployment. Additionally, DoubleMap is scaleable and has had zero issues with integrating software and hardware components. The DoubleMap administrative page is web-based, so administrators can access the full system as long as they are connected to the internet. The admin page is also accessible from anything that is connected to the internet - this includes smartphones and the Apple iPad, among other devices.

Finally, DoubleMap offers full online training guides and manuals. These documents are easily accessible to the user at any time. DoubleMap additionally offers a wiki-based help guideline system, and online videos for all levels of user. Upon clicking the "help" tab on the administrative page, a help video becomes immediately viewable. These videos are also page-specific: the route creation page will show a route creation video, not an integration video, and so on. A screenshot of a help video is included at the top of this section. DoubleMap has also included two screenshots of the DoubleMap help tab above and to the right.







5.6.2 System Design/Configuration Plan

The system design document shall consist of individual submittals for each subsystem or discrete sections of a combined submittal containing all subsystems and shall include the following materials:

- *An overview of the equipment, system, interfaces, and configuration proposed for implementation.*
- *All equipment, assembly, and installation required to carry out the work whether or not such items are specifically indicated in the minimum requirements of these specifications.66*
- *Installation reports for TSS solution*

- *Detailed technical documentation on all software, addressing the functions of each module, the format of all user interface screens, the format of all reports, the data fields to be included in all data exchange interfaces and any other software aspects warranting advance agreement with RTS prior to system customization/configuration.*

A table detailing the approach taken in the design to address and conform to each individual requirement in the system requirements document.77

Performance expectations specific to things such as archiving abilities, number of concurrent operational users, screen refresh rates, etc.

Required interfaces with other communications and non-communications subsystems.

Interface Control Document (ICD) describing all proposed hardware and software interfaces with components from different manufacturers.

The system design document shall be submitted no later than 30 days after the NTP date.

DoubleMap is able to comply with this requirement. DoubleMap is able to interface with all existing hardware/software within the system, and foresees no issue in system integration. DoubleMap is able to provide hardware specifications, as well as specific hardware/software interfacing information, upon request.

5.6.2.1 Infrastructure Considerations

See Appendix 6. Infrastructure Services Minimum Technical Requirements.

The proposer shall also provide completed responses to Appendix 7. Standard Technical Questions which will help define infrastructure requirements to support their solution regarding items like:

- *Workstation configuration and specification*
- *Network bandwidth*
- *Central Processing Unit (CPU)*
- *Memory99*
- *Disk Space*
- *Operating System*
- *IP addressing requirements*
- *Reliance (components supplied or proposer support) on other third party software/components*
- *Local network firewall modifications*

The proposer must also recommend the number of central system and mobile workstations upon which the system shall be installed and that can be accessed simultaneously.

Proposer will be responsible in procuring the necessary server-based, network, and desktop infrastructure. Proposer shall provide a life cycle and equipment projection that provides a 10-year budget outlook with replacement costs and lifecycle of products.

DoubleMap has complied with these requirements.

5.6.2.1.1 Equipment List

The proposer shall submit a table of manufacturer, model11, serial, and part numbers, as well as description, battery type (if applicable), firmware and programming versions for all proposed equipment and materials to be used for individual subsystems. The equipment list shall include all materials inclusive of those items that are not specified above, including but not limited to, conduit types and sizes, supporting devices, electrical boxes, miscellaneous materials, and any associated peripherals. Include the expected lead-time for each item while identifying the ones with lead-times greater than 30 days. The table shall be grouped for each subsystem with functional descriptions of equipment or material included. Quantities and locations shall be included.

As part of the equipment list submittal, the proposer will be required to:

- *Submit product information sufficient enough to determine if the component meets the described specification.*
- *Identify the power load, heat load, and physical space requirements for each location where equipment will be installed.*
- *Submit electrical, mechanical, block, and functional diagrams with corresponding parts list as well as other drawings or details specified within individual subsystem specifications.*
- *Provide a copy of all applicable part certifications and registrations.*
- *Identify and describe all major system cutover events or integration activities, including techniques, methods, and procedures.*

DoubleMap is able to comply with this requirement. DoubleMap will provide a necessary equipment list as part of the DoubleMap Pricing Proposal, which is broken out individually by part.

5.6.2.1.2 Bill of Materials (BOM)

The proposer shall include the BOM in the proposal for all equipment and hardware supplied under the agreement to meet the specifications of this scope of work. Each component shall also include the second source for manufacture.

DoubleMap is able to comply with this requirement.

5.6.2.2 Design Process

During development of the system design plan the proposer shall conduct a series of software "walkthroughs" to serve as progress reviews and to solicit and obtain inputs from RTS during the development and customization of the ITS. The intent of these design reviews is to help ensure that the final product will meet RTS technical and operational requirements specified in the system requirements document. This approach shall also ensure that RTS is familiar with the product thus expediting the testing process.

DoubleMap is able to comply with this requirement. DoubleMap has built-in design reviews as part of the DoubleMap Implementation Plan.

5.6.2.3 Approval of System Design Document

Toward the end of the design process, the proposer shall arrange for a final design review meeting that shall include an update of all of the design activity to date and presentation of the system design document to RTS for written approval. All major sub-proposers and key personnel shall attend the presentation. Approval of the system design document will allow the proposer to complete its customizations of the software to an approved specification. Any unapproved modifications and implementation efforts conducted before the approval of the system design document will be at the proposer's own risk.

The system design document submitted for final approval shall be organized to include the following final design information:

- *Approved and updated versions of all previously submitted design review materials. Updated material shall represent complete design, and detailed product (component level) parts list, drawings, phasing and interface details required for installation.*
- *Updated product submittals for all, materials and components for which product submittals were not previously submitted and approved.*
- *Complete Drawing index.*
- *Complete list of items to be serialized.*
- *Complete cable identification and equipment labels.*
- *Complete wiring diagrams for all equipment to be installed, modified, upgraded, or interfaced to under this contract; include any equipment located at remote sites.*
- *Top level mechanical drawings, if applicable.*
- *Grounding details.*
- *Power panel schedule and distribution.*
- *Shop drawings to illustrate detailed connections and hardware interfaces for each and every component of the TSS.*

The proposer will hold a meeting following the submittal of the draft system design document to discuss comments and proposed responses. The meeting will be used to reach agreement on any outstanding issues raised through the review process. The proposer must ensure that a RTS reviewed and approved system design document is realized no later than 60 days after the NTP date and cannot move into the next phase of the project until they have received written approval from RTS.

DoubleMap is able to comply with this requirement. The DoubleMap Implementation Plan, detailed in Section 5.4, fulfills these requirements.

5.7.1 Installation Plan Document

After approval of the System Design Document, the proposer shall prepare and submit an installation plan document that shall become the governing document from which all elements of the system will be installed, tested, and verified. The proposer shall submit the installation plan document for commenting and written approval from RTS at least 30 days prior to undertaking any installations. They shall provide

text, catalog cut sheets, diagrams, drawings, illustrations and images using adequate detail to allow for quality installation by a technician without further training in conjunction with other installation instructions provided by the proposers of individual equipment components. It shall include details on:

- *Rate of installation*
- *Composition of installation crew(s)*
- *Approximate dates at the facility*
- *Cutover scheme*
- *Minimum resource allocation for any installation phase*
- *Asset/Inventory accounting*
- *Equipment installation locations/mounting*
- *Routing, conductors, color-coding, labeling, and connectors for power, communications, and ground circuits*
- *Any special or unique installation requirements*
- *Equipment to be used to perform installation*
- *Connections with, any required modifications to, and restoration of existing infrastructure*
- *Work area and equipment storage requirements and component delivery management*
- *Methods and quality standards*
- *A detailed component list and how each item version number and serial number shall be recorded for each installation configuration*
- *The order in which equipment items are to be installed, with estimated durations.*
- *Supervision and quality assurance procedures*

This installation section of this document shall encompass all of the requirements in the following sections:

- *General installation requirements*
- *TSS installation scheme*
- *Equipment Removal, Relocation, and Restoration*
- *Wiring and wiring practices*
- *Equipment identification*
- *Equipment installation*
- *Corrosion*
- *Brackets and fasteners*

DoubleMap acknowledges and will comply with these requirements.

5.7.2 Installation Requirements

RTS will require a successful demonstration of all ITS components, before installation sign off will be granted. Installations shall be performed on days and times agreed to by RTS and the proposer. At the request of the proposer and with no less than two (2) days advance notice, RTS may permit installations at other times. Additionally, as part of the installation process, the proposer shall:

- *Install and configure the entire system, including RTS-provided computer and network hardware and integration with existing systems, as well as the backup and test environment systems, in addition to the primary central system.*
- *Install all equipment in a manner that allows for simple, component level (modular) replacement of failed equipment by RTS staff.*
- *Demonstrate that installation methodology protects equipment from tampering and vandalism and that the equipment used is vandal resistant.*
- *Ensure that equipment, electrical connections, and wiring are protected and concealed from view as much as possible, designed so that there is no hazard in the event of incidental contact, and secured to prohibit damage by accidental abuse.*
- *Secure all equipment with tamper proof hardware.*
- *Select components that minimizes maintenance and the use of special tools for maintenance*
- *Provide cabling to connect to RTS demarcated network, server racks, and power locations.*
- *Supply any electrical equipment necessary to operate system components using existing electrical power at fixed facilities.1122 If existing power arrangements are unsatisfactory, the proposer must specify any proposed alterations.*
- *Not reduce the capabilities or availability of existing infrastructure affected by or to be integrated into the new system, such as the RTS Local Area Network (LAN).*
- *Only be authorized to undertake installations after RTS written approval of a preinstallation inspection documenting the existing condition of any existing infrastructure that may be affected by the installation.*
- *Be responsible for the security of equipment during its transport and installation period. RTS will provide space for the proposer to establish secure storage facilities adjacent to each installation area.*

RTS will provide space for central system installation. RTS will provide light and electrical service at all installation locations. RTS will complete agreed upon modifications to existing infrastructure required to support the installations.

The proposer shall not repair, replace, or modify any piece of equipment without the knowledge and written approval by RTS. All work performed by the proposer shall be reported to RTS and documented by the proposer.

DoubleMap is able to comply with these requirements.

5.7.2.1 Use of Premises

Proposer shall confine component, product, storage of materials, and equipment and operations of workmen to areas permitted by law, ordinances, permits, or requirements of RTS, and shall not unreasonably encumber premises with equipment or other materials or equipment. Proposer shall coordinate with RTS for the placement or storage of items, components, materials, products, and equipment. Proposer shall not interfere with daily operations of RTS by placement or storage of items, components, materials, products, and equipment unless approved by RTS.

During progress of work (site preparation, unpacking of shipping materials, installation of new equipment), proposer shall keep premises free from daily accumulations of waste materials, rubbish, and other debris resulting from work. At completion of work day proposer shall remove and properly dispose all waste materials, rubbish, and debris from and about premises as well as all securing tools, appliances, equipment and machinery, and surplus materials, and shall leave site clean and orderly and ready for the next day of work; all dumpsters and related containers used for disposal, are the responsibility of the proposer.

The proposer shall ensure regular, clear, and consistent communication between the installers and RTS personnel during the installation process. Installers shall check in with RTS at the start of each work day and again at the end of each work day to report their work progress. All proposer, sub-proposer, and supplier employees shall comply with RTS policies and procedures while on RTS property.

DoubleMap is able to comply with these requirements.

5.7.2.2 Equipment Removal, Relocation, and Restoration

The installation plan shall include a submittal detailing a plan for all the equipment and facilities requiring removal, restoration and /or relocation required under the resultant contract to include:

All the items (by subsystem and location) requiring restoration, rebuild and/or upgrades to its original condition or better.

All the items (by subsystem and location) requiring removal.

All the items (by subsystem and location) requiring salvage and packaging to keep original condition or better.

A plan for temporary relocation and storage.

5.7.2.2.1 Removal of Prior ITS Equipment

Unless specified otherwise in this RFP under no circumstances is any equipment, modules, wiring, or connectors to be reused for the new system. Proposer shall cover and/or repair in a professional manner any cut-outs, holes, or gaps as a result of removal of old equipment. The proposer shall box, deliver and inventory, by providing RTS a detailed listing, all removed equipment. The inventory list shall include at a minimum the following information:

- *Inventory item number (if any)*
- *Equipment type*
- *Model number*
- *Serial number*

The proposer shall not dispose of any equipment unless given written permission by RTS.

DoubleMap is able to comply with this requirement.

5.7.2.3 Detailed Installation Report

The proposer shall design an installation plan for all equipment that will optimize its operation, service life, reliability, availability, and maintainability. These installation plans shall address topics like:

- *What equipment will be installed and where?*
- *How equipment will be installed?*
- *What is the existing condition of any structures, wiring, fixtures, and finishes that may be affected by the installation?*

The TSS installation plan requires RTS approval and is to contain at a minimum the following:

- *Placement and setup of all hardware components*
- *Physical (mechanical) integrity of all mounting, fastening and electrical hardware components*
- *Safe and appropriate electrical power supply connections*
- *Site-specific software and firmware installation*
- *Site-specific software and firmware programming or parameter adjustment*
- *Safe and appropriate analog and/or discrete data and control electrical connections*
- *Labeling system components*
- *Server equipment cabinet layout schematics*
- *Communication and component functionality test checklist*
- *Any network requirements/ dependencies*
- *The proposer shall provide a sample "Detailed TSS Installation Report" or similar for RTS review as part of the RFP response.*

DoubleMap is able to comply with this requirement. DoubleMap has outlined the Implementation Plan as part of Section 5.4.

5.7.2.4 Wiring and Wiring Practices

Wires and cables shall comply with National Electrical Code (NEC) and be installed according to the following:

- *All conductors shall be pure copper, of not less than 99% conductivity. The use of aluminum conductors shall not be permitted.*
- *Conductors shall be continuous without splices.*
- *Conductor gauge, insulation, and shielding shall be designed according to industry standards and accepted engineering practice for the intended purpose.*
- *Industry standard color-coding shall be used throughout.*
- *All applications requiring physical movement and flexing shall use stranded conductors.*
- *All crimp lugs shall be copper, or plated copper. The use of aluminum lugs is not permitted. Connections shall be made only with the manufacturers approved crimping tools. All crimp*

connections shall be made to the manufacturers recommended compression. The tool die shall imbed the manufacturer's impression and listing.

- *All cables and wiring shall be routed inside conduits located in electrical panels or behind body panels. These conduits may be rigid or flexible, and must be non-conductive. Any exposed cables and wiring must be protected by cable loom or equivalent device, secured to a solid point that prevent cable damage, and shall be approved by RTS.*
- *Unless installed in conduit, wiring within console cabinets, shall be neatly installed and bundled with appropriate wire-ties.*
- *Wiring and connection of devices referenced in these specifications, shall be installed in conduits or raceways and shall be included as part of the work to be performed by the proposer. Wiring shall be accessible for maintenance. Wiring installed in modular furniture shall be run in the trays or channels designed for that purpose. All wiring in communications sites shall be installed in accordance with all standards referenced in this specification.*
- *Cable and wiring penetrations through metal cabinets shall be insulated with dielectric grommets.*
- *Wiring in dropped ceiling areas shall not lie on top of light fixtures or ceiling tiles.*
- *All wiring shall be secured but with sufficient slack to allow movement without strain on wire terminals, connectors, or other wire termination hardware, and must be protected against chafing, and any contact with conductive, sharp or abrasive objects.*
- *Wiring shall be located such that normal equipment motions, maintenance access, heat sources, radiation, and the environment do not damage or reduce the life of the wiring.*
- *Wire dress shall allow for sufficient slack at terminals to provide for shock and vibration induced movements, equipment lifting, alignment, cover removal and component replacement.*
- *All cables, wiring, inter-connectors, switches, circuit breakers shall be heavy duty and specifically designed for their purposes and for transit applications. They shall meet all applicable industry standards and recommended practice.*
- *All transmission lines shall be submitted to RTS for approval prior to being installed. All transmission lines shall be installed in full accordance with the manufacturer's recommended minimum bending radius, and length of span at any point of the installation. All connectors shall be installed according to the manufacturer's instructions and specifications. All connectors must be manufactured by the same manufacturer as the cable, no substitutions will be allowed.*
- *Cables, wiring forms, and terminal blocks shall be identified by permanent labels, tags, or other appropriate means. Marking shall clearly indicate the function and source. Cables shall be identified at both ends with indications of the source and destination of that cable run. The cable identification shall agree with the wiring and interconnect diagrams.*
- *Components and/or entire system will be clearly identified, tagged, documented, and diagramed. The proposer is not authorized to change, modify or remove any existing jumpers or patch cables, lines, or wires unless otherwise authorized in written format.*

DoubleMap is able to comply with this requirement.

5.7.2.5 Equipment Identification

- *Controls, adjustment points, displays, connectors, terminal strips, and circuit boards shall be legibly and clearly labeled (part number and/or serial number), diagramed, and indicating the function.*
- *Legends on control panels and other equipment shall be permanent, resistant to fading or peeling, and capable of withstanding repeated cleaning without degradation or loss of legibility.*
- *Legends shall be applied to equipment by silk-screening, etching, engraving, or other approved method. Stencil transfer letters, hand applied letters, or embossed strips are not permitted.*
- *Labels shall be the equivalent in quality, legibility. Proposers shall submit samples of labeling for approval by RTS before commencement of any labeling. Labels shall be protected from deterioration, and "smearing" by a protective surface.*
- *Components with non-identical functions shall not be nor shall they appear to be interchangeable.*

DoubleMap is able to comply with this requirement.

5.7.2.6 Equipment Installation

The installation design of all fixed equipment shall be approved by a structural engineer licensed in the state of Florida. The following shall apply to all equipment installation:

- *Installation shall fully comply with local seismic and wind load requirements.*
- *All fixed equipment shall be securely anchored.*
- *The first rack in each row shall be securely anchored to the wall, and additional racks shall be bolted to the adjacent rack at the top of the rack. Stand-alone racks, and every third rack, shall be securely cross-braced to the ceiling. Racks and cabinets shall be shimmed to plumb alignment; the use of leveling screws or leveling legs shall not be permitted.*
- *Equipment rack spacing shall allow not less than 3' clear working space. All equipment shall have full access front and rear, except that equipment mounted on swing-out racks is permissible.*
- *All equipment and equipment racks shall be grounded.*
- *Cabling shall not be accumulated in cable racks to accommodate excessive lengths; all cabling shall be fitted to the site.*
- *All connectors, fasteners and connections shall be water-tight and solvent-resistant, oil-resistant, and dirt-resistant.*
- *All modules and assemblies shall be connected using standardized durable, positive-locking, and indexed quick disconnect fasteners.*
- *All connectors shall provide for positive and secure connections which will not be impacted by vibration, cable movement/kinking, and normal operating activities.*
- *All circuits shall be protected by circuit breakers. All circuit breakers shall be permanently labeled to show their functions.*
- *Lightning suppression devices shall be provided for all power input circuits, control circuits, and all other circuits, equipment, and cabling that could be exposed to lightning generated transients. Lightning suppression devices shall be rated for maximum surge current, turn-on voltage, turn-on time, power capacity, and other characteristics as appropriate to the protected circuit, and the proposer's equipment and design.*

- *All equipment operating from AC power, including consoles, console electronics, base station, and computer terminals shall be equipped with surge protection devices. The proposer shall submit to RTS for approval the type device proposed for each application. The device(s) shall be listed by a third party laboratory.*

DoubleMap is able to comply with this requirement.

5.7.2.7 Corrosion

All parts shall be made of corrosive resistant material. Contact surfaces of dissimilar metals shall be treated to prevent galvanic corrosion.

DoubleMap is able to comply with this requirement. The DoubleMap Mobile Data Terminal (MDT) is corrosion-resistant, as well as resistant to environmental and vibration factors.

5.7.2.8 Brackets and Fasteners

Materials shall not be galvanized until all shop operations upon it have been completed. Galvanizing of shapes and plates, bolts, nuts, washers, locknuts, etc. shall be in accordance with American Society for Testing and Materials (ASTM) standards.

DoubleMap is able to comply with this requirement.

5.7.2.9 Safety and Protection

Proposer shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with work. Proposer shall take all necessary precautions for safety of, and shall provide necessary protection to prevent damage, injury or loss to:

- *All employees on work and other persons who may be affected thereby.*
- *All work and all materials or equipment to be incorporated therein, whether in storage on or off site.*
- *Mitigate damage to other property at site or adjacent thereto, including electronics, walls, racks, cables, conduit, lines, wires, routers, switches, servers, vehicles, structures, and utilities not designated for removal, relocation, or replacement in course of the project work.*
- *Return site/work area to pre-work condition where site was not affected by contracted work.*

Proposer shall document all aspects of pre-work condition, manufacturing, work progress, and assembly by submitting daily logs and taking of digital pictures documenting the entire process in the contract file.

Proposer shall comply with all applicable laws, ordinances, rules, regulations, codes standards, and orders of a public body having jurisdiction for health, life, protection and safety of RTS, proposer and sub-proposer employees, general public or property or to protect them from damage, injury or loss and

shall erect and maintain all necessary safeguards, safety devices, and protective equipment for such safety and protection in connection with the performance of the work covered by the contract.

Proposer shall provide and maintain in a neat, sanitary condition such accommodations for the use of his employees as may be necessary to comply with the requirements and regulations of the jurisdiction having authority.

Proposer shall do all cutting, fitting and patching of his work that may be required to make its several parts come together properly and integrate with such other work. Proposer shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with written consent of RTS and others whose work will be affected.

DoubleMap is able to comply with this requirement.

5.7.2.10 Shop Drawings

All drawings submitted shall be in U.S. English only and shall use inches and feet for all measurements. Drawings shall include photos or AutoCAD drawings of the equipment locations and electrical wiring routing, and electrical schematics of wiring. The shop drawings shall establish the actual detail of the work and the location and method of attachment of the equipment.

DoubleMap is able to comply with this requirement.

5.7.2.11 Asset Management

During the installation process, the proposer shall maintain an electronic list of all equipment and software installed at RTS. The list shall contain:

- *Product description and manufacturer*
- *Quantity installed and quantity as spares*
- *Serial and model numbers, where available*
- *Installation or storage locations*
- *Status of equipment (e.g. installed, spare, awaiting repair, etc.)*
- *Warranty provisions (e.g., type, expiration date)*
- *Replacement status of each part and reason for replacement*

The proposer shall update the asset list whenever equipment or software is installed, replaced or removed. The updated list shall be provided to RTS and in a formats useable by Microsoft product and databases in use by RTS for tracking controlled assets.

DoubleMap is able to comply with this requirement.

5.7.2.12 Original Equipment Manufacturers (OEM) Parts

Where the proposer is providing components manufactured by a third-party supplier, the proposer shall ensure that all such components are installed in accordance with the original equipment manufacturers (OEM) installation guidelines and shall arrange for OEM/supplier on-site and remote support as is necessary to ensure the proper operation of its equipment at no additional cost to RTS.

Additionally, in utilizing OEM equipment, the proposer must:

- *Supply modern, first run quality, new, unmodified OEM products*
- *Utilize OEM produces from authorized distributors. Evidence that products were obtained by the selected proposer from authorized distributors shall be provided to RTS upon request.*
- *Provide OEM equipment with the latest firmware, patches, and software updates available at the time of delivery.*

DoubleMap is able to comply with this requirement.

5.7.2.13 Installation Systemic Failures

If during the installation period, component failures occur to an extent of 5% of the same components used for the same function in the same assembly or subsystem among all system elements furnished under this contract, the proposer shall, within 30 days of notification of such instance, commence a modification program to repair or replace all such components to correct the cause(s) of such failures at no additional cost to RTS. RTS may, at its sole discretion, prohibit additional installation of such components until issue is corrected.

The design of the repair or replacement of the component(s) involved in each such modification program shall be developed by the proposer to remedy the nature and probable cause of the component failures and shall be approved in advance of the repair or replacement by RTS. Repair and/or replacement of components pursuant to each modification program shall be according to the same provisions herein as if such components were failed components requiring repair and/or replacement, whether or not actual failures for some or most of the involved components have occurred following notification of a requirement for a modification program.

DoubleMap is able to comply with this requirement.

5.7.2.14 Work Standards

Equipment shall be installed in a neat and workmanlike manner, in accordance with good practice, by competent technicians and mechanics. The proposer shall adhere to all applicable installation standards, laws, ordinances, and codes as required by the latest editions of the NEC, Institute of Electrical and Electronics Engineers (IEEE), Occupational Safety and Health Administration (OSHA), or other governing sources. All installations shall meet such requirements. The proposer shall be responsible for all costs associated with any permits, plan reviews, and inspections. It shall also be the

proposer's responsibility to procure all documentation required to install and adhere to the proper installation standards, laws, ordinances or codes.

DoubleMap is able to comply with this requirement.

5.7.2.15 "As-Built" Documents

At the completion of installation, the proposer shall provide an As-Built Document (ABD) to RTS. The ABD shall include:

- *An inventory of all components supplied including supplier, model number, serial number and installation location;*
- *An inventory of all spare parts supplied including supplier, model number, serial number and storage location*
- *All reference and user manuals for system components supplied by third parties*
- *All warranties documentation*
- *A diagram indicating all interconnections between components*
- *The version number of all software*
- *Software installation media.*

DoubleMap is able to comply with this requirement. DoubleMap will provide all necessary documentation as requested.

5.8 System Testing

The proposer is responsible for all test logistics and coordination activities. The proposer shall establish and implement a test program that will ensure all communication and data systems, subsystems, components, equipment, hardware, software, material, and services furnished during the performance of this contract meet the performance and technical requirements, specifications and standards, as specified within this RFP. System components, subsystems, interfaces and software processes shall be tested individually and as a whole to demonstrate that the system meets contract requirements. Proposer will be required to perform and pass all tests for the completion and acceptance of the provided system.

Work under this section shall include all labor, materials, and support services required to completely test all hardware and software of the installed system. No adjustments, modifications, or substitutions shall be made to the system by the proposer during testing, except with written approval by RTS.

The successful proposer will be required to perform an operational readiness test for all installed components:

- *All supplied hardware components function as per specifications*
- *All supplied software components function as per specifications*
- *All data communication occurs as per specification*
- *All integrated components and interfaces function as per specifications*
- *All inputs and outputs function as per specifications*

The successful proposer will be responsible for verifying adherence to defined specifications and shall include in their response that they can meet this requirement. Should any test indicate that specific hardware, software, or documentation does not meet RTS's requirements, the appropriate items shall be replaced, upgraded, or added by the proposer at no cost to RTS and as necessary to correct the noted deficiencies. After correction of a deficiency, all necessary retests shall be performed to verify the effectiveness of the corrective action.

RTS reserves the right to conduct audits and/or reviews of the test results. No test shall be considered complete until results are signed off by an authorized RTS representative. The successful proposer will make available to RTS copies of all testing results. The proposer may be requested to provide explanations concerning the validity of collected data and test results. RTS's decision on the validity of the collected data will be final.

Periods of informal testing shall be permitted to be witnessed by RTS staff to verify proper design of the ITS under development by proposer. These "unstructured" tests are not specifically included in the approved test procedures.

All staff training must be completed prior to testing.

DoubleMap is able to comply with these requirements. DoubleMap's Implementation Plan, detailed at length in Section 5.4, is segmented to allow for extensive training and testing of the system.

5.8.1 Test Program

All materials furnished and all work performed under the contract shall be inspected and tested. The following task requirements are the proposer's responsibility for the test program:

- *Develop comprehensive test plans detailing methods and test procedures to be utilized to ensure compliance with all applicable requirements.*
- *Develop detailed test procedures for each individual test within each category of testing.*
- *Submit all test plans and their respective procedures for written approval by RTS prior to use for evaluation and testing. Prepare and submit revised test procedures and test plans to correct procedural and technical errors or omissions discovered in those documents after their initial RTS review.*
- *Furnish personnel, calibrated test equipment, tools, and miscellaneous supplies as necessary to perform all approved tests and retests, and to maintain all systems and equipment during the test period and until written acceptance by RTS.*
- *Coordinate unified test program activities with all current and future schedules and activities of proposer's sub-proposer(s) or other RTS employed proposers, if applicable, and with RTS to avoid conflicts with operational requirements.*

- *Prepare detailed test reports, summary reports and progress reports beginning within ten (10) days after RTS's approval of test plans.*
- *Submit all raw test data, test results, evaluations, and summary reports for review by RTS.*
- *Furnish labor and material to correct and/or effect RFP compliance. This shall occur without unreasonable delay.*
- *Participate in RTS final acceptance activities.*
- *Furnish inventory services and demonstrate system or equipment operation in support of requests by RTS.*
- *Provide support and access so that RTS can inspect and test any portion of the work during normal work hours.*
- *Document all performed test and inspections as detailed in the approved test procedures and plans. Submit all written approval documentation to RTS.*
- *Replace all equipment damaged as a result of the tests and shall bear all associated costs.*

The proposer shall advise RTS, in writing, two weeks prior to the date(s) of scheduled tests and inspections. RTS will witness these tests. Two certified copies of installation completion test and inspection data shall be submitted to RTS within seven days after test completion for review and acceptance.

DoubleMap is able to comply with these requirements. DoubleMap's Implementation Plan, detailed at length in Section 5.4, is built to support multiple rounds of testing. The system will not go live without strenuous testing, all of which can be supervised by RTS.

5.8.1.1 Test Program Considerations

The proposer shall test all applications to ensure that it operates and communicates as designed, configured, and implemented. Generally, the individual and collective testing of all components, equipment, material, and systems may include, but may not be limited to: electrical, mechanical, operational, and functional parameters.

At a minimum proposer will confirm:

- *Installed hardware components power up and conduct self-diagnostics*
- *Conformance to drawings, specifications, and applicable standards and for satisfactory appearance.*
- *Component communication, functioning, and data exchange between all component interfaces per specified system criteria, including those supplied by others and existing RTS owned systems (e.g. schedule information automatically available to Fleet-Net).*
- *Hardware and software follows start, restart, and shut down procedures.*
- *All hardware and software is complete, of only approved products, and accurately installed and configured in accordance with approved drawings and diagrams and expected workmanship quality; any device certifications required by regulatory agencies shall be the responsibility of the proposer. All required certifications shall be submitted with each shipment of devices or subsystems*

- *Properly cable and wiring connections and termination.*
- *All applications, services, operating parameters, and other requisite components and configurations meet RTS operational needs per the requirements of this RFP, OEM specifications, and system design document.1144*
- *Required application interfaces including inputs/outputs are established and functioning*
- *Applications/devices that require credentials for access are properly prompting for and then processing this information and are adhering to functional role access validation.*
- *The integrated operation of all system components both when the system is running on the primary central system hardware and after it has automatically been failed over to the backup central system hardware.*
- *Accuracy of hardware and software documentation.*
- *Appropriate server, desktop, and system start-up, login, shut-down, restart, back-up, restore, failover/redundancy, initialization, configuration.*
- *Successful migration of configuration and data between environments (test/acceptance/production).*
- *Proper import of existing Fleet-Net scheduling data to new TSS.*
- *Software patch/upgrade.*
- *Validation of data accuracy, reporting, archiving, and purging.*
- *Spare capacity and ultimate sizing requirements have been met, including all expansion requirements.1155*
- *Processor loading and system response time requirements have been met while exercising all proposer-supplied software and performing functions.*
- *Software and database maintenance functions.*
- *All user interface functions.*
- *Interactions between software and hardware while the system is operating as an integrated whole is free of problems.*
- *Proper calibration of OEM supplied equipment to OEM supplier guidelines.*
- *All data transfers to the appropriate databases.*

As previously noted, the entirety of the DoubleMap system, from software to hardware, will be strenuously tested before going live.

5.8.2 Test Plan

The proposer shall submit an acceptance test plan that defines testing and acceptance at RTS. The Plan shall:

- *Describe how each testable specification requirement will be demonstrated, including the testing methodology.*
- *Describe what result constitutes a successful test.*
- *Identify the role and responsibility of the proposer and RTS during each test.*

The plan shall also include a comprehensive list of all of the required tests per subsystem that are to be performed in order to meet RTS's requirements for all features of devices, software functions, and reports. Each test will include:

- *Test schedule*
- *Scope, conditions, and purpose of the procedure tests.*
- *Pre-requisites of the test environment, including access, availability, and equipment configuration for each group of functions.*
- *Required test equipment, applications, simulators, and tools, with calibration data for each item.*
- *Required test participants and roles.*
- *Enumerated step-by-step procedures and scripts to be executed, including test setup, regression test, expected results, and pass/fail criteria.*
- *Test procedures shall be modular to allow individual test segments to be repeated as necessary and rely on use-case testing to demonstrate end-to-end connectivity and correct processing/handling of data.*
- *Drawings depicting test setup with list of equipment, parts, and material used and tested.*
- *A form to record the tools with calibration date, test measurement, entry/startup conditions, exit/closing conditions, pass/fail criteria, and space to record the pass/fail outcome and the signature of the test engineer and a test witness.*
- *A form to record the identifier of the defect report/problem report(s) generated as a result of faults/problems detected during the test. All the troubleshooting techniques and corrective actions shall be documented on this form.*
- *Procedures for monitoring, correcting, and retesting variances.*
- *Traceability matrix linking each requirement proposed to be demonstrated to applicable test procedure(s).*
- *Copies of any certified test data (e.g., environmental data) to be used in lieu of testing.*
- *Sign-in sheet or list of all individuals present for testing*
- *Signatures and verification form*

DoubleMap is able to comply with these requirements. Please refer to DoubleMap's Implementation Plan, detailed at length in Section 5.4, for more information.

5.8.2.1 Test Results

Upon completion of any test, the proposer shall prepare and submit within ten days, a report summarizing the results with relevant test records and any actions required by the proposer or RTS. The test report shall include the results of the test, any anomalies identified, and the corrective action and any retests necessary to successfully complete each testing phase. The proposer shall be responsible for completing all corrective actions identified on a timely basis. RTS reserves the right to withhold acceptance, pending completion of the required corrective actions. All such test reports will be reviewed and approved by RTS prior to acceptance of the test results.

Test report submittals shall be organized to include the following headings and information:

- *Purpose of test stage, defining the scope of the submittal.*
- *Summary of the test results, including measurements, results, problem areas, workarounds, troubleshooting, exceptions, etc.*
- *Open items requiring resolution, including corrective action to resolve the open items.*
- *Completed, signed, and dated test sheets, as well as a defect/problem report for each fault/problem found during the testing.*

DoubleMap is able to comply with these requirements.

5.8.3 Testing

A test operation failure shall be recorded in the test data when a detected cessation or error in the specified response of the system being tested occurs. The failure of the system to furnish all correct responses to a test operation in accordance with each and every applicable specification requirement shall result in the recording of a test operation failure for that entire test operation.

Limited preventative and corrective maintenance actions in the form of repairs and/or replacements involving specific component parts, wiring, or minor internal equipment assemblies and adjustments, shall be allowed during test operations. The replacement or interchanging of whole equipment units, plug-in sub-assemblies, or major material items shall be allowed once during each test operation. If a unit fails more than two times during each test operation that specific unit shall be replaced. The unit to be supplied shall be a new factory fresh unit with no additional costs to RTS.

The Proposer may be allowed to start, stop, and restart, the system validation tests. RTS will record and report a test failure, discontinue testing, and after the proposer completes the correction and details what they have done to keep this problem from occurring again, the testing begins. After the second such attempt, RTS will require a detailed examination of proposer discrepancy correction efforts and all specification compliance related actions to date, prior to further testing. Equipment replacement or other extensive corrective measures may be required in accordance with all applicable specification provisions.

DoubleMap is able to comply with these requirements. Please refer to DoubleMap's Implementation Plan, detailed at length in Section 5.4, for more information.

5.8.4 Deficiencies

If RTS determines from test data acquired from any category of test or tests that the system, equipment, component, materials, software, technical documentation, or services furnished do not conform to intent of the RFP and its requirements, the proposer shall begin appropriate remedial action based on an analysis of test results within fifteen days after receipt of RTS's notice of deficiency. When such recommendations relate to engineering deficiencies, the proposer shall, upon receipt of approval, make

the necessary changes to all equipment and documentation of that type to be delivered or previously delivered (even if previously accepted) during the course of the contract, at no additional cost.

When recommendations relate to other deficiencies such as quality control and installation workmanship, the proposer shall correct all deficiencies at no additional cost to RTS. Retesting after the changes or upgrades have been completed (factory tests and inspections, installation completion tests and inspections, and technical documentation verifications) shall be required in whole or part, as determined by RTS, at no additional cost to RTS. RTS is under no obligation to accept the proposed solution for further deployment if any uncorrected functionality, hardware, or software issues remain unresolved after any test.

DoubleMap is able to comply with these requirements.

5.9 Availability

All functions of the system, shall be designed, constructed, and implemented to perform as specified, without degradation in response times to meet the system availability target of 99.9% (regardless of whether the system is hosted or not). The failure of any single component or device shall not render the system unavailable. Availability is defined as:

$$\frac{\text{Total Number of Hours of Downtime in Time Period}}{\text{Total Number of Hours in Period}} \times 100\%$$

For availability calculation purposes, a failure of proposer provided equipment/software will be considered unavailable from the time the failure is noted until the component returns to normal operation.

5.9.1 Chargeable and Non-Chargeable Failures

For purposes of calculating availability, chargeable and non-chargeable failures are defined below.

Chargeable failures include any failures that are not specifically identified as non-chargeable, including but not limited to:

- *A malfunction which prevents any system component (hardware or software) from performing its designated function, when used and operated under its intended operational and environmental conditions.*
- *A malfunction that poses a threat to the safety of the system components, RTS, or others.*
- *An occurrence where data is not successfully transmitted between fixed-end devices and the servers.*
- *Software anomalies and bugs that affect the performance and operation of the system.*
- *Shutdown or unavailability of the system unless specifically directed by RTS.*
- *Failure to generate the reports required to reconcile and track system performance.*

Non chargeable failures shall include:

- *Force majeure*
- *Vandalism*
- *Failure of test instrumentation.*
- *Failures that are patron or RTS-induced.*
- *System component failures caused by externally applied stress conditions outside of the requirements of this RFP.*

The DoubleMap system will be active and available more than or equal to 95% of the time, excluding times of maintenance (generally Monday mornings).

5.10 System Acceptance

System acceptance shall not be considered until the system has been fully operational for a period of no less than 30 consecutive calendar days without any errors or down time that interrupt operations and reporting. This will help verify the integrity, reliability, accuracy, and availability of the system. This period will begin upon written notice from proposer that work is complete. During the 30-day period RTS will make final inspections and notify the proposer in writing of all particulars in which this inspection reveals that work is incomplete or defective. If all work provided for and contemplated by the contract is found completed to RTS satisfaction that inspection shall constitute the final inspection and RTS, in its sole discretion, will make the final acceptance and issue a Notice of Completion (NOC) to the proposer. Inspection will include satisfaction of the conditions below:

- *Completion of all contractual requirements to RTS's satisfaction.*
- *Successful completion of all tests as measured by RTS acceptance and approval of all test reports, including the correction of all outstanding testing variances.*
- *RTS acceptance of all delivered equipment as listed in the proposer-supplied hardware inventory.*
- *RTS approval and reception of all drawings, manuals, warranties, software licenses, and all other hardware and software documentation.*
- *Integration of all systems.*
- *Legally effective release or waiver of all liens (inclusive of all labor, services, material, equipment, etc.) arising out of or filed in connection with work.1166*
- *Agency approval of all proposer-supplied training.*
- *Correction of all discrepancies that are not in compliance with the RFP, proposer's submitted response, final contract terms and conditions, and change orders.*
- *A "punch list" of items not yet in compliance has been delivered by the proposer and has been verified by RTS and approved as being complete.*

The occurrence of system acceptance shall not relieve the proposer of any of its continuing obligations under the agreement.

If the system as a whole does not meet all of the requirements or perform in accordance with the system design document, or comply with the final contract terms and conditions, contract amendments and/or change orders, even where RTS has previously paid for deliverables, RTS reserves the right to either reject the whole system and get a complete refund from the proposer, and/or accept the system (with its defects) at a negotiated discount and/or be reimbursed by proposer for all costs necessary to bring the system to a level that will meet RTS's operational and performance needs.

If the inspection discloses any work, in whole or in part, as being deficient, RTS can also give the proposer the necessary written instructions for correction of same, and the proposer shall immediately comply with and execute such instructions. Upon correction of the work, another inspection will be made which shall constitute the final inspection provided the work has been satisfactorily completed. In such event, RTS will make the final acceptance and issue a written NOC to the proposer.

DoubleMap is able to comply with these requirements. As part of the DoubleMap Implementation Plan, detailed in Section 5.4, the system will not go-live until both a final inspection and full system acceptance has occurred.

5.11 Disaster Recovery Procedures

The proposer shall develop disaster recovery procedures for RTS review and approval. The system shall be designed and operated such that the system can quickly and efficiently recover from a disaster. As part of testing, the proposer shall implement its disaster recovery solution and shall test the system accordingly.

Since DoubleMap's software system is entirely cloud-based, most disaster recovery protocols are a simple restart of the system. Additionally, most of DoubleMap's hardware is commercially available, which makes disaster recovery for hardware issues as simple as replacing a tablet. DoubleMap will provide a more in-depth disaster recovery procedure plan post-contract acceptance.

5.12 Parts

All items delivered shall conform to contract specifications and shall be in first class condition. Acceptance by RTS shall be subject to inspection and approval. Proposer shall demonstrate that all makes and models of proposed equipment have been installed and operational for at least three other systems for a period of not less than two years.

Goods, service, or work product furnished under this contract shall be subject to inspection and testing by RTS at times and places determined by RTS within a reasonable time after arrival at its ultimate destination. If RTS finds goods, service, or work product to be incomplete, unsatisfactory, defective, or of

inferior quality or workmanship, or fails to meet the specifications or other requirements or not in compliance with the contract, RTS, at its sole discretion, may either reject the goods, service, or work product, require the proposer to correct any defects without charge, or negotiate with the proposer to sell the goods, service, or work product to RTS at a reduced price, whichever RTS deems equitable under the circumstances.

RTS may return such goods, service, or work product to proposer at proposer's expense. Proposer shall reimburse RTS for any amounts paid by RTS for the returned goods, service, or work product and any costs incurred by RTS to return the goods to the proposer. If the proposer is unable or refuses to cure any defects within a time deemed reasonable by RTS, RTS may reject the goods, service, or work product and cancel the contract in whole or in part.

DoubleMap is able to comply with these requirements.

5.13 Support, Maintenance, and Enhancements Services

Proposer shall provide a detailed description of their standard software maintenance and support agreement. RTS shall have the option to contract with the successful proposer to provide software and hardware maintenance and support on a year by year basis; RTS is under no obligation to enter into a maintenance and support contract with the proposer. Proposer shall therefore provide a detailed description of their standard software maintenance and support agreement. The duration may be extended for any period of time that the proposed solution is in use by RTS. Maintenance support will include application maintenance, firmware upgrades, and minor system enhancements.

DoubleMap is able to offer 24/7 availability for support issues. DoubleMap's help desk will assist administrators with any questions or problems they may have. Problems can be reported after hours to one of DoubleMap's on-call technicians, who will be available 24 hours a day, seven days a week. DoubleMap help desk is available from 9:00AM-5:00PM Eastern Time (excluding weekends and Federal holidays) to provide support to fleet administrators. General questions and requests for training materials can be sent to info@doublemap.com. Support inquiries may be sent to support@doublemap.com. Our direct phone line for support inquiries is 317.324.8883.

5.13.1 Solution Support

RTS expectation is that transit staff, experiencing a system problem, will contact internal IT support who will attempt to determine if the problem is a result of an internal infrastructure (i.e. server down, network down, pc problem) issue. If it is determined that it is not an internal infrastructure issue then RTS will contact the proposer to access knowledgeable technical support personnel and trained field service personnel as may be required for the successful maintenance and operation of the system.

The TSS system is a critical transit application. RTS logged incidents require a response within 1 hour of notification during Principal Period of Maintenance (PPM)17 and 1.5 hours outside of PPM with an

overall operating schedule of 24 hours per day, 7 days per week 365 days per year. The proposer shall confirm that support services are available as outlined above. The proposer shall further describe any support models that it provides and describe:

- *incident reporting/notification*
- *incident tracking and response (include timing)*
- *resolution (including timing)*
- *escalation procedure*
- *communication channels such as phone, web, and remote access*
- *Hours of operation and response time*
- *roles and responsibilities for both proposer and RTS*
- *integration support*
- *Online resources and user groups (i.e., webinars, searchable knowledge base, customer discussion forum, message board)*
- *incident management processes*
- *types of support available (i.e. administration, configuration, server performance, hardware and software troubleshooting, system support, data integrity, general functionality, and end user)*
- *local, qualified firms that can assist with fault diagnosis or component training*
- *On-site support*
- *software version support*

Based on the described requirements herein, propose a support model that includes roles and responsibilities of both parties that would be best suited for RTS needs and offers several pricing options and any/all fees associated with the support. Identify any requisite skills needed of RTS resources to fulfill the suggested support model.

DoubleMap is able to comply with these requirements. DoubleMap will train RTS staff members on how to accomplish simple fixes for the system, for issues that DoubleMap sees the most. DoubleMap is also available over the phone at nearly anytime (see Section 5.13). Additionally, as previously mentioned, DoubleMap also holds weekly catch-up meetings with clients - this level of support is not offered by other ITS providers.

5.13.2 Maintenance

Maintenance means the necessary intervention to ensure that all components of the overall system continue to operate in accordance with agreed upon service levels.18 This includes any routine operational activities such as software patching, firmware upgrades, configuration adjustments, or any error correction necessary to ensure the applications perform to specification. RTS shall be notified of all updates to provided hardware and software. Software maintenance agreement must include software patches, interfaces, updates, and version upgrades at no additional charge.20 Any "patches"

recommended by the hardware or software proposer (including operating systems), shall not void the system warranty.

The proposal shall detail a recommended maintenance strategy/plan and include approaches for any on-site/off-site support needed if included as part of a maintenance plan. The approach shall also contain details on how the proposer ensures that any customizations through new releases or upgrades impact existing maintenance option terms and conditions. The maintenance plan shall be all inclusive (labor, software licensing, hardware, upgrades, versions, etc.) and note if fleet/service expansion will result in increased maintenance fees and what those breakpoints are.

The proposal shall outline any maintenance personnel required, billing rate, and anticipated time commitments to ensure ongoing maintenance of the system post-warranty period as part of the software release lifecycle, the maintenance costs shall be presented with all other cost components. The proposer shall describe the proposed application's upgrade history for the past three years, including version numbers, dates of release, and major new features.

It is RTS's expectation that first year maintenance will include post-implementation stabilization and tuning support. Specifically, the proposer will provide assistance to RTS with managing data and parameters to optimize performance of the system for maximum efficiency and cost-savings. The proposer will be required to work with RTS staff to complete the initial build and optimization of RTS's schedules including runcuts and rostering and creation of driver paddles and public timetables. This will include assessment of operational inputs/outputs and settings, followed by suggested changes that will aid RTS. The proposer shall note previous experience converting data from RTS's current scheduling application to their proposed scheduling application. Beyond year 1, the proposer shall describe their approach for addressing stabilization and tuning services and whether it forms part of core delivery services or considered a cost add on.

The proposer shall specify all-inclusive licensing and maintenance costs for years two through five and forecast all maintenance costs from years six to ten. The proposer must guarantee that software maintenance costs shall be 5% or less per year from years six to ten.

DoubleMap is able to include a warranty as an optional item on our Pricing Proposal. DoubleMap has included the standard warranty language below:

Warranty Information

One year hardware warranty is included within this proposal. Customer service for all features (hardware, software, administrative use, driver use, troubleshooting) is included as a part of this proposal as well.

DoubleMap will take commercially reasonable measures to maximize the availability of the Service

to RTS and RTS's riders. From time to time, the Service will be intentionally unavailable for system maintenance. DoubleMap will give RTS prior notice and will perform such work during off-peak times. DoubleMap historically performs at over 99.9% uptime.

Any hardware procured directly from DoubleMap includes a Limited Warranty for a period of one (1) year against defects in workmanship and material.
Services covered under DoubleMap's Limited Warranty exclude effort required to support the following hardware issues:

- ❖ Problems caused by failure of Customer's operations staff to follow instructions or corrective procedures provided by DoubleMap
- ❖ Hardware misuse, negligence, willful misconduct, tampering, accident, abuse, fire, flood, wind, earthquake, act of God or public enemy
- ❖ Upgrade of tracker and sign hardware
- ❖ On-site troubleshooting
- ❖ On-site repair of hardware
- ❖ Shipping costs for repair parts, including warranty repairs

In any case where malfunctioning Equipment falls under the DoubleMap Limited Warranty, the Equipment is deemed warranted against defects in workmanship and material, in the country to which DoubleMap ships the equipment, on a return-to-factory basis for a period of one year. Customer shall return the defective equipment in accordance with DoubleMap shipping instructions. DoubleMap's sole responsibility under this warranty shall be, at DoubleMap's option, to either repair or replace any component that fails during the warranty period during the warranty period because of a defect in workmanship and material. If DoubleMap determines that the equipment is not defective within the terms of the warranty, Customer shall pay DoubleMap all costs of handling, transportation and repairs at DoubleMap's then-prevailing rates.

SaaS considerations under DoubleMap Limited Warranty

System software is maintained and supported by DoubleMap IT staff and consists of internet-based Map displays, transit management reports, real-time passenger information, AVL and schedule integration, and XML transmission. DoubleMap support Services includes the following:

- ❖ System Administration of Servers and General Maintenance
- ❖ Maintaining a private network system to store, manage and protect Customer's AVL and related data
- ❖ Maintaining administrative software at a level of functionality that was established at the time the system was originally implemented for Customer

- ❖ Maintaining system uptime with minimal interruptions that may be caused by periodic scheduled backup or other unscheduled interruptions
- ❖ Working directly with wireless carriers to resolve data interruption issues originated by the carriers.

SaaS support covered under DoubleMap's Limited Warranty excludes effort required to support the following:

- ❖ Problems caused by failure of Customer's operations staff to follow instructions or corrective procedures caused by DoubleMap
- ❖ Customization of DoubleMap software and/or management reports designed and implemented exclusively and specifically based on customer requirements
- ❖ Maintenance for any third-party hardware and software purchased herein
- ❖ All costs associated with on-site support, including travel and living expenses as well as labor charges incurred by DoubleMap.

5.13.3 Enhancements

An enhancement is any product change or upgrade that increases software or hardware capabilities beyond original specifications. Enhancements allow software and hardware product performance scalability.

The proposal shall describe how your organization addresses product refinements and any associated services offered. As well as how it handles customer requested features for future software releases.

DoubleMap releases software updates through the system update-time of early Monday mornings. These enhancements are often simple bug-fixes, but can range up to a full graphical update. DoubleMap developers include a web-based wiki-page that has a list of recent updates, as well as the date that they are pushed over-the-cloud. Since the DoubleMap system is entirely web-based, these updates are pushed wirelessly - RTS administrators can be as hands-off as desired. DoubleMap also hears and responds to customer feedback - the DoubleMap project manager will work with RTS administrators to be certain that all desires are fulfilled.

5.14 Warranty Services and Warranty Period

Neither final payment nor any provision of the contract shall relieve the proposer from responsibility for defective work. Following system acceptance as defined herein the successful proposer is to warrant (all inclusive) for five continuous calendar years without service interruption that the hardware/software will perform, in all material aspects, the functions described in the proposal and user documentation when operated on the specified platform as set forth in the contract and correct all defects that appear in the work.21 The warranty period will begin when the entire application is accepted in writing or used in a production context by RTS. All software, keys, equipment, and warranties shall be in RTS's name.

For each system component or workmanship failure during the warranty period, RTS shall determine whether to correct the failure by repair or replacement of part(s) within an assembly, or by replacement of the entire assembly. All non-critical warranty work on defective or non-complying installation work, or system hardware, or any software defects or errors that cause the software to fail to conform to the requirements of these specifications shall be performed at no cost to RTS within thirty days of being notified in writing by RTS or its representative.

Any defects that affect the critical functions of the operations shall be fixed within 24 hours. Such warranty shall be provided at the Proposer's expense and shall include all media, parts, freight, taxes, labor, travel (food, lodging, per diem, and transportation), and insurance to the RTS site. Additionally, the proposer will extend the warranty period until all the defects are remedied. If the proposer requests shipment of failed parts or assemblies to its facilities RTS will ship such failed parts or assemblies at the proposer's expense.

If proposer fails to complete the warranty work within the periods specified above, or at any time in the event of warranty work consisting of emergency repairs, without affecting proposer's obligations, RTS may perform such work and proposer shall reimburse RTS all costs of the same within thirty days after demand, including all collection and court costs and attorney's fees. The proposer shall retain full responsibility for replaced or repaired parts or assemblies throughout the duration of the warranty coverage period for all parts and assemblies replaced by RTS.

The proposer shall maintain adequate resources for replacement of all defective or noncompliant work or equipment, including test repair, warranty repair, spare modules, spare assemblies, spare components, and spare parts in furtherance of the warranty requirements. The proposer shall provide during the warranty period the latest compatible version of the failed part/hardware with the latest firmware.

RTS will operate the system hardware and software in accordance with the proposer's specific instructions in order to maintain all warranties. However, the proposer shall hold RTS harmless and proposer shall be responsible for repairing any damage from RTS's improper operation of any system hardware or software resulting from proposer's failure to provide adequate or correct training and/or complete operating manuals, software manuals, electrical drawings, complete computer program documentation and other documentation required to be furnished as identified within these specifications.

All issues identified during the warranty period shall be resolved under the warranty even if the warranty period expires before the issue is resolved. The proposer must state their agreement with the above warranty requirements, provide their approach for warranty support, and shall note any items not covered. The proposer shall provide a single point of contact for all warranty administration during the warranty period.

Warranties by the proposer shall apply to the entire system, components, parts and workmanship, whether performed or provided by the proposer, proposer's sub-proposers, or suppliers at any tier. Any warranty from the proposer's sub-proposers or suppliers to the proposer exceeding the periods described herein shall be extended to RTS for the same period of time as given to the proposer.

DoubleMap has included a full Warranty Information section in the above section *5.13.2 Maintenance* section.

5.14.1 Fleet Defects

The proposer warrants that all equipment furnished is guaranteed to be free from fleet and related defects for the warranty period. A fleet defect is defined as the failure (repair or replacement) of ≥5% identical items covered by the warranty period. The asset list shall be used to track the replacement of defective parts.

Fleet defects shall require the proposer to replace all units of the suspect component throughout the system at their expense, whether or not they have exhibited any fault. The proposer shall be obligated to complete the system-wide replacement if the need was documented before the end of the warranty period, even if the replacement extends beyond the end of the warranty period.

The design of the repair or replacement for the component(s) involved in each such modification program shall be developed by the proposer to remedy the nature and probable cause of the component failures and shall be approved by RTS. In no case shall the correction of defects in design, material or workmanship result in an increase in maintenance requirement beyond that specified in the contract documents.

DoubleMap is able to comply with these requirements.

5.14.2 Replaced Parts

Any materials, parts, or components used for replacement under the initial warranty period shall be warranted again, such that the new warranty period shall begin upon date of replacement as recorded in RTS's system maintenance records, and be of the same duration as the original warranty period, regardless of the timeframe of the failure.

DoubleMap is able to comply with these requirements.

5.15 Equipment and Workmanship Warranties

Proposer warrants that all materials, fabrications, assemblies, finishes, components, equipment, parts and workmanship provided under this contract to be of the highest quality, commercially-rated, best obtainable, latest engineering and field change level available with modifications installed for all known

operational problems, in conformance to all applicable quality control standards of the original manufacturer, be by well-established manufacturers (over five years of experience in the business), and free of defects and faults in material, design, and workmanship. Used, shopworn, demonstrator, prototype, remanufactured, reconditioned, or discontinued equipment shall not be supplied under this contract. The new material/equipment shall not have had a shelf life or be of such age where it would adversely affect the performance of the equipment. All hardware and equipment shall be designed to provide a usable life of not less than ten (10) years. Equipment must be readily available for the expected life-span of the system as needed for repair, replacement, or expansion/upgrades.

The proposer shall also warrant that all equipment and material offered under these specifications is new and suitable for the purposes specified and meets or exceeds all the requirements of this specification and of the manufacturer's specifications.22 Reuse of existing RTS material, equipment, or software will not be accepted, with the exception of hardware, software, or infrastructure interfaces permitted by this scope of work.

Moreover, the proposer warrants that the installation efforts and work done by themselves, sub-proposers, suppliers, or other manufacturers is of safe, substantial and durable construction in all respects. All work not so conforming to these standards shall be considered defective. If required by RTS, the proposer shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

Any retrofit or post-delivery change to one item of one type of equipment shall be made identically to all units. The proposer shall retrofit all new problem solutions (i.e. engineering changes) to the installed equipment during the warranty period following the participating proposer's approval.

The proposer hereby guarantees the work against defective materials or faulty workmanship for a minimum period of five years after final payment by RTS and shall replace or repair any defective materials or equipment or faulty workmanship during the period of the guarantee at no cost to RTS.

DoubleMap is able to comply with these requirements. DoubleMap guarantees the work against defective materials or faulty workmanship.

5.16 Data Interface and Conversion Requirements

RTS expects the new systems to integrate (exchange of data) with existing applications such as GIS, APC units, Travel Information System, and Fleet-Net Operations software. The successful proposer is to interface with these applications and document:

- *Any required toolsets/utilities/modules*
- *Data models and libraries*
- *Application Program Interface (API)*
- *Available processes or frameworks used*
- *Data validation techniques*

The proposer shall also specify the origin of all software applications or components that comprise the proposed application (i.e., applications developed by other companies, software or systems acquired from others in the past, public domain, etc.) and whether any fee-based interfacing requirements exist for them.

The proposer must note any fixed and on-going costs with the required integrations.

DoubleMap is able to integrate with all listed software and hardware options. The DoubleMap application is entirely privately developed by DoubleMap Inc. DoubleMap has noted fixed and on-going costs that are linked to the required integrations in the DoubleMap Price Proposal.

5.17 Hosted versus Non-Hosted Solution

RTS recognizes that with a hosted solution they would be more dependent on the proposer for data reporting, data accuracy, report customization, and troubleshooting of the servers. However, RTS also has limited technical staff that may preclude the ability to have a non-hosted solution. If a hosted solution is pursued, RTS requires full control/ownership of their data and the ability to enable standard and on-demand queries for data reporting as the agencies see fit without dependencies on a third party.

Under the non-hosted solution, RTS would purchase all necessary elements (hardware, software, and licenses) from the TSS proposer and RTS would own, house, and operate all within their premises.24 Under the hosted solution, the proposer shall identify which TSS components they retain ownership of and lease to RTS and which RTS gains ownership and operation of, as well as where all software and hardware components are housed. Under the hosted solution there would be little to no back office equipment maintained within RTS's facilities and the proposer would provide 24 hours 7 days a week operations support including system backup and recovery and general system maintenance.

RTS requests that each proposer identify if they offer a hosted solution that satisfies required functionality, advantages and disadvantages of hosting solution, cost differences (e.g., minimum and recommended hardware requirements for servers, work stations, and software necessary to operate the system(s), reoccurring service fees, etc.) between a hosted and non-hosted solution, and any requirements (functionality and integration) that cannot be satisfied if a hosted solution is proposed. As part of the discussion the proposer shall also note:

- *Security feature and user management control*
- *Active directory integration*
- *Auditing and logging features*
- *Data backup*
- *Network configuration, desktop, and security requirements, including relationship between servers, workstations, other devices, and the internet*
- *Capacity to both import and export data on a regular and automated basis either through Bidder API or defined database access protocol*

- *Ability to provide required interfaces.*

Additionally, RTS expects under a hosted solution that proposer:

- *Will retain on their server RTS's data for a minimum of 1 year and then archive in a format agreed upon with RTS.*
- *Will securely store RTS's data and make that data accessible only to authorized individuals.*
- *Will monitor and insure internet connectivity to the hosted services.*
- *Will automatically alert RTS to server failures and resolve them directly or with a third-party.2277*
- *Will securely back up RTS' data on a daily basis, and backups shall be stored in a secure facility remote from the primary host site.*
- *Will not retain RTS data if RTS requests its destruction, deletion, or transfer nor use RTS' data (for any reason) without RTS' written consent.*
- *Will furnish a hosted site that is protected by current virus protection, internet security, and other security software against catastrophic failure and malicious attacks.*
- *Will only offer remote access to their system that is secure and protected by password or other equivalent or improved security measure.*
- *Will offer secure access to the full system functionality by RTS staff remotely from any computer that meets proposer's stated requirements.*
- *Will perform all software, database, web application, and field element maintenance outside of RTS's revenue service hours and updates shall be downloaded in batches to minimize downtime and maximize data transfer rates.*
- *Will inform RTS at least thirty days in advance in writing of upgrades that require updated software, etc.*
- *Will ensure no more than one hour unplanned downtime per calendar quarter including all devices and/or subsystems.*

DoubleMap is able to comply with these requirements. DoubleMap is usually the host of the solution. As DoubleMap is entirely cloud-based, the DoubleMap system is able to offer remote access to all RTS administrators as needed, and is available on any device that has an internet connection, including the Apple iPad and standard tablets. DoubleMap will ensure low downtime, as well as full system functionality.

5.18 Licensing

Proposer shall include and be responsible for ensuring all required federal, state, and local licenses, permits, and other documents necessary to operate the system are obtained before installation of any software or equipment that may be needed in the performance of this contract. Annual licensing fees for operating systems, application software, and/or device licenses must be included in the annual operating costs submitted as a part of the proposer's proposal with the proposer explicitly stating what is required to license and register the complete system as described herein. All software licenses must reside with RTS and shall be delivered at final acceptance.

DoubleMap is able to comply with these requirements. DoubleMap has included licensing fees, broken down for RTS convenience, in the DoubleMap Pricing Proposal.

5.19 Inspection and Approval of Work

The proposer will permit RTS to inspect and audit all work, material, and other data and records connected with the contract.

DoubleMap is able to comply with this requirement.

5.20 Installation on New Computers

The proposer shall provide installation discs and sufficient documentation and instructions for installing software such that RTS staff can perform the installation in the event of a computer replacement or upgrade.

DoubleMap is able to comply with this requirement.

5.21 Data Ownership

RTS shall retain ownership rights to all data, procedures, descriptions, presentations, and recommendations collected and generated by the system and the right to access this data for use in other applications at all times. RTS shall be granted an irrevocable, perpetual, and royalty-free license to use all software provided by the proposer, whether such software is provided directly by the proposer or by a third party. Access to all data (via a host of methods like Extensible Markup Language (XML), JavaScript Object Notation (JSON), Structured Query Language (SQL), etc.) must also be available to RTS and third-party application proposers for external development purposes. RTS will retain same data ownership rights regardless of whether a hosted or non-hosted solution is pursued.

The proposer may not release, distribute, or otherwise utilize any such data without the written approval of RTS.

DoubleMap is able to comply with this requirement.

5.22 Patent Copyright Infringement

At the time of proposer's bid submittal, the proposer warrants that all products and services being proposed are free and clear of any and all patent infringements, copyrights, etc.

DoubleMap is not currently under suit for patent infringement or copyright infringement. DoubleMap has never been under suit.

5.23 Training

The proposer shall provide a comprehensive, on-site training program that prepares RTS staff for operation, administration, diagnosis, troubleshooting, maintenance, and system administration of the system components provided by the proposer and that which are necessary to perform their respective duties. Where practical and useful, training shall be hands on and shall use actual system software and screens on a work station; the user interface components (software/hardware) of the training equipment shall be identical to the installed equipment. Practical training on equipment shall be the focus of all training classes.

The proposer shall provide experienced and qualified instructors who are fluent in the English language to conduct all training sessions. The instructors shall have thoroughly mastered the specific specialized subject matter involved and shall have the ability to impart technical information to others in easily understood terms. The instructors must also be able to utilize proper methods of instruction, training aids, audiovisuals, and other materials to provide for effective training. Qualifications of the staff providing the training shall be listed.

RTS requires that all end user training to be conducted within the hours of 8:00 am to 6:00 pm, EST Monday to Thursday, with a maximum one (1) hour lunch break and two 15 minute breaks. The proposer is requested to recommend its approach (classroom, hands-on, etc.) to delivering training to RTS staff inclusive of the following roles:

- *Dispatchers*
- *Planning and scheduling staff*
- *Director*
- *IT support staff*

Training must be provided in a manner that allows RTS to operate and maintain the system. The proposer shall specify the proposed number of hours necessary to familiarize each participant with proposed solutions.

The Proposer's training program shall include formal and informal (hands-on) instruction, models, manuals, hard cutaways, workbooks, diagrams and component manuals and catalogs as required; the proposer will be required to furnish all required training material necessary for the training program.

The proposer shall provide training for each proposed component for each of the roles identified above. Each of these shall contain the procedures for the normal use of the installed equipment and software showing step by-step cause and effect results of each action taken by the user.

For the TSS component, the successful proposer shall provide the ability to simulate schedule building and runcutting from beginning to end, with the objective to teach and demonstrate the solution's functionality including but not limited to:

- *Creation of routes, trips, blocks, stops, and runs*
- *Block building*
- *Runcutting*
- *Interlining*
- *Common operation scenarios*
- *Scenario building (cost, number of buses, etc.)*
- *Configuration parameters, troubleshooting and settings*
- *System interfaces*
- *Data analysis and report generation (canned or ad-hoc)*

At the end of the training sessions, RTS staff shall not how to use the software to complete all functional requirements listed in 0 6 Functional and Technical REQUIREMENTS. RTS reserves the right to videotape sessions for the sole purpose of training additional staff.

The proposer's project manager must work closely with RTS's project coordinators to ensure that all training and schedules coincide properly with system implementation activities and staff availability. Training shall incorporate RTS specific configuration needs.

Draft copies of all training materials shall be submitted to RTS for review, comment, and approval prior to its use. RTS shall have the right to require additional interim drafts at no additional cost shall draft training materials submitted not be of adequate quality or have missing or incorrect information. RTS will exercise wide latitude in approving or directing changes to proposer training schedule submissions at no additional cost to RTS.

All material used for training shall become property of RTS after training is completed and RTS retains intellectual property rights for any customized training and/or customize training materials provided. All training materials and manuals shall be produced in hard copies sufficient to provide one copy for each person being trained. The proposer must also provide a soft copy of the original training material, suitable for copying, and written permission for RTS to make as many copies as necessary to train personnel and operate the system. A copy of the material will also be provided on approved electronic media and in PDF and .DOCX formats. Each CD-ROM, DVD-ROM, or other approved electronic media shall be clearly labeled and contain an indexed booklet listing the contents.

The proposer shall provide associated costs for each training option outlined within the pricing section.

DoubleMap is able to provide web-based training for all administrators, dispatchers, supervisors, and maintenance technicians prior to deployment of the system. The following is a list of standard training courses that DoubleMap provides. Training is always specifically tailored to meet the needs of the clients, depending upon the options selected and the timeframe available for scheduled training.

Fixed Route Supervisor Training

Think of this as a "train-the-trainer" course. DoubleMap wants to ensure RTS's supervisors have full knowledge of the system to allow the drivers and other maintenance staff to succeed. This training is proposed as a 1-2 hour module and can accommodate for multiple attendees.

In-Vehicle Hardware Overview and Best Practices

This course training revolves around Mobile Data Terminal operation for drivers as well as best practices to ensure minimal disruption of the system when in operation. We will also cover AVA and passenger counters, if those options are selected or added at a future date. For this module, DoubleMap actually provides this training during installation to ensure all maintenance staff and crew are best equipped to work with the system in the longer-term.

Data Mining & Analysis Training

The focus of this course is to provide training on all back-end reporting and statistical tracking methods for RTS's system. These metrics govern your daily operations as well as budget for future transit plans. This includes, but is not limited to:

- On-Time Performance Reporting
- Vehicle Mileage Analysis
- Off-Route Reporting
- Speeding Reports
- GTFS Exporting Package (for Google Transit/Trip Planning)
- Headway Analysis and Reporting

Finally, DoubleMap proposes a 2-hour training module for any/all administrative access users:

System Administration Training

This training covers all CAD/AVL components, all ASA access/tools, Google Transit administration, and any other proposed topics. This course is highly technical, and is proposed as a 4-hour training module for administrative access users

Real-Time Passenger Information System Training

This training session ensures your supervisors understand how input data works through the CAD/AVL system to display real-time information to all passenger-facing websites, kiosks, LCDs, iPhone/Android applications. For detours, system alerts, and on-demand changes -- RTS staff can easily make changes and push out information to the public in real-time.

Vehicle Operator Instruction

Most drivers will have an identical user experience, so DoubleMap takes this time to ensure all drivers are aware of what input protocols are needed to have the system run smoothly. DoubleMap also covers relevant FAQs which DoubleMap has seen across the existing client base. This is proposed as a 1 hour training course for all drivers.

Training Leader/Schedule Alignment for RTS

A member of our deployment/operations staff or the Project Manager will serve as DoubleMap's instructing point of contact. Mr. Reid Young will be leading training for RTS's staff. Mr. Young has trained or overseen training for every DoubleMap client listed in the References/Experience section, and will be on-site for RTS's deployment. RTS Team training takes place during installation in Phase 3- Build & Deploy and further management-specific training on the internal pilot of DoubleMap's system during Phase 4 - System Acceptance.

These training sessions can include as little or as many individuals as required for the betterment of the staff. Excluding training provided by DoubleMap at the time of deployment, RTS will provide training to its employees and agents. RTS supervisor staff will act as the first level of support for end users of Services offered to RTS (e.g. transit riders and other departments in Customer's organization) and DoubleMap will provide second level help desk support to RTS.

5.23.1 Training Plan

Proposer shall outline the recommended training approach and schedule for each role and responsibility, including class size, class hours (number of courses required and length of each course), course content, and equipment such as computers,projectors, or conference equipment.

The proposer shall provide a training overview for each group listed above as part of this RFP response organized as separate modules, which may be taught as a unit that includes:

- *Description and overview (subject matter)*
- *Purpose and goals*
- *Audience (who should attend)*
- *Format*
- *Equipment required*
- *Prerequisite knowledge*
- *Outline*
- *Measurable learning objectives*
- *Duration (hours/days)*
- *Proficiency*
- *Timeline and training delivery schedule*
- *Listing of documentation/training material provided*
- *Practical and written tests to assure system fluency and knowledge transference.*

The proposer shall assume that RTS staff does not have any specific knowledge of the system, however, the proposer can assume that staff is generally qualified for the function for which they are being trained in (e.g., operator, dispatcher, maintenance, system administration, etc.).

These training plans shall contain the information and directions necessary for an effective presentation as RTS will use them in the future guides.

DoubleMap has included a description of all training sessions in the above section, *5.23 Training*. DoubleMap is able to provide more information upon request.

5.23.2 Supplemental Training

RTS requires that the proposer provide follow-up training approximately 90 days after final acceptance. Follow-up training on system operation may take place remotely, such as through a "webinar" or other web-based workshop environment.

Remote training can only be done for RTS staff who has already received hands-on training.

The proposer shall also provide extended, duplicate, or additional training at no additional cost if major modifications are made to the system after the initial training due to system upgrades or changes made under warranty to meet RFP requirements, or delays in system deployment after the initial training exceeding three (3) months for which the proposer is responsible.

Supplemental training shall be supplied at no cost to RTS and shall be factored into the proposer's cost proposal. RTS will determine the time, location, and extent of any supplemental training in consultation with the proposer.

DoubleMap is able to comply with these requirements. DoubleMap has included a description of all training sessions in the above section, *5.23 Training*. DoubleMap is able to provide more information upon request.

5.23.3 IT Training

If a non-hosted solution is pursued, IT training shall naturally be more technical than other training modules. It shall familiarize IT personnel with all aspects of the system including the structure of the applications, tables utilized, network connections and settings, and other similar information. This training will be highly technical "back-end" information and not end-user type training and cover topics including but not limited to:

- *Applications' architectures*
- *Data flows*
- *Interfaces*

- *Development tools*
- *Development assumptions*
- *Directory structures*
- *Processing scripts*
- *Data dictionaries*
- *System flows*
- *File systems*
- *Operating systems*
- *Detailed system diagnostics*
- *Table relationships*
- *Table growth*
- *Data conversion methods*
- *Recommended backup strategies*
- *Application programs*
- *Automated tests*
- *Interface components and design*
- *Systems and subsystems rapid fault isolation*
- *Theory of operation*
- *Fault clearing and error notices*
- *Allowable adjustment and configuration changes to items such as lists, volumes, messages, etc.*

All programs shall be defined and described fully, showing all inputs/outputs, samples of reports, logic flows, and major functions described. In describing these systems, proposer will also include hand-on training in repair and maintenance of back office components.

DoubleMap is able to comply with these requirements. DoubleMap has included a description of all training sessions in the above section, *5.23 Training*. DoubleMap is able to provide more information upon request.

5.24 Documentation

The successful proposer shall provide user documentation appropriate for all individual system components for installation, configuration, and use as well as any applicable maintenance manuals. Like the training, all documentation shall be thoroughly documented for both technical and non-technical support staff and for end-user understanding. RTS requires the successful proposer provide documentation that describes the data structure/elements contained within these systems. The documentation shall clearly detail configuration, topology, function, operation, and maintenance of all hardware and software. Documentation will be provided with detailed release notes for software patches and updates; updated user and technical manuals will be provided with version upgrades.

The proposer shall provide a listing of available items such as training manuals and reference cards and the format in which they are available (paper, online, or DVD/CD). Additionally, describe the mechanism in which these materials are updated and distributed when patches, fixes, or new releases are available and provide samples.

Documentation shall encompass detailed product descriptions as well as step-by-step "How to" instructions on how to utilize the equipment/software. Documentation shall be geared towards varying audiences to include network support staff, schedulers, planners, and area managers. The successful proposer is to provide all applicable installation, use, and maintenance manuals including but not limited to:

- *system schematics/drawings*
- *individual component installation instructions*
- *servicing notes*
- *functionality guides for all software and hardware actions, buttons, etc. (including all aspects of the TSS).*
- *technical/release notes*
- *troubleshooting guides*

For system users, the proposer shall provide a user manual which documents use of all functions of the software.

DoubleMap is able to comply with these requirements. DoubleMap will provide all necessary documentation. DoubleMap is also able to provide a wiki-based help system for administrators' use.

5.24.1 General Manual Requirements

All text and data in the quantities requested shall be printed on 8-1/2" x 11" sheets. Foldouts shall not exceed 11" x 17". Paper used in manuals shall be of a heavy weight, sufficient to withstand the rigors of transit environment. Manuals shall be housed in durable, three ring binders with sufficient excess capacity for revisions and additions.

Each manual shall contain a title sheet, table of contents, list of illustrations, list of reference drawings (if applicable) and a parts list (if applicable). All manuals with over twenty five pages shall have an index.

All manuals shall be produced in an approved Microsoft Office software product or approved equivalent. Acceptable softcopy formats are Microsoft Office 2007 Suite or higher. Soft copies of manuals may be provided in unsecured PDF.

Any special software required to produce scalable typefaces or other graphs shall be approved in advance by RTS and provided by the proposer as part of the documentation for the manuals.

The Proposer, as part of their response, shall provide samples/examples of their documentation and quick reference guides.

DoubleMap is able to comply with these requirements. DoubleMap is able to provide a full help manual as requested.

5.24.2 Installation/Maintenance Manual

The proposer shall provide an installation/maintenance manual for use by technical personnel assigned to the maintenance of any component installed as parts of the system and for any third party products and exercised options. The manual shall include sections on:

- *System overview and description*
- *How the system components are installed*
- *How to install and configure spare components*
- *The procedures/schedules for preventative maintenance, inspection, fault diagnosis, component*
- *removal/replacement, testing, troubleshooting (including a list of error codes with a description of their meaning and a step-by-step guide for fixing them), and warranty administration on each system component.*
- *Theory of operation*
- *Preventive and corrective maintenance procedures and schedules*
- *Diagrams, schematics, layouts, and parts list required to service each piece of hardware supplied under the contract*
- *Data communications, transmission procedures, access, and storage.*
- *Mechanical functions*

Standard service manuals for commercial products used for the equipment will be acceptable if they contain sufficient information to service the equipment. Large-size logic diagrams and mechanical assembly diagrams do not have to be reduced or incorporated into the manuals if these drawings are provided with the manuals. Actual equipment maintenance images with call-outs needs to be provided where there is no other maintenance documentation.

The installation/maintenance manual shall clearly indicate preventative maintenance procedures RTS must perform to validate the warranty.

DoubleMap is able to comply with these requirements. DoubleMap is able to provide training for installation/maintenance, as well as the requested manuals.

5.25 Value Add

RTS intends to procure the highest quality of services and materials possible for the best value possible. Additionally, as a municipal operator, RTS must optimize the use of scarce funding for its operational

expenses, looking for efficiencies and cost reductions wherever possible. RTS is interested in proposals that demonstrate an understanding of these funding challenges and includes features that provide the greatest benefit to the City of Gainesville.

Therefore, RTS wishes to understand from the proposer's perspective how they are differentiated from its competitors within the same industry in terms of service offerings, product capabilities, and pricing arrangements to the benefit of RTS. As such, proposers are encouraged to consider, develop and propose added value concepts, programs, components and the like that would further enhance the proposed acquisition represented in this RFP.

Value may be characterized but not limited to:

- *Innovative approaches to maintenance, licensing, and support.*
- *Emphasis on customer marketing, tools, or programs.*
- *System functionality that supports best practice in transit.*
- *Research and development efforts to expand or enhance product functionality/usability.*
- *Ability for cost effective expansion, growth, and overall functional capabilities of the system.*
- *Architecture of the system including its reliability, redundancy, disaster recovery, security, etc.*

The proposer shall also list and discuss in detail any technical advancements that could be implemented into the ITS project that has not been defined in the RFP and how it would be a superior solution.

DoubleMap has several value adds that differentiate this system from other systems. Perhaps most importantly, the DoubleMap system is entirely cloud-based, meaning that the software is server-hosted and works over the cloud, rather than off of a computer or piece of hardware installed in every bus. This approach allows for a couple of different value adds: the first being that DoubleMap clients have a far cheaper installation and purchase price on parts, as DoubleMap only utilizes a single piece of commercially available hardware for each bus, rather than entire computer systems. Secondly, the system is updateable and fixable over-the-cloud; DoubleMap technicians do not have to come and manually shutdown the system in order to update, upgrade, or fix the system at all, barring catastrophic issues. DoubleMap can often remotely fix issues rapidly, reducing system downtime to a minimal amount. Third, DoubleMap is eminently scalable and upgradeable: the DoubleMap system is modularized, meaning that at any time RTS can purchase a new module - say, Automated Voice Annunciation (AVA) in order to meet ADA standards - and DoubleMap can download the new module over-the-cloud to the implemented system on the next update time. RTS would then have an AVA system built in, without having to wait several months.

Finally, DoubleMap's major value add is the level of personalized project management and customer service that the company is able to provide. DoubleMap has a satellite office in Orlando, near the RTS implementation site, and will be able to provide same-day support on most issues. DoubleMap uses Trello, a project management system, in order to ensure that there is constant communication between project managers and transit system administrators. Movement on the board allows the client to stay in

the loop on the status of the project, as well as see the steps taken to ensure each project's success.. Trello allows clients to add bug reports, implementation issues, and feature requests while following DoubleMap's progress on each task. With these kinds of requests, DoubleMap is able to supply responses within a three hour timeframe.

DoubleMap has outlined several potential technical advancements below, including Automated Voice Annunciation, Signage options, and the proprietary Visual Route & Stop Creator:

Automated Voice Annunciation

DoubleMap is able to offer a voice annunciation system (AVA) which is fully automated, able to integrate with internal/external LED's, and in line with the Americans with Disabilities Act of 1990 (ADA). The proposed AVA system is able to connect directly into the DoubleMap MDT and fully integrates with internal and external LED signage to utilize a single-source hardware for both modules. This integration allows for automatic GPS-triggered voice announcement in a time-critical fashion and employs all route and bus stop configuration data to work seamlessly with AVA and AVL functionality. Additionally, DoubleMap's unique ability to utilize a single piece of hardware results in several notable benefits: reduced costs, less invasive
wiring in buses, over-the-air updates to the hardware, and a general simplicity for administrators and drivers using the system.

DoubleMap provides several differentiators such as voice-synthesized announcements and an industry-leading audio-based channel switch to differentiate internal and external speakers based on GPS location and an administrative-side settings. The use of voice-synthesis technology allows DoubleMap to update announcement messages/stop names/locations in real-time and without making administrators manually record each change.

The VLU/MDT utilizes a built-in GPS component to trigger an announcement at a predefined distance leading up to a stop to allow passengers an ample amount of time to signify their desire to disembark the bus. The audio signal will then be sent from the VLU/MDT to the buses speakers through DoubleMap's audio cabling, which is able to determine if the announcement is intended to be heard inside, outside, or on both sets of speakers. DoubleMap audio cabling is configured to listen for a low tone before an announcement to instantly route the sound to the appropriate speakers on the bus. Based on this technology, the DoubleMap administrator may set specific stops to only announce on inside speakers, while others are set to be announced outside. Additionally, the DoubleMap administrators are able to set time thresholds, which allow for additional flexibility such as announcing outside stop information before a predetermined time, e.g., before 10pm on weekdays.

As the vehicle travels down the road making its stops and performing its trips, the AVA system automatically updates the run, route, trip, and stop information so that it is always announcing the correct stops, ensuring compliance with ADA requirements and freeing up the driver to attend to passengers and

keeping their eyes on the road. The AVA also includes the ability to make non-stop related announcements on a timed or location basis, great for advertising and informational messages.

Delete	Name	Inside	Outside
⊖	[45416] Prow @ Meadows Hospital	☑	☐
⊖	[45510] BHS North Side	☑	☐
⊖	[45511] Bloomington High School & Kinser Pike	☐	☑

The AVA solution can make the following announcements. Along with each announcement, corresponding text is displayed on the interior sign.

- Stop announcements when approaching selected stops, triggered by location of the vehicle
- "Stop Requested" when a passenger hits the stop requested tab
- Current route and destination on the exterior speaker when the door is opened. Volume is adjustable by time of day.
- Current route and destination on the interior speaker at the first stop of a trip when the door closes.
- Public safety messages when selected by the vehicle operator
- Periodic messages as scheduled by the dispatcher
- Stop announcements triggered by driver selection when in Manual mode
- Between stop announcements the system displays the current date and time, and the current route and destination of the vehicle on the interior sign.
- Driver PA announcement overrides any announcement being made by the AVA system.

DoubleMap also provides an intuitive administrative module where administrators can identify which stops must be announced, which ones should be announced internally, externally, or at the same time. These settings are wirelessly transmitted to DoubleMap's MDT, which is able to mechanically alter in-vehicle relays for no announcement, internal-only, external-only, or internal + external announcements.

Signage

DoubleMap is able to provide two options for signage as an area for optional technology integration: DoubleMap LCD Display and DoubleMap Changeable Message LED Signs. Both solutions are detailed below:

LCD Displays

DoubleMap provides both indoor and outdoor versions of LCD panel displays. The indoor versions are typically mounted inside of lobbies, cafeterias, restaurants, or reception areas. The outdoor versions are climate controlled and can be located anywhere that has an available power supply. Both versions can use standard Ethernet, WiFi, or cellular for data connectivity. Both versions also use standard 110/120 volt AC power.

The DoubleMap LCD displays are capable of not only showing arrival/departure times for a given bus stop, but a live map showing the current positions of all of the vehicles on route. Signs can also be designed to show just the arrival/departure predictions. The layout, color scheme, and logos are all specific to the transit system. The DoubleMap LCD displays are available in 26", 32", 42", and 52" versions for both the indoor and outdoor options.

DoubleMap can also provide just a webpage for display on existing LCD screens. This is a very economical way of providing real-time information to passengers if current LCD screens are already in place near bus stops

Changeable Message LED Signs (CMS)

In addition to LED signage, DoubleMap is able to provide changeable message LED signs (CMS) that are installed in bus shelters or transit terminals where passengers wait for their buses. These CMS signs display real-time bus arrival information and informational text messages via a wireless communications link to the proposed CMS software module.

DoubleMap's software provide administrators with full control over the signs, including configuration, real-time updates, and health monitoring. In addition to showing time of day and arrival time predictions, the signs provide the ability to display text messages generated by administrators, who are in turn able to view individual sign operational status through the DoubleMap administrative module.

The real-time prediction arrival/departure of the next vehicle is recalculated periodically for all bus stops and the updated information is broadcasted to the message signs. Prediction updates are sent at least every 60 seconds and the signs' internal logic continues to 'count down' from the most recent update. If more routes serve the bus stop than available lines on the sign, the sign will simply cycle through the routes with a different route displayed every 2 to 3 seconds.

Messages are displayed with route or station identifier and arrival/departure times are shown in minutes for the next two vehicles servicing the stop location. The agency name and the current time of day information are also interleaved among other general public announcement messages.

DoubleMap's LED signs can also be equipped with a passenger activated text-to-speech device, which converts the written text-to-speech for ADA accessibility requirements.

At bus stop locations served by multiple transit agencies, all agencies can be displayed and the system will indicate which routes are served by which agencies on the signs. Cost sharing agreements can make these signs even more affordable.

TECHNICAL SPECIFICATIONS

Pixel pitch	8mm (0.3") center-to-center; 1,600 pixels per sq ft 12mm (0.47") center-to-center; 646 pixels per sq ft
Color capability	1 color (amber)
LEDs per pixel	1 amber
Estimated LED lifetime	100,000+ hours
LED Viewing angle	30°
Contrast enhancement	Contrast enhancing polycarbonate face
Service access	Front access with removable door
Graphic capability	Text, graphics, logos, multiple font styles and sizes
Control software	Venus® 1500 or third-party integrators using Venus® 1500 (SDK) software developers kit
Power	120 or 240 VAC single phase
Display dimming	64 levels (automatic or manual control)
Communication options[3]	RS232, RS422 and Ethernet (wired or fiber)
Compliance information	UL listed, NEMA 4X cabinet, IBC 2009, NEC

DISPLAY CONFIGURATION

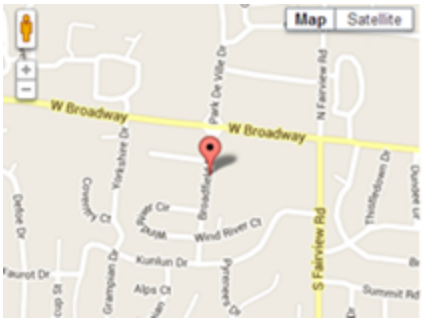
8mm and 12mm, monochrome, AF-6300 series displays can be ordered in single-face (SF) or double-face (DF) configurations.

single-face (SF)

double-face (DF)

Visual Route & Stop Creator

DoubleMap pioneered the Visual Route and Stop Creator, which allows for point-and-click route and stop editing. This functionality is able to provide riders with information on static routes (if any are to be added in the future) and incorporate existing routes onto one platform along with DoubleMap for riders. Administrative staff will be able to use a simple point-and-click interface to adjust routes and add bus stops instantly, eliminating the need to print out paper maps and waiting weeks for the changes to take effect.

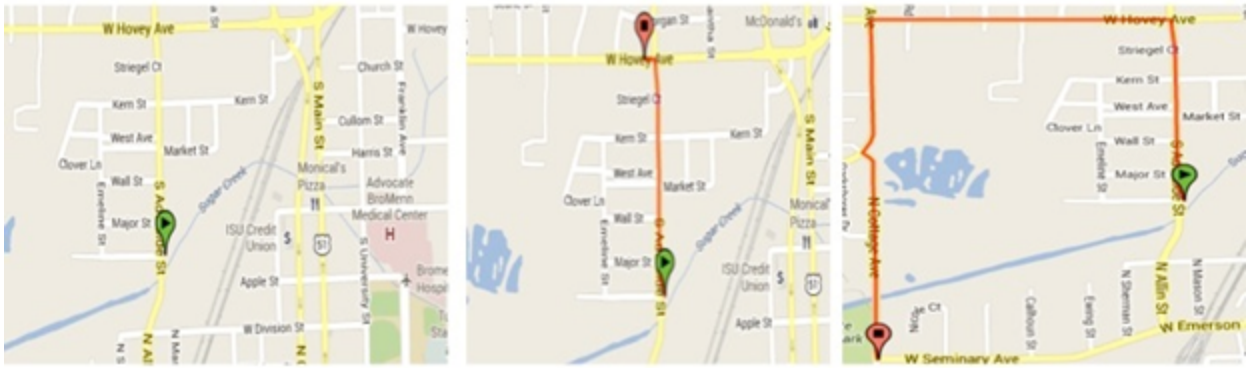


The DoubleMap stop creator is an industry-leading module which will empower administrators to make unlimited stop additions/adjustments with pinpoint accuracy in conjunction with the route management suite. This tool allows users to visually drag a stop within the map to ensure accurate location.

DoubleMap utilizes the power of Google Street View to enhance the process to a more powerful visual, vantage point.

Additionally, DoubleMap's route creator will allow for periodic route adjustments, changes, and additions in-house. The route creator tool was designed, with simplicity in mind, and offers DoubleMap administrators unprecedented control over the management of their system.

The route creator is based on a point-and-click system, which does not require any knowledge of coordinates, or programming. Users login to the administrator interface, select a route they want to edit, or start with a new route. The administrator clicks a point on the map and proceeds to click along the desired route – the DoubleMap system will automatically connect the points and extract the GPS coordinates.



Points-of-Interest Module

Additionally, DoubleMap is able to provide a (patent pending) points-of-interest platform which provides the ability to list commercial data and nearby locations such as buildings and events for advertising purposes, which can provide an additional revenue source for Gainesville .

The figure on the right displays a balloon for a bus stop, which contains routes, arrival information, and nearby places. The specific places and icons can be customized, and finely tuned to display desired businesses or locations.

Additionally, DoubleMap provides the ability to place point-of-interest logos at specified locations at custom zoom levels across the rider-facing map. Two examples of this feature can be seen in the figure on the right.

Upon clicking on a logo or location, riders can quickly access embedded information such as phone number, address, website, event information, among many other points. All of this information is accessible through a traditional web browser and through DoubleMap's mobile applications and examples of the mobile implementation and bus stop design in the webview can be seen below.

This platform will provide the optional ability to monetize an active rider base if/when interest arises.

5.26 Accreditations/Industry Recognition/Awards/Accommodations

RTS encourages proposers to highlight any industry awards recognition received related but not limited to:

- *Product*
- *Service offering(s)*
- *Support*
- *Innovation*
- *Customer*

Within the past three years, DoubleMap has won several awards and seen several national recognitions, including the following:

- MIRA Award, 2014: Mobile Tech of the Year
- Indiana Business Journal's "Company to Watch" distinction in 2014.
- National recognition on implementing an Uber-like transit solution for LYNX, 2015.
- One of DoubleMap's oldest clients, Connect Transit, was announced as "Best Public Transit System" in the United States for 2015.

5.27 Equivalent Materials, Functionality, and Equipment

Whenever components, materials, products, and equipment are specified or described in drawings or specifications by using name of proprietary item or name of particular manufacturer, fabricator, supplier or distributor, naming of item is intended to establish type, function, and quality required.

DoubleMap's primary piece of installed hardware for each system, the DoubleMap Mobile Data Terminal (MDT) is commercially available and can be replaced by several other tablets, all available in standard format to consumers. DoubleMap is able to provide a breakdown of possible replacements upon request.

5.28 Scalability

The system shall initially support the functions specified herein. However, the system shall be easily scalable through 10 years from contract effective date to support additional vehicles and functionality without replacement of initially installed components, including both hardware and software components.

The DoubleMap system is supremely scalable, as it is built on modularized technology and entirely over-the-cloud. The DoubleMap system will be easily scalable through 10 years from contract effective date, and will be able to integrate and support additional vehicles, functionality, and entire systems without replacement of initially installed components. Additionally, the DoubleMap system has already seen several new technologies developed since initial implementation be scaled and integrated directly into the system - new forms of fare payment collection technology, for example, are able to be integrated into the DoubleMap system without compromising the initial system.

5.29 Obsolescence

All equipment shall be of the latest design and shall incorporate standard commercial products currently in production. The intent is to increase compatibility and reduce maintainability problems. The proposer shall ensure that the risk of obsolescence to the hardware is minimized through the selection of standardized parts and readily-available peripheral hardware. All equipment, supplies and materials furnished under this project agreement shall be field proven and meet or exceed applicable International Organization for Standardization (ISO), Institute of Electrical and IEEE, and American National Standards Institute (ANSI) standards.

DoubleMap is able to comply with this requirement. DoubleMap's system is built on commercially-available hardware, with all software hosted over the cloud - DoubleMap is built to minimize the risk of obsolescence.

5.30 Pricing

The proposer shall bear ALL costs associated with implementation of the system including but not limited to all third party costs to include non-recurring engineering costs required to interface the selected proposer's system with any third party systems and any direct non-recurring engineering costs for all

interfaces. Price must be based on proposer's acknowledgment that they are responsible to furnish all components, materials, products, labor, transportation, travel time, per diems, equipment and machinery, tools, appliances, fuel, light, telephone and all other facilities and incidentals necessary for execution, testing, initial operation, and completion of contracted work.

Even though the method of payment to the proposer will be a fixed price, a detailed cost breakdown shall be provided that includes an estimate of the number of staff hours and hourly rates for each professional and administrative staff person who will be committed to this project, including fringe and overhead rates, and all other direct costs, such as travel and subsistence, materials, reproduction, etc., and the cost for sub-consultant services, if applicable.

DoubleMap has provided a cost breakdown of the entire DoubleMap system as part of the DoubleMap Pricing Proposal

5.30.1 Software Purchase Costs

The cost of the software and the appropriate number of user licenses offered in the price must be stated by the proposer. It is the responsibility of the proposer to understand RTS operations in sufficient detail to run the system within the RTS environment. All software shall be provided on removable media that could be used to reinstall the software if necessary.

DoubleMap has included a breakdown of these costs in the DoubleMap Pricing Proposal.

5.30.2 Cash Discounts

All trade discounts, rebates and refunds, and all returns from sale of surplus materials and equipment shall accrue to RTS and proposer shall make provisions so that they may be obtained.

DoubleMap has included a breakdown of these costs in the DoubleMap Pricing Proposal.

5.30.3 Supplement Costs

Supplemental costs including following:

- *Proportion of necessary transportation, travel and subsistence expenses of proposer's employees incurred in discharge of duties connected with work.*
- *Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at site and hand tools not owned by workmen, which are consumed in performance of work, and cost less market value of such items used but not consumed which remain property of proposer.*
- *Rentals of all work equipment and machinery and parts thereof whether rented from proposer or others in accordance with rental agreements approved by RTS, and costs of transportation, loading, unloading, installation, dismantling and removal thereof all in accordance with terms of said rental*

agreements. Rental of any such equipment, machinery or parts shall cease when use thereof is no longer necessary for work.

Supplemental costs associated with user assessment, installation, and database conversion, etc., must be detailed if separate and not included in the software price. Installation cost for each particular equipment item shall and must include all hardware, racks and mountings, raceways, wiring, weatherproof connections, ancillary devices, procedures, and services required to install and/or interface existing components or equipment to create an operating system which fulfills the requirements of this RFP.

When providing prices for workstations, proposers shall include as a separate line item any additional license fees that will be incurred on a per workstation basis. There shall be no license fee increase for multiple "read-only" stations.

DoubleMap has included a breakdown of these costs in the DoubleMap Pricing Proposal.

5.30.4 Data Acquisition and Conversion Costs

If the proposer must acquire databases or other items necessary to support installation, these costs shall be identified here.

DoubleMap has included a breakdown of these costs in the DoubleMap Pricing Proposal.

5.30.5 Related Third Party Software Costs

All other software necessary to operate the TSS or to support maintenance of the system recommended by the proposer shall be identified. All such products shall be purchased by the proposer and licensed to the transit system.

DoubleMap has included a breakdown of these costs in the DoubleMap Pricing Proposal.

5.30.6 Training Costs

If training costs are not included in the software purchase or licensing costs, proposals must identify the labor, materials, and travel costs associated with all required training.

DoubleMap has included a breakdown of these costs in the DoubleMap Pricing Proposal.

5.30.7 Five-Year Maintenance and Support

One year maintenance and technical support price shall be included. Any increases shall be limited by the CPI in the year of the increase and limited to no more than 3% in a single year. Proposer shall explicitly document what is and is not included under maintenance and support agreement. Live technical support and training for staff shall be considered a component of the agreement.

DoubleMap has included a breakdown of these costs in the DoubleMap Pricing Proposal.

5.30.8 Life Cycle Costs

Proposer shall provide an equipment life cycle replacement projection that provides a 10-year budget outlook with replacement costs and lifecycle of products, as well as a future upgrade path. This will include a discussion on topics like how processor end-of-life issues will be managed if additional quantities of equipment are purchased in the future, in order to maintain compatibility with equipment purchased under this contract.

DoubleMap has included a breakdown of these costs in the DoubleMap Pricing Proposal.

5.30.9 Other Costs

Any other cost not identified above shall be identified and itemized by the proposer if applicable. The proposer shall bear ALL costs associated with implementation of the system.

5.31 Payment

Prior to any official award RTS is interested in the proposers preferred payment approach for example:

- *Milestone*
- *Earn value*
- *Deliverable*

Please specify a suggested milestone/payment schedule in accordance with the scope of work of this RFP and its major tasks. For each milestone include associated tasks, task descriptions, total hours, full time employee equivalents involved, hourly rate.

Proof of purchase in the form of dated invoice and shipping waybills shall be retained and furnished to RTS upon request.

DoubleMap has included a breakdown of these costs in the DoubleMap Pricing Proposal.

6 FUNCTIONAL AND TECHNICAL REQUIREMENTS

The proposer warrants that the proposed hardware and software specifications and capabilities satisfy the functional requirements specified below.

6.1 Transit Scheduling Software

This section comprises the requirements of the TSS solution. The proposed application shall conform to these requirements. All proposed software features shall be release-quality (i.e., "off-the-shelf") at the time of proposal submission. Software components or features in pre-release testing stages shall be clearly identified as such in the "Comments/Explanation of Functionality" column, with a firm anticipated release date no later than the date of proposal submission. No schedule allowance will be granted due to delayed implementation. The proposer must complete this checklist to designate how the mandatory specifications will be met. The proposer may include additional text describing how the proposed software meets the requirements, if necessary. In responding to the requirements, the Proposer shall only answer "Yes" to the question "Meets Requirement "Out of the Box"?" for those features that the standard form of the proposer's existing application either meets without exception, exceeds, or could be configured to meet through the normal course of implementation.

Table 1 TSS Functional Requirements

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
1. General System Requirements			
1.1.	Basic function of the scheduling system shall be to define transit routes, service level requirements, and produce schedules efficiently and quickly meeting planning needs, supporting local government requirements, and public expectations. Additionally, scheduling system shall also be able to produce vehicle itineraries and driver runs, complying with union agreements (see **Error! Reference source not found.**) and RTS work practices with a focus n minimizing vehicle requirements and driver operational costs.	Yes	Allows for the enforcement of union rules, however, it is the responsibility of the agency to enforce these in the schedule.
1.2.	Scheduling system must fully support related and proposed future ITS systems (TIS, AVL, APC, etc.).	Yes	
1.3.	Scheduling system satisfies RTS's current operating policies, procedures, practices, and work rules.	Yes	
1.4.	All components of the scheduling system, e.g. schedule planning, route definitions, runtimes data, schedule building, vehicle itinerary generation, driver run creation, weekly off day assignments, driver run bidding, day-to-day operational management, and driver pay calculations, must fully integrate within themselves, without any need of data import/export within these components.	Yes	Provides hours worked to facilitate driver pay calculations.
1.5.	All components will be compliant with National Transportation Communications for ITS Protocol (NTCIP) and the Transit Communications Interface Profiles (TCIP) and follow the provisions of FTA National Architecture Policy on Transit Projects.	Yes	Will work with RTS to ensure NTCIP compliance for 3rd party data transfers.
1.6.	All components must conform in every respect to the standards, guidelines, and regulations established by Federal and Florida state laws.	Yes	
1.7.	Technical support shall be available via phone, e-mail, web site resources, or on-site support. The proposer must respond to support critical operational issues within 24 hours. Ability to provide telephone technical support during business hours (between 8:00 am to 5:00 pm ET) for non-emergency issues.	Yes	Technical support is available 24/7, business hours for non-emergency.
1.8.	All equipment and interfaces shall meet or exceed all Americans with Disability Act (ADA) requirements at the time of implementation.	Yes	
2. Operating Environment			
2.1.	The system shall be using three or four tier web/application/database, or based on Microsoft Windows client-	Yes	

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
	server architecture.		DoubleMap is entirely web-based and will offer full functionality on any internet-using device.
2.2.	Operate within a Microsoft Windows Server environment and shall provide a 32-bit and 64-bit Windows 7 operating system or above or Web-based client. (Specify which of these is available and the degree of functionality each provides.).	Yes	
2.3.	The system must be in use at five transit systems at least as large as RTS for like size and complexity (fixed route minimum peak vehicle requirements).	Yes	Please see reference sheet.
2.4.	Data communications shall be based on standard open protocols that conform to the Open Systems Interconnection (OSI) seven-layer model. These protocols shall include IEEE 802.3 Ethernet with Transmission Control Protocol (TCP)/Internet Protocol (IP) for LAN communications, wireless LAN, and the use of IP for Wide Area Network (WAN) communications.	Yes	
2.5.	All workstations shall use Dynamic Host Configuration Protocol (DHCP) for IP address assignment.	Yes	
2.6.	Support Microsoft Windows 7 enterprise and above for application tier.	Yes	DoubleMap is web-based.
2.7.	Allow users to extract data from the database using third-party software and/or programs with the export/import utility being intuitive and easy to use.	Yes	DoubleMap comes with export and import features.
2.8.	Support minimum of 20 concurrent users with <1 second GUI response time for system operations and with full database integrity maintained.	Yes	Unlimited concurrent users.
2.9.	Provide consistency among data (decimals, dates) entered, stored, and displayed.	Yes	
2.10.	All software must be written in industry standard programming language(s).	Yes	HTML (v5)
2.11.	Ability to conform to the latest version of National Transportation Communications for ITS Protocol (NTCIP) Standard 1404 on Scheduling/Runcutting (SCH) Objects.	Yes	Will work with RTS to meet compliance needs.
2.12.	All components of the scheduling system must fully conform to COG IT standards, allowing standard functions, including those related with screen sizing, cut/paste, row/columns/screens suppression/hiding/resizing/printing, data transfers to spread sheets, pdf formats, etc.	Yes	
2.13.	System architecture design shall be based on open standards, provide incremental growth path to permit expansion as needed, and provide application interface with various internal and external software systems to enhance data access.	Yes	App development adheres to industry approved open standards. API is available.
2.14.	The system must track connectivity between the various parts of the back-end system and email a list of addresses if a suspected problem occurs. This includes monitoring server connection, memory usage, database connection, communication middleware connection, number of applications connected, and web gateway connection.	Yes	DM uses a proprietary "smoothing algorithm" that covers loss of connectivity using historical information.
3. Database Standard			
3.1.	The system shall be based on the Microsoft Structured Query Language (SQL) Server relational database management system (RDBMS). The system's database shall be open, COTS, and fully documented to allow 3rd party reporting tools, such as Crystal Reports, to be used, as well as common database management and analysis tools (e.g., Microsoft Access, Excel). (NO interfacing license fees or access fees to import to or export data from external applications or systems). Proposer will provide at no additional cost a data dictionary (including primary keys, table names, table relationships, table descriptions, table indexes, field names, field descriptions, field data	Yes	DoubleMap's system utilizes SQL DoubleMap will not charge interfacing license or access fees to import/export any data.

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
	types, field default value settings, field validation rules, and any other component of the data structure), data flow, and entity relationship diagram/schema for all data tables.	Yes	
3.2.	The system RDBMS must provide high availability, data protection for failover, and disaster recovery.	Yes	Automatic backup/ recovery through MSSQL.
3.3.	All data must be stored in a manner so that any data changes must be made only once.	Yes	
3.4.	Provide separate simultaneous database environment to support training and/or testing needs.	Yes	
3.5.	The system shall have the capability for simultaneous access of data by multiple users with record-level locking to prevent data conflicts.	Yes	DoubleMap provides record and user-level locking.
3.6.	Provide access to all database tables and fields to authorized users.	Yes	
3.7.	Data shall be retained and manipulated as relational files using common database routines for definition and access. All parameters needed for administration shall be available through system administrator screen. Tools shall be provided for performance measurement and analysis.	Yes	Data is retained for minimum one year. DoubleMap provides analysis tools.
3.8.	Support standard SQL/Open Database Connectivity (ODBC)/Java Database Connectivity (JDBC) access in order to create custom reports.	Yes	
3.9.	Provide well-documented tools for system administration, including all required tasks related to data import, backup, rollback, archiving, restoration/recovery, and purging, performance monitoring, and installation of system upgrades. These actions shall be made possible by a Graphical User Interface (GUI) or via the command line for automating tasks.	Yes	Available through GUI system.
3.10.	The system shall back-up the data on a regular basis and provide a clear, simple procedure for restoring data from one of the daily back-ups in the event that undesired changes are accidentally made.	Yes	
3.11.	Data and database schema more than five years old shall automatically be moved to a secondary database(s) and deleted from the primary database.	Yes	
3.12.	Users must have the ability to easily export to a comma separated value (CSV) format any tabular data displays simply by selecting the data grid desired. Subsets of a full data table (i.e. filtered or sorted values) must be exported with the same conditions applied to the exported values.	Yes	DoubleMap offers one-click data export into CSV format.
3.13.	Enough data storage shall be provided to keep at least five years of historical data.	Yes	
3.14.	If there is a catastrophic failure that results in the loss of data, the proposer shall provide a means to retrieve the corrupted data without disruption to system operations.	Yes	Automatic backup and recovery.
3.15.	The historical database shall be read-only.	Yes	
3.16.	It shall not be necessary to shut down the database to perform a successful transfer to a historical information database.	Yes	
3.17.	Archived data shall be structure in a way that is optimized for later retrieval, analysis, and reporting.	Yes	
3.18.	The system shall consist of a backup or mirrored server that will take over operations should the main server fail. The mirrored server shall enable failover operations to be carried out in a seamless manner requiring minimal manual intervention.	Yes	
3.19.	The system shall maintain records of all versions of the back-end programs, user interfaces, configuration files, and executables that are either received from the server or created and that are successfully loaded and running.	Yes	
4. Interfaces			

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
4.1.	The system shall provide a tested interface for data exchange with (as applicable) AVL, Fleet-Net Operations system, UTA APC units, etc. and must have previously been integrated with at least three systems in a production environment. Please specify manufacturer and model of installations. Interfaces rely on standard programming languages for integration. No licensing restrictions on interfacing data to or from scheduling database. RTS is the owner of all software data.	Yes	DoubleMap has successfully integrated with UTA in 5+ locations. Client will own all software data.
4.2.	The system must automatically integrate running times at all levels (route, pattern, time point, stop, day of week, time of day) from AVL proposer and offer graphical, querying, and reporting interfaces to analyze the data for schedule building purposes.	Yes	
4.3.	The system must automatically provide all necessary schedule information to Fleet-Net Operations software for timekeeping and payroll processing and to track items like bid assignments, overtime, scheduled work days, scheduled days off, cancelled service, etc.	Yes	
4.4.	The software shall be compatible with or offer functionality similar to Time Table Publisher, which formats data quickly for printing of schedules. Provide a description of the process and examples. No licensing restrictions on interfacing data to or from scheduling database. RTS is the owner of all software data.	Yes	Compatible
4.5.	The system shall provide a General Transit Feed Specification (GTFS) interface to export scheduling output files used by the Google Transit trip planner (http://www.google.com/transit), as well as GTFS-real-time. No licensing restrictions on interfacing data to or from scheduling database. RTS is the owner of all software data.	Yes	DoubleMap offers one-click export of GTFS data with no licensing restrictioon.
4.6.	The software shall be able to interface with Microsoft Office 2010.	Yes	
4.7.	Ability to provide functionality for selective copying/sharing of data across scheduling system databases.	Yes	
4.8.	Ability to keep uniform look-and-feel and uniform functionality across all elements of the application.	Yes	
4.9.	External actions (performed by third party applications) can be initiated from the client, application, or data tier.	Yes	
5. Client Functionality			
5.1.	The system shall use Microsoft Windows system properties for fonts and colors wherever applicable and be provided within the traditional Microsoft Windows paradigm (e.g., dock-able windows, standard windows keyboard shortcuts (i.e. CTRL+C, CTRL+V, etc.), drop-down menus, toolbars, mouse clicks, etc.).	Yes	GUI and interface are Microsoft-based.
5.2.	Ability to provide keyboard commands/shortcuts for all commonly used or repetitive application functions.	Yes	
5.3.	The system shall support the Universal Naming Convention (UNC) and long filenames.	Yes	
5.4.	The system shall be able to allow for unlimited "undo" / "redo" steps to the previous command, or warn users if certain changes cannot be "undone".	Yes	
5.5.	The system shall be able to perform all printing functions via the Windows Print Manager.	Yes	
5.6.	Ability to adjust the display of columns and rows.	Yes	
5.7.	Groups, window layouts, configuration settings, and screen preferences shall be savable on a user-by-user basis.	Yes	
5.8.	An on-line help feature shall be included with the system. It must provide context-sensitive help information for commands, menu items, and screen options.	Yes	Wiki-based help database and instructional videos.
5.9.	The system shall include toolbars (iconic command buttons) that are configurable by a system administrator.	Yes	
5.10.	The system must have configurable lists with the ability to show lists related to a primary list. For instance, a list of runs with a related list of trips.	Yes	

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
5.11.	User shall be able to resize, hide or show table columns any time and modify the displayed font.	Yes	
5.12.	The grid control for configurable lists shall support click-and-drag column resizing, drag-and-drop column reordering, data sorting (both ascending and descending), easy selection of columns to be viewed (add/delete columns).	Yes	
5.13.	Configurable lists must include options to print and export the content of the list (into Excel format for example).	Yes	
5.14.	The system must include tools to select objects (i.e., trips, blocks, stops, etc.) based on user-defined characteristics.	Yes	
5.15.	The system shall include the ability to save selection criteria.	Yes	
5.16.	Software shall have auto-save & auto-recovery, versioning, and file archiving.	Yes	
5.17.	The system must include tools to group objects according to criteria specified by the user. Then, it must be possible to produce statistics by groups, for example the total distance of trips grouped by route.	Yes	
5.18.	The system shall be able to display and print histograms based on the characteristics of objects.	Yes	
5.19.	Pre-programmed function keys (hot keys) shall be an integral part of the user interface, permitting easy access to and manipulation of data for the user.	Yes	
5.20.	The system must support data import and export of the main entities data in standard Windows file formats including Microsoft Excel, XML, or comma-delimited American Standard Code for Information Interchange (ASCII) text files.	Yes	CSV, Excel are supported
5.21.	If display content is larger than the display, scroll bars shall be used to enable rapid viewing of all display content. For tabular displays that must be scrolled, the row and column headings of the table shall be stationary so that these headings can be viewed regardless of the scroll position.	Yes	DM was recently re-designed, has no scroll bars, everything fits onto one display.
5.22.	The system shall be capable of displaying time units in hours and/or minutes; time shall be able to be expressed in AM/PM (APX) and military (24-hour) time.	Yes	
5.23.	The system shall provide the ability to easily add user-defined fields in support of additional or new data requirements.	Yes	
5.24.	The system shall be have both tabular and graphical views as appropriate.	Yes	
5.25.	The system shall be able to turn on and off graphical views of data.	Yes	
5.26.	The system shall be able to have all tabular views with multi-column sorting unless logically inappropriate.	Yes	
5.27.	The system shall provide easy user navigation.	Yes	
6. Configuration Parameters			
6.1.	The system shall retain all configuration and preference changes when software upgrades are applied, both on the server and on workstations.	Yes	Preferences are tied to username/user account.
6.2.	The application shall retain all configuration and preference changes for each user, regardless of where the user logs on.	Yes	
6.3.	Changes to parameter files shall be immediately reflected in current data.	Yes	
6.4.	Configuration of the proposed program via parameter files, option screens, and the like shall be sufficient to tailor the proposed system to meet RTS requirements and business rules. Source-code-level customization shall not be necessary.	Yes	

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
7. Data Validation			
7.1.	The system shall perform data validation and check for data reasonableness at the point of data entry before allowing the data to be processed or used by the system and shall reject any invalid data. This includes all input data, parameters, and commands whether collected automatically or entered by a user. Checks include things like invalid running times, trips, etc. Provide details.	Yes	The DoubleMap system has a route/ stop validator.
7.2.	The system shall include the ability to define validation criteria, for instance that block duration shall not exceed 16 hours.	Yes	Included as part of the Visual Route & Stop ~~Creator wizard tool.~~
7.3.	When unreasonable input data or results are detected, diagnostic messages clearly describing the problem shall be generated. These messages shall be unabbreviated English text and shall not require the use of a reference document for interpretation or diagnostic or other complex data or descriptions intended for maintenance personnel.	Yes	
7.4.	Diagnostic data shall be logged for later retrieval by the system administrator.	Yes	
7.5.	The system's user interface must be uniform and consistent in its use of menus, buttons, function keys, and screen designs. Each screen or window must have its own unique identifier providing the user with a clear indication of the screen function.	Yes	
8. Data Entry			
8.1.	The system shall respond to all user input actions indicating whether the action was accepted, was not accepted, or is pending. For multi-step procedures, the system shall provide feedback at each step. Indications such as text messages, color changes, and blinking shall provide this feedback.	Yes	
8.2.	The amount of data required to enter shall be minimal. The system shall insert any data that is already known (e.g., date, time, user identification, vehicle identification, Operator ID) and provide default values where appropriate.	Yes	
8.3.	When data entry of a field is limited to a known set of valid responses, the list of valid responses shall be presented to the user in the form of a scrollable list.	Yes	
8.4.	For all data fields if only a portion of a data value needs to be changed, only that portion of the value shall need to be entered.	Yes	
8.5.	Data entry can be cancelled at any time and this action shall cause the process to be terminated and the data values cleared.	Yes	
8.6.	Data entry can be suspended at any time by requesting a different display or window. This action shall cause the process to be suspended and the data value shall remain unchanged until display or window is returned to.	Yes	
8.7.	Critical actions initiated by users, such as a deletion, shall be performed only after a warning message and request for confirmation are issued to the initiating user and the confirmation of the intended action is received from the initiating user.	Yes	Users are given a warning message and a request for confirmation.
9. Geographic Information System			
9.1.	The RTS GIS software standard is Environmental Systems Research Institute (ESRI). This will be used as the basis for any and all system processing, storage, and display of geographic data including basemap(s), bus vector data, and AVL data. The proposed software shall be able to integrate with RTS GIS software and consume RTS GIS	Yes	

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
	feature classes. Specifically, the application shall provide an integrated GIS that can display a centerline street network from most common GIS data sources (shapefiles, etc.). Therefore, RTS shall be able to create within the TSS software network components (stops, time points, routes, route variants, etc.) that automatically sync with RTS's transit geodatabases without the need to import/export any data. Fully document process and integration of GIS and scheduling data.	Yes	DoubleMap will automatically consume and integrate GIS information as part of the implementation process.
9.2.	The application must allow for the localization of stops/stations, public locations/landmarks on the street network.	Yes	
9.3.	All GIS components of the scheduling system must fully integrate (read and write) with RTS's GIS for purposes of maintaining bus stops inventory, time points, bus route definitions and street paths, with full integration with underlying ESRI basemaps and centerline data. The intention of this requirement is to disallow data duplication. The mentioned data are to be written to and maintained within RTS GIS database. Integration is at the database level.	Yes	
9.4.	The system shall be supplied with a geocoding feature built-in which can be used to geocode time points, bus stops, and other pertinent routing locations.	Yes	Geocoding can be included after discussion.
9.5.	The geocode feature shall permit the user to define bus stops using a variety of methods, including direct entry of GPS determined coordinates and setting the stop location with a mouse click.	Yes	
9.6.	The system shall be capable of allowing stops to be properly positioned at intersections.	Yes	
9.7.	The system shall be capable of displaying all trip patterns, or fixed portions of flexible trip patterns, on a map for visual display.	Yes	
9.8.	Route and pattern trace definitions, modifications, stop inventory information, including stop sequencing in patterns shall be fully integrated with the existing RTS GIS system for maintenance of stops and related assets, including maintenance of these data by writing into RTS's GIS geodatabase. At the point of consumption, these data shall be used directly from RTS GIS via geodatabase reads, without the need for file based import of data or the need to move between different software.	Yes	DoubleMap offers a Visual Route & Stop Creator tool that absorbs GIS geo-information. This creation wizard allows for multiple locations of bus stops to be drawn up at once, as well as displaying route and pattern trace definitions.
9.9.	The system must allow for the multiple locations of bus stops to be displayed, including but not limited to - a location on the centerline network and a public location along but not on the street network. Multiple locations available as GIS feature classes from RTS GIS shall be used.	Yes	
9.10.	The system shall display fixed-route paths from RTS GIS based on their scheduled stops, including branching (expected turn-by-turn route, with stops displayed).	Yes	
9.11.	The system must be able to automatically calculate and store distances, times, and speeds for deadhead route segments, entire trip patterns, and selected trip pattern segments defined by the user using the street network and GIS feature classes.	Yes	
9.12.	The application must be able to compute stop-to-stop distances based on the street network information. The resulting itineraries shall be editable by the user.	Yes	
9.13.	In case stop distances computed by the GIS do not reconcile with times computed by the scheduling system, the scheduling system shall be able to export a list of such segments for review within GIS, as well as maintain a second set of stop to stop distances.	Yes	

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
9.14.	The application shall allow for integrated editing and easy replacement of map files.	Yes	The DoubleMap maps
9.15.	Functionalities shall be available to automatically re-localize objects following an update of the underlying GIS map network data. Explain the process.	Yes	are updated as their base maps are updated. This will automatically re-
9.16.	System shall be able to assign sequence number to newly created or maintained bus stops stations in GIS. Workflow is 1) stop feature is created in GIS; 2) scheduling system assigns sequence; 3) scheduling system reads/uses from GIS.	Yes	localize objects.
9.17.	The GIS component shall have the capability to export the street network data to external systems or applications in shapefile format.	Yes	
9.18.	The system must allow for the definition of fare zones by route, system-wide, time of day, and day of week.	Yes	
9.19.	The map display shall support zoom in, zoom out, and pan.	Yes	
9.20.	The map display must show one-ways, forbidden turns, barriers.	Yes	
9.21.	The GIS component shall have an automatic coordinate converter to convert coordinate locations from state plane (x-y) to latitude/longitude, and from, latitude/longitude to state plane (x-y).	Yes	
9.22.	The system must allow and maintain a log of the street network edits (new street segments, street segment modification, street segment deletion) posted to GIS such that upon a upgrade to underlying GIS street data, segments previously custom edited but included parts of newly delivered data are identifiable and are discarded following succession rules to the new segments.	Yes	DoubleMap maps are actively updated as their source is updated. Street networks will not be deleted or forgotten.
9.23.	The GIS component shall be seamlessly accessible from all other components.	Yes	
9.24.	The system must be able to work with spatial data in WGS84 coordinate system (latitude/longitude).	Yes	
10. System Performance			
10.1.	The system shall be designed for and capable of 24 hour per day, 7 day per week operation.	Yes	
11. Security			
11.1.	The system provides the system administrator with the following group-level security features: • Control over a group member's access to each specific subsystem of the application. • Control over a group member's access to specific screens and fields within such screens. • Control over a group member's access to specific commands and functions. • Control over a group member's rights to view, add, modify, or delete specific data elements and records. • Control over a group member's right to add, modify, or delete screens, menus, database columns, and reports.	Yes	DoubleMap offers four levels of users: user/rider, viewer, dispatcher, and administrator. Each level of user has different, configurable permissions for security and access. Administrators can see everything, while viewers
11.2.	The system provides the system administrator with the following user-level security features: • Control over an individual user's access to specific screens (windows). • Control over an individual user's access to specific commands and functions. • Control over an individual user's rights to view, add, modify, or delete specific data elements and records. • Control over an individual user's rights to add, modify, or delete screens, menus, database elements, and reports.	Yes	can only view the back-end of the system, and so on. These settings are completely configurable by RTS administrators, and DoubleMap offers unlimited users.
11.3.	Each level of access shall be capable of specifying read/write, read, or no access to each identified system	Yes	

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
	function.		
11.4.	A minimum of three user-access levels shall be supported by the system: • Information user: these users shall have read-only access to the system. • Editor: these users shall have full access to specific system functions as determined by the system administrator. • Administrator: these users shall have unrestricted access to system functions and shall have special privileges required to administer overall access security and to maintain the system. A secure method shall be provided for the system administrator to change passwords and user identifications and establish functional partitions that identify a subset of all system data, including events that users are permitted to access.	Yes	DoubleMap offers a standard four user-access levels, and unlimited users.
11.5.	Users without proper minimum authorization shall be denied access to all system functions and data, as well as all system resources such as servers, printers, workstations, etc.	Yes	
11.6.	Access to system functions and capabilities shall be based upon each user's authorization level and not the physical workstation.	Yes	
11.7.	The logon/logoff status of a user shall be unaffected by any failure recovery procedure in the system.	Yes	
11.8.	The system shall support single sign on and integrates with COG active directory (Windows Domain authentication) so that additional passwords are not required.	Yes	
11.9.	The system logs all login attempts, successful logins and logoffs to the system (including the time, date, workstation ID, and user ID of the login attempts).	Yes	
11.10.	Ability to record and date/time stamp all transactions and include user ID and rollback any change within a 30 day window.	Yes	
11.11.	The activity log shall be real-time and accessible.	Yes	
12. General			
12.1.	A warranty period of five years that begins after all RTS's data has been converted and the entire system is accepted in writing or used in a production (operational) context by RTS.	Yes	Included on Pricing Sheet.
12.2.	Ability to provide a complete online help facility based on industry standards that allow users to search by keyword or by task.	Yes	
12.3.	Ability to provide established quality assurance procedures and documentation.	Yes	
12.4.	Ability to provide software manuals as electronic files in MS Office and PDF formats on DVD or equivalent.	Yes	
12.5.	Ability to provide comprehensive plans and be responsible for testing, repairing, and complete installation of the software.	Yes	
12.6.	Ability to provide on-site hands on training to RTS staff.	Yes	DM has a satellite office in Orlando and a nearby client in University of Florida.
12.7.	Ability to provide documentation for each function.	Yes	
13. Scheduling - General			
13.1.	Ability to create, maintain, and manage multiple numbers of schedule databases for handling current, previous, future, and simulation types of schedules.	Yes	
13.2.	The system shall be able to create new and update existing routes, patterns, time points, and stops.	Yes	

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
	Describe/illustrate the graphical methods of viewing and working with schedules.	Yes	DoubleMap shows run/block in a graph format, both by route and by calendar view.
13.3.	The system shall have the capability for the creation of multiple schedules of up to nine service frequencies for each route.	Yes	
13.4.	The system shall be capable of allowing the user to assign stop amenities (e.g., bench, shelter, etc.) to each stop and other supplemental data.	Yes	Users can see these when they cllick on the stop.
13.5.	The system shall have the capability of browsing single or multiple records at one time and on a single screen.	Yes	
13.6.	Ability to perform a batch copy and renaming of schedule data completely including patterns, running times, trips, blocks, runs, and rosters from one sign-up to another sign-up schedule and from one service group to another service group schedule.	Yes	
13.7.	The system shall have the capability to freeze versions of a schedule once finalized.	Yes	
13.8.	User defined and configurable lists for all components, including trips, headways, blocks, patterns, etc.	Yes	
13.9.	Ability to create alternative schedules during same period to evaluate different scenarios.	Yes	
13.10.	The system shall have the capability to track the effect of service changes in terms of hours and miles by route, pay period, and location and how this affects the cost of service.	Yes	
13.11.	Ability to accommodate 99 or more time points and stops per pattern (specify if a maximum exists for any parameter).	Yes	
13.12.	Ability to accommodate infinite patterns (or variants) on a route. Patterns defined as distinct bus stop sequences, including the designation of selected stops in each trip pattern as schedule time points and whether a trip pattern is inbound or outbound.	Yes	Users can set as many routes, stops, and other patterns as they would like. No limit.
13.13.	Ability to generate patterns within a line/route without redefining running time and time points.	Yes	
13.14.	The system shall be able to accommodate loop routings, i.e., routes that operate in one direction where the origin and destination points are the same.	Yes	
13.15.	Ability to establish a sequential listing of time points by route/line and direction.	Yes	
13.16.	The system shall permit the specification of any time point for sorting trips on the screen or on reports to be printed.	Yes	
13.17.	Ability to define time points that are not actual bus stops.	Yes	Will not show for public.
13.18.	The system shall have the capability to save, retrieve, and modify multiple versions of trips, running times, blocks, and routings.	Yes	
13.19.	The system shall have the capability to support the development of multiple schedules by time of day, time of year, and various day types.	Yes	
13.20.	The system shall have the capability for time points to be added, deleted, inverted, or modified even where scheduled trips already exist. Such modifications will cause the scheduled trips to be updated automatically.	Yes	
13.21.	Define and assign route types (i.e. regular, express, special, etc.).	Yes	
13.22.	Ability to assign multiple vehicle groups to a route.	Yes	
13.23.	Ability to develop feasible connections with other carriers (e.g. other service proposers).	Yes	
13.24.	The system shall be able to store and display both original route and detour route information.	Yes	
13.25.	Automatically or manually assign trip, block, run, and roster numbers based on user-specified sorting order and	Yes	

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
	criteria.		
13.26.	The system must be able to support a 36 hour operational day.	Yes	
13.27.	The system must allow for the definition of all pay time components. This includes report time, travel time, wait time, deadhead time, platform time, clear time, scheduled overtime, spread time, make-up time, etc.	Yes	
13.28.	The system shall offer solutions to gradually increase or decrease bus service frequencies to meet demand by time of day, offering easy "what-if' analysis.	Yes	
13.29.	The system shall allow trips, blocks, routes, and associated non-revenue time to be flagged by funding source. Funding amount can be defined by percentage or hour.	Yes	
13.30.	The system shall offer special event capabilities to completely plan special event transit services in a few hours. It shall quickly and optimally determine vehicle and driver requirements, integrate and determine the impact of the service on RTS's regular service, and quickly determine all costs and requirements needed for special events.	Yes	
14. Trip Building			
14.1.	Capable of automatic or manual trip building for each route, using the designated sequence of trip patterns during defined time periods.	Yes	
14.2.	Able to copy trips as follows: • One schedule to a new schedule (i.e., fall to spring) • One or many trips from one schedule to another schedule • One trip within the current schedule • Special trips from one schedule to a new schedule (i.e., sporting events, special events, etc.)	Yes	
14.3.	Through the connection of trips, the system shall automatically calculate the vehicle requirements for twelve or more specific user defined time periods of the day (such as AM peak, Base, PM peak and evening) for each service.	Yes	Administrators are able to calculate these items through reporting capabilities.
14.4.	Ability to create or modify trips individually, for a specified headway, for a time interval, for a specified number of vehicles and synchronize with the passing times of other trips at common timing points.	Yes	
14.5.	The system shall have the capability to unhook all trips at one time.	Yes	
14.6.	Ability to create trips based on the passing time at any one of the trip timing point and ability to modify time point information in existing trips, such as 1) change time point passing time at any one of the trip time points, 2) change the name of time point, and 3) change run time between time points, etc.	Yes	
14.7.	Ability to modify selected trips (for example, single trip pattern or all trip in a single direction) for instance to change the origin, the destination, the running time, and the trip pattern.	Yes	
14.8.	Ability to modify trips based on a specified time point and shift all time points in a trip (positively or negatively) by a user specified amount of time in one step.	Yes	
14.9.	Define and manage transfer connections by viewing trips from more than one route together.	Yes	
14.10.	Ability to clearly display graphically and/or in tabular format the times of all trips and routes traveling through a common time point.	Yes	
14.11.	Ability to provide both tabular and graphical view of trips, including nodes, trip times, block numbers, assignment numbers, deadhead and recovery time, as well as the ability to manage, create, and make changes directly to	Yes	

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
	trips in the graphical application. The system shall have the capability to sequence trips so that they are displayed in a logical progression on the screen and on reports.	Yes	
14.12.	Ability to identify/define trips within the software structure to denote revenue and nonrevenue trips.	Yes	
14.13.	Ability to automatically generate return/connected trips with user specified minimum/maximum layover time, which may be location or time of day specific.	Yes	
14.14.	Ability to vary routings on service patterns to cater to specific capacity limitations, such as number of platforms available at each station.	Yes	
14.15.	Ability to build conflict-free timetables system wide using configurable parameters for different service plans.	Yes	
14.16.	Allow user to assign specific vehicle types and/or vehicle characteristics to trips, blocks, routes, and time of day basis and have ability to override or enforce vehicle assignments at scheduling level.	Yes	
14.17.	Ability to allow for different running times between time points by direction, time of day, day of week, route.	Yes	
14.18.	The system shall have the capability to override the automatic assignment of running times for individual trips. A log of overrides shall be created listing the user and when the changes were made.	Yes	
14.19.	The system shall have the capability to maintain running time overrides between subsequent schedules.	Yes	
14.20.	Ability to support the definition of base running times and speeds for various days and time periods between two timepoints, designated stops along each trip pattern, and for deadhead segments and apply to multiple routes where they are in common (i.e., new routes using the two timepoints would automatically inherit the defined base running time.	Yes	
14.21.	When adjusting running times by time of day by route the software will maintain intervals between buses at stops (either through interlining or manipulation of layover amounts) which serve multiple routes.	Yes	
14.22.	The proposed system shall have the capability to show the distance between time points and the associated speeds.	Yes	
14.23.	Capable of calculating the running time between any pair of time points on any trip pattern, taking into account running speeds and via integration with AVL data.	Yes	Calculated from DoubleMap's 1-2 second datta upload/update time.
14.24.	Allow running times to be manually input or adjusted for trips, patterns, or between stops or timepoints.	Yes	
14.25.	Ability to allow for variations on deadhead running times as a function of varying running speeds by time of the day.	Yes	
14.26.	Ability to automatically detect interlining opportunities between different routes at common endpoints without manual intervention.	Yes	
14.27.	Ability to change the running time between 2 time points and automatically recalculate all trips that were built using that running time.	Yes	
14.28.	Ability to control the displayed timing points in the various displays.	Yes	
14.29.	Ability to allow or prohibit interlining between routes via a user defined parameter.	Yes	
14.30.	Ability to create route groups for interlining.	Yes	
14.31.	The system shall notify the user when an assigned routing is missing a running time.	Yes	
14.32.	Ability to define interlined routes before assigning blocks.	Yes	
14.33.	Ability to allow dispatching from more than one garage or location (Ability to assign multiple garages/yards to a	Yes	

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
	route, multiple routes to a garage/yard, etc. per user's discretion).		
14.34.	Specify destination sign code for each trip.	Yes	
14.35.	The system shall have the capability for creating trip exceptions due to special events or days (e.g., trips that only operate on certain days of year).	Yes	
14.36.	Ability to define minimum/maximum layovers globally, at trip start, at trip end, by place, by route, by schedule type, by time of day, and by combinations of these, and as a fixed value or as a percentage.	Yes	Administrators can specify extra time for certain stops to account for layovers or staff breaks.
14.37.	The system shall have the capability for the connection of trips using all of the following or combinations thereof: one route at a time, multiple routes, individual trips, trips of a specific routing or running time, any unconnected or unhooked trips from another route, specified interlines.	Yes	
15. Blocking			
15.1.	Ability to automatically generate blocking scenarios with respect to pre-defined criteria and business rules to achieve optimized vehicle blocking solutions that meet the RTS service and operational requirement. Options shall be provided to block based on criteria like minimizing the number of vehicles or total vehicle hours required. Manual blocking shall also be allowed. Provide a detailed description of blocking optimizing algorithms.	Yes	Options are based on configurable criteria, such as using the minimum number of vehicles.
15.2.	Ability to accept, reject, or edit automatic blocking solutions so RTS can simulate different block solutions for the same trip data before committing to one.	Yes	
15.3.	Ability to create, delete, and modify deadhead trips automatically to make trip connections and to automatically assign yard pull-in and pull-out deadhead trips upon completion of block.	Yes	
15.4.	Ability to add a control point between deadhead trips to allow a vehicle to hold safely on a pocket or spur between revenue trips to avoid same location conflicts on the revenue trips.	Yes	
15.5.	Able to load simultaneously multiple vehicle schedule scenarios (for comparison, for copying trips from one to the other, etc.).	Yes	
15.6.	Ability to display blocking graphically on a horizontal time scale and display information such as timepoints, layover time, revenue time, non-revenue time, mileage, and assignment numbers on each block.	Yes	
15.7.	Ability to modify trip times within the blocking module with the changes automatically reflected in blocking.	Yes	
15.8.	Ability to find the most efficient next trip on line(s) to be added to an existing block (including interlining potential) if manual blocking is selected.	Yes	
15.9.	Ability to block by service day type and vehicle groups.	Yes	
15.10.	Ability to view performance statistics for each block.	Yes	
15.11.	Ability to allow users to freeze certain blocks manually so that the automated blocking process will not change them.	Yes	
15.12.	Ability to optimize blocking without changing more than a specifiable amount of the sign-on and sign-off times of the assignments and allow for optimization without having to do a full runcutting and thus leaving no need to redo the assignments.	Yes	
15.13.	Ability to allow the user to set a limit on the number of vehicles allowed at once at a given time point (for example, there is a constraint on the number of buses that can be accommodated at any time at a transit center).	Yes	Time and datebased constraints.
15.14.	Ability to maintain seasonal or inactive routes.	Yes	Seasonal and "deadhead" roudtes

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
15.15.	Ability to maintain variations of service or day's exceptions by day of week (i.e. extra Friday night service).	Yes	
15.16.	Ability to maintain and assign alternate/calendar-based schedules (for example schedules for no school, holidays, early opening or late closing, etc.). Specify the maximum number of alternate schedules.	Yes	
16. Runcutting			
16.1.	Ability to define as soft rules the preferences for operator workday characteristics.	Yes	
16.2.	Ability to cut runs past midnight.	Yes	
16.3.	Capable of cutting single-piece or multi-piece work assignment runs, with each piece being a sequence of route trips from a particular block.	Yes	
16.4.	Ability to configure via parameters in compliance with RTS's rules/regulations and union contract provisions (hard and soft rules) including but not limited to: Min./max. work times, part-time operator work restrictions, spread times, spread premiums, report times, travel time, overtime, and guaranteed time. Provide a detailed description of automatic runcutting optimizing algorithms.	Yes	Scheduling application allows for the enforcement of union rules, however, it is the responsibility of the agency to enforce these in the schedule.
16.5.	All rules, definitions, costs, optimizers, and parameters for runcutting are user defined and can be changed by the user directly from the user interface in the future without programming or proposer assistance.	Yes	
16.6.	Ability to define multiple operator workday types.	Yes	
16.7.	Maintain accurate summary statistics by time of day on total, revenue, and non-revenue (deadhead, layover, travel, recovery) mileage and time.	Yes	
16.8.	Software shall flag when a manual or automatically generated runcut violates any RTS rule/regulation, and list which rule/regulation is violated on each run.	Yes	
16.9.	Ability to define target ratios for the number of runs for specific run types, in order to provide a balanced solution (easier to roster).	Yes	
16.10.	Ability to reflect run classification, numbering, and other RTS specific parameters in the runcutting algorithm, as well as to define driver preferences as soft rules.	Yes	
16.11.	Ability to allow for either manual or automatic runcutting at user's discretion. Manual runcutting can be done at any time during a run cut by route, block, or run.	Yes	
16.12.	Ability to automatically create cost efficient and legal runcuts that are equal to or better than (based on non-revenue time share of total time) RTS's current runcutting solutions based on comparable service plan.	Yes	
16.13.	Ability to compare/evaluate the runcutting solutions (for same or different block solution) during the optimization process and compare two runcutting solutions on a single screen. Comparison output will provide information on pay time, vehicle requirements, etc.	Yes	Users are able to open two different windows and compare by comparing windows.
16.14.	Allow the shifting of trip relief times to optimize runcuts.	Yes	
16.15.	Ability to prohibit relief at a given location for part of the day, or for a specified direction.	Yes	
16.16.	Ability to allow for multiple operating yards in a single runcutting solution and assign a yard to a division.	Yes	
16.17.	Ability to enforce, warn, or ignore violations of work rules during construction of runs.	Yes	
16.18.	Ability to lock and unlock schedule by users (controlled by user level security).	Yes	
16.19.	Ability to accept user input to freeze certain runs manually and proceed to optimize on the remaining uncut work.	Yes	
16.20.	Ability to analyze cost with respect to union contract provisions, including, but not limited to, pay rates, work	Yes	

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
	rules, management requirements, facility specific rules.		
16.21.	Ability to optimize scheduling parameters such as platform hours, minimum overtime, use of part time operators, etc. by cost or operators counts.	Yes	
16.22.	Ability to define different types of reliefs (on-street, pull-in to garage, car relief) and to prioritize relief points for trips at terminals and limit relief points to designated places.	Yes	
16.23.	Allow user to identify certain time points as relief points between operator assignments (between routes and to and from relief points) and automatically build the travel time into the assignments.	Yes	Users are able to set certain stops as "break" stops, adding in a certain amount of time to account for break times.
16.24.	The system shall have the capability to cut runs based on the inclusion of operator breaks at designated break and meal points.	Yes	
16.25.	Ability to automatically build travel time into assignments based on relief point utilization.	Yes	
16.26.	Ability to calculate travel time based on the vehicle schedule (i.e., drivers traveling from the depot to start place, etc.).	Yes	
16.27.	Ability to provide facility to uncut runs.	Yes	
16.28.	Ability to optimize a runcut solution on a replacement set of blocks that match, within a specified time range, the sign-on/off time of an existing specified runcut scenario.	Yes	
16.29.	The name of each runcut must be unique when saved, with a validation to prevent duplicate runcut identifiers.	Yes	
16.30.	Unlimited ability to save and retrieve previous run cuts.	Yes	
16.31.	Ability to maintain notes/comments at the following levels and to selectively address them to the drivers, the scheduler and/or the public: such as, but not limited to timepoints, specific passing times, or trips.	Yes	
16.32.	Ability to provide analysis/statistical tools that automatically summarize a runcut by cost and all cost components (including operators and hours [pay-to-platform]) required to operate the service.	Yes	
16.33.	Ability to conduct "what if" scenario analysis based on prospective rules and parameter changes that control the automatic runcutting algorithm. Modifications applied during scenario testing must not affect the integrity of existing files. Those saved files must be able to become the working files at a later date if the new work rules are adopted.	Yes	Users are able to create and utilize deadhead routes/buses in order to conduct system testing and "what ifs"
16.34.	Ability to view percentages of runs by run type.	Yes	
16.35.	Ability to modify trips and blocks from within the runcut tools.	Yes	
16.36.	Ability to display runcutting and blocking side by side.	Yes	
16.37.	Ability to display runcutting solution graphically using horizontal time scale and allow modifications from graphical interface.	Yes	
16.38.	Ability to allow interruption to the runcutting processes at any time.	Yes	
16.39.	The system shall automatically calculate person and vehicle requirements for multiple user defined periods of the day.	Yes	
16.40.	Ability to support flexible sign-on/off matrix varying by place, time of the day, type of relief, vehicle group, type of run.	Yes	
16.41.	Ability to maintain a calendar of schedules in production.	Yes	
16.42.	Ability to create vehicle and operator schedule statistics for a specified interval of dates.	Yes	

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
16.43.	Any changes made at any level must propagate throughout the system with necessary integrity checks.	Yes	
16.44.	No duplication of data in the scheduling system, including the geocoding database.	Yes	
16.45.	Provide built-in tools for importing and analyzing historical runtime and on-time performance data, and adjusting runtimes for future schedule changes.	Yes	
16.46.	Ability to compare scheduling data, including all critical operational data, e.g. number of trips, blocks, runs, operational cost between different schedule sets, for a given day or range of days as well as maintain and provide reports on deviations including comparison of costs, number of trips added/cancelled, on specific days, or range of days, on route/division basis.	Yes	Users can use provided history and reporting tools in order to conduct this analysis.
16.47.	Ability to define non-driving operator assignments, and assignments that include a driving element and a non-driving element within a day.	Yes	
16.48.	Able to manually accept, reject, or edit automatic run cuts by route, vehicle type, block, or run.	Yes	
16.49.	Ability to create interfaces based on a calendar that records which vehicle and crew schedules are in effect for each date of a period.	Yes	
16.50.	The system shall not allow concurrent modifications to individual run cuts.	Yes	
16.51.	The system shall have the capability to optimize a run cut either by an entire location or by redoing a selected number of user defined runs.	Yes	
16.52.	Ability to easily query individual runs for all related information.	Yes	
16.53.	Ability to maintain run pieces without supporting block data such as spare work and garage work.	Yes	
16.54.	The system shall have the capability to manually add open pieces of work to previously cut runs.	Yes	
16.55.	The system shall be able to cut runs accommodating service and day of week variations within the schedule.	Yes	
16.56.	The system shall have the capability to cut runs for special events or days of operation and special service conditions.	Yes	
17. Rostering			
17.1.	Capable of both cafeteria-style and agency-developed rostering.	Yes	
17.2.	Ability to handle multiple rosters at same time (including extraboard), with allocation of operator workdays to a roster, based on preset criteria (for example: AM work or PM work; or workday type – straight, split; etc.).	Yes	Drivers, and buses, can be set to specific "seasons", like ~~PM work or split workdays~~.
17.3.	Ability to override any pay component.	Yes	
17.4.	Ability to run multiple rostering scenarios.	Yes	
17.5.	Ability to define rules and parameters to meet company and government rules like minimum rest time, target rest time, and free periods.	Yes	
17.6.	Capable of building rosters automatically or manually.	Yes	
17.7.	Ability to swap roster day assignments between positions.	Yes	
17.8.	Ability to swap full week's assignments between positions.	Yes	
17.9.	Ability to build separate rosters for different groups of employees (i.e., part-time rosters).	Yes	
17.10.	Ability to detect whether assignments are below some RTS-specified number of hours of elapsed time between the end of one day's assignment and the beginning of the next day's assignment.	Yes	
17.11.	Ability to create rosters by division/yard, by combining weekday, Friday, Saturday, and Sunday runs and assigning	Yes	

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
	weekly operator runs.		
17.12.	Ability to optimize work rosters based on similarity such as on-duty and off-duty time per user preference.	Yes	
17.13.	Ability to favor restricting roster position to a single operator workday, a single route, a single group of routes, etc.	Yes	
17.14.	Ability to allow automatic renumbering Saturday and Sunday runs to match weekday run numbers on all regular rosters created.	Yes	Accomplished by the "seasons" mechanic of DM.
17.15.	Ability to provide roster statistics including efficiency and cost (such as total weekly pay) of each roster and for all rosters by division/yard and by system.	Yes	
17.16.	Ability to sort weekly assignments by line on screen for visual analysis.	Yes	
17.17.	Ability to define rules to control days off, weekend off, working time customizable to factors such as working time and categories of run.	Yes	
17.18.	The system shall have the capability to automatically assign days off for rostered work based on work rules and regulations.	Yes	DM's scheduling software is capable of acknowledging these days off, however it is RTS' responsibility to assign days off and follow regulations.
17.19.	Ability to control runs via patterns to match requirement, such as having early runs before a day off and late runs after a day off.	Yes	
17.20.	Ability to handle four and five day working week.	Yes	
17.21.	Ability to display roster assignments by: • Workday type • Workday ID • Run ID • Run type • Varying start times within a single bid • Time between pieces of a run • Run start/end time • Route • Total weekly pay time • Full work days, etc. The display will allow for filtering based on include-only or exclude all bids that contain a specific characteristic like start time or route number.	Yes	
17.22.	Ability to define and take into account special service in effect for holidays and other occasions.	Yes	DoubleMap's "seasons" capability is able to be configured to include holidays.
17.23.	The system must be able to create extra work assignments that are not reflected in fixed route scheduling solution. These assignments would be used for Specials/Charters, Stand-by assignments, and other types of casual work.	Yes	
17.24.	The system must be able to create user-defined categories of extra work (i.e., meetings, marketing, training, etc.).	Yes	
17.25.	The system must allow definition of an extra work validity period (i.e., date range, days of week).	Yes	
17.26.	The system must be able to optionally associate customer's information with extra work created.	Yes	
17.27.	The system shall have the capability to validate the transitions between rosters for two consecutive bid periods.	Yes	

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
17.28.	The system must be able to support the creation of extra work in real-time or in advance.	Yes	
17.29.	Ability to optimize rosters based on cost parameters while in compliance with RTS's hard and soft rules, and government regulations.	Yes	
17.30.	The system shall have the capability to automatically generate one roster at a time or all rosters.	Yes	
18. Reporting			
18.1.	Ability to generate reports using standard database access tools with ease.	Yes	
18.2.	Ability to produce reports on platform, deadhead, and revenue miles and hours by user defined parameters such as trips, blocks, routes, time periods, service days, garage/operator, funding source, jurisdictions/community.	Yes	
18.3.	Ability to easily export reports into CSV, XLSX, DOCX, PDF, HTML and XML formats.	Yes	
18.4.	Ability to retrieve an exported file into the application for further editing.	Yes	
18.5.	The application shall include a set of standard reports and a configurable reporting tool. Reports available as standard (provide samples and details for each): • Headways[33] • Block paddles • Driver assignments • Detailed driver run sheet (including sign-on, sign-off, pull-in, and pull-out) • Summary and actual miles, hours, and running times for revenue and non-revenue service (route, block, trip, run, system-wide). This information shall be available to be displayed by route, day of week, and time of day with subtotals rolled into summaries for the system as whole. • Vehicle/car requirement and utilization summaries by division, assignment sheet, hour, manifest, weekly pay sheet (as user defined format) • Platform-to-Pay time • Trip length • Service start and end times • Dispatch pullout and pull-in sheets • Comparison of schedules (as user defined format) • Time between routes at stops and time points • Route frequency • Public timetables • Mileage and platform hours data by route and day • Bus stop list by route/pattern • Bus stop list for entire system • Bus stop list by user-defined subdivision • Timepoint list by route/pattern	Yes	Standard reports included in the DoubleMap offerings are: - Headway Report (both by route and by bus) - Mileage Report - On-Time Perofrmance - Travel Time - Hours in Service - Off-Route - Speeding - Dwell Time - Route History - Bus History DoubleMap is willing to discuss the creation and utilization of more reporting options post-contract acceptance.

[33] This report shall present a list of buses (by block numbers) that service a particular route including time points along the route, the pull out/pull in times, and the departure times of each bus.

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
	• User overrides of running times • Turn movements for an entire trip pattern, including any notes. • Run costing summary • User defined reports		
18.6.	Ability to generate yard capacity.	Yes	
18.7.	All the above reports shall be able to be aggregated by time, day, week, month, quarter, and year.	Yes	
18.8.	The daily reports shall provide statistics broken down on an hourly basis along with daily totals. The weekly reports shall provide statistics broken down on a daily basis along with weekly totals. The monthly report shall provide statistics broken down on a daily basis along with weekly and monthly totals and so forth.	Yes	DoubleMap's reporting capabilities offer data culled from each data ping - every 1-2 seconds
18.9.	Query features shall be available to filter reports based on time interval, hour, day, week, month, year and Year To Date (YTD) and there shall be the capability to compare specified data for given time intervals, dates, weeks, months, years or YTD.	Yes	- and can be sorted by daily, weekly, and monthly totals.
18.10.	Reports must provide statistical summary statistics, like minimum, maximum, mean, medium, count, and 1st/5th/25th/75th/95th/99th percentiles, as well as more advanced metric aggregates.	Yes	
18.11.	Drill down, drill through, or drill anywhere capabilities shall be available.	Yes	
18.12.	It shall be possible to create sub queries within reports for enhanced data analysis and interrogation.	Yes	
18.13.	Conditional formatting shall be permitted based on user defined criteria.	Yes	
18.14.	The reporting tool shall allow authorized users to create new (i.e., define their own report templates) and to edit/configure existing (i.e., modify the templates provided by the proposer) report formats and add custom text and messages.	Yes	DoubleMap developers work through project managers to create specific reports.
18.15.	The report generation tool shall allow users to choose 'a-la-carte' data elements and put them together in any combination necessary to build and customize reports to suit specific needs.	Yes	
18.16.	A Wizard shall be available to report writers to specify the type of report they want to create and then combine data elements to achieve the desired output.	Yes	
18.17.	User must be able to modify formatting, column aggregation, and sorting at the report creation level.	Yes	
18.18.	Data elements can be used as reported data, filters, or report sections.	Yes	
18.19.	The user must be able to schedule any report to be generated on a recurring basis (daily, weekly, monthly, yearly) and distributed to a designated list of email addresses.	Yes	
18.20.	Users must be able to toggle between tabular reports, charts, or combination reports easily.	Yes	
18.21.	Reports generated shall be fully modifiable and configurable by RTS staff without intervention or support by the proposer.	Yes	
18.22.	Support common report writing tools like Crystal Report.	Yes	
18.23.	Requests for reports shall be acknowledged within 10 seconds with an indication that the report is being processed.	Yes	
18.24.	After the deployment and implementation of the system, if need arises to create additional reports, under the maintenance agreement the selected proposer shall provide in addition to all of its standard reports up to 25 additional and customizable reports as requested by RTS.	Yes	

Item #	Scheduling System Functional Requirements	Meets Requirement "Out of the Box"? (Yes/No)	Comments/ Explanation of Functionality
18.25.	Data for reports can be made available to report writers through data views created by database administrators. These data elements shall have additional metadata associated with them allowing users with no knowledge of the back end database to retrieve the data they need.	Yes	

Appendix 1. Cost Proposal

#150723L

The proposer shall complete *Table 2 Mandatory Component Price Schedule* and *Table 3 Five Year Maintenance and Support Costs*, leaving no field blank. In the case of fields that represent items with no cost associated, or items that shall not be provided by the proposer, the number zero shall be used. The price summary form represents the total cost of the proposer to furnish all labor, materials, and services at the prices as quoted herein, in conformance with all the specifications and contract documents. *Table 2 Mandatory Component Price Schedule* and *Table 3 Five Year Maintenance and Support Costs* will be used as a basis for cost calculations during the project and it is understood that these unit prices will be held firm until final system acceptance.

Table 2 Mandatory Component Price Schedule

Item	Description	Estimated Quantity	Unit Cost	Hours and Hourly Rates	Total Cost	Reoccurring Cost (Y/N)?
Software – the cost of the software and the appropriate number of user licenses offered in the price must be stated by the proposer. It is the responsibility of the proposer to understand RTS operations in sufficient detail to determine the number of user licenses required to run the solution in the RTS environment.						
1	Database software	137	$57.26		$7,845.24	N
2	TSS software license	137	$252.12		$34,540.44	N
Services (supply & installation) – all costs associated with the full installation and implementation of the system (inclusive of cable and wiring and system design). Supplemental costs associated with user assessment, installation, database conversion, etc., must be detailed if separate and not included in the software price above.						
1	Desktop computers	0	$0.00		$0.00	
2	Servers	0	$0.00		$0.00	
Data Acquisition and Conversion Costs – if the proposer must acquire databases, street maps, or other items necessary to support installation, these costs shall be identified here. It shall also include existing schedule data conversion and import into new system.						
1	[insert item]	0	$0.00		$0.00	
Related Third Party Software Costs – all other software necessary to operate the TSS systems or to support maintenance of the system recommended by the proposer shall be identified. All such products shall be purchased by the proposer and licensed to RTS.						
1	Interface with RTS APC units (consumable schedule export)	137	$56.03		$7,676.11	N
2	Interface with TIS (consumable schedule export)	137	$45.01		$6,166.37	N
3	Interface with RTS's existing Operations software solution (provide and consume information).	137	$52.79		$7,232.23	N
Training – if training costs are not included in the software purchase or licensing costs, proposals must identify all costs associated with all required training.						
1	Software functionality	1	$2,324.00		$2,324.00	N
2	System administration	1	$2,003.00		$2,003.00	N
Documentation – if documentation costs are separate and not included they must be identified below						
1	User	0	$0.00		$0.00	
2	System	0	$0.00		$0.00	
4	Configuration and troubleshooting	0	$0.00		$0.00	
Testing – if testing costs are not included in the software purchase or licensing costs, proposals must identify all costs associated with all required testing.						
1	[insert item]					
Maintenance and Support – Transfer information from *Table 3 Five Year Maintenance and Support Costs*						
1	TSS software	137	$102.20		$14,001.40	Y
2	TSS hardware	0	$0.00	$0.00	$0.00	
Life Cycle Replacement Projection – 10-year budget outlook with replacement costs and lifecycle of products.						
2	[insert item]					

Other Costs – any other cost not identified above shall be identified and indicated by the proposer. This includes an itemized list of spare parts.						
1	[insert item]					
TSS Cost						

Table 3 Five Year Maintenance and Support Costs

RTS is under no obligation to enter into an annual maintenance and support contract with the proposer.

Five Year Maintenance and Support – one year maintenance and technical support price shall be included (no charge [N/C]). Identify all ongoing costs related to maintenance and support.					
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Hardware					
[insert item]	$0.00	$0.00	$0.00	$0.00	$0.00
Software					
DoubleMap Scheduling	$14,001.40	$14,001.40	$14,001.40	$14,001.40	$14,001.40
Software Maintenance Costs					$14,001.40
Hardware Maintenance Costs					$0.00
Total Maintenance Costs					$14,001.40

Appendix 2. Optional Component Cost Summary

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Table 4 Future Price Schedule

Item	Cost
[insert item]	

The inclusion of other component costs not within immediate scope serves is for informational purposes only and does not obligate RTS to include such components. RTS may at its sole discretion request that some of these components be included as part of a formalized agreement if it deems there is a benefit and funding available to do so.

Qualifications / Statement of Qualifications

Thank you for evaluating DoubleMap's submission! DoubleMap is fortunate to provide a response to *the City of Gainesville; RFP No. RTSX-160004-DS*, and recognizes that significant time was taken on the scope of this RFP. Our proposal strives to reflect why a unique firm like DoubleMap, is the best asset to accomplish your goals.

Company

RTS expects the successful proposer to have demonstrable corporate growth, be financially stable, and an industry leader in providing transit solutions that are similar in scope, size and complexity.

The proposer shall include a company profile that includes the following information:

Overview, history, core competencies, financial stability, and mission and values

Strategic direction, research and development efforts (e.g. new features or integrations), and investment to product and technology

Experience and management approach with delivering public similar-scale transit solutions and services

Reasons why they are the best fit for the RFP and what differentiates them from other transit solution proposers

DoubleMap was founded by several former Google Engineers who saw an opportunity within the ITS (Intelligent Transportation System) industry – large players with rigid software from the late '80s and early '90s, who now face difficulty in modifying their solutions. Many do not provide information in the context of the modern rider – smartphones, up-to-the-second information, real-time bus movements. These vendors focused on antiquated, costly hardware, which cannot scale to an agency's future needs without a large overhaul. These groups often chase the largest clients and cannot provide customization or above-and-beyond support, since mid-sized agencies are seen as one of many unimportant, smaller clients.

Newer firms innovated the ITS space, but still struggled with real-time changes (routes, detours), which result in queues and downtime. Among the newer entrants to the ITS space, this is where DoubleMap has innovated (and continues to do so). DoubleMap is designed to use cutting-edge hardware, while focusing greatly on administrative ease-of-use, and rider-based applications. DoubleMap's ability to provide leading transit software, while simultaneously limiting hardware and data costs, are the pillars of its success versus incumbents. DoubleMap is built on four key pillars, which are detailed below:

- **Excellent Support:** Clients have a dedicated DoubleMap lead with a direct line for questions
- **Cost-Effective Solutions:** The DoubleMap architecture is able to stay lean, yet scalable which allows agencies to afford ITS solutions that could not otherwise fit into grant allocations
- **Innovative Integration:** DoubleMap is able to provide seamless integrations across its entire platform. DoubleMap's platform is designed to accommodate different agency's needs at various stages, and we are able to add additional modules, such as Automated Voice Announcements (AVA), at a later date.
- **Consistent Innovation:** DoubleMap offers rider-facing tools such as smartphone applications with real-time bus movements, but also offers the ability to connect to multiple in-vehicle systems. These

integrations link voice annunciation, fare collection, passenger counting, destination signage, cameras, and passenger wi-fi into DoubleMap's CAD/AVL system. Now, DoubleMap has expanded into "uber-like" solutions and mobile payment

It is important to evaluate each vendor on these four pillars, as well as considering their ability to adapt with your changing environment as you plan into the future. Most vendors offer solutions that adequately meet the scope of this RFP, but how have they performed at other client locations once they have been selected? On multiple occasions, DoubleMap has been selected to replace systems provided by its competitors as a result of their inability to deliver on promised features, or their inability to interface with necessary in-vehicle components. Within the last year, DoubleMap has replaced systems by multiple competing vendors, including Transloc and Nextbus.

One of DoubleMap's key areas of focus involves public transit agency compliance with the regulations put forth in the 1990 Americans with Disabilities Act (ADA). According to the Americans with Disabilities Act guidelines under Section 37, every public transportation system in the United States must provide voice announcements on all public vehicles used to transport any individuals. Compliance with these standards has recently become a major area of focus for many public transit agencies, as the United States Department of Justice and the Federal Transit Administration have cited agencies for not providing voice announcements for routes and stops.

Fortunately for our clients, DoubleMap is able to provide a module that completely automates the voice announcements process. DoubleMap's AVA module ties in directly with all CAD/AVL features with minimal hardware additions. Not only does DoubleMap's AVA module tie directly into our CAD/AVL module, but it also eliminates the need for drivers to announce stops and routes themselves. One of the key components of DoubleMap's AVA module is the fact that we use a digitized voice synthesizer, which allows an agency to have the most exact phonetic pronunciation of the voice announcements. DoubleMap's digitized voice synthesizer essentially eliminates the problem of having to record new and existing stop and route announcements.

DoubleMap, as a result of our dedicated team and experience with public transit agencies, is able to provide an efficient and seamless installation and integration of our services. DoubleMap provides the most timely installations in the industry, and delivers a working product within one month's time of a signed contract. Additionally, DoubleMap provides each client with a dedicated client representative to aid throughout the entire installation process.

DoubleMap's ability to deliver on promises gave our clients confidence in replacing existing implementations, but it has been our innovative drive that has amassed over 85 clients on three separate continents - all within the past six years. We recognized that each client has unique needs, so DoubleMap has been built with flexibility in mind. Each module DoubleMap offers is interchangeable, so clients can select modules a-la-carte to fit their needs as opposed to a one-size-fits-all system. This flexibility has resulted in a client mix ranging from Fortune 500 companies like Walt Disney Studios, to municipalities

like Como Connect in Missouri, and Universities like Georgetown and Michigan. These client successes, as well as client trust in us to deliver where others have stumbled, offer a track record of excellence that can be expected if DoubleMap is selected as a partner.

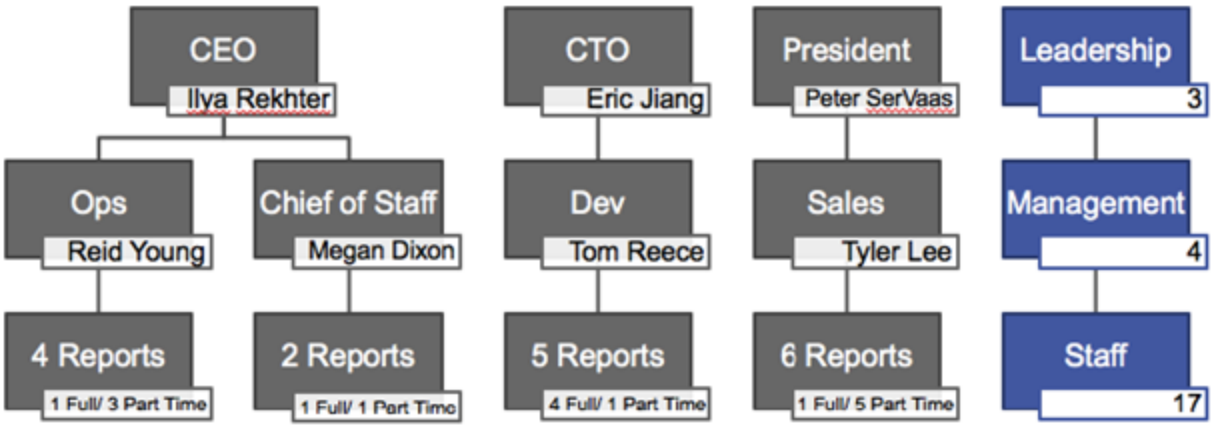
Team

Proposers shall provide specific to the scope of work their team hierarchy (organizational chart) structure. The proposer is to highlight key project team members, their functional roles, expertise (credentials and professional qualifications), and corresponding past experience with projects of similar scope, complexity and technology. At a minimum, proposers shall clearly identify and describe the qualifications of the key personnel listed below. Proposers are encouraged to include other categories and staff leads as deemed necessary for the successful implementation of the systems. Note that the proposer may not substitute key personnel at any time without prior written consent by RTS.

Project manager
Installation and integration lead
Training lead
Maintenance lead

The proposer's project team shall be available throughout the project timeframe and be able to interface with RTS team members. Indicate the primary work location(s) and percentage time commitment (breakdown of staff hours) of the project manager and other key personnel for this project. Discuss how responsibilities of the project manager, key personnel and other project staff will be managed and balanced over the course of the project, and how support will be provided to RTS during the design, implementation, testing, training, and acceptance stages of the project. The proposal shall also include details regarding the availability of backup for core project team members.

DoubleMap has 24 full time staff members and has outlined the main team members for the deployment of the COG RTS project. There are other supporting members of the DoubleMap team who stay involved, however for brevity we chose to outline only the most prevalent members for the City of Gainesville RTA Project team. All team members are currently based in the Indianapolis headquarters. All team members have been involved in the company for 3-5 years.



DoubleMap's project management procedures can be summarized in five holistic phases, which take us from initial, basic ITS discussions thru the project's overall acceptance and the "Go-Live" phase.

❖ **Phase 1: Initiate** – DoubleMap and COG will discuss the project scope, goals and deliverables. DoubleMap proposes a rigid timeline for data migration, training, installation, testing and the go-live phases. Recurring meetings are scheduled, and the appropriate COG RTS staff is assigned to specific project needs and/or oversight. DoubleMap also collects any GTFS, routing, scheduling and existing manifests for use in the new overall ITS system. Completed within 3 weeks of notice to proceed.

❖ **Phase 2: Design** – DoubleMap's development and operations teams will cleanse and import critical data to the new City of Gainesville CAD/AVL module. If no such data exists, these teams will work alongside COG RTS staff to analyze, design and input the necessary data. The resulting CAD/AVL system framework will be launched internally, although the system will not be functional until phase 3 is complete. Completed within 6 weeks of notice to proceed.

❖ **Phase 3: Build & Deploy** – Mobile Data Terminals (MDTs) are installed with software modules at this point. Next, the physical installation and on-board wiring takes place for each vehicle. DoubleMap then begins internal testing of the CAD/AVL modules, based on success metrics compared across existing client base. The system collects historical timing data for use in DoubleMap's estimated time of arrival (ETA) algorithms. Completed within 10 weeks of notice to proceed.

❖ **Phase 4: System Acceptance** – An internal pilot of the whole system takes place. The City of Gainesville staff is trained across all practical uses of DoubleMap hardware and software modules. COG staff members join DoubleMap in monitoring the deployed system in real-time for feedback and system acceptance. ETA predictions will be released internally to COG for review and acceptance prior to public launch. Completed within 15 weeks of notice to proceed.

❖ **Phase 5: Go-Live** – Live map, mobile applications, and smartphone apps will be released to your riders. ETA predictions will also be available on all DoubleMap interfaces for public use. COG staff will be presented with bus stop branding options, and any public facing kiosks or displays can be used to showcase COG RTS' real-time tracking technology. Completed within 20 weeks of notice to proceed.

Corporate References

RTS expects that the successful proposer will have demonstrable experience providing product support, service, and management expertise with public transit implementations of similar scope, size and complexity to this RFP. RTS may contact references to validate the capabilities and claims as provided in proposal submissions.

Proposers are to provide a minimum of three recent (>=2012) references of prior projects (installed and operational) equal to or similar size, scope and complexity. The projects listed shall provide evidence that the proposer meets the minimum criteria and is qualified to successfully implement the system based on demonstrable successful implementations at other similar transit properties. At least two of the three references shall be for a customer that is at least the size of RTS. References are to contain:

A description of the products (hardware and software [release level and system modules installed]), services provided, network configuration, and list of 3rd party applications the solution integrated with and any inputs/outputs to other applications.

Cost of the solution provided.

Size of customer in terms of fleet size, size of service area, number of routes and maximum daily book-out.

The start and end date of implementation.

Customer contact name, title, address, telephone number and e-mail address of the person directly responsible for the project.

Things that went right and things that went wrong on the project.

Proposers are required to have completed Appendix 4. Reference Questionnaire in the proposal package.

DoubleMap has included four client references below, ranging from midsize public transit systems to university-size clients. DoubleMap is willing to discuss financial cost for each solution upon contract acceptance and the signing of a non-disclosure agreement. For COG's purposes, nothing went wrong on each project.

Bloomington Transit

❖ Contact:
- ➢ Lew May – General Manager
- ➢ (812) 336-7433 – mayl@bloomingtontransit.com
- ➢ 130 W Grimes Ln, Bloomington, IN 47403

❖ Fleet Breakdown:
- ➢ 68 buses

❖ Services Offered:

- ➢ Computer Aided Dispatch/AVL/Real-Time Passenger Tools
- ➢ Automatic Vehicle Location
- ➢ Real-Time Passenger Tools
- ➢ Automated Stop Announcements (ADA Compliant)
- ➢ Fleet-wide DVR-based Security Camera System integration
- ➢ DoubleMap Data Mining & Transit Analysis
- ➢ Automatic Passenger Counters

❖ Current Status & and System Overview:

DoubleMap's CAD/AVL and ASA system were implemented over two back-to-back weekends in early 2013. Bloomington Transit is a single transit authority that oversees Indiana University Campus Bus service, operating a total fleet of approximately 68 buses in one garage location. The APC installation by Urban Transportation Associates required an on-going installation process for two weeks. The system, which is combined with the Indiana University Campus bus service, is fully-operational.

Lafayette CityBus Transit System

❖ Contact:
- ➢ Marty Sennett – General Manager
- ➢ 765.420.2948 martysennett@gocitybus.com
- ➢ 1250 Canal Rd., P.O. Box 558, Lafayette, IN 47902

❖ Fleet Breakdown:
- ➢ 83 buses

❖ Services Offered:
- ➢ Automatic Vehicle Location
- ➢ Real-Time Passenger Tools
- ➢ DoubleMap Data Mining & Transit Analysis

❖ Current Status & and System Overview:

The City of Lafayette contacted DoubleMap in early 2013 seeking to provide a better rider experience via passenger-focused real-time tools. DoubleMap's AVL and Real-Time Passenger toolset was implemented in April of 2013 on their entire 83 bus system. DoubleMap was selected primarily on its ability to deliver a first-class rider application suite, which includes: public website, iPhone application, Android application, mobile website, notifications platform, and QR code system.

Bloomington-Normal Public Transit System (Connect Transit)

❖ Contact:
- ➢ Andrew Johnson – General Manager
- ➢ (309) 829-1123 -- ajohnson@bnpts.com
- ➢ 351 Wylie Drive, Normal, IL 61761

❖ Fleet Breakdown:
- ➢ 42 buses
- ➢ 3 repair vehicles

❖ Services Offered:
- ➢ Computer Aided Dispatch
- ➢ Automatic Vehicle Location
- ➢ Real-Time Passenger Tools
- ➢ Automated Stop Announcements (ADA Compliant)
- ➢ DoubleMap Data Mining & Transit Analysis
- ➢ Automatic Passenger Counters

❖ Current Status & and System Overview:

DoubleMap was selected in a competitive bid process to provide a holistic ITS system including all the above Service Offered. The CAD/AVL and ASA system were implemented over two back-to-back weekends during the summer of 2012. The APC installation by UTA required an on-going installation process for two weeks. The system is fully-operational.

University of Michigan (MagicBus)

❖ Contact:
- ➢ Steven Worden - Procurement
- ➢ (734) 615-8972 -- sfworden@umich.edu
- ➢ 3003 S. State St, Ann Arbor, MI 48109

❖ Fleet Breakdown:
- ➢ 62 buses

❖ Services Offered:
- ➢ Computer Aided Dispatch
- ➢ Automatic Vehicle Location
- ➢ Real-Time Passenger Tools
- ➢ DoubleMap Data Mining & Transit Analysis
- ➢ Integration with existing Automatic Passenger Counters
- ➢ Headsign Integration

❖ Current Status & and System Overview:

DoubleMap was chosen through a competitive bid process over the largest industry players to replace their homegrown CAD/AVL system after their services were no longer supported. DoubleMap's CAD/AVL system was entirely installed over one weekend in February of 2014. Ongoing integration with their APC hardware and possible ASA deployment are in ongoing discussion based on funding availability.

Financial Statement

RTS wants to understand the financial condition of the proposer. Identify any conditions (e.g., bankruptcy, pending litigation, planned office closures, impending merger) that may impede proposer's ability to complete the project. Audited financial statements for past three fiscal years, a Dun & Bradstreet report or a one-page summary from a CPA firm shall be submitted as an Appendix to the Proposer's proposal.

DoubleMap is financially stable and is not under threat of closure or suit. DoubleMap has never filed bankruptcy since the company was established and is not under pending litigation. DoubleMap has had zero office closures, and no relevant merges. DoubleMap purchased TapShield, a ride-demand company, in 2012, and is able to offer COG a potential integration upon further discussion.

Team References

Proposer shall provide competent, certified and/or suitably qualified personnel to survey and lay out work and perform scheduled work as required by the contract. The proposal shall include individual team member resumes detailing past experiences with projects of similar nature.

The proposal shall include at least two references from previous clients for whom the person has provided similar services.

The following key personnel shall be made available to implement DoubleMap's system for the COG RTS project. Resumes are available upon request.

Ilya Rekhter – Lead Project Manager

Mr. Rekhter is responsible for overseeing all aspects of operations for DM, including customer support during and post-system implementations. He has a diverse background in customer service, project management and finance. Prior to joining DM, Mr. Rekhter was an international strategy consultant at Abt Associates and Zanett. He has managed enterprise software implementations for government organizations in over 15 countries with specific focus on the remote management of site offices in pan-Africa. Mr. Rekhter has worked with Columbia Transit (Columbia, MO), CityBus (Lafayette, IN), Georgetown University (GUTS), Bloomington Transit (Bloomington, IN), Connect Transit in Normal, Illinois (Illinois State University, Lincoln College, Tri-Towers), South Bend Transpo (Notre Dame, College of St. Mary, IU South Bend, Holy Cross), State University of New York (SUNY) at Cortland, Xavier University (Croswell transportation), Butler University (Carey transportation), and University of Cincinnati (Croswell transportation) in a project management capacity to ensure custom features met the organizations' specific requests. Mr. Rekhter resides in Indianapolis, IN.

Eric Jiang – Director of Product Development

Mr. Jiang is responsible for overseeing the development of new DM product features. This includes preparing design requirements and monitoring project plans across multiple development platforms. Mr. Jiang is also responsible for the project management of software and system customization for individual client needs. He participates in the implementation process by advancing the project life cycle in the areas of design, development, quality assurance, system acceptance and system production. Prior to joining DM, he was a product manager at Google focused on the maps application. Mr. Jiang has worked with or directly oversaw product development and system architecture for each of DoubleMap's clients. Mr. Jiang currently resides in Bloomington, IN.

Reid Young – Project Operations and Lead On-site Installation/Training Director

Mr. Young is responsible for overseeing all aspects of operational installments for DM, including customer support and training during and post-system implementations. He has a background rooted in both customer service and technical installations for DoubleMap. Mr. Young has overseen installations and on-going support/maintenance at DoubleMap sites including Columbia Transit (Columbia, MO), CityBus (Lafayette, IN), Georgetown University (GUTS), Bloomington Transit (Bloomington, IN), Connect Transit in Normal, Illinois (Illinois State University, Lincoln College, Tri-Towers), South Bend Transpo (Notre Dame, College of St. Mary, IU South Bend, Holy Cross), State University of New York (SUNY) at Cortland, Xavier University (Croswell transportation), Butler University (Carey transportation), and University of Cincinnati (Croswell transportation), ensuring on-site met the organizations' specific requests. Mr. Young resides in Indianapolis, IN.

Dan Leathers – On-Site Operations, Installation

Mr. Leathers is key in ensuring efficient operational installments for DM, along with Mr. Reid Young. He has a background rooted in technical installations for DoubleMap, and quality assurance. Mr. Leathers has reliably performed installations at DoubleMap sites including Columbia Transit (Columbia, MO), Lafayette CityBus (Lafayette, IN), Georgetown University (GUTS), Bloomington Transit (Bloomington, IN), Connect Transit in Normal, Illinois (Illinois State University, Lincoln College, Tri-Towers), Stanford University Hospital, City of Beaumont (Beaumont Transit), and others.

Both project manager and supervisory staff can be reached through the office line, 1 (317) 324-8883.

Proposed Solution Overview

The proposer is to provide a one (1) to two (2) page executive summary of their proposed solution, highlighting the functionality and components of their solution that make them the best fit for RTS. Describe your vision and product direction. Indicate the components listed in 4.1 Mandatory Scope Components that your proposed solution addresses.

DoubleMap Inc. is proposing a turn-key, over-the-cloud ITS implementation for RTS. The DoubleMap system is able to fully integrate with existing systems, as well as providing a full traveller information system. DoubleMap is providing a turn-key software scheduling system, able to create a schedule from trip building to runcutting.

DoubleMap will provide an extensive reporting suite as well, capable of collecting and analyzing information on the entire fleet, as well as ridership and several configurable metrics. The offered DoubleMap system is eminently scalable, capable of growing with the RTS system over time, while also integrating with existing information and systems.

DoubleMap will also be providing a system that meets all integration possibilities. The DoubleMap system will integrate with existing hardware, such as the APCs already in place, while also migrating data

from and integrating with FleetNet, existing Operations software, and integration with the other proposed Travel Information System. DoubleMap is capable of data migration from the existing GIS database of routes and stops as well.

DoubleMap is committed to the state of Florida. DoubleMap had a representative at the state public transit event and will be present at the upcoming APTA event in Orlando. One of DoubleMap's two regional offices is in Orlando, Florida. Currently, the three offices are Orlando, FL, Indianapolis, IN (headquarters), and San Francisco, CA. This will enable high-touch support during the implementation and ongoing support stage when appropriate. The proposed DoubleMap solution will include a team of dedicated project managers, as well as a highly responsive support team. The DoubleMap team has significant experience, even in the immediate geographic region, including public transit systems, such as and LYNX and Escambia County Public Transit (ECAT), as well as universities in the state of Florida. During the support stage, DoubleMap leverages an effective communication platform, Trello. By using the Trello project management system, DoubleMap is able to communicate clearly with RTS administrators - adding another level of transparency to implementation and enabling involvement from all parts of DoubleMap's organization.

The DoubleMap product suite continues to evolve while adding solutions aggressively. DoubleMap is currently working on a full user graphical update for administrators, rolled out by the end of the fiscal year. This will help enhance the experience for our operators while managing the system. DoubleMap is additionally building out several new products, including an Uber-liked transit solution going live at LYNX by early 2016. DoubleMap is now offering a mobile payment solution to allow riders to pay for a bus on a phone as well as traditional integration with a farebox. Finally, DoubleMap is building a transit planning solution to be included in the DoubleMap Visual Route & Stop Creator, which will incorporate census data to evaluate route options and offer a way to incorporate constituents into the planning process in a way previously not possible. DoubleMap looks forward to delivering and testing this new and innovative solutions on the RTS system!

Mandatory Scope Components

The proposer that is awarded the contract must design, test, and implement a TSS solution with the following components:

Beginning to end schedule creation from trip building to runcutting

Standard reporting

Integration with RTS's Travel Information System (TIS)

Integration with RTS's Automatic Passenger Counters (APC)

Integration with RTS's Operations software

Integration with RTS's existing Geographic Information System (GIS) database of routes and stops

Migration of existing scheduling data from Fleet-Net

DoubleMap is able to comply with these requirements. DoubleMap has addressed these necessities in the section directly above this one.

#150723L

BUY AMERICA CERTIFICATION

Certification requirement for procurement of steel, iron, or manufactured products.

Certificate of Compliance with 49 U.S.C. 5323(j)(1)

The bidder or offeror hereby certifies that it will meet the requirements of 49 U.S.C. 5323(j)(1) and the applicable regulations in 49 C.F.R. Part 661.5.

Date 10/23/15 Signature _____

Company Name DoubleMap, Inc.

Title CEO

Certificate of Non-Compliance with 49 U.S.C. 5323(j)(1)

The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j)(1) and 49 C.F.R. 661.5, but it may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(A), 5323(j)(2)(B), or 5323(j)(2)(D), and 49 C.F.R. 661.7.

Date _____ Signature _____

Company Name _____

Title _____

#150723L

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

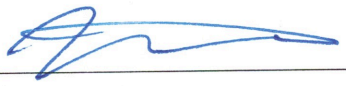
The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.



Signature of Contractor's Authorized Official

Ilya Rekhter, CEO

Name and Title of Contractor's Authorized Official

10/23/15

Date

**** We have no lobbying activities in Florida or any other state****

#150723L

DISCLOSURE OF LOBBYING ACTIVITIES

Approved by OMB
0348-0046

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
(See reverse for public burden disclosure.)

(To be submitted by bidder, if applicable, refer to instructions on the next page)

1. Type of Federal Action:
☐ a. contract
b. grant
c. cooperative agreement
d. loan
e. loan guarantee
f. loan insurance

2. Status of Federal Action:
☐ a. bid/offer/application
b. initial award
c. post-award

3. Report Type:
☐ a. initial filing
b. material change

For Material Change Only:
Year_____quarter_____

date of last report_____

4. Name and Address of Reporting Entity:
☐ **Prime** ☐ **Subawardee**
Tier_____, *if known :*

Congressional District, *if known:4c*

5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime:

Congressional District, *if known:*

6. Federal Department/Agency:

7. Federal Program Name/Description:

CFDA Number, *if applicable:*_____

8. Federal Action Number, *if known :*

9. Award Amount, *if known :*
$

10. a. Name and Address of Lobbying Registrant
(if individual, last name, first name, MI):

b. Individuals Performing Services *(including address if different from No. 10a)*
(last name, first name, MI):

11 Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Signature:_____
Print Name:_____
Title:_____
Telephone No.:_____Date:_____

Federal Use Only:

Authorized for Local Reproduction
Standard Form LLL (Rev. 7-97)

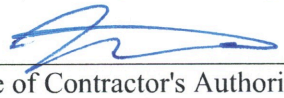
CERTIFICATION REGARDING DEBARMENT

The prospective contractor certifies, by submission of this bid or proposal, that neither it nor its "principals" as defined at 49 CFR 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945.

The contractor is required to comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CFR 29, Subpart C in any lower tier covered transaction it enters into.

By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:

The certification in this clause is a material representation of fact relied upon by the City of Gainesville. If it is later determined that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to the City of Gainesville, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 49 CFR 29, Subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.



Signature of Contractor's Authorized Official

Ilya Rekhter

Name of Contractor's Authorized Official

CEO

Title of Contractor's Authorized Official

10/23/15

Date

CONTRACTOR RESPONSIBILITY CERTIFICATION

The Bidder is required to certify compliance with the following contractor responsibility standards by checking appropriate boxes. For purposes hereof, all relevant time periods are calculated from the date this Certification is executed.

	YES	NO
1. Has the firm been suspended and/or debarred by any federal, state or local government agency or authority in the past three years?		✔
2. Has any officer, director, or principal of the firm been convicted of a felony relating to your business industry?		✔
3. Has the firm defaulted on any project in the past three (3) years?		✔
4. Has the firm had any type of business, contracting or trade license revoked or suspended for cause by any government agency or authority in the past three (3) years?		✔
5. Has the firm been found in violation of any other law relating to its business, including, but not limited to antitrust laws, licensing laws, tax laws, wage or hour laws, environmental or safety laws, by a final unappealed decision of a court or government agency in the past three (3) years, where the result of such adjudicated violation was a payment of a fine, damages or penalty in excess of $1,000?		✔
6. Has the firm been the subject of voluntary or involuntary bankruptcy proceedings at any time in the past three (3) years?		✔
7. Has the firm successfully provided similar products or performed similar services in the past three (3) years with a satisfactory record of timely deliveries or on-time performance?	✔	
8. Does the firm currently possess all applicable business, contractor and/or trade licenses or other appropriate licenses or certifications required by applicable state or local laws to engage in the sale of products or services?	✔	
9. Does the firm have all the necessary experience, technical qualifications and resources, including but not limited to equipment, facilities, personnel and financial resources, to successfully provide the referenced product(s) or perform the referenced service(s), or will obtain same through the use of qualified, responsible subcontractors?	✔	
10. Does the firm meet all insurance requirements per applicable law or bid specifications including general liability insurance, workers' compensation insurance, and automobile liability insurance?	✔	
11. Firm acknowledges that it must provide appropriate documentation to support this Contractor Responsibility Certification if so requested by the City of Gainesville. The firm also understands that the City of Gainesville may request additional information or documents to evaluate the responsibility of firm. Firm agrees to provide such additional information or supporting documentation for this Certification.	✔	

Under the penalty of perjury, the Bidder's authorized representative hereby certifies that all information included in the Contractor Responsibility Certification or otherwise submitted for purposes of determining the Bidder's status as a responsible contractor is true, complete and accurate and that he/she has knowledge and authority to verify the information in this certification or otherwise submitted on behalf of the Bidder by his or her signature below.

Bidder Name: DoubleMap

Name/Title of person completing this form: Ilya Rekhter, CEO

Signature: 

Date: 10/23/15

SUBCONTRACTOR/SUBCONSULTANT LIST
and
BIDDER STATUS

The Bidder/Proposer shall provide information on ALL prospective subcontractor(s)/subconsultant(s) who submit bids/quotations in support of this solicitation. Use additional sheets as necessary.

IDENTIFY EVERY SUBCONTRACTOR(S)/ SUBCONSULTANT(S)	SCOPE OF WORK TO BE PERFORMED	CERTIFIED D/M/WBE FIRM? (Check all that apply)	PERVIOUS YEAR'S ANNUAL GROSS RECEIPT'S	UTILIZING ON THIS PROJECT
NAME: Advanced Cable Connection ADDRESS: 13654 N 12th St. Ste. 1 Tampa, FL 33613 PHONE: (813) 978-0101 ext. 41 FAX: 813-972-3038 CONTACT PERSON: Anthony Perez, Account Manager & Estimating	SCOPE OF WORK: Inside wiring, Structured cabling AGE OF FIRM: _____	YES ✔ NO: _____ IF YES, DBE ✔ OR MBE ✔ OR WBE _____	___ Less than $500K ___ $500K-$2 mil ___ $2 mil - $5 mil ___ more than $5 mil.	YES or NO
NAME: Advanced Cable Connection ADDRESS: 13654 N 12th St. Ste 1 Fort Myers, FL 33613 PHONE: 813-978-0101 ext. 30 FAX: 813-972-3038 CONTACT PERSON: Richard Schemitsch, President	SCOPE OF WORK: AGE OF FIRM: _____	YES _____ NO _____ IF YES, DBE _____ OR MBE _____ OR WBE _____	___ Less than $500K ___ $500K-$2 mil ___ $2 mil - $5 mil ___ more than $5 mil.	YES or NO
NAME: _____ ADDRESS: _____ PHONE: _____ FAX: _____ CONTACT PERSON:	SCOPE OF WORK: AGE OF FIRM: _____	YES _____ NO _____ IF YES, DBE _____ OR MBE _____ OR WBE _____	___ Less than $500K ___ $500K-$2 mil ___ $2 mil - $5 mil ___ more than $5 mil.	YES Or NO

Check here if use of subcontractor(s)/subconsultant(s) is/are not applicable for this project: ☐

Name of Bidder/Proposer: _____

Name/Title of person completing this form: Anthony Perez, Account Manager/Estimating

Is Bidder/Proposer a DBE? ✔ Yes ___ No If No, is Bidder/Proposer a M/WBE? ___ Yes ___ No

Signature: Anthony Perez Date: 10/21/15

DRUG-FREE WORKPLACE FORM

#150723L

The undersigned vendor in accordance with Florida Statute 287.087 hereby certifies that

DoubleMap, Inc. does:

(Name of Business)

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.

2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for the drug abuse violations.

3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).

4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.

5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.

6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

Bidder's Signature

10/23/15

Date

Appendix 4. Reference Questionnaire

#150723L

Mail or e-mail this form to your references. Three are required. RTS will not be an acceptable reference, nor will any member of the proposer's organization.

References must be legibly written or typed.

Proposer Company: Double MAP Date: 10/20/15

Reference Company: Bloomington Public Transportation Corp Phone: 812-961-0522

Contact Name: Len May

Title: General Manager

1. Are you the primary person responsible for contract administration with the proposing company? (yes/no)
2. What was the nature of the project you contracted with the proposing company for? Bus tracker app, voice annunciators, downtown transit center real time info message boards
3. When did your contract with the proposing company begin and end? (If not ended, when will it end?) Dec 2012 – ongoing
4. What was the approximate annual cost of the proposing company's contract with you? $426,283 plus $25,000 annually for tech support
5. Please rate the quality of the proposing company's overall service (Excellent, Good, Fair, Poor)
6. How well did the proposing company meet your stated goals? (Very Well, Well, Poorly)
7. How would you rate the response time of the proposing company to your calls or emails? (Excellent, Good, Fair, Poor)
8. Were the proposing company communications with you clear and concise? (Always, Usually, Sometimes, Never)
9. Were the milestones identified for the project schedule consistently met? (Always, Usually, Sometimes, Never)
10. Did the proposing company keep you informed of problems that would affect a timely and satisfactory outcome of your project? (Always, Usually, Sometimes, Never)
11. Was the team originally assigned to your project (including project manager) maintained for the duration of your project? (Yes/No)
12. Have you ever had to request that any of the proposing company's team be replaced? (Yes/No)
13. Did you experience any problems with the accuracy of the proposing company's billing? (Yes/No)
14. Have the problems you experienced with the proposing company been dealt with to your satisfaction? (No Problem, Always, Usually, Sometimes, Never)
15. From the beginning of your first contract with the proposing company, how long did it take for you to receive benefits from the proposing company's efforts on your behalf? (One Year, Two Years, Over Two Years) 7 months
16. What would you do differently next time you undertake a similar contract? Nothing different
17. Explain why you would or would not do business with the proposing company again. DoubleMap has provided a quality product that has met our needs in every respect.

Appendix 4. Reference Questionnaire

#150723L

Mail or e-mail this form to your references. Three are required. RTS will not be an acceptable reference, nor will any member of the proposer's organization.

References must be legibly written or typed.

Proposer Company: Double Map Date: Oct 21, 2015

Reference Company: University of Michigan Phone: (734) 763-1555

Contact Name: Lisa Solomon

Title: Sr. Bus. Analyst Parking and Transportation Services

1. Are you the primary person responsible for contract administration with the proposing company? (yes/no)
2. What was the nature of the project you contracted with the proposing company for? Bus Live Tracking (58 Fixed Route), APC Reporting, Luminator Integration, adding ADA Announcements
3. When did your contract with the proposing company begin and end? (If not ended, when will it end?) Feb. 2014, 3 year contract
4. What was the approximate annual cost of the proposing company's contract with you? 3 year contract ~$456K, ~$251K first yr, ~$100K yrs 2 & 3 (Doesn't include ANA)
5. Please rate the quality of the proposing company's overall service. (Excellent, Good, Fair, Poor)
6. How well did the proposing company meet your stated goals? (Very Well, Well, Poorly)
7. How would you rate the response time of the proposing company to your calls or emails? (Excellent, Good, Fair, Poor)
8. Were the proposing company communications with you clear and concise? (Always, Usually, Sometimes, Never)
9. Were the milestones identified for the project schedule consistently met? (Always, Usually, Sometimes, Never)
10. Did the proposing company keep you informed of problems that would affect a timely and satisfactory outcome of your project? (Always, Usually, Sometimes, Never)
11. Was the team originally assigned to your project (including project manager) maintained for the duration of your project? (Yes/No) Project still underway
12. Have you ever had to request that any of the proposing company's team be replaced? (Yes/No)
13. Did you experience any problems with the accuracy of the proposing company's billing? (Yes/No)
14. Have the problems you experienced with the proposing company been dealt with to your satisfaction? (No Problem, Always, Usually, Sometimes, Never)
15. From the beginning of your first contract with the proposing company, how long did it take for you to receive benefits from the proposing company's efforts on your behalf? (One Year, Two Years, Over Two Years)
16. What would you do differently next time you undertake a similar contract? N/A
17. Explain why you would or would not do business with the proposing company again. The company has been a pleasure to work with and responsive.

Appendix 4. Reference Questionnaire

#150723L

Mail or e-mail this form to your references. Three are required. RTS will not be an acceptable reference, nor will any member of the proposer's organization.

References must be legibly written or typed.

Proposer Company: DoubleMap Date: 10-27-15

Reference Company: METS -- Metropolitan Evansville Transit System Phone: 812-435-6167

Contact Name: Rick Wilson

Title: Operations Superintendent

1. Are you the primary person responsible for contract administration with the proposing company? (yes/~~no~~)
2. What was the nature of the project you contracted with the proposing company for? AVL / AVA
3. When did your contract with the proposing company begin and end? (If not ended, when will it end?) 2015 -- 2020
4. What was the approximate annual cost of the proposing company's contract with you? -------
5. Please rate the quality of the proposing company's overall service. (Excellent, ~~Good, Fair, Poor~~)
6. How well did the proposing company meet your stated goals? (Very ~~Well, Well, Poorly~~)
7. How would you rate the response time of the proposing company to your calls or emails? (Excellent, ~~Good, Fair, Poor~~)
8. Were the proposing company communications with you clear and concise? (Always, ~~Usually, Sometimes, Never~~)
9. Were the milestones identified for the project schedule consistently met? (~~Always~~, Usually, ~~Sometimes, Never~~)
10. Did the proposing company keep you informed of problems that would affect a timely and satisfactory outcome of your project? (Always, ~~Usually, Sometimes, Never~~)
11. Was the team originally assigned to your project (including project manager) maintained for the duration of your project? (Yes/~~No~~)
12. Have you ever had to request that any of the proposing company's team be replaced? (~~Yes~~/No)
13. Did you experience any problems with the accuracy of the proposing company's billing? (Yes/~~No~~) but resolved
14. Have the problems you experienced with the proposing company been dealt with to your satisfaction? (~~No Problem, Always~~, Usually, ~~Sometimes, Never~~)
15. From the beginning of your first contract with the proposing company, how long did it take for you to receive benefits from the proposing company's efforts on your behalf? (~~One Year, Two Years, Over Two Years~~) within a few months
16. What would you do differently next time you undertake a similar contract? penalty for not meeting deadline
17. Explain why you would or would not do business with the proposing company again. Good communication Team approach to issue resolution, Great Product for AVL and AVA that can APC and Fare collection data, system platform user friendly for us, the transit agency and the public.

#150723L

ADDENDUM NO. 1

CITY OF GAINESVILLE
every path starts with passion
FLORIDA

Date: September 3, 2015

Bid Date: October 1, 2015
3:00 P.M. (Local Time)

Bid Name: Fixed Route Scheduling Software

Bid No.: RTSX-160004-DS

NOTE: This Addendum has been issued to the holders of record of the specifications.

The original Specifications remain in full force and effect except as revised by the following changes which shall take precedence over anything to the contrary:

1. I received an email request to provide editable access to the MS-Office-formatted Tables 1 through 5. This Addendum #1 has been issued to advise that the requested format (also changed to 8-1/2" x 14" legal size) has been uploaded separately for proposer's use.

ACKNOWLEDGMENT: Each Proposer shall acknowledge receipt of this Addendum No. 1 by his or her signature below, **and shall attach a copy of this Addendum to its proposal.**

CERTIFICATION BY PROPOSER

The undersigned acknowledges receipt of this Addendum No. 1 and the Proposal submitted is in accordance with information, instructions, and stipulations set forth herein.

PROPOSER: _____ Doublemap Inc.

BY: Ilya Rekhter CEO Doublemap Inc.

DATE: 10/23/15

#150723L

ADDENDUM NO. 2

CITY OF GAINESVILLE
every path starts with passion
FLORIDA

Date: September 8, 2015

Bid Date: October 1, 2015
3:00 P.M. (Local Time)

Bid Name: Fixed Route Scheduling Software

Bid No.: RTSX-160004-DS

NOTE: This Addendum has been issued to the holders of record of the specifications.

The original Specifications remain in full force and effect except as revised by the following changes which shall take precedence over anything to the contrary:

1. A new email request has been received requesting the entire RFP in Word format to allow extraction of the various forms. Instead of providing the RFP in Word format, if the proposer has Adobe Pro then you are capable of saving the pdf document as a Microsoft Word document yourself. You may then "fill in the blanks" for your proposal response. This is acceptable so long as the original context of the RFP, including Tables 1 through 5 requirements, remain unchanged (unedited). ***Changing/editing the context/requirements of the RFP, regardless of the document format, is grounds for disqualification.*** This Addendum #2 has been issued to allow for saving the RFP pdf document as Word format.

ACKNOWLEDGMENT: Each Proposer shall acknowledge receipt of this Addendum No. 2by his or her signature below, **and shall attach a copy of this Addendum to its proposal.**

CERTIFICATION BY PROPOSER

The undersigned acknowledges receipt of this Addendum No. 2 and the Proposal submitted is in accordance with information, instructions, and stipulations set forth herein.

PROPOSER: _____ DoubleMap Inc.

BY: Ilya Rekhter CEO DoubleMap Inc.

DATE: 10/23/15

#150723L

ADDENDUM NO. 3

CITY OF GAINESVILLE
every path starts with passion
FLORIDA

Date: September 14, 2015

Bid Date: ~~October 1, 2015~~
November 2, 2015
3:00 P.M. (Local Time)

Bid Name: Fixed Route Scheduling Software

Bid No.: RTSX-160004-DS

NOTE: This Addendum has been issued to the holders of record of the specifications.

The original Specifications remain in full force and effect except as revised by the following changes which shall take precedence over anything to the contrary:

1. **The Bid Due Date has been changed to November 2, 2015, 3:00 P.M.**

ACKNOWLEDGMENT: Each Proposer shall acknowledge receipt of this Addendum No. 3 by his or her signature below, **and shall attach a copy of this Addendum to its proposal.**

CERTIFICATION BY PROPOSER

The undersigned acknowledges receipt of this Addendum No. 3 and the Proposal submitted is in accordance with information, instructions, and stipulations set forth herein.

PROPOSER: DoubleMap Inc.

BY: Ilya Rekhter CEO DoubleMap Inc.

DATE: 10/23/15

#150723L

ADDENDUM NO. 4

CITY OF GAINESVILLE
every path starts with passion
FLORIDA

Date: September 16, 2015

Bid Date: October 1, 2015
3:00 P.M. (Local Time)

Bid Name: Fixed Route Scheduling Software

Bid No.: RTSX-160004-DS

NOTE: This Addendum has been issued to the holders of record of the specifications and attendees of the non-mandatory pre-bid meeting held on September 16, 2015.

The original Specifications remain in full force and effect except as revised by the following changes which shall take precedence over anything to the contrary:

1. Any remaining questions are to be submitted in writing to the City of Gainesville Purchasing Division by September 22, 2015. Questions are to be submitted as follows:

   Faxed (352) 334-3163
   Attention: Daphyne Sesco
   or
   Email: sescoda@cityofgainesville.org

2. Find attached:

   - Copy of the lobbying and blackout period definitions (Purchasing Procedure 41-424) distributed during non-mandatory pre-bid meeting
   - Copy of the pre-bid meeting sign-in sheet

3. Daphyne Sesco, Purchasing Division, discussed bid requirements:

   - Since this is a non-mandatory meeting you do not have to be present to submit a bid.
   - The blackout period began once the bid was released and continues until contract award. No lobbying or discussions can occur between bidder and any representative of the City or GRU, except the designated purchasing staff contact; otherwise your bid will be disqualified.
   - Verbal instruction does not change the terms of the solicitation – changes can only be made via a written addenda. Questions/Answers and topics of discussion addressed at this meeting will be available in an addendum for download through DemandStar.
   - All communication, contact and/or correspondence must be with the buyer, Daphyne Sesco. Bidders who have contact with anyone other than the buyer (A/E, department, City elected officials, etc.) will be disqualified.

- Send questions in writing to Daphyne via fax or email. Any contact with staff other than the Purchasing representative may be basis for disqualification of your bid. Question submittal deadline is September 23, 2015.
- Responses are to be received in the Purchasing office no later than 3:00 p.m. (local time) on October 1, 2015. Any bids after 3:00 p.m. on that date will not be accepted. Bids must be physically received in the City's Purchasing Department. Only hand-delivered responses are acceptable (i.e., in person or through a delivery service such as FedEx, UPS).
- As Addenda are issued, the signature page should be included in the response acknowledging receipt of the addendum.
- Minimum requirement to bid: Three references (>=2012) prior projects (installed/operational) equal to or similar size, scope and complexity.
- Updated estimated timeline:

Deadline for receipt of questions	September 23, 2015
Deadline for receipt of proposals	November 2, 2015 (3:00 p.m. local time)
Evaluation/Selection process	November 3-12, 2015
Oral presentations (if conducted)/Discussions	December 1-2, 2015
Deadline for BAFO, if needed	December 14, 2015
Projected award date by City Commission	January 2016
Projected contract start date	April 1, 2016

- Oral Presentation to be live, working system, evaluated according to criteria on page 68, 7.4.
- Buy America applies to the computer/servers only.
- ***Changing/editing the context/requirements of the RFP, regardless of the document format, is grounds for disqualification***.

4. Matthew Muller, Planner Transit Chief, reviewed the scope of the bid.

5. Questions/Answers (via email beforehand and at the pre-proposal meeting):

Question1: How many users need to be trained?
Answer1: <=10 individuals.

Question2: On Page 7, Section 2, Item B – Minimum Requirements, it is noted that we must integrate with the following systems:

- Integration with RTS's Travel Information System (TIS)
- Integration with RTS's Automatic Passenger Counters (APC)
- Integration with RTS's Operations software
- Integration with RTS's existing Geographic Information System (GIS) database of routes and stops
- Migration of existing scheduling data from Fleet-Net

Can you please provide us with Interface Control Documents for these interfaces? Secondly, is it the proposers responsibility to get 3rd party license and services quotes from the above, and if so, can we please have the necessary contact information?

Answer2: **1st Bullet - Transloc, Inc 888-959-3120; please see note below regarding status of TIS vendor.**
2nd Bullet - Urban Transportation Associates 513-961-0099
3rd Bullet - Fleet-Net Corporation 727-344-4034
4th Bullet - ESRI 800-447-9778 (personal geodatabase (GDB))
5th Bullet - Fleet-Net Corporation 727-344-4034

Question3: Based on question 2, if we are required to get 3rd party quotes, can you please consider extending the proposal due date since we will need to contact each vendor and request pricing?

Answer3: **Proposers will need to contact vendors directly to obtain this information. Yes, it is the proposer's responsibility to acquire this information. Please note that RTS is also releasing an RFP for a TIS solution at this time. This may result in RTS using a different vendor than Transloc in the future. As part of your proposal, please indicate the TIS/Automatic Vehicle Location (AVL) vendors you are able to interface with and whether there are cost differences for this interface between the vendors. Additionally, please state how you propose to handle this situation if RTS's new TIS vendor is not known until after this contract is awarded.**

Question4: There seems to be some missing data in the section below:

7.2 **Cost Proposal**

Proposers are required to submit their price proposals using the Price Summary Form presented in **Appendix 1. Cost Proposal** and **Appendix 2. Optional Component Cost Summary**. Proposers shall submit a cost for each line item, as well as a total cost for each solution and a total cost for the entire proposal The operation and maintenance cost shall include and detail all anticipated sources of ongoing costs, including, but not limited to: royalties, software license fees, technical support, training, rentals, interface surcharges, or anticipated replacements. If the proposer offers a hosted solution, as well as a non-hosted solution a version of Appendix 1and Appendix 2 shall be submitted for each.

The cost proposal shall include all individual cost details of the proposed services, estimated hours of work by key staff, and individual hourly cost for staff, and total costs (Fixed firm); include and identify expenses and taxes separately.[34] The Proposer shall modify or clarify entries in **Error! Reference source not found.** and **Error! Reference source not found.**, as cessary, so that the price summary represents the total cost to provide the solutions. The total cost shall include all incidentals associated with the hardware and software, such as mounting hardware, cables, fasteners, brackets, and housings. RTS shall not incur additional costs for any additional equipment, services, shipping, handling, communications, installation, or testing.

Answer4: **The broken references refer to Tables 2 Mandatory Component Price Schedule and Table 3 Five Year Maintenance and Support Costs.**

Question5: Is the intent of this RFP to also procure Computer Aided Dispatch software and hardware for Automatic Vehicle Location?

Answer5: **No, that is occurring in a separate RFP. The proposer of this RFP is only responsible for integrating with that solution. See prior addendum for additional information.**

Question6: In order to provide a competitive cost effective proposal that will benefit RTS first, we need to solicit 3rd party quotes for the required hosting requirements and hardware which is a time consuming process. Can RTS grant at least a 3 weeks extension to the proposal due date?

Answer6: **RTS will grant a 4-week extension to the proposal due date.**

Question7: In order to provide our recommendation to the number of central system and mobile workstations upon which the system shall be installed and accessed simultaneously as per the RFP, Please provide us with an estimated no of users who will use the system on a daily basis and who will simultaneously access remotely.

Answer7: **See Answer1 above.**

Question8: Item #4.3 of the Functional Requirements discusses an interface to Fleet-Net Operations Software. Do you have a specification or interface control document that describes the required interface?

Answer8: See Anwer2 above for clarification to this type of question.

Question9: Item #4.4 of the Functional Requirements discusses an interface to Time Table Publisher. Do you have a specification or interface control document that describes the required interface?

Answer9: See Answer2 above for clarification to this type of question.

Question10: Please further explain matrix item 15.5 "Able to load simultaneously multiple vehicle schedule scenarios (for comparison, for copying trips from one to the other, etc.)."?

Answer10: This requirement refers to the ability to simultaneously work with multiple versions of a route's schedule for a particular time period. For example, in preparation for an upcoming service period RTS may develop one version of a route's schedule that has the route starting at 7AM and ending at 8PM and another version that has the route starting at 8AM and ending at 9PM. In meeting this requirement, the proposer's system would allow both such schedules to exist, RTS to copy trips between the schedules, and ultimately select one for implementation.

Question11: Can we use RTS existing VM environment?

Answer11: GRU IT uses a VM environment if the server is going to be housed with them it will be a virtual server.

Question12: Where will the central system components (servers, etc.) be located?

Answer12: The server will be hosted in the RTS Server Room, unless the decision is made to virtualize it, in that case it would be in the GRU IT virtual environment.

Question13: Are questions in Appendix 7: Standard Technical Questions to be answered as part of the proposal submission or as part of the System Design/Configuration Plan within 30 days of NTP as indicated in section 5.6.2 of the Technical Specifications?

Answer13: The questions are to be answered as part of the proposal submission.

Question14: Will the scheduling software servers be incorporated into an existing network-based backup-environment?

Answer14: If the server is housed at RTS a new network managed backup device will need to be provided. (SAN or NAS) GRU is already setup with an offsite Disaster Recover server room. They utilize VMWARE's high availability and multiple SAN's devices. RTS would need to create one if the server were to be housed here. TMS has a server room offsite that would be capable of housing another storage device and could connect into the City's Existing Infrastructure. GRU IT will not be able to backup any data storage systems outside of the GRU IT data centers.

Question15: Does RTS and/or the City of Gainesville maintain an existing disaster recovery (DR) facility that will be utilized by the scheduling software central system components? If so, please describe (location, connectivity, existing server, storage and communications features, existing failover technologies utilized, etc.).

Answer15: If the server is housed at RTS, we will need to make sure that a backup storage device is provided. (SAN or NAS)

Question16: What is the functionality of Time Table Publisher? Please provide examples of the schedules exported from this application.

Answer16: Time Table Publisher transforms raw schedule data into traditional time table format that is found in printed material and transit websites. Information on this software is freely available online.

Question17: We would like for the RTS/City of Gainesville to consider granting an extension of the deadline for the receipt of proposal to 90 days.

Answer17: See response to Question6 above.

Question18: Does the RTS/City of Gainesville have a projected budget for the project?

Answer18: Proposer shall offer best price that satisfies all the requirements specified in the RFP.

Question19: Can a vendor bid only a portion of the RFP? In Fleet-Net's case only the software portion of the project.

Answer19: Yes, but the evaluation will be based upon the entire RFP.

Question20: 5.2.1 – Corporate References – Appendix 4 Questionnaire (page 16) – since there is a 75 page requirement for the technical proposal – are the Reference Questionnaire included in that or can they be added on as an Appendix?

Answer20: As stated in the RFP (7.3, page 68), required forms are excluded from the 75 page count limit.

Question21: 5.2.2 – Team References – (page 16) – Are team resumes to be included in the 75 page requirement?

Answer 21: As stated in the RFP (7.3, page 68), required forms are excluded from the 75 page count limit.

Question22: Section 3 Proposal Forms – B. Qualifications/Statement of Qualifications (pages 8 & 9), there seems to be some missing information as to how the proposal should be laid out. Under Proposed Solution Overview, the numbering begins at 4.1 so it seems that something is missing. Also there seems to be redundant information on under Section 5 – Corporate Capabilities & Submission Requirements (page 15 to page 16). Is there a particular format as to how RTS would like the proposal outlined?

Answer 22: No information is missing. See section 7 of the RFP for guidance on proposal format.

Question23: Section 6 – Functional & Technical Requirements (matrix pages 47 to 66) – does RTS want the matrix in be included as part of the 75 page maximum?

Answer 23: As stated in the RFP (7.3, page 68), required forms are excluded from the 75 page count limit.

Question24: Appendix 7 – Standard Technical Questions – can this be included as an appendix to the technical proposal?

Answer 24: Yes.

Question25: Is there a DBE Requirement?

Answer 25: RTS has a DBE goal but there is not a race conscious DBE contract goal.

Question26: Hardware, is this referring to server and workstation or for future purposes like AVL and such?

Answer 26: Server and necessary workstation – whatever hardware is required for this install, not for AVL equipment.

Question27: There is information about fleet defects – is this for scheduling, nothing new onboard bus?
Answer 27: Yes.

Question28: Regarding server and pc – are you wanting to replace all your current hardware in that respect or are you fine with the equipment that you have?
Answer 28: There is an expectation for you to demonstrate that whatever hardware you are proposing is required. If our existing equipment is sufficient for the software, then we are not looking to replace it. It is likely, on the server side that we would need an upgrade or addition but the proposer would indicate that in proposal.

Question29: For vendors to compare apples to apples it will be difficult unless you detail information on what the server and workstation you currently have.
Answer 29: For GRU IT provided virtual servers we can likely accommodate whatever virtual CPU and RAM needs there are. However, if too extensive then additional purchases for underlying hardware will need to be made but that would be at GRU IT specification and through their channels; who pays for it will be determined in the future.

Question30: Infrastructure services minimum technical requirements (Appendix 6) – is that what is currently in place or is that what you want?
Answer 30: Appendix 6 is the City's IT Standards for what is required if you are going to provide hardware to us.

Question31: But that is not necessarily what you have in place now?
Answer 31: Not necessarily but mostly if not entirely true – the standards indicate what our environment has and what we can provide/support.

Question32: Can you provide your current system information; for example, the age of current servers may or may not be sufficient.
Answer 32: Yes. See Answer29 above.

Question33: Do you prefer a hosted or non-hosted environment?
Answer 33: Not sure at this point. If you have a hosted environment provide the information and what shortcomings/benefits it may have.

Question34: 5.2.1 Talks about references and resumes. Are those references and resumes going to be included in the 75 page count?
Answer 34: Refer to 7.3 on page 68 "… shall not be more than 75 single-sided, typed pages (excluding any required forms, requirement compliance matrices, and staff resumes)…".

Question35: Functional technical requirements, pages 47-66, that is the matrices, are they included in the 75 page maximum as well?
Answer 35: As stated in the RFP (7.3, page 68), required forms are excluded from the 75 page count limit.

Question36: Do you have a budget range?
Answer 36: See Answer18. We want proposers to give us their best price.

Question37: Are you using partly federal monies as well?
Answer 37: Primarily federal funding.

Question38: If we provide a hosted solution how do we met the DBE requirement being achieved?
Answer 38: RTS has a DBE goal but there is not a race conscious DBE contract goal.

Question39: Your evaluation criteria, is there any weights assigned to each of the sections?
Answer 39: There are weights, but FTA only requires that we state the criteria in order of importance.

Question40: Regarding Oral Presentations, do you expect vendors to demo a live system – what do you mean by "live".
Answer 40: We do not want PowerPoint images.

Question41: Hardware (IT) very detailed components in section 5.6.2.1.1 says to submit manufacturer model, serial, and part numbers for proposed equipment. Are you referring to system design? That could change by the time you get to the actual award part.
Answer 41: Once a contract is in place, the awarded proposer should tell us what we are getting for inventory purposes.

Question42: RFP alludes to future purchase of AVL and so forth. What kind of timeline are you looking at for that?
Answer 42: Expected to be released by end of next month.

Question43: Currently you have TransLoc.
Answer 43: Yes, it has basic traveler information system. That would be what we would be going out to bid for with optional CAD component.

Question44: You've already acquired the federal grant for that purchase as well?
Answer 44: Yes.

Question45: So, in regard to the AVL when you do acquire that you would want a two-way interface between it and scheduler for back and forth?
Answer 45: Yes.

Question46: So you are also looking for that in this RFP: importing in APC and AVL data? Is that data consolidated now in a data base and being pushed anywhere?
Answer 46: No, right now our APC data is not integrated with our current scheduling software.

Question47: *Paraphrased:* Are you concerned that we will provide you a price to integrate with one vendor and you pay it and then after your RFP you have a new vendor have to pay us for integration.
Answer 47: See Answer3 above.

Question48: Optional Component – is that going to become a requirement at some point?
Answer 48: It is optional; we are just looking to get a price and the degree to which you satisfy it. We could add it to the contract if we have the funding.

Question49: Are you open to vendors providing both options – hosted and non-hosted?
Answer 49: Yes.

ACKNOWLEDGMENT: Each Proposer shall acknowledge receipt of this Addendum No. 4 by his or her signature below, **and shall attach a copy of this Addendum to its proposal.**

CERTIFICATION BY PROPOSER

The undersigned acknowledges receipt of this Addendum No. 4 and the Proposal submitted is in accordance with information, instructions, and stipulations set forth herein.

PROPOSER: DoubleMap Inc.

BY: Ilya Rekhter CEO DoubleMap Inc.

DATE: 10/23/15

41-424 Prohibition of lobbying in procurement matters

Except as expressly set forth in Resolution 060732, Section 10, during the black out period as defined herein no person may lobby, on behalf of a competing party in a particular procurement process, City Officials or employees except the purchasing division, the purchasing designated staff contact. Violation of this provision shall result in disqualification of the party on whose behalf the lobbying occurred.

Black out period means the period between the issue date which allows for immediate submittals to the City of Gainesville Purchasing Department for an invitation for bid or the request for proposal, or qualifications, or information, or the invitation to negotiate, as applicable, and the time the City Officials and Employee awards the contract.

Lobbying means when any natural person for compensation, seeks to influence the governmental decision making, to encourage the passage, defeat, or modification of any proposal, recommendation or decision by City Officials and Employees, except as authorized by procurement documents.

CITY OF GAINESVILLE
GENERAL GOVERNMENT PURCHASING DIVISION
(NON) MANDATORY PRE-BID CONFERENCE
Fixed Route Scheduling Software
DATE: September 16, 2015 @ 9:00 AM LOCAL TIME
BID #RTSX-160004-DS
DUE DATE: October 1, 2015, AT 3:00PM

YOUR ***COMPANY'S*** NAME, ADDRESS & PHONE NUMBER	***YOUR*** SIGNATURE, PRINTED ***NAME***, EMAIL ADDRESS & FAX NUMBER
1) Matthew Muller - RTS PHONE # (____)	Matthew Muller SIGNATURE Matthew Muller PRINTED NAME E-MAIL: FAX # (____)
2) Scott Walsh - INIT PHONE # (407) 473-0957	SIGNATURE Scott Walsh PRINTED NAME E-MAIL: SWalsh@initUSA.com FAX # (____)
3) Christine Navales - Fleet-Net Las Vegas, NV 1-800-258-2762 PHONE # (____)	SIGNATURE Christine Navales PRINTED NAME E-MAIL: FNC.east@KNOLOGY.net FAX # (____)
4) Susann Poggioli Enghouse PHONE # (302) 896-3425	Attended via telephone SIGNATURE PRINTED NAME E-MAIL: spoggioli@enghouse.com FAX # (____)
5) PHONE # (____)	SIGNATURE PRINTED NAME E-MAIL: FAX # (____)

ADDENDUM NO. 5

CITY OF GAINESVILLE
every path starts with passion
FLORIDA

Date: September 24, 2015

Bid Date: ~~October 1, 2015~~
November 2, 2015
3:00 P.M. (Local Time)

Bid Name: Fixed Route Scheduling Software

Bid No.: RTSX-160004-DS

NOTE: This Addendum has been issued to the holders of record of the specifications and attendees of the non-mandatory pre-bid meeting held on September 16, 2015.

The original Specifications remain in full force and effect except as revised by the following changes which shall take precedence over anything to the contrary:

1. The question deadline has passed; no additional questions will be answered.

2. Questions and Responses:

Question1: What data will be required to be imported from Fleet-Net? What format is the data available in?

Answer1: **Schedule information will need to be seamlessly exchanged between the two systems. Historical and existing schedule information will need to be imported from Fleet-Net to the proposer's scheduling solution. All schedule information needed for time-keeping and payroll processing will need to be uploaded from proposer's scheduling solution to Fleet-Net. Specifically, RTS will use the roster created by the proposer's scheduling solution within Fleet-Net to track work assignments, overtime, cancelled service, days off, extraboard, etc. If RTS procures the optional Operation software it is expected at a minimum to provide the latter functionality and that aspect of the integration will not be necessary. The data is stored in a SQL server database.**

Question2: Does RTS have a preferred hardware vendor? Please note, RTS purchasing hardware from a gov't contract is generally a cheaper solution.

Answer2: **Limited to hardware that would be in IT data centers the preferred vendor is HP. I suggest the RFP responders describe the minimum requirements and this procurement happen outside of the RFP if even necessary. If virtualization allowed then there is likely no data center hardware. For other hardware that is up to IT Support (Dell for desktops I know) and RTS.**

Question3: Which HR system is being used?

Answer3: **Globally, RTS uses ADP for timekeeping and attendance. Operator work assignments, however, are initially entered in Fleet-Net and then manually transcribed in ADP by Payroll staff. If RTS procures the optional Operation software it is expected to fully integrate with ADP and negate the need for any manual transcription.**

Question4: Which sign-in terminals are being used?

Answer4: **Drivers clock-in using ADP terminals. At this time, these terminals are not integrated with run assignments or any other operational characteristics.**

Question5: Does RTS already own a SQL Server license?

Answer5: **We do not have a license but GRU has enterprise sql licensing. GRU IT has SQL Server license for virtual machines running SQL Server, otherwise additional license will need to be purchased. Again those will have to purchase outside of the RFP because we must purchase from SHI to put on our Enterprise Agreement.**

Question6: Does RTS test databases on a separate server or just a separate instance of SQL Server?

Asnwer6: **We can do either. We have Dev and QA tier SQL Servers (virtual) and Production tier SQL Servers (virtual). Which we do will depend on vendor requirements and IT operational needs.**

Question7: Operations System Functional Requirements – Item 13.11 - The system shall allow RTS to generate and print employee performance reports. Please provide more details on the requirements of this report.

Answer7: **The report will include the metrics outlined in that section like count of late sign-ins within a certain period and accident history and have the ability to provide more robust statistics like information on on-time performance and farebox data entry as that functionality is added by RTS.**

Question8: Operations System Functional Requirements – Item 6.25 - The system must allow for a centralized markup of the extraboard assignments. Please explain this requirement in more detail.

Answer8: **This requirement addresses the need for the proposer's solution to offer one location that all appropriate staff can access and work with to meet the requirements of section 6 "Extraboard/Open Work Assignment Process."**

Question9: Functional and Technical Requirements, Item 9.1 - Which version of ESRI is being used by the City?

Asnwer9: **ArcMap 10.0 or higher.**

Question10: We are having trouble contacting someone at Transloc – do you have a contact name and email address for the contact there?

Answer10: **Jimmy Jones at 919-973-3822 or 919-810-8829.**

ACKNOWLEDGMENT: Each Proposer shall acknowledge receipt of this Addendum No. 4 by his or her signature below, **and shall attach a copy of this Addendum to its proposal.**

CERTIFICATION BY PROPOSER

The undersigned acknowledges receipt of this Addendum No. 4 and the Proposal submitted is in accordance with information, instructions, and stipulations set forth herein.

PROPOSER:  Doublemap Inc.

BY: Ilya Rekhter CEO Doublemap Inc.

DATE: 10/23/15