



City of Santa Fe, New Mexico

Memorandum



DATE: November 07, 2022

TO: JoAnn Lovato, Interim Chief Procurement Office

VIA: Kyra Ochoa, Community Health and Safety Department Director *KO*

FROM: Brian Williams, Director Office of Emergency Management *BW*

ITEM AND ISSUE:

Request for Approval of the purchase of Evacuation Study in the Total Amount of \$75,000 from SIMTABLE LLC.

BACKGROUND AND SUMMARY:

Wildfire evacuation is one of the most serious challenges facing the City of Santa Fe. In order to more effectively develop an evacuation plan, OEM has successfully requested from the Governing Body funding to conduct an agent-based analysis using our SIMTABLE "sandbox" tool.

SIMTABLE is a digital projection sand table capable of processing customized agent-based dynamic Geographic Information System (GIS) models. This tool will enable us to understand the volume and flow of traffic from locations in the Wildland Urban Interface (WUI). Based on this modelling, planners will be able to establish evacuation zones or "catchments" that will be utilized during a major wildfire.

While there are other vendors capable of developing dynamic GIS modelling, there are no other vendors who can produce a geospatial agent-based model that we are requesting. The city already owns a SIMTABLE sandbox capable of developing this analysis.

PROCUREMENT METHOD:

Sole Source

FUNDING SOURCE:

Professional Contracts

The funding source is:

Fund Name/Number: Professional Contracts

Munis Org Name/Number: 6000231

Munis Object Name/Number: 510300

ACTION REQUESTED:

The Office of Emergency Management respectfully requests your review and approval.

Signature: *Brian Williams*

Email: bgwilliams@ci.santa-fe.nm.us

Signature: 
Kyra Ochoa (Nov 7, 2022 09:38 MST)

Email: krochoa@ci.santa-fe.nm.us



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SOLE SOURCE REQUEST AND DETERMINATION FORM

This sole source request form **must** be submitted to the City of Santa, Purchasing Division for authorization, determination and processing by the Chief Procurement Officer (CPO).

Please ensure to complete this form in its entirety - () must be completed.*

*Date: 11/01/2022

*Prepared By: Brian Williams

*Title: Director Emergency Management

*Vendor Name: SIMTABLE

*Address: 1600 Lena St D #1

*City: Santa Fe

*State: NM

*Zip Code: 87505

*Description of Goods/Service to be procured: Access and functional needs emergency communications kits

*Estimated Cost: \$ 75,000

Term of Contract: One (1) to Four (4) year from award

*Sole Source Request Justification Questions 1-3.

1. Explain the purpose/need of purchase. Ensure to include a thorough scope of work for the services, construction or items of tangible personal property (if this is an amendment request to an existing contract, attach current contract).

The purpose of this project is to analyze traffic volume and flow from the Wildland Urban Interface area of the city. This analysis will serve as the basis for establishing evacuation areas.

Simtable Santa Fe Evacuation Project

Simtable proposes to facilitate and provide support for planning evacuations of neighborhoods in Santa Fe. Simtable intends on providing tools to simulate and design evacuation zones through discussions facilitated by the "Evacuation Module" on the Simtable. Simtable will identify, and if feasible, integrate new data sources to support higher fidelity models of evacuations in Santa Fe. The evacuation model will be improved to support identification of traffic drainages and support the naming of classified zones.



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Dynamic Analysis of Evacuation Patterns via Agent Based Model

In addition to the facilitated table exercises, we propose a more in-depth analysis of evacuation models taking into account population change, time of day, public events or other scenarios to identify likely critical areas for evacuation. Furthermore, we propose using an agent-based graph analytic approach to identify evacuation catchments to suggest evacuation zone placement and will provide tools for naming these catchments appropriately.

Tabletop Exercise Facilitation

We propose facilitating tabletop exercises with various stakeholders around the table or virtually via MS Teams or Zoom. These tabletops will facilitate coordination between departments during pre-planning like deciding where roadblocks might be placed.

Each neighborhood has its own character and circumstances. Limited access is a common trait in our neighborhoods in the WUI. Understanding how a neighborhood evacuation might be accomplished and identifying ahead of the time the likely bottlenecks or alternative exit paths is key. Working with people who live in these neighborhoods and understanding what issues residents might anticipate is a key use of facilitated Sand table scenarios.

Objectives:

1. Simtable Custom Support of Tabletop Exercise
 - a. Graph analytic analysis of road network
Identify bottlenecks, evacuation zones (catchments), etc.
 - b. Add custom layers to Simtable
Assess/identify new layers from 3rd parties (e.g. Microsoft Housing layer)
 - c. Naming Evacuation Zones (Catchments)
2. Dynamic Analysis of Evacuation Patterns via Agent Based Model
 - a. Update model to include roadblocks
 - b. Spawn traffic based on custom layers (e.g. Microsoft Housing layer)
 - c. Model different times of day, different days of the week
 - d. Model events going on (e.g. Zozobra, Indian Market, etc.)
 - e. Simulate patterns of notification by evacuation zones (catchments)
3. Tabletop Exercise Facilitation
 - a. Evacuation communications via live map
 - b. Look for mitigation opportunities (e.g. clearing operations to support evacuation)
 - c. Community outreach

Plan and Schedule:

Month 1 2 3 4 5 6 7 8

Identify Custom Input Layers
Road Network Graph Analysis
Naming Evacuation Zones
Dynamic Analysis of Evacuation Patterns
Planning Tabletop Exercise Facilitation
Outreach Tabletop Exercise Facilitation

Developer Resources: 3 Person Team | 32 Week Duration

Simtable Software Customization

Research Scientist - Researcher focusing on the design and implementation of the updated agent-based traffic model and road network graph analysis tool. Will conduct



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experiments on existing road network data and will add in custom layers and conditions to evaluate evacuation patterns under a variety of conditions.

Senior Developer - Lead developer on the project focused on the main design of the services and software engineering of the solution(s) provided. Main facilitators of technical knowledge between the organizations and team members on the project.

Project Facilitator - Focused on facilitating planning and tabletop exercises using the Simtable. Will work with emergency management officials during the planning phase to establish catchments and naming regions. Will also work with emergency management officials, community members and stakeholders during evacuation outreach exercises.

Research Scientist \$135 0.5 (4 Months) \$ 43,200

Senior Developer \$135 0.5 (6 Months) \$ 64,800

Project Facilitator \$110 0.5 (4 Months) + \$35,200

Sub Total: \$ 143,200

Partner Discount: - 68,200

Total: \$ 75,000

2. Provide a detailed explanation of the criteria developed and specified by the department as necessary to perform and/or fulfill the contract.

The contractor has affirmed sole source for the services, construction or items of tangible personal property (*Attach memo from vendor*). Provide documentation of due diligence for other possible vendors/contractors to provide the requested services/goods proved unsuccessful; or

Other: explanation of the reasons, qualifications, proprietary rights or unique capabilities (*unique and how this uniqueness is substantially related to the intended purpose of the contract*) of the prospective contractor that makes the prospective contractor *the one source* capable of providing the required professional service, service, construction or item(s) of tangible personal property. (Please do not state the source is the “best” source or the “least costly” source. Those factors do not justify a “sole source.”) *Unique and how this uniqueness is substantially related to the intended purpose of the contract.*

The SIMTABLE is a unique, proprietary tool the city owns. The SIMTABLE will enable us to model evacuation patterns using the dynamic GIS capability of the tool. It would be illogical to purchase a second device to conduct this analysis.



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- 3. Explain why other similar professional services, services, construction or item(s) of tangible personal property *cannot* meet the intended purpose of the contract.

While there are other products capable of providing this type of analysis. The city owns a SIMTABLE and the technical assistance is located here in Santa Fe which strengthens the credibility of the analysis.

***Approvals:**

Based on the above facts, the City of Santa Fe Purchasing Officer has made the determination that the justification for a Sole Source procurement is in accordance with the State Procurement Code, Section 13-1-126 Sole source procurement., NMSA 1978 and shall be posted for a 30-day period prior to award.



JoAnn Lovato, Nov 9, 2022
Acting Purchasing Office for the Date
City of Santa Fe

Pursuant to the State Procurement Code, Section 13-1-126 Sole source procurement., NMSA 1978, the 30-day posting period of the Notice of Intent to Award this Sole Source request was met and no obligation to the award to the above referenced contractor were received. *This Sole Source determination will be valid for a period of one (1) year from the date of the award.*

JoAnn Lovato Date
Acting Purchasing Officer for the
City of Santa Fe



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****Required Attachments:***

****Letter from Contractor acknowledging they are the only source (on their business letterhead and signed by the head of business or financial operations),***

****Quote from sole source Contractor***

****Agenda Item to be presented to City Council if over \$60,000 for Professional Services and \$60,000 for Goods and Non-Professional Services***



1600 Lena St., Ste. D1
Santa Fe NM 87505

Re: Sole Source Justification

To Whom It May Concern,

This letter serves to notify that Simtable's interactive technology – including the Simtable System, AnySurface, Mobile Interaction and Agent-Based Modeling components - are a sole source product developed and distributed by Simtable, LLC. To our knowledge, no other company makes a similar or competing product. This product must be purchased directly by institutions from Simtable, LLC at the address listed above. There are no agents or dealers authorized to represent this product.

With over 100 Simtables deployed to date, Sole Source purchasing has been used in the majority of purchases including states of California (Marin County purchase), New Mexico, North Carolina, Michigan, and Arizona. In the few cases where the Simtable has been put out to bid, there have been no responders.

There is no other like item(s) or product(s) available for purchase that would serve the same purpose or function and there is only one price for the above names, item(s) or product(s).

The following descriptions provide further detail regarding our proprietary technologies:

Active Pixel Projection System

This system provides a fully integrated system comprised of a dedicated computer, projector and camera sensor. Coupled with Simtable's AnySurface software, the system provides ambient computing capability in which a projected interface may be operated without the use of keyboards or mice.

AnySurface

This software enables projected computer interfaces to be operated by use of ambient devices such as laser pointers, motion and or other remote devices (e.g. tablets, smart phones etc.). The Simtable is primarily operated by means of laser pointer which acts as an ambient mouse input upon the projected interface.

Agent-Based Modeling

Simtable's agent based modeling capabilities are the only custom models that allows for real-time, dynamic inputs which allow the modeling behavior to be altered during simulation and in real-time. For instance, the operator may alter the behavioral inputs that

affect the models result without stopping the simulation or re-running it again. Personnel may alter the behavior of a simulation (fire, flood, hazmat plume and traffic evacuation) by changing the inputs (weather, terrain, biological and ecological assets, etc.) in real-time. Simulated resources and interactive methodologies may also be placed and moved in order to simulate the effects of mitigation practices and outcomes.

Mobile Device Integration

This capability provides mobile device interaction allowing for 3D view movement and rotation, KML layer switching, map loading and selection of images and video on Simtable views and interfaces. Also allows for synchronized view of simulations on tablets and phones.

Simtable has copyrights on its invented and developed hardware/software combination and treats as trade secret its proprietary technologies which include:

- **AnySurface™**: 3D scanning and object tracking using cameras and projectors
- **AnyHazard™**: agent-based modeling simulation engine for wildland fire, hazmat plumes, flood and traffic evacuation
- **Acequia™**: Distributed real-time geospatial data engine

If you require additional information, don't hesitate to contact me at (505) 577-5828. We look forward to working with you.

Best regards,

A handwritten signature in black ink that reads "Stephen Guerin". The signature is written in a cursive, flowing style.

Stephen Guerin
CEO, Simtable LLC
stephen@simtable.com