

Sole Source Justification Form

Bulletin Reference Number
Requesting Agency/University

Sole Source Justification Form - Part I

Section I - General Information

Department/Bureau/Section:
Need Identified Date: Supply/Service Need By Date:
Project Title:
Vendor:

Provide a description of the supplies or services required:

Value: Value of Initial Term, this Change Order or Amendment:

Will this Sole Source amend a Professional or Artistic Services contract? Yes No

*Sole Source may not be used for amendments for Professional or Artistic Services if the amendment would increase the value by more than 5% of the initial award or extend the term by more than 60 days.

Type:

Section II - Proposed Term

One-Time Purchase Term Contract

Estimated Contract Begin Date:
Estimated Contract End Date:
Number of Potential Renewals:
Length of Each Renewal in Months:
Total Value of All Renewals:

If a Term Contract, does the term, including renewals, exceed 12 months? Yes No

Section III - Funding Source

Select the type of funding to be used (Check all that apply): State Appropriate Funds Federal Funds Other (Explain):

Section IV - Sole Source Justification

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This purchase is economically only available from a single source **primarily** because it is: (If "Other" explain in one sentence)

Items are Copyrighted or Patented and the Items are Only Available from the Holder

Are there secondary justification(s) for this sole source? Yes No

Section V - Purchase History

Has the Agency or University Purchased these supplies or services in the past? Yes No

Term	Term From	Term To	Value	Description	Contract Number	Type
1	Jan 17, 2019	Jan 17, 2021	3,381,814	Contract- Illinois statewide Replica tool development. This was processed through the IDOT Chief Procurement Office- Construction.	70501	Sole Source
2						
3						
4						
5						
6						
7						
8						
9						
10						

If more than 10, or if other comments, explain:

Section VI - Business Rationale

1. Provide a detailed explanation of the need for the supplies or services:

IDOT continuously works to collect data from various reputable sources and explore new methods to better understand the travel patterns of the state and region. These data are major inputs into transit agency, municipal, MPO, and IDOT planning and investiture decisions. The data necessary for these analyses and decisions includes survey data on travel behavior related to how people move in and about a city, region, or state. Typically, this data is collected through surveys of individuals. This data is usually a very small percentage of the population and the travel demand model extrapolates how this sampling of individuals would behave if different transportation investments are made.

With Replica's proprietary product and service, the data is gathered from dozens of de-identified and anonymized data sources, including mobile carrier data, location data from third party aggregators, and household characteristic data and therefore provides a much greater statistically significant population from which to run alternative scenarios for where traffic would go if a new bridge or road were constructed. Additionally, IDOT is seeking granular detail and high quality data to make generational policy and investment decisions, like major transportation investments, or substantial changes to land use policy, and to have the near-real time data required to monitor behavior changes and measure the impact of on-going operational and policy decisions in a rapidly changing world. This procurement is exceptionally important now with the changes due to COVID-19.

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2. Provide a list and describe in detail the specifications required to satisfy the need:

In order for IDOT to fund and plan the future of our highways and bridges, we need data results of traffic patterns in Illinois.

GPS data provides the characteristics of individual travelers. This is more efficient, accurate and cost effective than mailing travel surveys to people, which rely on survey participants to track their own individual travel. Replica tracks a broader segment of the population than former methods.

Replica is the only fully-calibrated travel demand model offered as Software-as-a-Service that enables the public sector to understand the movement of people and goods. The capabilities outlined below demonstrate the unique economically feasible value Replica provides to public sector agencies:

The use of dozens of de-identified and anonymized data sources, including mobile carrier data, location data from third-party aggregators, and household characteristic data to generate an internally consistent and representative travel model for a region and / or State. Replica develops and implements proprietary technology to estimate daily individual itinerary characteristics, based on analyzing locations from millions of devices, while ensuring individual privacy of travelers is protected.

The calibration and validation of model outputs using observed data such as traffic, transit, and non-motorized counts from local agencies.

The ability to delineate between different modes of travel at the individual trip level, including private auto; public transit; Transportation Network Companies (e.g., Uber, Lyft); walking; bicycling; and commercial travel.

The ability to provide not just the most likely mode used to make each trip, but the probability of the trip being made by each of the competing modes available.

The ability to delineate between different trip purposes at the individual trip level, including trips for the purpose of work, home, school, eating, shopping, recreation, and social visits; this is in comparison to traditional models, which only support work and home descriptions.

The ability to query trips both by the characteristics of trip takers (household and person attributes based on Census and Consumer marketing data) and trips (origin, destination, mode, purpose, time of day, route).

The ability to provide underlying data for forecasts for program and policy scenario analysis, such as future route, mode, time of day travel patterns resulting from service, infrastructure, or policy changes.

The ability to enable customers to consume data, including all travel demand model outputs, through a web interface, API, or scheduled cloud transfers of the underlying activity tables.

Delivery via a secure hosted browser-based web-service, requiring no client software installation, no on-premise storage solutions, and no special or dedicated hardware.

The ability to provide each member agency a single source of baseline data, thereby creating a common data framework for technical and policy collaboration.

The update and recalibration of its model twice (2 times) each calendar year.

A proven, demonstrated ability to handle privacy-sensitive datasets and extremely large datasets.

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3. Provide detail explaining the justification selected in Section IV to explain why the requested supplies or services are the only ones available that can satisfy the agency or university requirements?

Replica is the only developed software and service plan on the market today that transportation agencies can access who tracks, correlates, analyzes, formulates, defines, maps, and forecasts the correct data of the nationwide traveling public/goods/services with weekly real-time updates needed for programing, planning, funding roads and bridges in Illinois. This is the only solution developed in the US that enables agencies to forecast with accurate raw, user friendly data, and has already been proven effective, efficient and accurate with our previous procurement purchase of Replica's software/service from Jan. 2019-Jan. 2021.

Items are Copyrighted or Patented and the Items are Only Available from the Holder. Replica is proprietary software/service that was developed and only available by the Vendor.

Replica has two complimentary products with unique capabilities to help the Department achieve the objectives described above: Replica Places is a high-fidelity synthetic representation of travel-related outcomes that can improve the monitoring and planning of transportation and land use systems. Replica is the only calibrated, regional, or mega-regional-scale travel demand model offered via software-as-a-service (SaaS) in the world, and it is delivered in a pioneering privacy-sensitive approach.

Replica Trends is a nationwide model, with census-tract level fidelity and weekly updated data covering mobility, consumer spend, and COVID cases. Customers use Trends to understand the current state of the world and monitor how it's changing in near-real time. Together, these products deliver an accurate and trustworthy baseline of how people move today and enable the State to make key policy and planning decisions.

Replica's platform is structured to enable a wholesale reinvention of the scenario modeling and forecasting that is critical to testing the effectiveness of proposed future solutions, including:

Composite data sources: The use of dozens of de-identified and anonymized data sources, including mobile carrier data, location data from third-party aggregators, and household characteristic data to generate an internally consistent and representative travel model for a region and / or State. Replica develops and implements proprietary technology to estimate daily individual itinerary characteristics, based on analyzing locations from millions of devices, while ensuring individual privacy of travelers is protected.

A shared platform: Replica provides complete organizational access, with unlimited seats, allowing each member agency a single source of baseline data, thereby creating a common data framework for technical and policy collaboration.

Fully-calibrated: Replica is the only fully-calibrated travel demand model offered as Software-as-a-Service that enables the public sector to understand the movement of people and goods.

Data science: Replica's machine learning department lead had extensive research experience in developing the Bay Area travel demand model using mobile phone data techniques. While other service providers may focus on general data science's supply side, Replica has already established theoretical and practical links to the demand side by tailoring their products toward Travel Demand Modeling needs.

Data access. Replica leverages both public and proprietary data sets in building modeling and planning tools. Replica's software engineering and data science team has a proven, demonstrated ability to handle privacy-sensitive datasets and extremely large datasets.

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4. What are the unique features of the supplies or services that are not available in any other product or by any other vendor? Provide specific quantifiable factors/qualifications:

Replica meets the State of Illinois procurement guidelines regarding sole source contracting because this product/service is available from only one economically feasible source. Replica's platform, data sourcing, software and service plan is not available by any other provider. No other vendor in the US has developed a similar product with the extent of user data associated as a software platform and service. No other brand/product exists. No other vendor has coded or created such a platform. Replica is the only company that provides this service in the US.

The unique, quantifiable features of this software that no other vendor can provide are listed below:

Replica is the only fully-calibrated travel demand model offered as Software-as-a-Service that enables the public sector to understand the movement of people and goods. The capabilities listed below demonstrate the unique, economically-feasible value Replica provides:

Replica is the only vendor that uses dozens of de-identified and anonymized data sources, including mobile carrier data, location data from third-party aggregators, and household characteristic data to generate an internally consistent and representative travel model for a region and / or State. Replica develops and implements proprietary technology to estimate daily individual itinerary characteristics, based on analyzing locations from millions of devices, while ensuring individual privacy of travelers is protected.

Replica is the only vendor that allows the calibration and validation of modeling outputs using observed data such as traffic, transit, and non-motorized counts from local agencies.

Replica is the only vendor that has the ability to delineate between different modes of travel at the individual trip level, including private auto; public transit; Transportation Network Companies (e.g., Uber, Lyft); walking; bicycling; and commercial travel.

Replica has the ability to provide not just the most likely mode used to make each trip, but the probability of the trip being made by each of the competing modes available.

Replica has the ability to delineate between different trip purposes at the individual trip level, including trips for the purpose of work, home, school, eating, shopping, recreation, and social visits; this is in comparison to traditional models, which only support work and home descriptions.

Replica has the ability to query trips both by the characteristics of trip takers (household and person attributes based on Census and Consumer marketing data) and trips (origin, destination, mode, purpose, time of day, route).

Replica has the ability to provide underlying data for forecasts for program and policy scenario analysis, such as future route, mode, time of day travel patterns resulting from service, infrastructure or policy changes.

Replica has the ability to enable customers to consume data, including all travel demand model outputs, through a web interface, API, or scheduled cloud transfers of the underlying activity tables.

Replica delivers via a secure hosted browser-based web-service, requiring no client software installation, no on-premise storage solutions, and no special or dedicated hardware.

Replica is the only vendor that has the ability to provide each member agency a single source of baseline data, thereby creating a common data framework for technical and policy collaboration.

Replica updates and recalibration of its model twice (2 times) each calendar year.

Replica has proven and demonstrated the ability to handle privacy-sensitive datasets for state agencies and extremely large datasets, as purchased by IDOT in Jan. 2019-Jan. 2021.

5. Has the Agency or University considered alternative supplies or services to satisfy their need? Yes No

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5a. If yes, name the alternative vendors whose supplies or services were evaluated:

IDOT has researched the specifications that Replica provides and no other vendors have developed such a platform/service in the US.

5b. If yes, what were the alternatives for each vendor and why were they unacceptable? Be specific with regard to features, characteristics, requirements, capabilities and compatibility:

None available

5c. Explain how the market evaluation was conducted?

**This evaluation is to determine available options within a market. If the evaluation is to determine quality or best suited option, this is not the appropriate source selection. Under no circumstances shall the evaluation consist of testing alternative options. These activities must be conducted in a competitive transparent environment (i.e. IFB or RFP).*

Internet searches, product searches, staff communication, comparison of other state DOTs using mailing surveys, attending continuing education classes that provide options of new technology in the open market.

6. Are there resellers or distributors?

Yes No N/A

7. What efforts were made to get the best possible price (i.e. did the agency/university negotiate) and how did you determine the price for this purchase is considered fair and reasonable?

The price is population-based, therefore the total cost of annual access to an Illinois statewide model is a function of the Illinois population. This is the most economical solution for the state.

Agreement Type: Statewide

Agreement Price per Resident: \$0.20

Relevant Resident Population: 12,600,000

Annual Cost: \$2,520,000

Service Term: one (1) year.

8. Will this purchase obligate the State to this vendor for future purchases such as maintenance, licensing or continuing need?

Yes No

9. What will be the financial or other impact to the State if this sole source is not approved and a competitive bid is required?

Without this project, IDOT will miss the opportunity to obtain critical data and analysis that will be helpful to municipalities, regions, MPOs, and IDOT for planning and funding roads and bridges in Illinois. In addition, the data set Replica provides will include the period affected by COVID-19, which is extremely useful.

10. Is there any additional information you would like to add to justify this sole source?

This is 80% federally funded

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Section VII

Requesting Department Signature Required

I know and understand the contents of this Sole Source Justification and attest that all statements are true and correct and the fairness and reasonableness of the price was adequately confirmed.

Requesting Department Representative Digitally signed by Salvatore Madonia
Date: 2021.06.14 14:52:21 -05'00' Phone Number Date

Printed Name E-mail Address

State Agency Bureau/Division Head or University Purchasing Director Approval and Signature Required

I know and understand the contents of this Sole Source Justification and attest that all statements are true and correct and the fairness and reasonableness of the price was adequately confirmed. (All prior form fields will lock once this e-signature is completed)

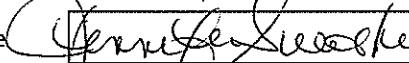
Agency Bureau/Division Head or University Purchasing Director and Not a Designee Digitally signed by Aundra Williams
Date: 2021.06.15 15:09:55 -05'00' Phone Number Date

Printed Name E-mail Address

SPO Approval and Signature Required

I have reviewed and understand the contents of this Sole Source Justification and agree with the State Agency or University determination.

I have reviewed and understand the contents of this Sole Source Justification and do not agree with the State Agency or University determination. As a result, the State Agency or University must explore other sourcing methods to satisfy their need.

State Purchasing Officer Signature  Phone Number Date

Printed Name E-mail Address