



Memorandum

TO: HONORABLE MAYOR
AND CITY COUNCIL

FROM: Julia H. Cooper
Rob Lloyd
Dolan Beckel

SUBJECT: SEE BELOW

DATE: April 8, 2020

Approved

Date

4/10/2020

SUBJECT: SECOND AMENDMENT TO THE AGREEMENT WITH AST LLC FOR A SERVICE REQUEST MANAGEMENT/CUSTOMER RELATIONSHIP MANAGEMENT SOFTWARE SOLUTION

RECOMMENDATION

Adopt a resolution authorizing the City Manager to:

- (a) Negotiate and execute the Second Amendment to the Agreement with Applications Software Technology (AST) LLC (Naperville, IL) for a Service Request Management/Customer Relationship Management (SRM/CRM) Software Solution (now known as San José 311, formerly My San Jose) to increase the compensation by \$777,500 for Spanish and Vietnamese translation integration, Recycle Plus service delivery, architectural remediations, and related technical services for the San José 311 website and mobile application for a total contract maximum compensation of \$1,416,983 during the initial term ending November 30, 2021; and
- (b) Increase contingency by \$50,000 to cover any additional in-scope changes or requirements to the agreements with AST LLC and Oracle America Inc. for the SRM/CRM Software Solution for a total contingency not to exceed \$250,000 during the initial terms, subject to the appropriation of funds.

OUTCOME

- Enhance the City's responsiveness and resident engagement for up to 200,000 City residents by adding Spanish and Vietnamese language support;
- Deliver more efficient and effective services by adding Recycle Plus to the San José 311 platform; and
- Improve the accuracy, security, scalability, and reliability of the platform through architectural remediations.

BACKGROUND

My San Jose

In [November 2016](#),¹ Council approved agreements with Applications Software Technology LLC (formerly Applications Software Technology Corporation) and Oracle America, Inc. for a SRM/CRM Software Solution. These contracts were awarded as the result of a competitive Request for Proposal (RFP) process that was conducted pursuant to the City's purchasing practices.

The My San Jose website, mobile application ("app"), and SRM/CRM system were launched in July 2017 and have been widely used. During the 2018-2019 fiscal year, the City received more than 100,000 service requests from over 25,000 registered users and 20,000 anonymous users through the My San Jose website and mobile app.

In [May 2019](#),² Council authorized additional contingency funds for supplemental technical support, issue resolution, and development services for new features and enhancements through the first amendment to the contract. As a result, City staff executed and managed work orders with AST to improve the usability and functionality of My San Jose. These improvements included:

- Improve communication and feedback loops regarding the status of service requests;
- Improve user, workflow, and portal interfaces to make them more intuitive;
- Improve dashboards and reports;
- Address ongoing data integration errors related to graffiti, illegal dumping, and abandoned vehicles;
- Provide clarification and rationale regarding when requests were resolved and when they were closed because the City could not take action (for example, the reported location was not in the City's jurisdiction);
- Simplify templates, content, and labels to make them easier to understand; and
- Improve iconography.

In March 2020, the City rebranded My San Jose to San José 311.

¹ November 15, 2016 Council Memo:

https://sanjose.granicus.com/MetaViewer.php?view_id=&event_id=2658&meta_id=600801

² May 14, 2019 Council Memo: <http://sanjose.legistar.com/gateway.aspx?M=F&ID=7762815c-ab3e-4096-9c14-c8ea2541041e.pdf>

San José 311

As directed in the [Mayor's March Budget Message for Fiscal Year 2018-2019](#)³ and as approved by the City Council, the 2018-2019 Adopted Operating Budget allocated \$1.5 million for innovation and technology improvements as follows:

- Multi-language support, increased scalability for new services, and improved usability;
- Data analytics;
- Back-end process improvements; and
- Digital Services inventory and roadmap.

It was originally envisioned that the San José 311 platform would be delivered through a new procurement. However, staff conducted extensive analysis of the costs, benefits, and risks over time and concluded that residents of San José would be best served by building upon the existing San José 311 platform instead.

Approval of the recommendations in this memorandum will enable enhancement of San José 311 as follows:

- Multi-language support for Spanish and Vietnamese translation;
- Introduction of Recycle Plus service delivery; and
- Architectural remediations to improve the scalability of the platform.

ANALYSIS

Multi-Language Support (\$352,900)

Over 57% of San José residents speak a language other than English at home, with Spanish and Vietnamese being the most common languages. Approximately 114,000 or 14% of San José residents over the age of 18 report that they speak English “not well” or “not at all” ([2013-2017 American Community Survey 5-Year Estimates, Table B16004](#)⁴).

On May 7, 2019, City Council heard Item 5.1 on the [BeautifySJ Annual Report](#).⁵ In response, Councilmembers Jimenez and Esparza published [a memo dated May 3, 2019](#)⁵ recommending that the City prioritize translating all educational materials and San José 311 (then known as My San Jose) content into Spanish and Vietnamese, as well as begin adaptation in additional

³ Mayor's March Budget Message for Fiscal Year 2018-2019:

<https://sanjose.legistar.com/View.ashx?M=F&ID=5871791&GUID=6F17A191-243C-4D63-B703-E73DA09C1042>

⁴ 2013-2017 American Community Survey 5-Year Estimates:

<https://data.census.gov/cedsci/table?q=Table%20B16004&g=1600000US0668000&table=B16004&tid=ACSDT5Y2017.B16004&lastDisplayedRow=66&vintage=2018&y=2017&hidePreview=true>

⁵ BeautifySJ Annual Report and Jimenez/Esparza Memo:

<https://sanjose.legistar.com/LegislationDetail.aspx?ID=3927246&GUID=E86C8501-0270-465B-A964-928E694D4FB1&Options=&Search=>

languages. Council directed staff to return through the budget process with a Manager's Budget Addendum responding to the recommendations. The [City Manager's Budget Addendum #27 dated May 22, 2019](#)⁶ states: "Staff will explore interim solutions and funding options for making service requests available in multiple languages in the current My San Jose 1.x platform, which may require additional funds for the existing vendor contract." Since July 2019, City staff have worked with AST to define the approach, solution, and cost for implementing translation services in the existing platform.

Design of the end-to-end experience from reporting to service delivery is critical to the success of San José 311 and relies on integration between San José 311 and backend work management systems used by City staff to dispatch and complete work orders. This integration provides two-way communication between the City and residents who receive automatic updates on their requests as the City takes action.

Two-Way Translation

City staff recommends implementing two-way translation of all content exchanged between residents and the City. The nature of this two-way communication involves:

- A description of the problem submitted by the resident to the City and
- Emails or other notifications from the City to the resident to confirm receipt and update status.

AST and staff assessed numerous cutting-edge technologies, and the most promising solution uses machine translation software that can:

- Dynamically translate Spanish or Vietnamese input from the resident into English so that it is understandable by City staff and
- Dynamically translate content sent from the City to the resident from English into Spanish or Vietnamese based on the resident's preference.

Translation Quality and Recommendation

Assuming the same level of engagement from the City's Spanish- and Vietnamese-speaking communities as from the overall population, it is estimated that an additional 14,000 San José 311 reports will be received each year by implementing translation services. Quality translation is essential to providing a satisfactory resident experience. Beyond the technical ability to translate two-way communications, translations must be easily understandable and accurately capture the intended meaning. In evaluating potential solutions, City staff engaged bilingual City staff to assess the readability and accuracy of different machine translation tools. This investigation highlighted the challenges in translating City-specific terms such as "illegal dumping" or "streetlight outage" and underscored the benefits of a trainable machine translation model that can learn the best translations for common City terms. Google's multilingual machine translation services use machine learning to refine its translation of domain-specific words, and City staff can manage the required training, validation, and refining of the translation

⁶ City Manager's Budget Addendum #27: <https://www.sanjoseca.gov/home/showdocument?id=45433>

model which can take place in parallel with the technical development of translation functionality in the app by AST.

Field Test of Technology

The Information Technology Department submitted a request to the Department of Finance-Purchasing Division to conduct a field test of Google's artificial intelligence machine translation services. Alternative products were informally evaluated by staff but did not meet the City's requirements for translation quality, scalability, and operational performance, and ongoing costs of alternative products are significantly higher than Google's product based on the City's expected usage. Staff also considered the complexities of integrating the various translation tools into the San José 311 platform. AST provided assurances that the architecture for integrating with language translation tools was designed to be flexible; therefore, the City can change translation tools in the next evolution of San José 311 and will base the technical architecture decision for translation on a larger evaluation through a future procurement.

Finance-Purchasing approved the request for up to a two-year field test pursuant to [San José Municipal Code Section 4.12.240.B1](#) with the option for one additional year if more time is required to complete an RFP and contract for the next generation of San José 311. The City's information technology (IT) standard for a translation technology will be established through this RFP. The agreement with Google will be executed under the City Manager's contract authority.

Learning Rapidly with Ability to Scale to Other Services

There is growing recognition of the need for language translation capabilities to support multilingual City services and public engagement. Multiple rounds of research conducted over the last year indicate that there is still significant opportunity to increase awareness of San José 311 among residents. As one of the City's most important digital channels for resident engagement, translating San José 311 is an important opportunity to deliver on our commitment to providing inclusive services while rapidly learning what is needed to successfully implement and deploy end-to-end translation for other projects. Staff wants to maximize reuse of the learnings and solution, as appropriate, for other City services as well as for San José 311's future development.

Recycle Plus Service Delivery (\$399,600)

The Environmental Services Department (ESD) provides residential garbage and recycling services (also called "Recycle Plus" services) to all 320,000 households in San José (both single-family and multi-family dwellings). These services are provided through four contracted service providers: California Waste Solutions, Garden City Sanitation Inc., Green Team of San José, and Green Waste Recovery. The service provider for each residence is determined by the types of services and service districts.

Approximately 12,000-15,000 service requests are received by the service providers every month. Although some service providers provide online options for limited services, residents mostly use the phone to request services. This often results in long wait times to speak to a

customer representative during normal work hours and no way to request services on weekends or holidays.

In [January 2019](#),⁷ City Council heard Item 7.1 which prioritized overall customer satisfaction terms in the Recycle Plus Residential Solid Waste Agreements with the service providers. The new terms include a requirement to implement online self-help features to report issues or request services by July 1, 2021.

This new functionality will allow residents to perform the following tasks:

- Request a junk pickup
- Request a cart for garbage/recycling/yard trimming
- Report a missed pickup
- Look up my pickup schedule
- Start a new service
- Update an existing service request
- View and analyze service requests and trends

San José 311 is the ideal platform for Recycle Plus services as Recycle Plus can leverage existing San José 311 capabilities such as forms for submitting service requests, tracking service requests, customer relationship management, reporting tools, and, with approval of this memorandum, new features such as multi-language support. San José 311 can also integrate with the waste service providers' work order systems. San José 311 will become the one-stop shop for residents to request services with a consistent look and feel across services. Since Recycle Plus services are delivered to every San José resident, adding these services to San José 311 will also bring more adoption and visibility to the app.

Architectural Remediations (\$25,000)

Architectural remediations are required by the vendor to improve the accuracy, scalability to add new services, and reliability of the platform. Those remediations will focus primarily on better integration with the Oracle Integration Cloud to leverage existing Oracle capability. Mobile application security will also be addressed through a security redesign focused on upgrading the framework and embedding standard Oracle functionality. The vendor has taken ownership for fixing and addressing these issues. The City negotiated a price of \$25,000 that reflects the portion of the issues that were reasonably outside of the vendor's control.

⁷ January 15, 2019 Council Memo:

<https://sanjose.legistar.com/LegislationDetail.aspx?ID=3770325&GUID=E29F5D32-9B16-42F9-815A-7CCEBB68F4CF&Options=ID|Text|&Search=18-1706>

Architectural Enhancements (N/A)

While not included in this recommendation, there are additional opportunities to enhance San José 311, including, but not limited to, (1) reducing the time to market for new 311 services by enhancing the general service request architecture to support a configurable and generic user interface and (2) improving the residence user experience through business process automation efforts such as automated request routing and response. Staff will explore these and similar options further and return to Council for authorization at a later date, if appropriate, in the context of the City's overall budget and work efforts associated with the COVID-19 emergency.

CONCLUSION

Approval of this recommendation enables the City to achieve the following goals for San José 311:

- Provide multi-language support for Spanish and Vietnamese;
- Introduce Recycle Plus service delivery; and
- Improve accuracy, security, and scalability through certain architecture remediations.

EVALUATION AND FOLLOW-UP

Staff will report to the Smart Cities and Service Improvements Committee in June 2020 to provide an update on San José 311.

CLIMATE SMART SAN JOSE

The recommendation in this memo has no effect on Climate Smart San José energy, water, or mobility goals.

POLICY ALTERNATIVES

Alternative #1: Procure new San José 311 platform.

Pros:

- Possible improvement to vendor quality;
- Possible 5- to 7-year platform stability; and
- Establish the IT standard for a translation technology.

Cons:

- Elapsed time of 18-24 months before new platform can be procured, contracted, and implemented;

- Likely proliferation of interim 311 solutions; and
- Significant time and cost to migrate from existing platform and interim solutions to new platform.

Alternative #2: Continue to use existing San José 311 platform.

Pros:

- Maintains current services;
- Known vendor and known product; and
- Avoids cost of developing a new platform and services.

Cons:

- No translation services thereby potentially underserving approximately 14% of San José residents and not meeting Council directive; and
- Separate platform would have to be devised or procured for Recycle Plus to meet Council direction.

Staff recommends accepting the recommendations set forth in this memorandum and building upon the existing San José 311 platform.

PUBLIC OUTREACH

This memorandum will be posted on the City's website for the April 14, 2020 City Council meeting. In addition, the City has engaged with over two dozen Spanish- and Vietnamese-speaking residents in user research and usability testing. Further usability testing will be conducted in the future as the City evaluates each phase of the implementation.

COORDINATION

This memorandum has been coordinated with the Environmental Services Department, the City Manager's Budget Office, and the City Attorney's Office.

COMMISSION RECOMMENDATION/INPUT

No commission recommendation or input is associated with this action.

FISCAL/POLICY ALIGNMENT

This action is consistent with the City’s Strategic Support Mission to effectively develop, manage, and safeguard the City’s fiscal, physical, technology, and human resources to enable and enhance the delivery of City services and projects and the City’s Smart City Vision to leverage technology to become a more inclusive, user-friendly city.

COST SUMMARY/IMPLICATIONS

The following outlines the cost elements for the one-year term.

1. AMOUNT OF RECOMMENDATION: \$777,500

2. COST ELEMENTS:

AST Second Amendment (this action):

- Multi-language support	\$352,900
- Recycle Plus service delivery	399,600
- Architectural remediations	<u>25,000</u>
Subtotal – AST Second Amendment	\$777,500
Current AST Agreement	639,483
AST Contract Not to Exceed	\$1,416,983
Change Orders/Contingency (subject to appropriation of funds)*	<u>50,000</u>
TOTAL CONTRACT NOT TO EXCEED	\$1,466,983

* Contingency will be used to cover any additional scope changes or requirements to the agreements related to Recycle Plus and will be funded by the Integrated Waste Management Fund.

3. SOURCE OF FUNDING: 001 - General Fund and 423 – Integrated Waste Management

4. FISCAL IMPACT:

In addition to the funds required for the work to be performed under the AST Agreement, there will be the following additional financial impacts for this work. The implementation cost will be paid from the My San José 2.0 budget whereas the ongoing translation fees are not expected to occur until next fiscal year and will be included in future General Fund Base Budgets, as appropriate.

Google Agreement(s):

- Implementation	\$40,000
- Ongoing translation fees (estimated at \$14,400/year for a total of three years)	<u>45,000</u>
Google Agreement(s) Not to Exceed	\$85,000

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Subject: Second Amendment to Agreement with AST LLC for an SRM/CRM Software Solution

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BUDGET REFERENCE

The table below identifies the fund and appropriations to fund the contract recommended as part of this memorandum.

Fund #	Appn #	Appn. Name	Total Appn	Amt. for Contract	2019-2020 Adopted Operating Budget Page	Last Budget Action (Date, Ord. No.)
001	203H	Local Sales Tax - My San José 2.0	\$1,388,804	\$352,900	IX-25	10/22/2019, 30325
423	0762	Environmental Services Dept – Non-Personal/Equipment	\$5,464,853	\$399,600	X-53	06/18/2019, 30286
001	0432	Information Technology – Non-Personal/Equipment	\$14,202,437	\$25,000	VIII-237	02/11/2020, 30361
Total Current Funding Available**				\$777,500		

**Funds are currently allocated for 2019-2020.

CEQA

Not a project, Public Project Number PP17-003, Agreements/Contracts (New or Amended) resulting in no physical changes to the environment.

/s/
JULIA H. COOPER
 Director of Finance

/s/
ROB LLOYD
 Chief Information Officer

/s/
DOLAN BECKEL
 Director of City Manager’s Office of Civic Innovation

For questions about the procurement or contracts, please contact Jennifer Cheng, Deputy Director of Finance, at (408) 535-7059. For program-related questions, please contact Jerry Driessen, Assistant Chief Information Officer, at (408) 793-6910.