



Memorandum

To: Elections Commission
From: John Arntz, Director
Date: November 13, 2022
RE: Overview of Timeline regarding Open Source Voting Systems

This memorandum provides information related to activities to advance the use of an open source voting system in San Francisco and supplements the history of open source document that the Elections Commission (Commission) reviewed during its meeting on September 21, 2022.

This memorandum does not track the numerous meetings with advocates for open source voting systems the Department attended or references all of the meetings and hearings with City agencies such as the Board of Supervisors, Committee on Information Technology (COIT), the Local Agency Formation Commission (LAFCo), or elections officials in other counties.

2011

Director Arntz participated in several meetings with advocates for open source voting systems. The purpose of the meetings was to understand the availability and future status of such systems for use in San Francisco (see Attachment 1, Letter to Brent Turner).

2014

December. The Board of Supervisors approved [Resolution No. 460-14](#) committing the City and County of San Francisco to work with other jurisdictions and organizations to create new voting systems using open source software, to study the feasibility of the City and County of San Francisco developing and using a new voting system, and to learn from Los Angeles County's Voting Systems Assessment Project.

2015

August. The Department issued a [Request for Information \(RFI\)](#) inviting responses from organizations related to the City obtaining an open source voting system to replace the City's voting system following the expiration of the contract in December 2016:

“On behalf of the City and County of San Francisco (City), the San Francisco Department of Elections (Department) is issuing this Request for Information (RFI) in relation to obtaining a new voting system. The Department seeks information from organizations and firms that provide comprehensive voting system solutions that are fully accessible to all voters, are based on voters marking paper ballots, and conduct ranked-choice elections. Further, the City has established a policy that gives preference to implementing voting systems designed using open source software Additionally, the Department seeks to increase the transparency of all election functions by providing the public with information in open data formats. The Department invites responses from any organization or firm that currently

offers a voting system approved by the California Secretary of State for use in California as well as any organization or firm that is building or intends to build such voting systems.”

[All related correspondence and RFI responses](#) were publicly posted on the Department’s website.

September. The [Commission’s meeting minutes, page 2](#), reflect that Director Arntz provided an update on the RFI process, explaining “that from his observations there were not currently any open source systems that would be ready by December 2016, but nothing has been finalized.”

2016

February. The Department requested \$2.3 million in its budget submission to the Mayor’s Budget Office to fund a Planning and Assessment Phase and Implementation of the Open Source Voting System project as noted in the [Department’s Budget Overview: FY 2016-17 and FY 2017-18, page 3](#) provided to the Commission for its February 2016 Budget and Oversight of Public Committee meeting.

September. The [Commission’s meeting minutes, page 2](#), reflect that the Department was able to receive approval for \$300,000 in its budget to fund a project manager employed by the Department of Technology (DT) in support of the City’s efforts to obtain an open source voting system.

Commissioner Jerdonek stated that the Mayor signed the budget including \$300,000 for open source. Director Arntz stated that he got feedback from the Department of Human Resources on how to move the \$300,000 for open source into a project manager position, and he contacted the Department of Technology for help. He also met with the Mayor’s Budget office and discussed options. The Department of Technology will oversee the procurement of a project manager consultant. The details are not yet ironed out. He thanked the Department of Technology and the Mayor’s office for stepping forward with money and assistance.

2017

January. The [Director’s report](#) provided to the Commission for its January 2017 meeting highlights the preparation of a Request for Proposals (RFP) to identify a technical consultant to review the feasibility of the City developing its own voting system using open source software. The Department was to prepare the RFP in consultation with COIT and DT.

February. The [Director’s report](#) provided to the Commission for its February 2017 meeting summarizes the Department contacting Los Angeles to obtain information on that county developing its own voting system. The reports also indicated the Department was in contact with Travis County, Texas, to obtain more information on the county’s STAR system and the county seeking to organize a consortium to develop an open source voting system.

March. Linda Gerull, Director of the Department of Technology, issued a [memorandum](#) updating the Department on DT’s actions related to the Open Source Voting Project, including defining requirements for the system, organizing community engagement, and reviewing proposals from consultants to assist with the project.

May. The Department issued the [RFP, Preparing a Business Case for Developing an Accessible, Open Source Voting System](#), to identify a consultant to study the feasibility of the City developing its own voting system.

“The City and County of San Francisco (City) is considering the feasibility of its options for developing a highly accessible, open source voting system (System), and the costs and time frames associated with those options. A System must support the City in conducting ranked-choice voting elections in multiple languages: English, Chinese, Spanish, and Filipino. . . . The City anticipates that any project to develop an accessible open source voting system will require several phases. The City considers Phase 1 to be the preparation and completion of the business case, and expects the business case to inform the City on possible additional phases necessary to develop an open source voting system.”

June. The Department sent a letter to Assemblymember Lorena Gonzalez Fletcher stating the City’s support for Assembly Bill 668 (Attachment 2). The legislation would have provided funding for the development of an open source voting system using matching funds.

September. [The Director’s report](#) provided to the Commission for its September 2017 meeting indicated that three bids were submitted in response to the RFP, “Preparing a Business Case for Developing an Accessible, Open Source Voting System,” and Slalom Consulting was selected to prepare the business case.

November. After completing the agreement with Slalom, and prior to final approval by the City, the Department provided [a copy of the contract, the scope of services and other related documents](#) to the Commission for its November 2017 Budget and Oversight of Public Committee meeting.

November. The [Director’s report](#) to the Commission for its November 2017 meeting updated the Commission on the City approving the agreement with Slalom Consulting to prepare a business case on the feasibility and costs associated with the City developing an open source voting system. The report also updates the Commission on [Travis County ending its STAR program to develop an open source voting system due to costs and a lack of developer interest](#).

2018

January. Slalom completed the [business case regarding the feasibility of the City developing an open source voting system](#). Slalom estimated the costs between approximately \$12 – \$28 million if the City were to develop its own voting system.

February. On February 1, the Department issued the [RFP to rent or lease a voting system](#) for a four-year term with options to extend for no more than three one-year options. As indicated on page 3 of the Department’s [Budget Overview: FY 2018-19 and FY 2019-20](#), provided to the Commission for its February 2018 Budget and Oversight of Public Committee meeting, “entering a lease agreement with the selected vendor will eliminate the need for a large expenditure to purchase voting equipment and allow the time flexibility needed for the City to develop an open source voting system.” The RFP also directed the evaluation of any bids to allocate the highest number of points for systems that supported aspects of open source software. Ultimately, one vendor, Dominion Voting Systems, submitted a responsive bid and proceeded to contract negotiations and execution.

April. The Department and DT prepared and submitted an [application to COIT requesting over \\$24 million](#) over five years to fund the City’s development of an open source voting system. The [Director’s report](#) to the Commission for its April 2018 meeting indicates that COIT approved \$300,000 for FY 18-19 for identifying a technical resource to lead the development of an open source voting system to initiate a discovery phase, as referenced in the business case by

Slalom Consulting. COIT also allocated the \$125,000 remaining from the \$300,000 allocated during FY 2017/18, for a total of \$425,000.

April. [Slalom presented its business case to the Board of Supervisors' Budget and Finance Committee](#). Slalom's summary recommended that DT be the owner of the project to develop an open source voting system with support from multiple vendors. The summary also recommended that the City seek to partner with other counties, including Los Angeles.

June: [Los Angeles awarded a contract to Smartmatic USA Corporation \(Smartmatic\)](#) to manufacture (hardware and software) and implement new custom-designed ballot marking devices under the Voting Solutions for All People (VSAP) Project. Los Angeles' contract with Smartmatic includes 9-year term, and a cost of \$282 million. Los Angeles issued statements that this system is the first open source voting system in the country. However, the system's software is "disclosed source" or "source code made available for review and/or testing upon request by an authorized entity/individual, but does not permit the source code to be used operationally by other entities unless additionally and explicitly licensed by owner of the code."

July: The Civil Grand Jury issued its [2017-2018 report](#), titled the Open Source Voting in San Francisco. In this report the Grand Jury provided its recommendations and the following summary:

"The Civil Grand Jury has found that if the Open Source Voting Project is completed, many of its promised benefits are likely to come to fruition in the long term. These include cost savings, flexibility for the city, and transparency. However, many claims of immediate advantages for the City are unsubstantiated. Open source software does not possess inherent benefits for San Francisco taxpayers, instead it will increase costs and add compliance and administration risks in the intermediate term. Finally, there is not a convincing time horizon to realize these benefits because the project remains too nebulous to concretely evaluate."

August: DT issued an [announcement for Senior Technical Project Manager](#) to "gather requirements for the Open Source Elections project, develop a project roadmap, build a plan to resolve implementation issues, research open source available open source alternatives, and ensure all project decisions are well-documented and tracked."

December: [The Director's report](#) to the Commission for its December 2018 meeting indicated that DT would onboard two staff to support the City's efforts to develop an open source voting system.

2019

February. DT issued an [RFP](#) to identify a Consultant(s) to assist the Open Source Voting project team with the writing, documenting, planning, and communicating the needs and benefits of the project. Director Gerull provided a [status update](#) on the Open Source Voting project.

March: Director Gerull provided a [status update](#) on the Open Source Voting project. The update indicated that the Open Source Voting Project is beginning the phase to set requirements for the system, and to engage with community members, including the Commission's Technical Advisory Committee.

May. The Department submitted a letter to the City's State Legislative Committee requesting the Committee's support Assembly Bill 1784 (see Attachment 3). [The proposed legislation](#), which did not pass, sought to provide counties funding up to \$8 million in matching funds for developing publicly owned, open source, paper ballot voting systems.

September. Director Gerull provided a [status update](#) on the Open Source Voting project that indicated that DT was reviewing possible partnership with Los Angeles to support the City's efforts to develop an open source voting system. The update also referenced work to establish an accessibility framework in collaboration with the Mayor's Office of Disability and to develop a risk-limiting auditing (RLA) program to audit contests in ranked-choice voting (RCV) elections.

October. Director Gerull provided a [status update](#) on the Open Source Voting project, in which she highlighted the steps taken to possibly partnering with Los Angeles to utilize its development of a voting system to further the City's open source voting project. The update also referenced the Department of Elections piloting an RLA program, developed by university personnel from Australia and Berkeley, California, for RCV contests.

November. Director Gerull provided a [status update](#) on the Open Source Voting project which highlighted DT's preparing an "Art of Open Source Voting Projects" document to clarify the current status of the project and identify best practices regarding the development of open source voting systems.

November. The DT project manager for the Open Source Voting project presented a summary to the Commission on the successful pilot of the open source RLA program applied to local RCV contests. The summary mentioned that this pilot program is the first RLA of RCV contests in the country, and by extension, the first RLA for RCV using open source software.

2020

January. [DT issues its "Art of Open Source Voting Projects."](#) The document summarizes multiple projects to develop open source voting systems since 2003, and includes information on VotingWorks, starting on page 21, indicating that its open source system under development is based on an earlier program intended for internet voting.

March – December. The City engaged in its response to the COVID-19 pandemic and City government operated under emergency orders which substantially impacted both the Department's and DT's operations.

2021

January – December. The COVID-19 pandemic continued. City government also continued to operate under emergency orders that included directing funding to public health and safety measures. The Mayor's Office removed most funding for the open source voting project to allocate instead to pandemic related operations.

2022

January. On January 25, the Board of Supervisors passed [Ordinance No. 12-22](#), which the Mayor signed on February 4, requiring the Director of Elections to "submit information documenting the City's intended open source voting pilot program to the California Secretary of State, on behalf of the Board of Supervisors, and, upon approval of the Secretary of State, to implement such a system for use at the November 8, 2022 election."

February. On February 7, the Department submitted an [application](#) to the SOS requesting approval to use the VotingWorks system in a pilot program at the November 8, 2022 Consolidated Election.

May. [VotingWorks submitted to the SOS an updated application](#) and documents related to the vendor's revised approach to the pilot program. The revised approach removed the RLA required under state elections law, set a later date for completing the system, and does not indicate the system can conduct RCV elections.

May. On May 6, the SOS issued a [letter](#) stating that its office denied the Department's application to approve the use of the VotingWorks system for a pilot program at the November 2022 election. The letter further stated that VotingWorks

had not completed the development of its system for the pilot program and instead indicated that development would be completed on August 31, 2022. The SOS noted that August 31 is 40 days before early voting would begin for the November 2022 election.

May. On May 12, the SOS issued [draft regulations](#) regarding the “experimental use of a voting system in pilot programs.”

July. The SOS organized monthly meetings with Board President Walton’s office, City Attorney David Chiu’s office, Elections Commission President Chris Jerdonek, the Department, and the vendor VotingWorks. The purpose of the calls is for the vendor to update the SOS and the City on the progress in developing the system for use in a pilot program.

September. The SOS received comments on the draft regulations through September 19, 2022. On September 20, the SOS held a [public hearing](#) to receive public input on the draft regulations.

October. During the [monthly meeting](#) with the SOS, VotingWorks stated it had not developed the system to provide the RCV functionality required for conducting general elections in San Francisco. Additionally, VotingWorks confirmed that no further work had taken place since submittal of initial information to the SOS in January 2022.

November. The Department issued a [memorandum](#) to inform the Mayor, Board of Supervisors, Elections Commission, City Attorney David Chiu, and other elected officials in the City that the pilot program required under Ordinance No. 12-22 will not occur. The memorandum provided a timeline of actions related to the pilot program, the [SOS’ letter](#) denying the application, and [meetings notes](#) that summarize that VotingWorks’s system was incapable of conducting a pilot program, especially since the system cannot conduct RCV elections.

November. The Department will pilot an open source risk-limiting auditing (RLA) software¹ for which DT developed a front end user interface. The Department will audit three contests in the November 8 election: District Attorney, and Supervisorial Districts 4 and 6. The new front-end user interface, developed by DT, simplifies the execution of the many steps required to complete an RLA. The interface is capable of conducting multiple audits and will allow the Department to generate reports for current and past audits, with information on who participated as audit board members, whether those members agreed on voter intent, and all of the other information required by the Secretary of State for conducting RLAs. (This application is also integrated with the city’s single sign-on (SSO) implementation, which simplifies access control list (ACL) management.)

¹ See <https://github.com/pbstark/SHANGRLA> and <https://github.com/michelleblom/audit-irv-cp/tree/raire-branch>