EXECUTIVE DEVELOPMENT PROGRAM 2025

Public Information Sharing Tools in Contra Costa County and Implications for Santa Clara County

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EXECUTIVE SUMMARY

This case study evaluates the development of Public Information Sharing Tools by the Contra Costa County Employment & Human Services Department (EHSD), analyzing use cases, infrastructure, technical processes, and factors contributing to its development. Central to its development is the critical role of leadership, a well-structured data council infrastructure, interdepartmental collaboration, and a user-centered design approach. Santa Clara County is currently exploring the creation of a comparable tool. Based on its unique organizational context, the case study offered tailored recommendations. In sum, this report provides both a practical roadmap and strategic considerations for counties interested in enhancing transparency, data-informed decision-making, and community engagement through public-facing dashboards and maps.

Introduction and Project Rationale

Contra Costa County and Santa Clara County are two large counties in the Bay Area, each with a population exceeding one million and a median household income above $100,000. Santa Clara County surpasses Contra Costa County by approximately 770,000 residents and also leads in median income, employment rate, and healthcare coverage.

Despite having lower poverty rates than California's 12% state average — 8.3% in Contra Costa County and 7.5% in Santa Clara County — the absolute number of individuals living in poverty remains significant due to the counties' large populations. As a result, both counties operate expansive social and human services agencies, each employing over 1,900 staff members. This scale of service delivery has led to increased public interest in understanding how effectively local governments support vulnerable populations.

Table 1. Characteristic Comparison: Contra Costa County & Santa Clara County

Indicator	Contra Costa County	Santa Clara County
Population	1,165,927	1,936,259
Total Households	423,342	665,549
Median Household Income	$ 122,794	$ 154,954
Employment Rate	61.7%	65.1%
Without Health Care Coverage	5.3%	4.1%
Poverty Rate	8.3%	7.5%

Source: Census data for Santa Clara County; Census data for Contra Costa County

Government data dashboards have become vital tools for communicating public information. These platforms often feature interactive maps, visualizations, and key performance indicators. However, their structure and content vary widely (Fareed et al., 2021). Research shows that users prefer information that is personally relevant and focused on government performance, while technical jargon can limit accessibility (Sie & Jeng, 2019). Creating effective dashboards thus requires a balance between clarity, usability, and aesthetic design. Additionally, successful public information sharing depends on a range of interpersonal, organizational, and cross-agency factors (Yang & Maxwell, 2011).

In October 2024, the Contra Costa County Employment & Human Services Department (EHSD) showcased its Public Information Sharing Tools at the County Welfare Directors Association of California (CWDA) Conference. The presentation garnered interest from Santa Clara County's Social Services Agency, which is trying to build on its current centralized public-facing dashboards. In response, the Office of Research and Evaluation (ORE) within the Santa Clara County Social Services Agency has been tasked with leading the design and development of a similar public dashboard and mapping tool.

While three Bay Area Social Services Consortium (BASSC) case reports by past Executive Development Program participants detail Contra Costa's Public Information Sharing Tools with high-level information, this report will focus on additional use cases, key success factors, and the technical implementation process (Mack Center, n.d.). The report concludes with tailored recommendations for Santa Clara County based on its specific organizational context.

History

The development of Contra Costa County EHSD's Public Information Sharing Tools began in 2018 with the establishment of the Data Council—an internal infrastructure designed to enhance data-informed decision-making. The founding members included EHSD's executive members and bureau directors across EHSD, who envisioned a data dashboard and Geographic Information System (GIS) mapping tool to provide greater transparency and support strategic planning.

A static version of the dashboard was first released in 2019, offering program-level data in a consolidated format. From 2021 to 2022, the dashboard underwent a significant transformation into an interactive platform, incorporating GIS mapping capabilities and Tableau visualizations. These improvements were guided by feedback from internal stakeholders and Board of Supervisors (BOS) staff.

By 2023, the new Public Information Sharing Tools were launched with BOS approval. In 2024, the Public Information Sharing Tools underwent further enhancements, such as the addition of new program data layers on EHSD office and childcare center locations, visual upgrades, additional demographic filters, and a dynamic drop-down function that allowed users to explore changes over time. Updates changed from quarterly to monthly to ensure the dashboard remains current and relevant.

Use Cases

Over the course of seven years of development and enhancement, use cases have been instrumental in shaping and refining the public information sharing tools. These use cases fall into three primary categories: engagement with the Board of Supervisors, internal information sharing and decision-making, and support for funding and applications by community partners. Examples of each are described below.

One of the primary drivers behind the dashboard and map design was the BOS's interest in understanding service delivery within their respective supervisorial districts. The tools were designed to display program reach by ZIP code and district, enabling data-driven conversations.

For example, the EHSD Director uses maps to show how much money from federal, state, and local government is invested in certain areas in annual budget presentations to the BOS, typically in April. These visualizations have proven to be powerful storytelling tools, enabling deeper engagement that impacts the BOS funding decisions. Although EHSD previously had dashboards, the introduction of interactive maps significantly enhanced the department's ability to communicate the real-world outcomes of public investments.

The Public Information Sharing Tools have also informed new BOS initiatives, such as developing outreach maps to identify underserved areas and guiding targeted enrollment efforts

for benefit programs. In addition, trend data from the interactive dashboard has been presented to BOS to illustrate pre- and post-pandemic shifts in service provision.

Additionally, responding to feedback that some executive users prefer hard copies, EHSD maintained the ability to generate printable PDF reports, ensuring flexibility and accessibility in communication through the Public Information Sharing Tools website.

While dashboards and maps were not initially designed for staff, they gained traction among employees following department-wide road-show presentations in 2024. The data in the Public Information Sharing Tools is now used as a consistent reference point across programs as an accurate and timely source of data. For instance, the Human Resources department uses dashboards and maps during new staff orientation to introduce them to EHSD services. Managers and supervisors are finding tactical uses of the dashboards and tools for planning and decision-making. For example, the department's IHSS program is exploring GIS tools to help social workers optimize home visit routes.

Although these tools were originally designed for public use, the agency continues to encourage internal utilization for decision-making. While thus far, there are only limited internal use cases, with growth and expansion, the agency hopes that there will be more moving forward. Generating more internal use cases will be the focus of the next phase for the Public Information Sharing Tools.

Community-based organizations and nonprofits have found significant value in the dashboards and maps, particularly to support funding proposals. Previously, these organizations lacked access to such comprehensive and integrated data. Now, they can utilize the dashboards and maps to demonstrate community needs, strengthening their grant applications and project planning.

Key Factors Associated with the Development of Tools

The development of Contra Costa County's Public Information Sharing Tools seems to be associated with a combination of visionary leadership, skilled and committed personnel, and a strong organizational infrastructure.

Leadership and Key Contributors

The current EHSD Director, who joined in 2022, played a pivotal role in reimagining the Data Council's function and structure to strengthen the development of the Public Information Sharing Tools. Previously, the data council primarily included department leaders who knew a lot about administering programs but were not necessarily data experts. The EHSD Director's emphasis on accurate, timely, and informative data sharing led to the transformation of the data council into incorporating additional functions such as collecting information about what EHSD does, taking all steps to convert the information into accurate and complete data, and converting the data into user-friendly visualizations.

With this new vision of functions of the Data Council, the Director of Administration and Policy & Planning Research and Evaluation Manager set forth to institutionalize that vision. They drafted a Data Council Scope of Work, which the Executive Team approved to name Data

Council as an official EHSD committee. With the Data Council structure established, the Research and Evaluation Manager identified data engineers and other data experts to join as ongoing participants of the Data Council and allowed them to contribute directly to dashboard development. Recognizing the importance of seamless data access and collaboration, the EHSD Director also led a departmental restructuring that re-aligned IT and Policy & Planning under the Director of Administration to streamline the decision-making and implementation of the Public Information-Sharing Tools.

The Director of Administration and Research and Evaluation Manager continued to mobilize IT resources to support cross-functional collaboration. Under this structure, the Research and Evaluation Manager has served as a central organizer and liaison to the external Department of Information Technology (DoIT)'s ArcGIS experts, who have been critical to the technical success of the mapping tools.

As the complexity of these tools grew, so did the need for highly skilled staff to perform the technical data work. Through resource reallocation spearheaded by the EHSD Director and Director of Administration, the Research and Evaluation was able to solidify the Policy & Planning Data Unit with 5 additional full-time equivalent positions to support these tools and the EHSD Executive Team's other specialized data needs.

Together, this team in Contra Costa County exemplifies how top-down vision combined with skilled, mission-driven staff creates fertile ground for innovation and sustained progress.

Data Council as Core Infrastructure

The Data Council in Contra Costa County EHSD has evolved into a central governance infrastructure for data-driven initiatives. Since 2022, it has expanded to include directors, data analysts, and specialists from multiple units—Policy & Planning, IT, Fiscal, CalWIN, and others. The Council now manages ongoing data validation and sharing, facilitates strategic decision-making, and tracks the impact of decision-making on program outcomes.

Although the Public Information Sharing Tools are one of several key data products developed by the Data Council, it also serves as a platform for stakeholder engagement. The Data Council engages cross-departmental stakeholders by seeking their input and feedback and serves as a forum where they can discuss challenges and find solutions. The Agency Director comes and speaks to them directly about data quality, the importance of their work, and how she uses their work to help further keep the Council members engaged.

For example, the Council's 2024 work plan outlined two major goals:

1. Producing relevant data products for internal and external stakeholders.
2. Building data literacy and promoting accountability within EHSD.

Within these goals, a priority of the work plan was the continued refinement of the Public Information Sharing Tools. The 2.0 enhancement draft was completed by August 2024, shared in September, and formally approved by the Executive Team in October.

In early 2025, the planned framework for Public Information Sharing Tools version 3.0 was launched. Using the April 2025 Data Council meeting agenda as an example, the meeting included a vision-sharing session led by the EHSD Director, a data deep dive, a review of the annual work plan, training updates, and planning for next steps. These monthly meetings have become an effective strategy for maintaining alignment, momentum, and accountability across the department.

Detailed Technical Processes

This case study expands on previous reports by providing a comprehensive overview of the technical processes involved in developing Contra Costa County's Public Information Sharing Tools. The goal is to offer a replicable framework for other counties developing similar tools.

Data Download, Preparation, and Cleaning

The Policy & Planning Data Unit is a team of seven under the Research and Evaluation Manager and is responsible for extracting, preparing, and cleaning over 700,000 rows of data per month that is used to update the Public Information Sharing Tools. The technical work and process documentation are done primarily by two Information Systems Programmer Analyst II positions with guidance from the Research and Evaluation Manager.

Data Download

The Public Information Sharing Tools comprises three main components: a static dashboard, an interactive dashboard, and interactive ArcGIS maps. Data from state reports is used as "the source of truth" for aggregated totals going into static and interactive dashboards and includes detailed case-level identifiers. Based on these state reports, the Policy and Planning team then executes an internally developed SQL script to extract individual-level data—including demographic characteristics such as ethnicity, gender, and address—for each program directly from CalSAWS. This process is repeated for both individual and household data across all relevant programs.

For programs not integrated into CalSAWS, data is obtained via Business Objects (BO) files provided by the relevant programs. These external program reports are downloaded and integrated into the comprehensive spreadsheet maintained by the Policy and Planning unit.

Data Preparation

Next, the team consolidates this data into a master spreadsheet, organized by program. Each tab includes address-level data (with no personally identifiable information) and is categorized by individual or household level, with or without demographic breakdowns. The team ensures accuracy by cross-referencing totals with state reports and making sure the differences are less than 1%.

Data Cleaning for Mapping

Before data can be used in mapping, a rigorous cleaning process is conducted to ensure consistency and geocoding readiness. The steps are as follows:

1. Address Extraction: All rows of data are pulled into a temporary Excel table, and duplicate case addresses are removed.

2. Automated Cleaning via Python: A Python script automates tasks such as determining when to use mailing vs. home addresses and standardizing misspelled city names.

3. Data Partitioning: Records are categorized into out-of-state, out-of-county (in-state), and in-county segments. This categorization minimizes additional data cleaning that the DoIT ArcGIS team would have to do.

GIS Processing by DoIT

After receiving the cleaned dataset, the DoIT ArcGIS team uploads the files into ArcGIS Pro. The geocoding process is performed using a dedicated server, and individuals and households are merged into a single layer.

Each program is represented as its own layer, which is then aggregated into a composite map for the public-facing site. This structure—one ArcGIS project, one tab with multiple layers, and an additional tab for aggregated data—simplifies backend management and streamlines updates.

The ArcGIS team is responsible for aggregating age, race, and ethnicity data by program and for performing bivariate geospatial analysis (e.g., comparing program reach with population or social vulnerability index with CalFresh enrollment). They are also exploring ways to show change over time, although this significantly increases memory use. Currently, maps display data for two months, and while active files are overwritten, historical data is archived for record-keeping.

To ensure that client data is protected, no personally identifiable information (PII) or individual-level data is uploaded to Public Information Sharing Tools. Map layers and dashboards contain only aggregated data, ensuring that individual-level data cannot be accessed. As an additional step to protect client confidentiality, Data Council and EHSD decided to mask any data categorization that is less than 20, which exceeds the California Department of Social Services' guidelines to mask any data categorization less than 11.

Santa Clara County Context and Recommendations

While Santa Clara County has developed many internal dashboards among different departments, it lacks a centralized, public-facing tool similar to Contra Costa's. Several key differences in infrastructure must be addressed to replicate Contra Costa's success.

First, Santa Clara does not have a Data Council that oversees and improves outcomes and performance. Data Council in EHSD supports ongoing and frequent data validation and analysis, strategic data-driven decision-making, accurate and timely data sharing, rigorous follow-up on the impact of decision-making on measured outcomes, and ad-hoc analysis on issues of interest to the EHSD. Instead, the Social Services Agency in Santa Clara County has a narrower data governance committee focused on data privacy and security. Second, while Contra Costa's EHSD benefits from a strong partnership with its external DoIT department, Santa Clara's SSA currently still needs to strengthen its collaboration with the Technology Services and Solutions (TSS) ArcGIS team. The strong relationship between the EHSD policy and planning team and

the DoIT department is reflected in two aspects: EHSD paid an annual flat fee to the DoIT department for ArcGIS mapping services, so any updates about the map tool is timely with no additional cost; and the DoIT team has made the Public Sharing Tools a priority at the request of EHSD's director. Finally, while both counties have some dashboard infrastructure, Santa Clara lacks integrated maps and dashboards that visualize services by zip code and district. As previously mentioned, Santa Clara County Social Services Agency has public-facing dashboards; however, most are static and not centralized. Current dashboards can be strengthened by incorporating some key components from Contra Costa County EHSD.

Based on lessons learned from Contra Costa County EHSD and Santa Clara's current situation, Santa Clara should consider forming a temporary Data Council to guide the initial development of a public-facing information-sharing tool. Executive sponsorship—ideally from the agency director or deputy director—will be essential in establishing a shared vision and generating momentum. Key stakeholders should include the Office of Research and Evaluation (ORE), Decision Support & Reporting, the TSS dashboard and ArcGIS teams, and representatives from major programs. This temporary Data Council is not only a decision-making body but also serves as a platform to receive input, feedback, and buy-in from stakeholders. The engagement process happens at three different levels. Agency directors and department directors are to engage the BOS and community-based organizations by showing them how to use dashboards and maps to answer their questions. Agency directors and department directors also set the Public Sharing Tools as a priority to engage the TSS dashboard and the ArcGIS teams. Finally, the monthly Data Council meeting is to keep all stakeholders engaged and on track towards shared goals.

The development of the Public Information Sharing Tools could follow a phased approach:

1. Phase One: ORE conducts a landscape analysis of existing dashboards and creates a proof-of-concept using internal program data and census data. This phase takes about six months. There are five staff members involved in this initial phase, including one person who serves as the project manager, two people as the planning sub-team, and two people as the technique sub-team.

2. Phase Two: A temporary data council is established to start the stakeholder engagement process. Programs co-develop use cases and storylines through a human-centered design approach. TSS teams begin developing integrated dashboards and maps based on the proof of concept and agreed-upon use cases and storylines. This phase will range from six months to one year, depending on competing priorities of different programs and TSS teams. Similar to phase one, five people are needed as core team members. Three of them will work on the engagement of programs and the TSS teams, and two will focus on establishing the data council structure and processes. Besides the core team, one person from the TSS dashboard team and one person from the TSS ArcGIS team are necessary for this phase. Human-centered design principles will be used during this phase as appropriate.

3. Phase Three: This last phase will include the final design, testing, and deployment of dashboard and map tools on a centralized website, using an iterative process. The website can also include information such as annual reports, highlights, research and evaluation reports, BOS reports, and other public information. This phase will last from six months

to nine months based on the availability of the TSS dashboard and website teams. In addition to the five-person core project team, at least two experts from the TSS teams are needed to design the website and conduct the testing.

Conclusion

Contra Costa County's success in building robust, public-facing information-sharing tools offers a powerful example of how vision, infrastructure, and collaboration can lead to lasting improvements in government transparency. Through the strategic alignment of leadership, governance structures like the Data Council, and thoughtful technical execution, the County has created a resource that serves internal operations, community stakeholders, and elected officials alike.

Santa Clara County is well-positioned to follow a similar path. With strong interest from agency leadership and a growing recognition of the importance of data-informed strategic planning and data accessibility by the public, SSA can build its own dashboarding initiative that reflects the County's values of service, efficiency, effectiveness, and transparency.

Acknowledgements

This project would not have been possible without the generous support of Erick Untal, Research and Evaluation Manager from Contra Costa County, who hosted this case study and provided invaluable insights, documents, orientation sessions, and process shadowing. I am also grateful to Sandhya Hermon and Catherine Vu for the opportunity to participate in the BASSC training. Special thanks to Catherine Vu, my supervisor, who provided valuable comments for me to refine this report, to my colleagues Louay Constant and Derek Lee of the SCC dashboard team, for their notetaking, thoughtful questions and comments, and active support throughout this process, and to Wendy Merklinghaus, our BASSC liaison, for her insightful feedback and tremendous encouragement.

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