Building A Data-Driven Approach to Tackling Food Insecurity in the COVID-19 Pandemic

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Acknowledgements

Despite a doubling of food insecurity throughout the City of San José ("City") and across Santa Clara County (County) due to the direct and indirect impacts of COVID-19, the actions of the City and its regional food network partners have prevented a widespread food crisis. The work detailed in this report—building a data-driven approach to tackling countywide food insecurity—was in support of this enormous effort, and would not have been achieved nor made any level of impact without the tireless work of the City's Emergency Operations Center and its regional food network partners, including:

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Background and The Challenge

During a usual emergency, Santa Clara County is the Operating Area lead for food and necessities distribution for all cities and unincorporated areas of the County. However, in mid-March 2020 as the extent of the public health task became clear, the County asked the City of San José to accept countywide responsibility for the coordination and distribution of food and necessities so that the County could focus on slowing the spread of the pandemic. Starting March 17, 2020, the City of San José's Emergency Operations Center (EOC) and its regional food network partners worked to ensure the neediest residents of the County had access to food.

To meet the increased need for food assistance, San José focused first and foremost on maximizing existing networks and funding sources. We are grateful for the leadership of Second Harvest of Silicon Valley, the County's Office of Education, local school districts and other non-profits in feeding our most vulnerable. Where existing networks simply could not meet the increased need for food assistance, San José entered into new partnerships, created new programs, and expended the City's own funds to do so, with 90% of new funding going to non-profits and community-based organizations.

In all, this effort involved 8 different distribution channels and more than 500 different organizations, and there was no previously existing data infrastructure or process to track levels of overall food distribution, or distribution to specific sites and individuals. As a result, in March 2020, no system existed to understand how food insecurity was changing across the County and whether the efforts of the City and its partners were sufficient to meet the need.

Approach

The Food and Necessities Branch of the EOC formed a Data Unit. The Vision of the Unit was to be a **one-stop shop** for data and data requests, with the following objectives:

1. Empower operational units with data-driven insight on current and projected supply and demand.
2. Structure data and reporting to facilitate cost recovery from other jurisdictions as well as federal and state emergency management agencies.
3. Ensure that the Food and Necessities Branch can effectively report to and engage with key stakeholders, including City and County leadership and organizational partners.

The Data Unit accomplished these goals through an approach that achieved the following outcomes:

- Created unified data governance through technology and processes that standardized all data from 8 different distribution channels and 500 different organizations (see Figure 1). All data was collected from different sources and data formats from individual organizations, transformed via Python scripts, standardized for analysis, and loaded into a Microsoft SQL Server database.
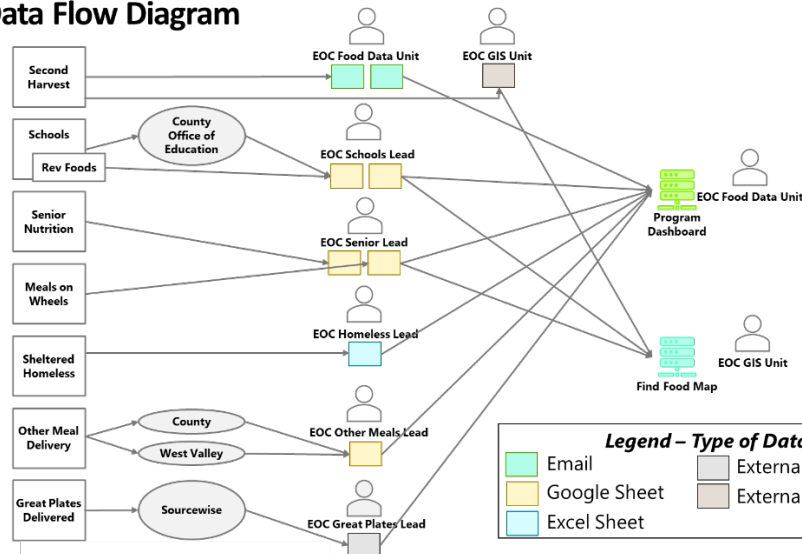

Figure 1. Data Governance for Countywide Food Distribution Data.

- Creation and distribution of a weekly dashboard that provided visibility into trends in food insecurity and distribution by individual channels, and which was distributed to Branch, EOC, and City leadership and partners on a weekly basis (see Figure 2 and Figure 3).

Food Distribution Dashboard and Graph - City of San José				Date: 11/13/2020	
Current Meals Delivered	Daily Meals [2]	Weekly Meals	Week-Over-Week Change	3-Month Trajectory	Notes
Channel	#	#	%		
Second Harvest to Community Organizations Estimate of Meals for San José	170,357	1,192,500	-4%		
Senior Nutrition Program (SNP) Sites Within the City of San José	2,002	10,010	-16%		Decrease due to Veterans' Day Holiday on Wednesday 11/11.
Senior Meals On Wheels (MOW) Meals Delivered in San José	3,042	15,211	+1%		
School Sites School Sites Within San José	22,026	110,132	-55%		Week-to-week increases and decreases due to inconsistent reporting. Includes meals served at ROCK n' Learn program sites provided by school districts.
City/County Targeted "Homeless" Placements[1] Residents of San José	2,217	15,517	-2%		Reporting of meals for San José residents based on data provided by Santa Clara County regarding residency of motel and shelter occupants for Mar-Sep.
Meal and Non-Second Harvest Grocery Delivery (CBOs, At-Risk Populations) Meals and Groceries Delivered in San José	482	2,409	-	-	Includes meal and grocery box distribution from contract with Off the Grid starting in November 2020. Also inclues 40 meals from Veggielution delivered to Mayfair neighborhood (95116) in partnership with Amigos de Guadalupe.
Great Plates Delivered Participants Within San José	1,492	7,460	-		CalOES and FEMA funding has been extended to December 8. City is backstopping program funding through January 9.
MEALS DELIVERED IN PAST WEEK [1]	201,618	1,353,239			

[1] Vulnerable homeless, isolation, and quarantine needs are included in the above estimates because it will be serviced through a combination of the above channels.
[2] Daily Meals are calculated based on 5 days a week, except Homeless placement for which we deliver meals 7 days a week.

Figure 2. Sample of Weekly Food Distribution Dashboard.

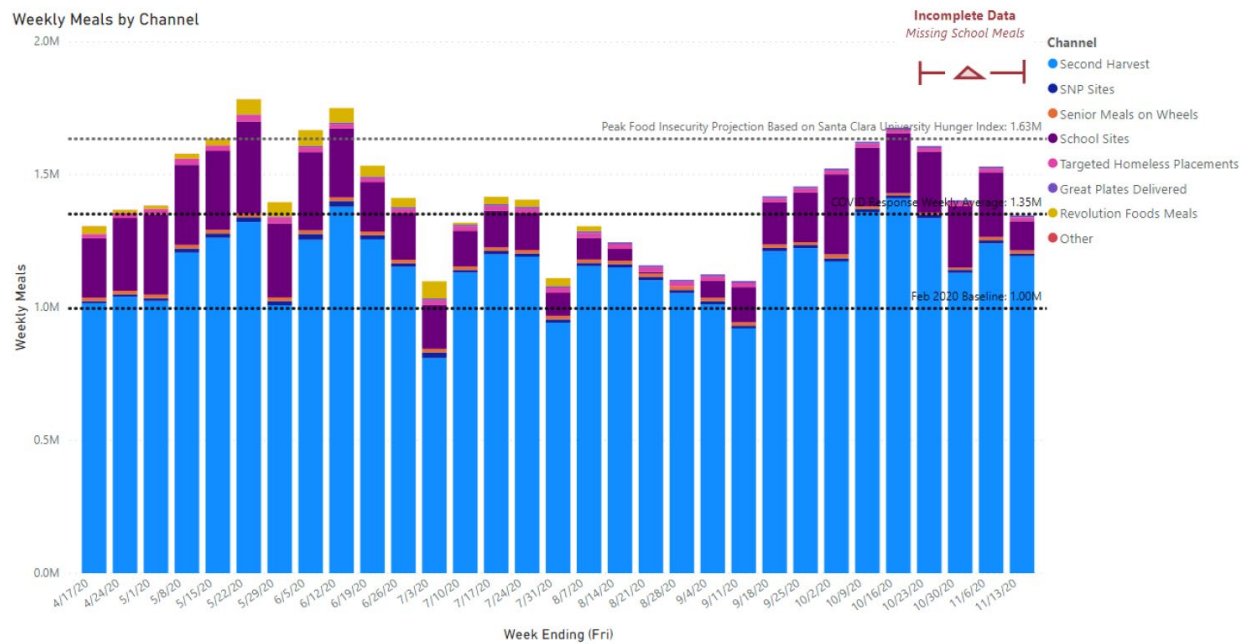## Increased Food Distribution Need During COVID-19 Response

Weekly Meals by Channel

Figure 3. Sample of Weekly Food Distribution Dashboard.

- Creation of a web-based dashboard that provided the ability for the Food and Necessities Branch, as well as partners, to access detailed data down to the City, site, and individual level.
- Analysis of data to support cost recovery and reimbursement efforts, including calculation of cost recovery at the individual site and meal level for food service provided to 14 other local jurisdictions within Santa Clara County.

Insights Based on Data

The work of the Data Unit allowed all parts of the food and necessities distribution efforts to understand how the COVID-19 pandemic was affecting food insecurity in Santa Clara County. Key insights were:

- Food distribution increased 50% compared to pre-pandemic levels
- Food distribution increased to levels higher than seen during the Great Recession of 2009-2010.
- Demand was particularly high among at-risk communities including: seniors, low-income, medically vulnerable, and homeless populations.

Conclusion

The City of San José and regional food network partners have now distributed over 100 million meals during the COVID-19 pandemic due to the hard work of so many within those organizations. The Data Unit contributed to this effort by building the first ever unified view of countywide food distribution

through a combination of technology and process that integrated, standardized, analyzed, and delivered key data deliverables. These deliverables helped to ensure that all parties had visibility into trends of food insecurity. Using this data, the City and its partners stood up new programs and directed and secured new funding to meet that increased need. The ultimate outcome of this work is that the City and its partners met the moment and ensured that despite significantly increased levels of economic and food insecurity, there were no significant gaps or populations left unserved or hungry.