SCBGP SUB-RECIPIENT DASHBOARD

USDA| Agricultural Marketing Service

Stella Koh, Data Analyst Fellow | *UCLA, Statistics and Data Science & Business Economics*

Keywords:

automated flows, live dashboard, data wrangling, analysis

Summary:

Stella developed a sub-recipient dashboard for the Specialty Crop Block Grant Program by importing live data connections from the SCBGP Access Database to Tableau Prep. She automated data flow processes to clean and transform the data to be pushed into Tableau for dynamic visualization tools. These tools will be used by internal teams and stakeholders to gain and share insights on subrecipient grant funding broken down geospatially, temporally, and by other project characteristics.

SCBGP SUB RECIPIENT DASHBOARD

Agriculture Marketing Service, Local and Regional Foods Division
U.S. Department of Agriculture

Kamran Zendehdel — Research Branch Chief

coding it forward >

USDA

STELLA KOH
University of California, Los Angeles
BS Statistics & BA Business Economics

INTRODUCTION

Specialty Crop Block Grant Program (SCBGP)

- Awarded to eligible State departments of agriculture
- Funds projects to enhance competitiveness of specialty crops

MOTIVATION

Issues

- Difficult to extract specific funding information by **keyword** criterias
- **Lacking** a uniform, centralized dataset to easily manage sub-projects

Objectives

- Clean and **migrate** data to another database/system for management
- **Automate** data pull and transformation processes from database to dashboard
- Implement dashboards showcasing award and **project-level** data

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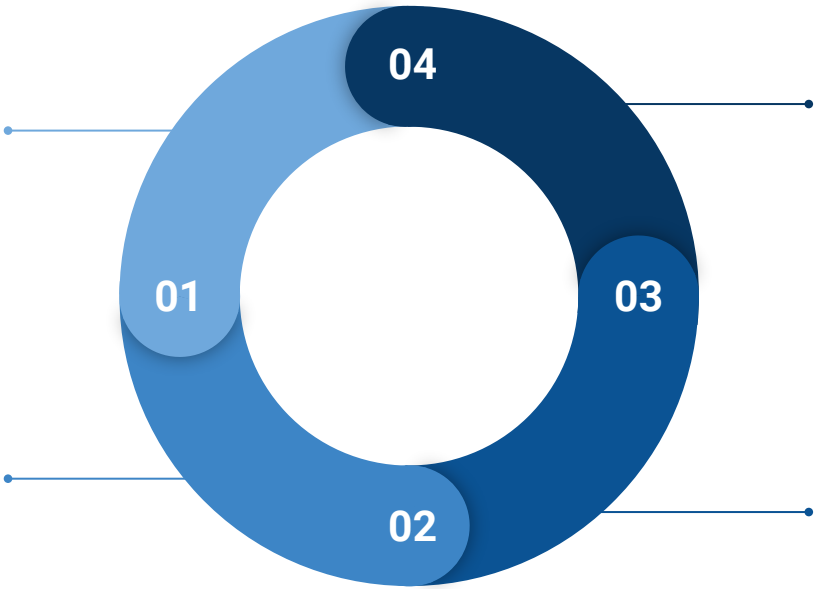
Data Cleaning and Validation

Understand data dynamics to deal with tens of thousands of missing, incorrect, amended, and/or mismatching data

Data Flow Automation

Set up data flow to automate data extraction and transformation, with the capacity to flag errors in future data



Feedback and Revision

Demo dashboard to various teams and refine visuals to best suit internal needs

Dashboard Design

Display live insights into SCBGP funding at the project and state level for further analysis and data requests

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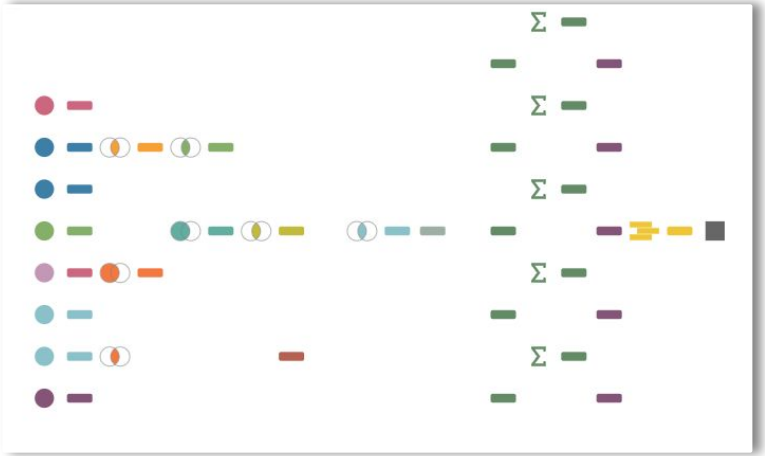
DATA FLOW OVERVIEW



1

Inherent Errors

Standardize and resolve inconsistencies in data

2

Join Errors

Identify mismatching data across tables and fix appropriately

3

Amount Errors

Validate aggregated project funding totals against grant awards with existing documentation.

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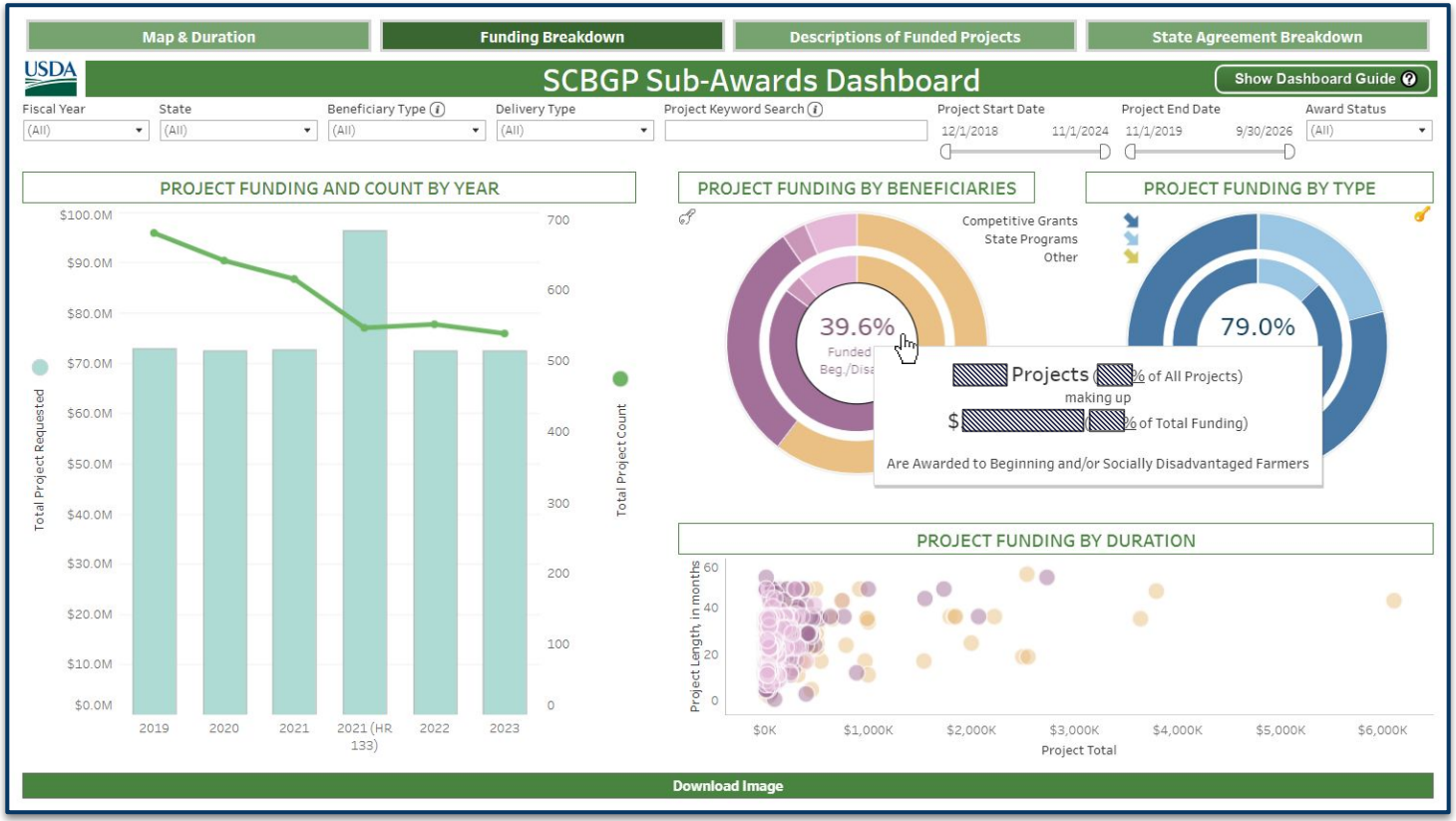
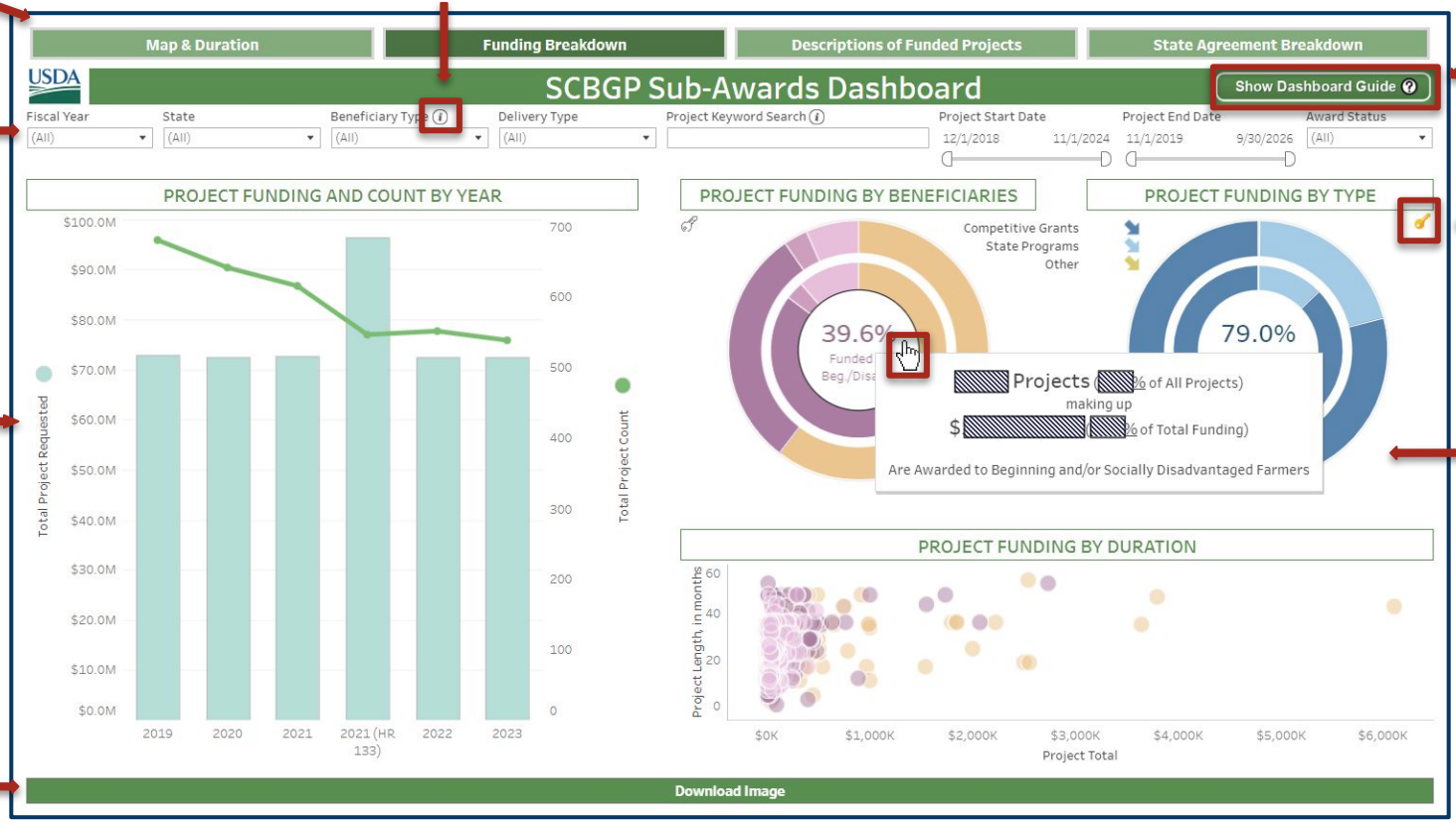
DASHBOARD OVERVIEW

- Import .hyper file output from flow into Tableau

- Generate new **insights** by analyzing grant funding…
  - Over time
  - By location
  - Upon unique project characteristics
  - At the state and sub-recipient level
  - With filter options

Sample Tab


Map & Duration
Funding Breakdown
Descriptions of Funded Projects
State Agreement Breakdown
USDA
SCBGP Sub-Awards Dashboard
Show Dashboard Guide
Fiscal Year
State
Beneficiary Type
Delivery Type
Project Keyword Search
Project Start Date
12/1/2018
11/1/2024
Project End Date
11/1/2019
9/30/2026
Award Status
(All)
PROJECT FUNDING AND COUNT BY YEAR
Total Project Requested
Total Project Count
$100.0M
$90.0M
$80.0M
$70.0M
$60.0M
$50.0M
$40.0M
$30.0M
$20.0M
$10.0M
$0.0M
700
600
500
400
300
200
100
0
2019
2020
2021
2021 (HR 133)
2022
2023
PROJECT FUNDING BY BENEFICIARIES
PROJECT FUNDING BY TYPE
Competitive Grants
State Programs
Other
39.6%
79.0%
Projects (% of All Projects)
making up
$ % of Total Funding)
Are Awarded to Beginning and/or Socially Disadvantaged Farmers
PROJECT FUNDING BY DURATION
Project Length, in months
60
40
20
0
$0K
$1,000K
$2,000K
$3,000K
$4,000K
$5,000K
$6,000K
Project Total
Download Image


Navigational Tabs
Additional Information
Usage Explanations
Customizable Filters
Dynamic Visuals
Hide/Unhide color legends
Detailed Tooltips
Export Options
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$6,000K
Project Total
Download Image

NEXT STEPS

1 Clean Earlier Data

Due to timing constraints and thousands of missing projects in earlier years, only data from 2019-2023 have been cleaned. It is of highest priority to clean data from 2018 and prior.

2 Append More Data

Incorporate project outcome and indicators dataset (if feasible/useful) and potentially detail projects at zip code level

3 Improve data collection methods

Take steps to minimize future discrepancies in data entry as well as documentation. Dynamic pdfs are being considered.

4 Public release

Possibly provide certain parts of the dashboard for public stakeholder access and funding transparency

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2024 USDA TECH HACKATHON

Used R Shiny and 2022 Ag Census Data to develop model of funding for State Grant Programs with the “Goonies Never Say Null” Team

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MOTIVATION

Issues

- No easy way for the AMS Grants Division to **pull AgCensus** data, **calculate** funding models for noncompetitive grants programs, and **report** results to stakeholders

Objectives

- Utilize sales data by commodity to produce State % share of sales with socio-demographic data to **identify funding** gaps
- **Reduce burden** of manually pulling, calculating, and reporting on data

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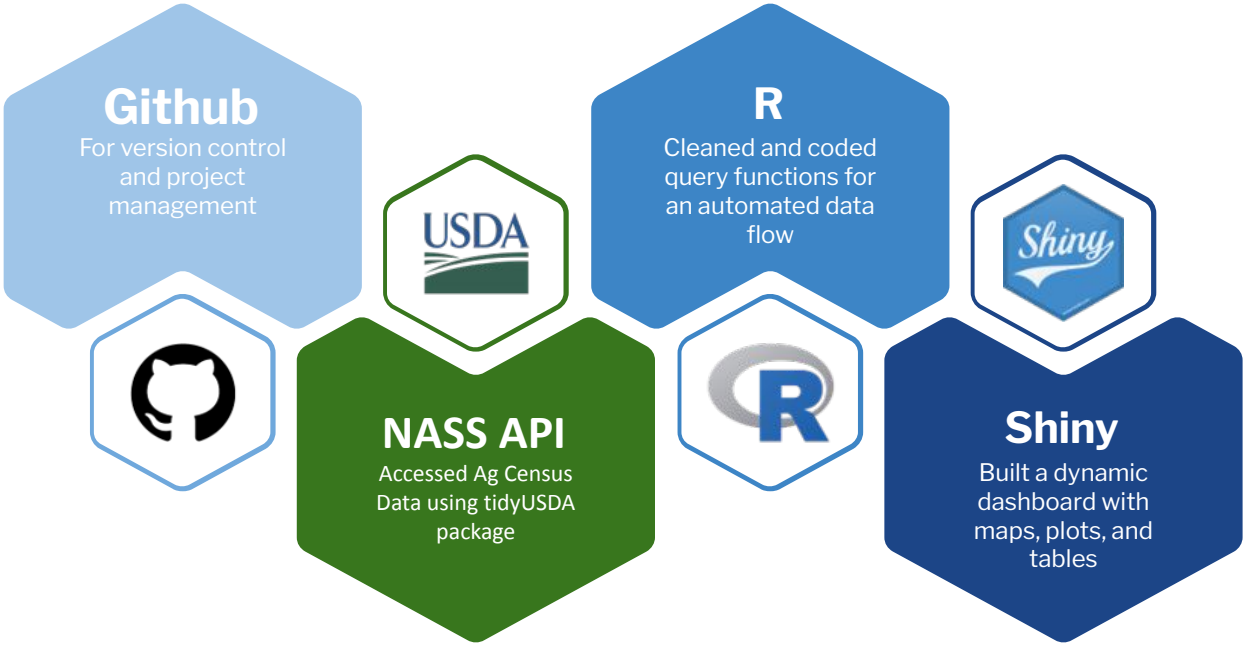
TECHNICAL APPROACH



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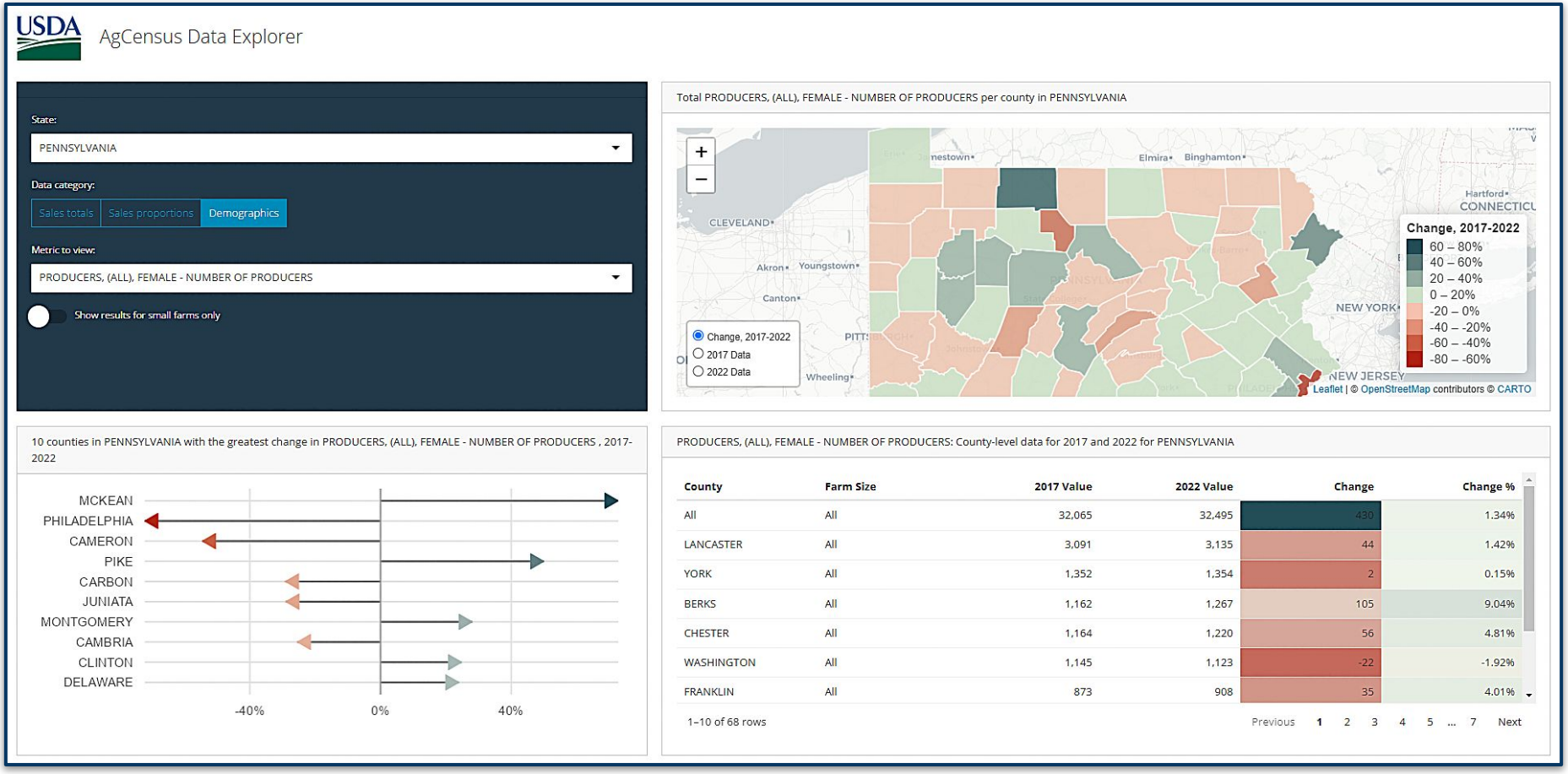

County	Farm Size	2017 Value	2022 Value	Change	Change %
All	All	32,065	32,495	430	1.34%
LANCASTER	All	3,091	3,135	44	1.42%
YORK	All	1,352	1,354	2	0.15%
BERKS	All	1,162	1,267	105	9.04%
CHESTER	All	1,164	1,220	56	4.81%
WASHINGTON	All	1,145	1,123	-22	-1.92%
FRANKLIN	All	873	908	35	4.01%

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Earned ***Honorable Mention*** at the 2024 USDA Innovation Symposium

REFLECTION

- Learning About the Data
  - Leveraged AgCensus data to address **specific** use cases
  - Showcases **importance** and **usage** of the AgCensus data to stakeholders

- Real-World Issues
  - Tool will continue to be **developed** for the team to visualize and calculate funding
  - Can help **communicate** with parties such as lawmakers and producers

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LRFD PROJECTS

Supported additional projects with Fellow Aishwarya Sreenivasan

- Created 3-page infographic of the 2024 **Environmental Scan Report** which identified farmers' market typologies
- Built a state-level dashboard of Local Food Purchase Assistance Cooperative Agreement Programs (**LFPA)**
  - Includes hex maps, KPIs, filters, and relevant charts
  - Identified metrics to substantiate case studies selection on successes
- Visualized the 2024 **Farmers' Market survey** data in Excel
  - Set up formulas & charts to easily incorporate future data
    - To be used in Annual Report
  - Completed 6 Talking Points for upcoming Farmers' Markets

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THE END

Special shoutout to the **“Goonies Never Say Null”** Team–

Shaun Rolph, Elliot Hohn, Sara Elazan, & Aishwarya Sreenivasan

–and everyone at **LRFD** who has supported our work this summer!

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