Regional Economic Development Forum

27 Oct 2025
Pueblo, CO

CSU Economic Development Resources

REDI@CSU
Regional Economic Development Institute

COLORADO STATE UNIVERSITY

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Engagement and Extension

What we do

Engaged research institute

- aims to understand, analyze and inform economic development strategies
- focus on underserved regions and populations in Colorado

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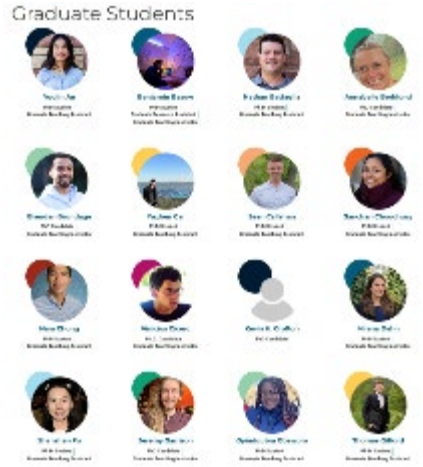
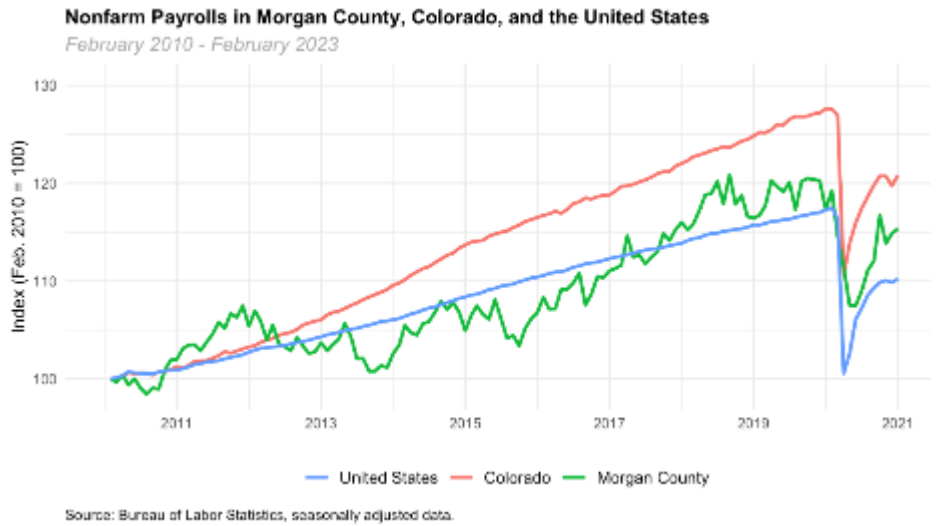
Engaged Centers Collaborative

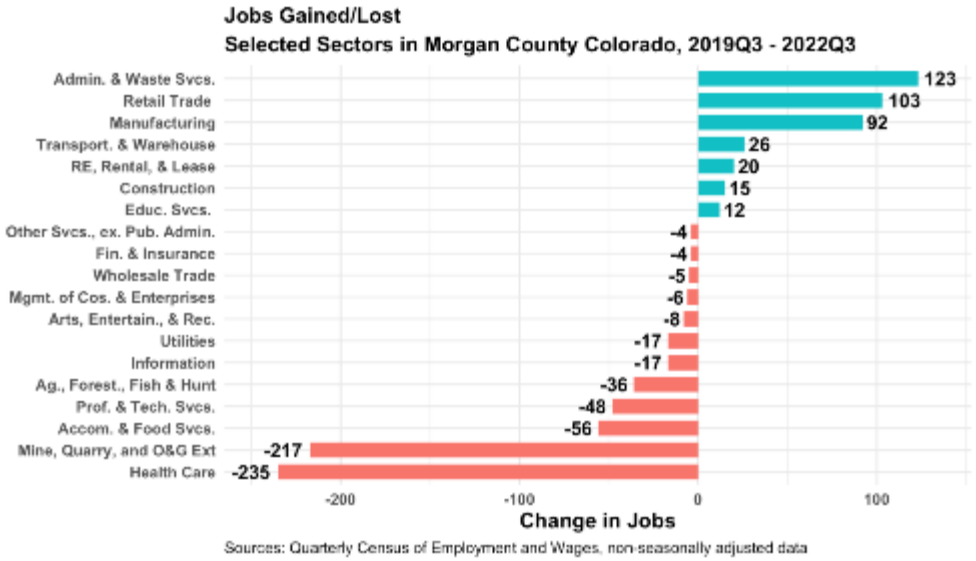


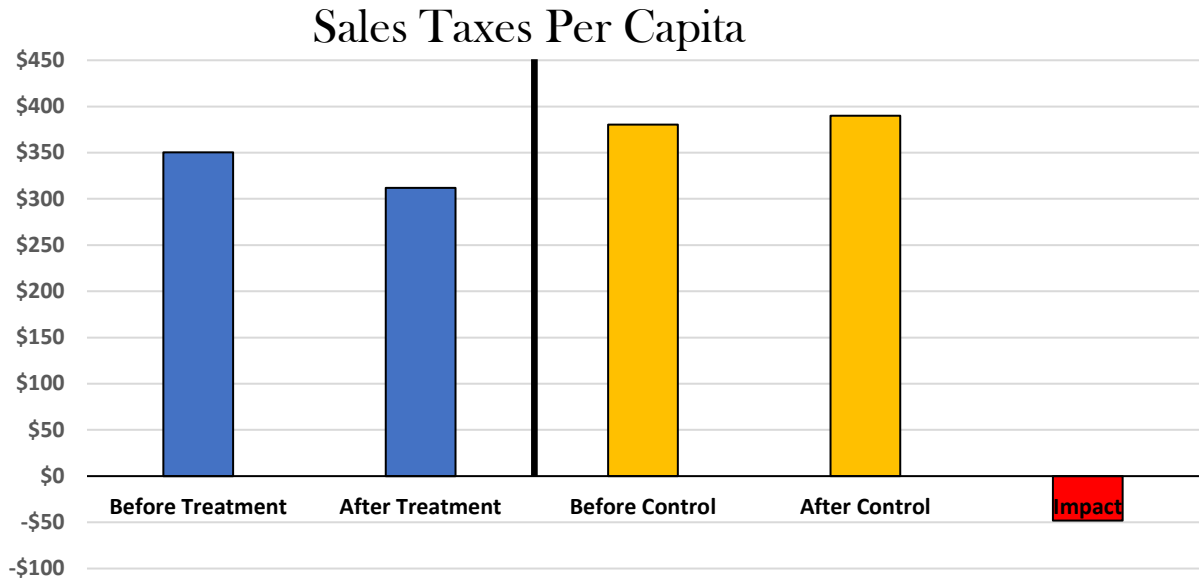
Economic Model and Research

Data and Economic Communication

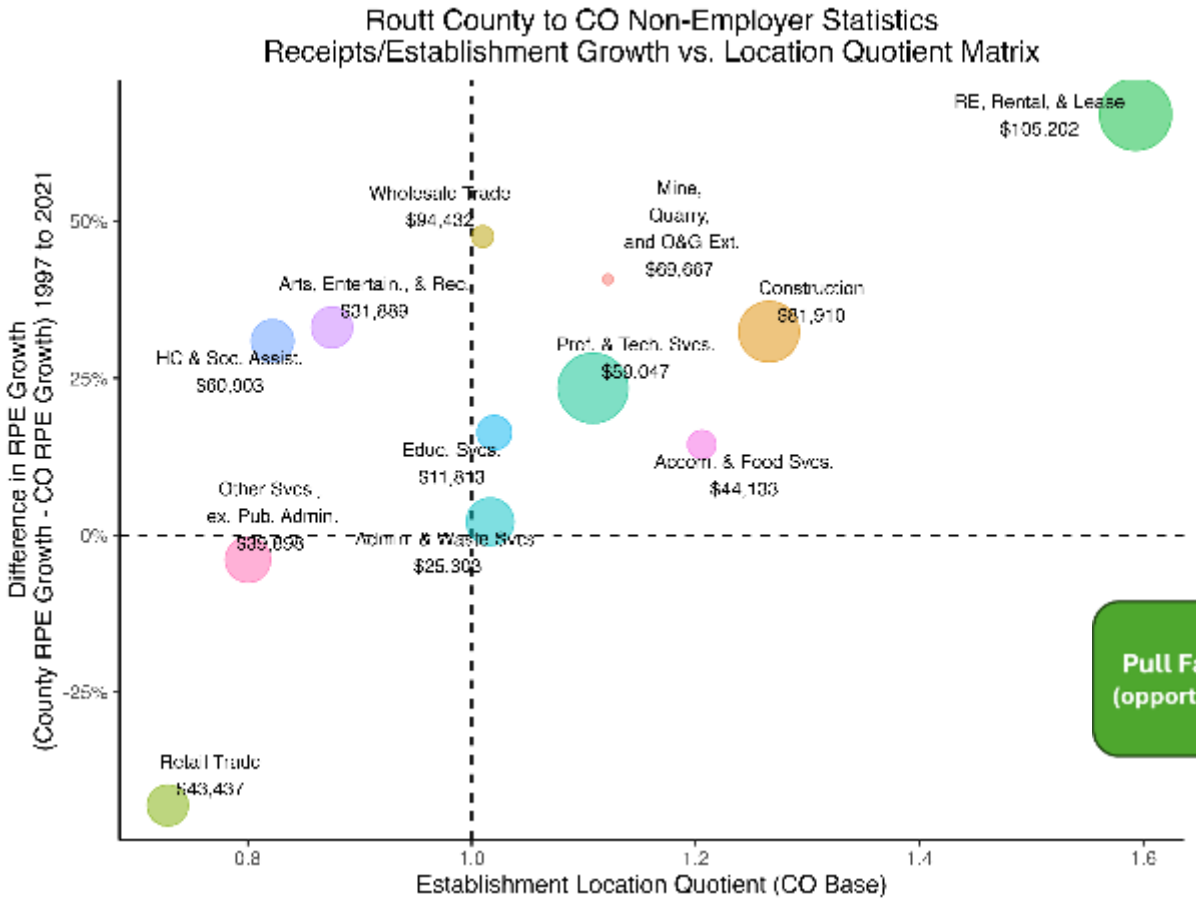


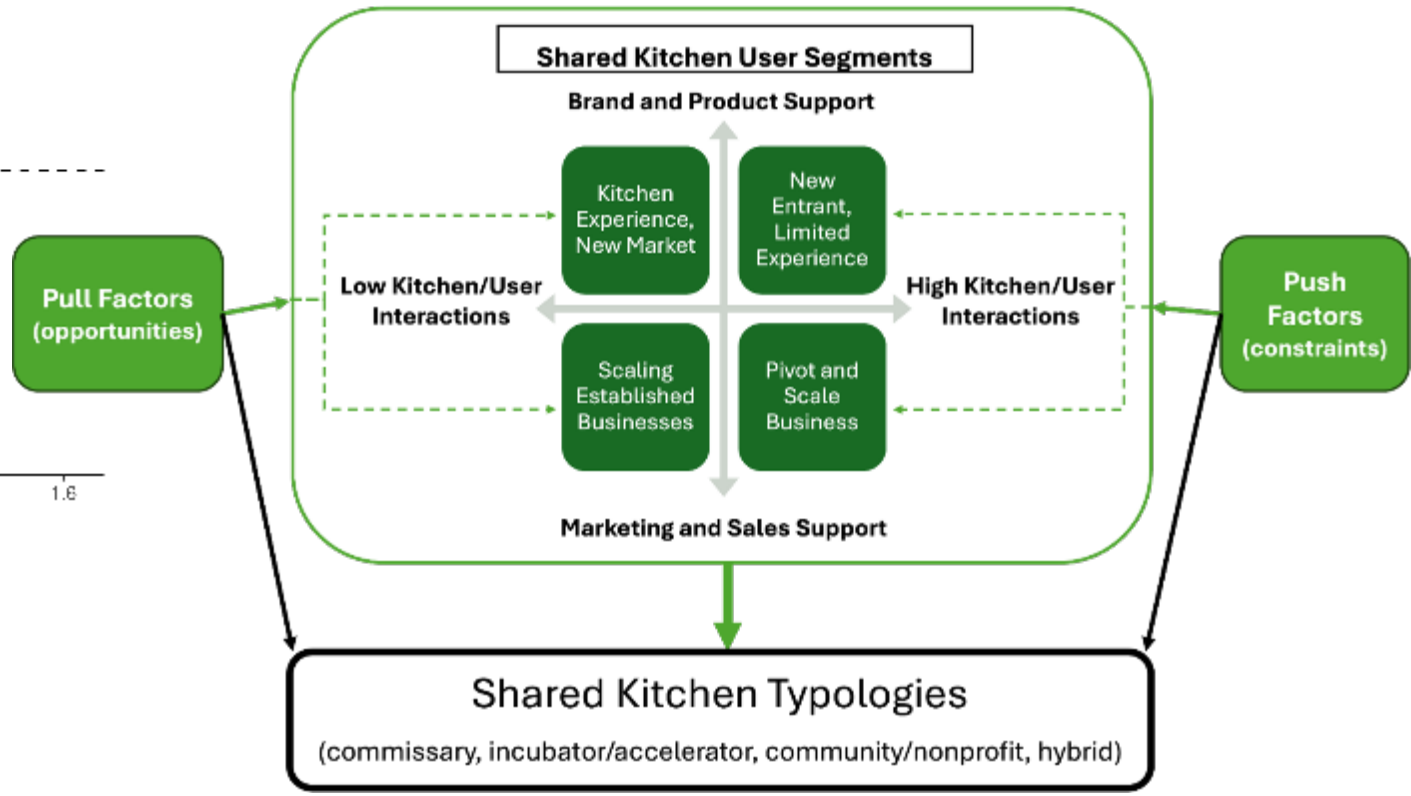
I-70 Floyd Hill Project

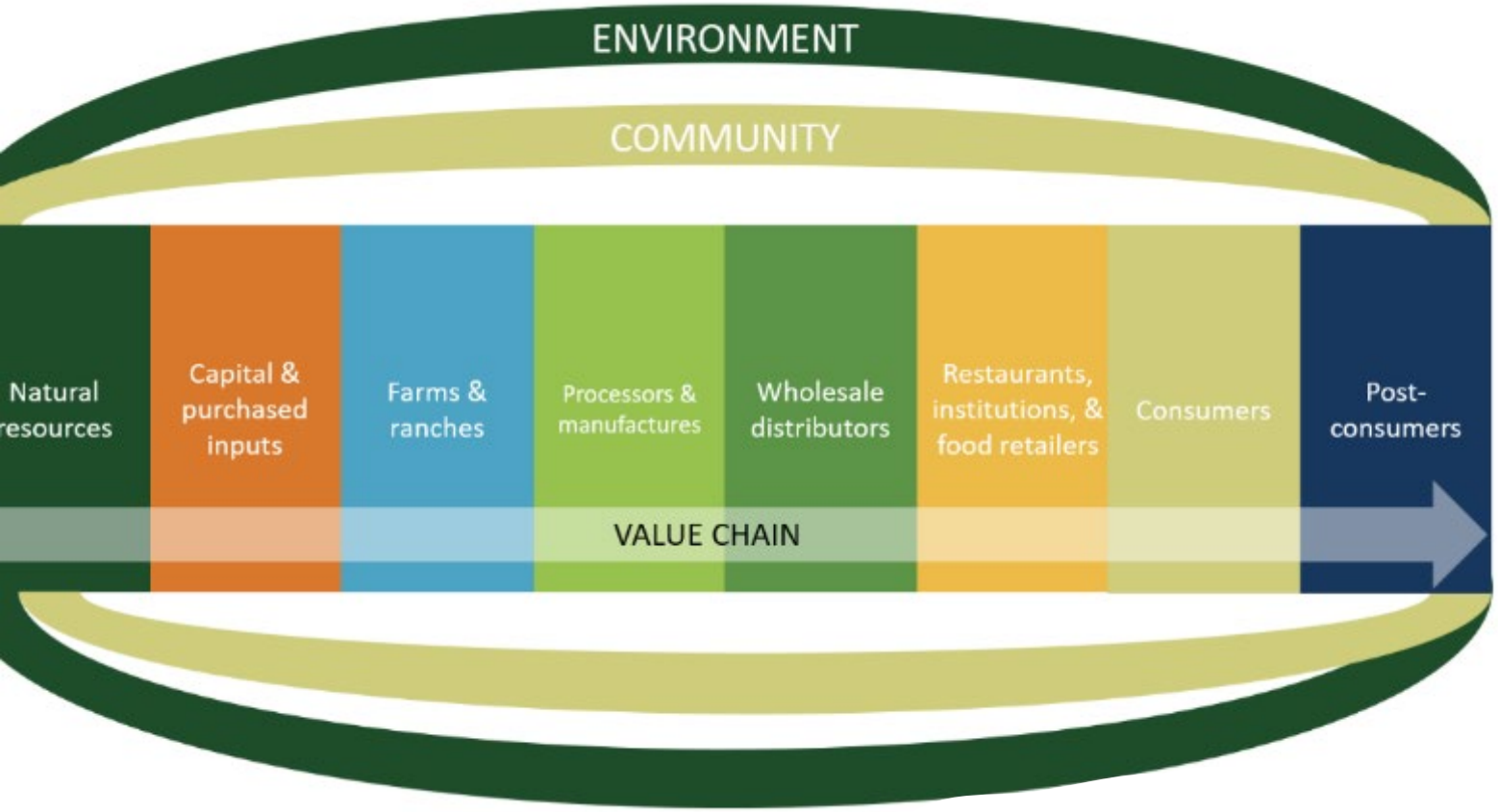


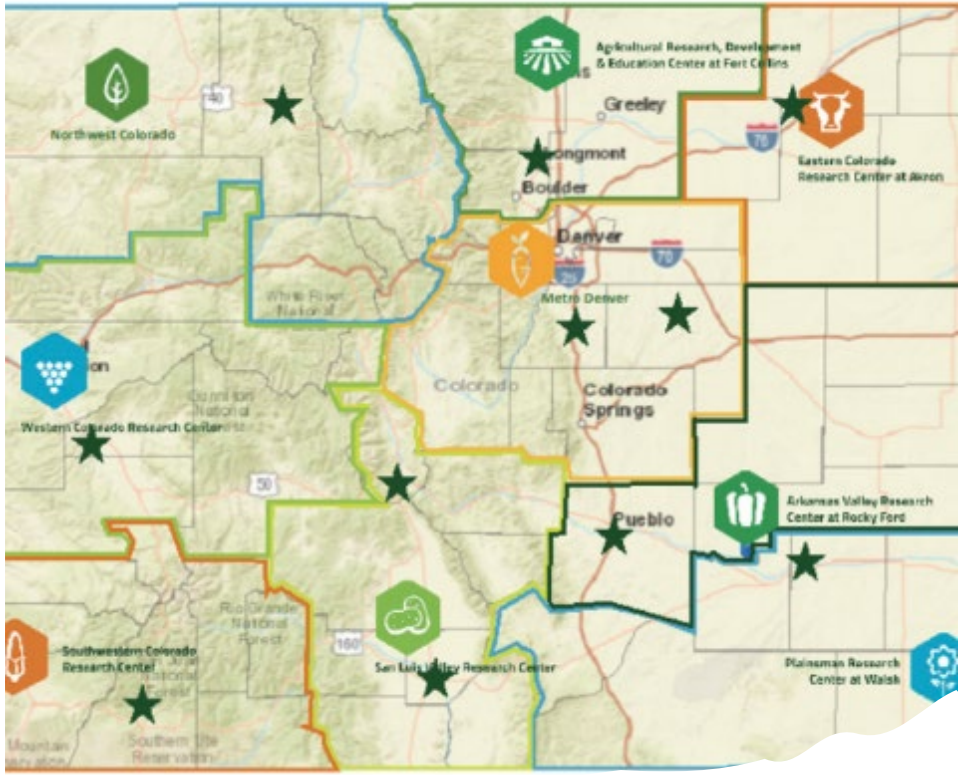


Cluster Analysis







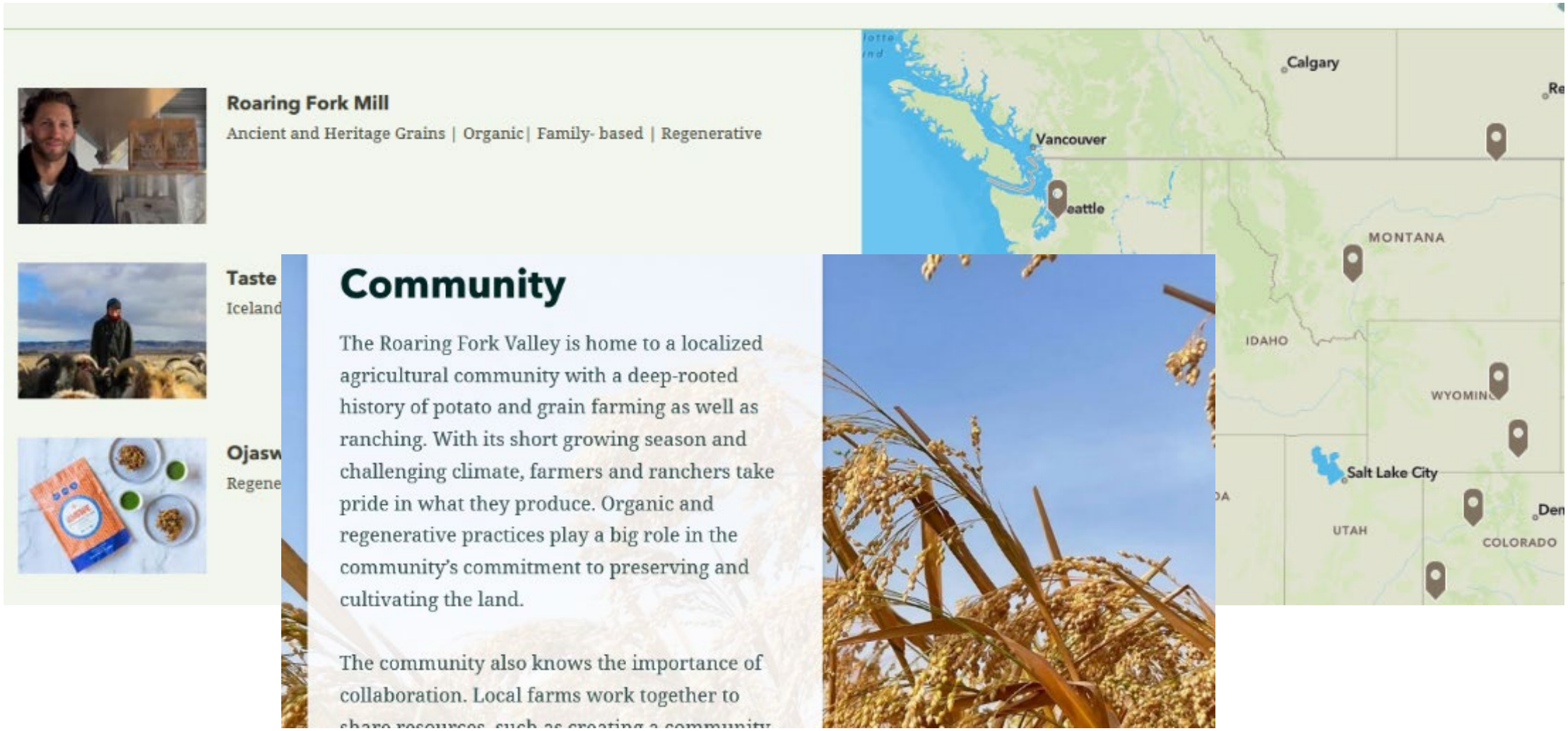


Blending Community Conversations and Data

https://foodsystems.colostate.edu/wp-content/uploads/2018/05/Colorado-Blueprint_FINAL.pdf

Qualitative Analysis and Story Maps

Led by USDA Food Business Center Audrey Welsh and Jayna Mallon



https://nwrockymountainregionalfoodbusiness.com/impact-stories/

Framing Community Conversations and Preferences

FAMILY LEADERSHIP TRAINING INSTITUTE
COLORADO STATE UNIVERSITY EXTENSION

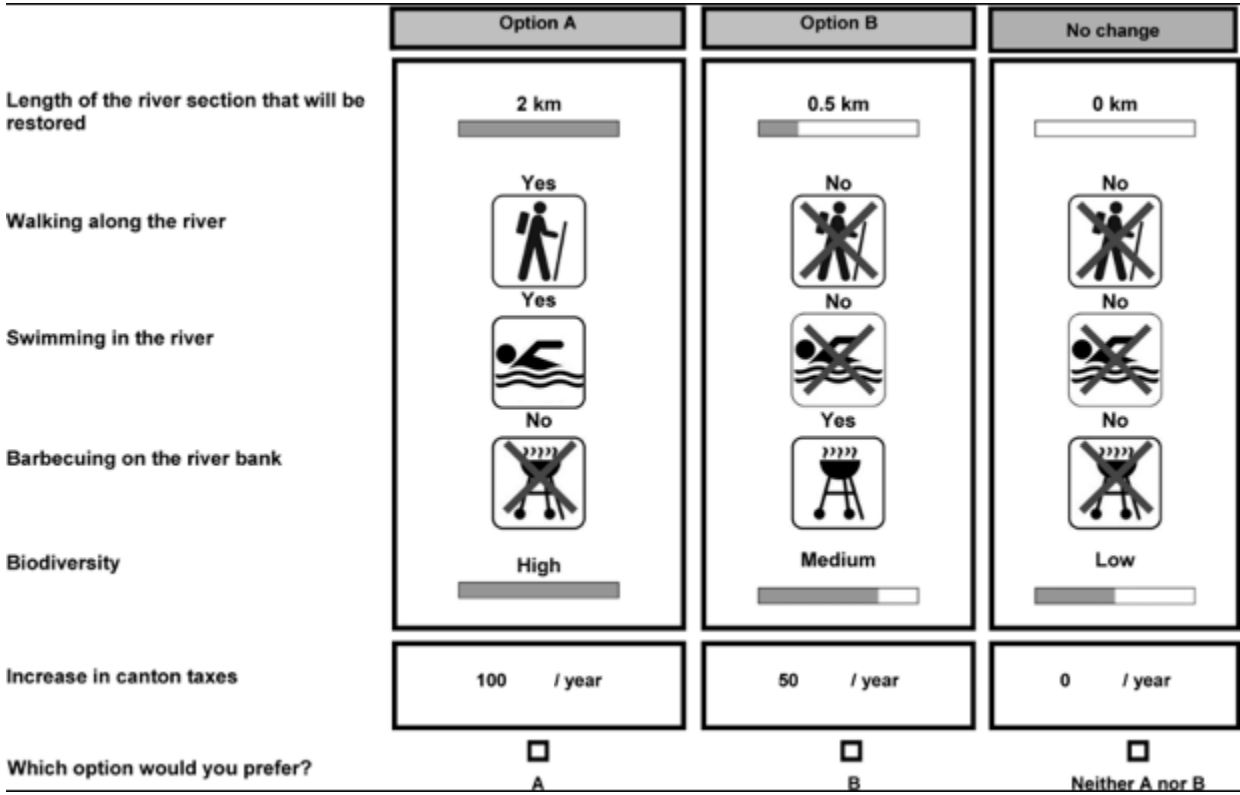
Family Leadership Training Institute of Colorado (FLTI)

Learn. Plan. Act. **TOGETHER**

Bridging the Gap Between Community Members & Local Decision-Makers

CENTER FOR PUBLIC DELIBERATION
COLORADO STATE UNIVERSITY

The CPD serves as an impartial resource for the Northern Colorado community, focused on elevating the quality of public engagement on our shared wicked problems. We analyze issues and then design, convene, facilitate, and report on innovative public forums.



Economic Contribution and Impact Analysis

Worked on Economic Contribution and Impacts Analysis:

- Proposed policies e.g. slaughterhouse ban in Denver
- Recreation e.g. winter sports, river access, etc.
- Agritourism
- Hemp industry
- Festivals
- Food System Initiatives

Regional Economic Analysis

- A type of study which estimates the economic effect of an event in a specified geographic region
- To quantify these effects, we use Input-Output (IO) analysis
  - A method of systematically quantifying the mutual interrelationships among various sectors of a complex economic system

Linkages are Key to Input-Output Modeling

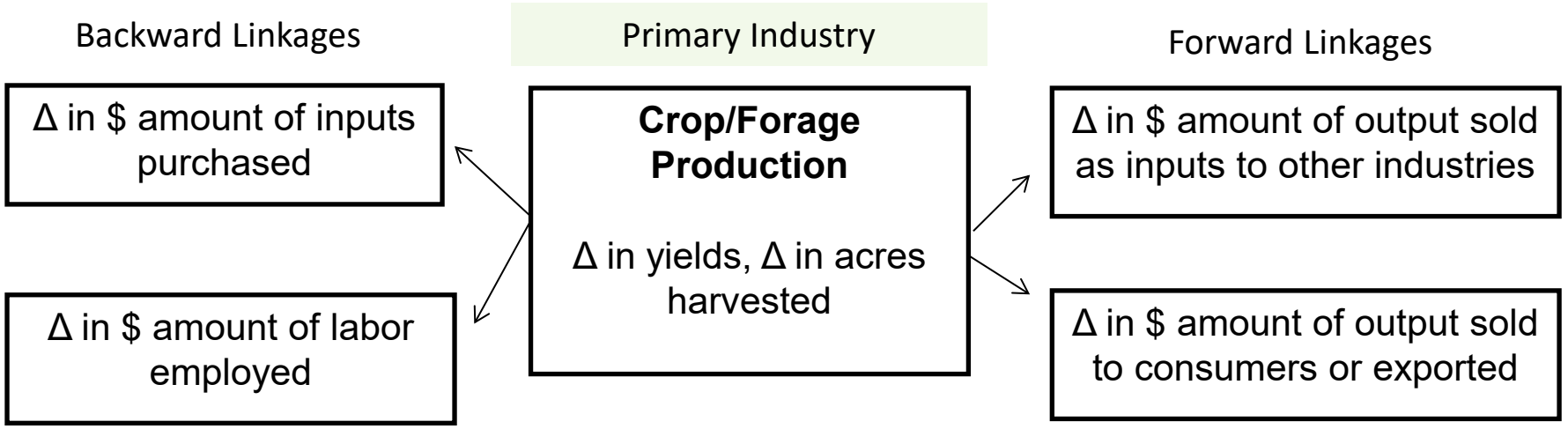
Backward Linkages

- IO (Input-Output) is a demand side model which quantifies the backward linkages effect of production

Forward Linkages

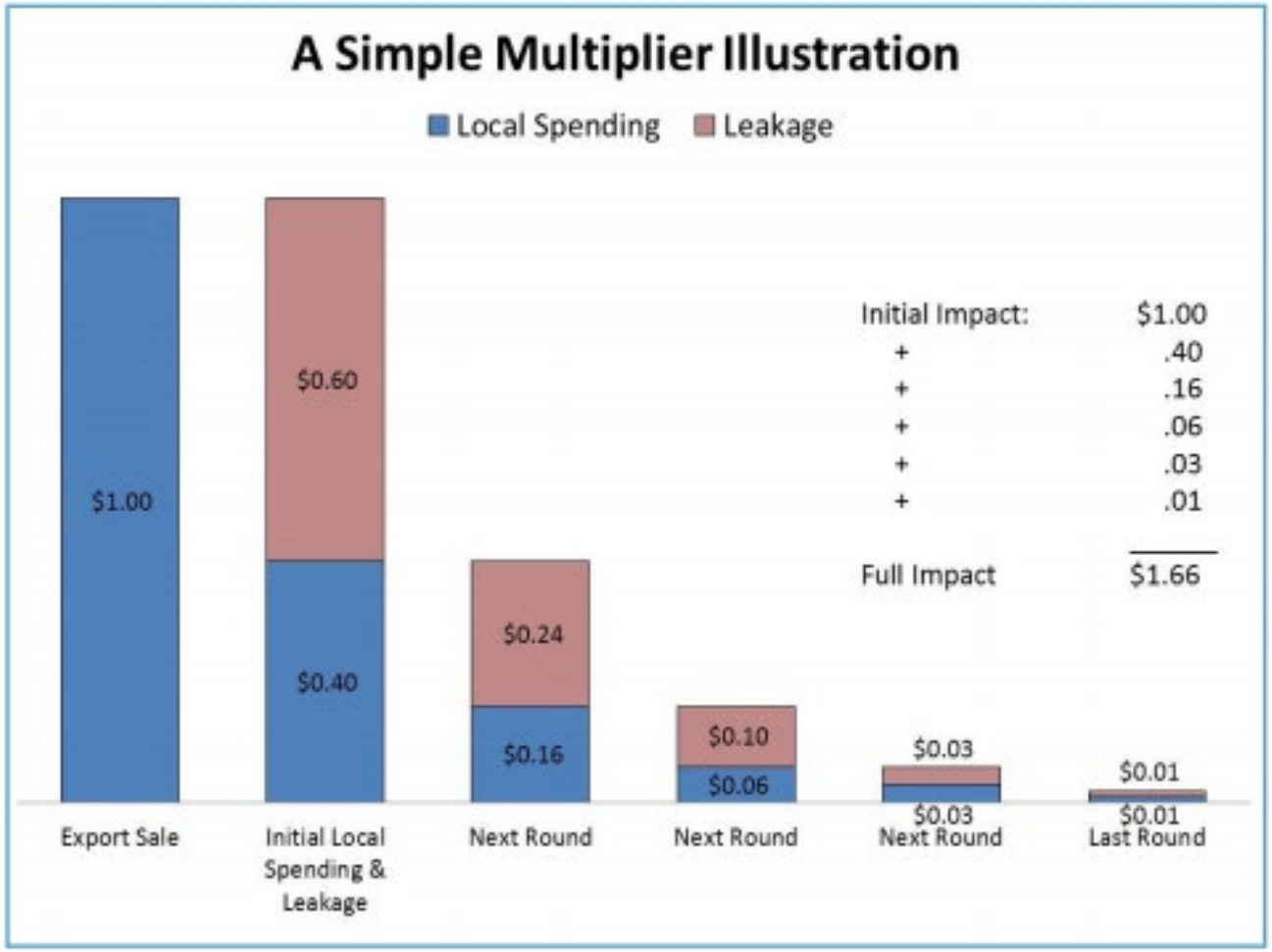
- Forward linkages look at how an industry's production is used as an input for other production processes or for final use
- Not quantified in IO

Using the Input-Output Model



Start at the point of production from which you would like to estimate backward linkages.

Economic Inter-Linkages



Economic Impact Analysis

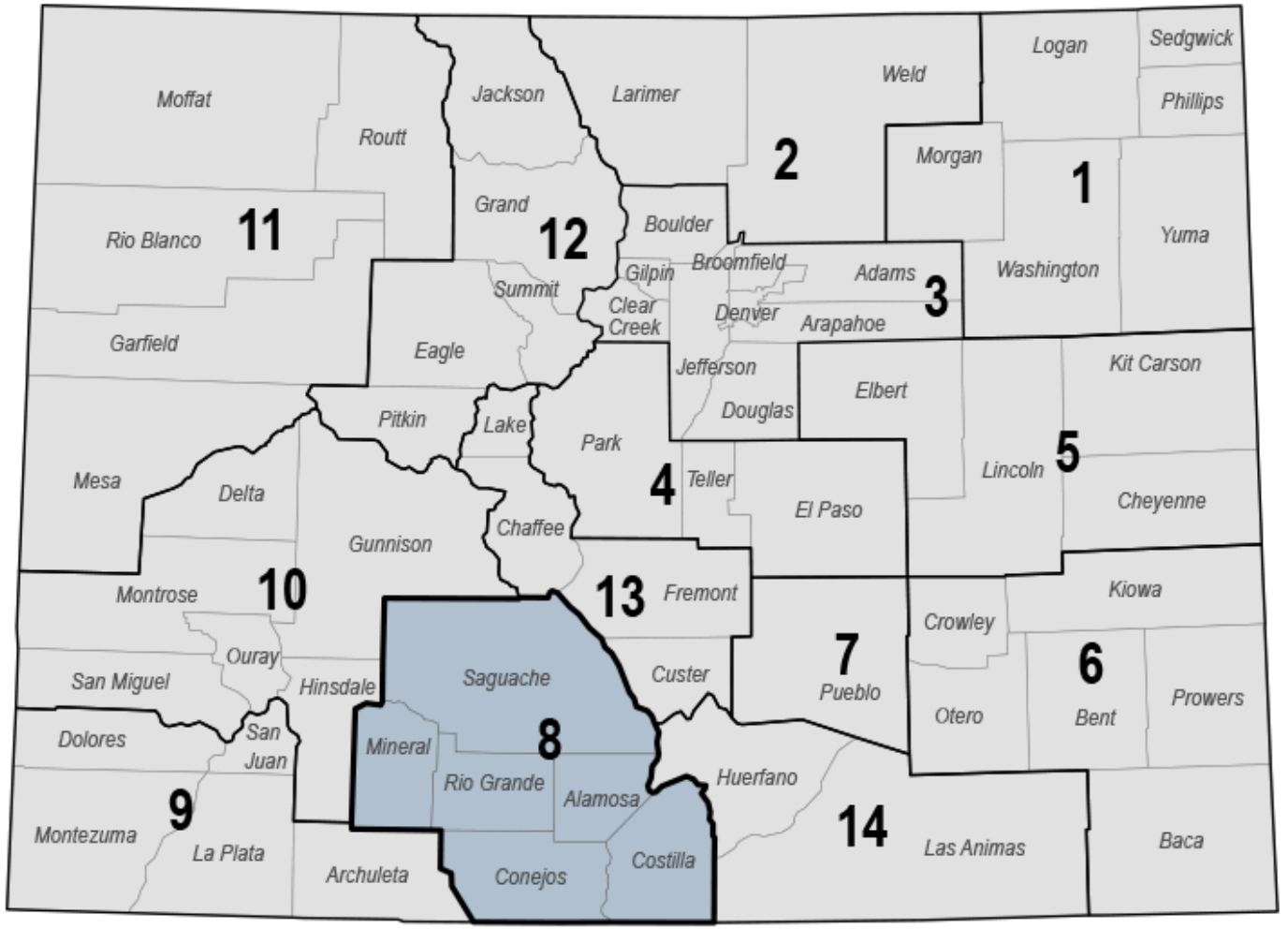
- **Impact** a specific event or change in behavior
  - Often referred to as a **Shock or Event**.
  - For example, a business within the community makes a major investment and hires 50 new workers, or the federal government provides a grant to incentivize the development of a food hub

- Consequently, **impact assessment** is comparing what a community looks like before and after a particular event or change in behavior

San Luis Valley Example

<u>San Luis Valley</u>

- 6 Counties
- 8,200 sq miles of land
- $3.32 Billion



State of Colorado, Region 8

Hypothetical Scenarios

Hypothetical Goal: Reduce consumptive by 24,500 acre feet.

Approaches

1. Equal Acre Feet Among Crops
2. All Reductions from Alfalfa
3. Acres Rotate From Alfalfa to Wheat
4. CREP enrollment to reduce CU.

Linkages to the Local Economy

- Direct Activity
  - Crop Sales (Gross Revenues)

- Indirect Effects
  - Fertilizer, Seed, Chemical Sales
  - (but margins only)
  - Transportation
  - Real Estate Services
  - Ag Consultants

- Induced Effects
  - Wages Spent with Local Businesses

- When is generated economic activity high?
  - High value crops sold outside the region.
  - Revenues spent on locally produced inputs.
  - Local support industries use local labor and inputs.

Crop	Economic Activity ($/ac)	Output Multiplier
Barley	$844	1.43
Alfalfa	$856	1.52
Potatoes	$3,846	1.47
Wheat	$1,035	1.43

Hypothetical Scenario 1: Equal AF

	Acreage Change	Economic Output (Sales) Change	Percent Change in Economic Output (Sales)
Barley	-4,224	$ (3,565,926)	-9%
Alfalfa	-2,500	$ (2,140,000)	-2%
Potatoes	-5,104	$ (19,631,282)	-11%
Wheat	-4,224	$ (4,372,341)	-72%
Total	**-16,052**	**$ (29,709,549)**	

Hypothetical Scenario 1: Equal AF

	Direct	Indirect	Induced	Total
Total Output (Mill$)	-$29.71	-$7.50	-$6.31	**-$43.52**
Employment	-134	-104	-56	**-294**
Value Added (Mill $)	-$14.41	-$4.37	-$3.46	**-$22.23**
Non-Property Tax	-$17,605	-$257,402	-$399,816	**-$674,822**

Hypothetical Scenario 1: Equal AF

Sector Name	Results of Shocks by Sector
Potato	-$19,885,983
Wheat	-$4,374,384
Barley	-$3,709,481
Support activities for agriculture and forestry	-$2,784,953
Alfalfa	-$2,247,348
Wholesale trade	-$1,530,791
Owner-occupied dwellings	-$1,074,411
Real estate	-$531,026
Maintenance/repair of nonresidential structures	-$473,072
Hospitals	-$466,753

‘What-If’ Tool for SLV

SUMMARY RESULTS: Outcome values from specificed changes in economic activity

	Direct	Indirect	Induced	Total
Total Output	$ -	$ -	$ -	$ -
Employment	0.0	0.0	0.0	0.0
Value Added	$ -	$ -	$ -	$ -
Non-Property Tax	$ -	$ -	$ -	$ -

User scenarios - Shocks to Economic Activity

Industry Name	User Inputted Shocks	Results of shocks by industry	Total Output Multiplier
Barley		$ -	1.4
Potato		$ -	1.5
Wheat		$ -	1.4
Alfalfa		$ -	1.5
Oilseed farming		$ -	1.3
Greenhouse, nursery, and floriculture production		$ -	1.3
Beef cattle ranching		$ -	1.6
Dairy cattle and milk production		$ -	1.4
Poultry and egg production		$ -	1.5
Animal production, except cattle and poultry and eggs		$ -	1.2

- **Represents economic connections in 6 counties**
- **184 industry sectors represented in the What-If Tool**
- **Data is compiled from 2013 IMPLAN software**

Rifle Mountain Park Economic Impact

Impact	Employment	Labor Income	Value Added	Output
Direct	2.6	$110,387.45	$157,804.59	$295,934.14
Indirect	0.57	$24,911.00	$39,560.29	$86,291.78
Induced	0.31	$15,070.50	$29,811.59	$50,486.71
Total	3.48	$150,368.96	$227,176.47	$432,712.63

- Employment: an Industry-specific mix of full-time, part-time, and seasonal employment Labor Income: All forms of employment income, including wages, salary, benefits, and proprietor income
- Value Added: Industry GDP
- Output: GDP plus intermediate inputs (business to business spending)

Questions?

What resources would be helpful in your communities?

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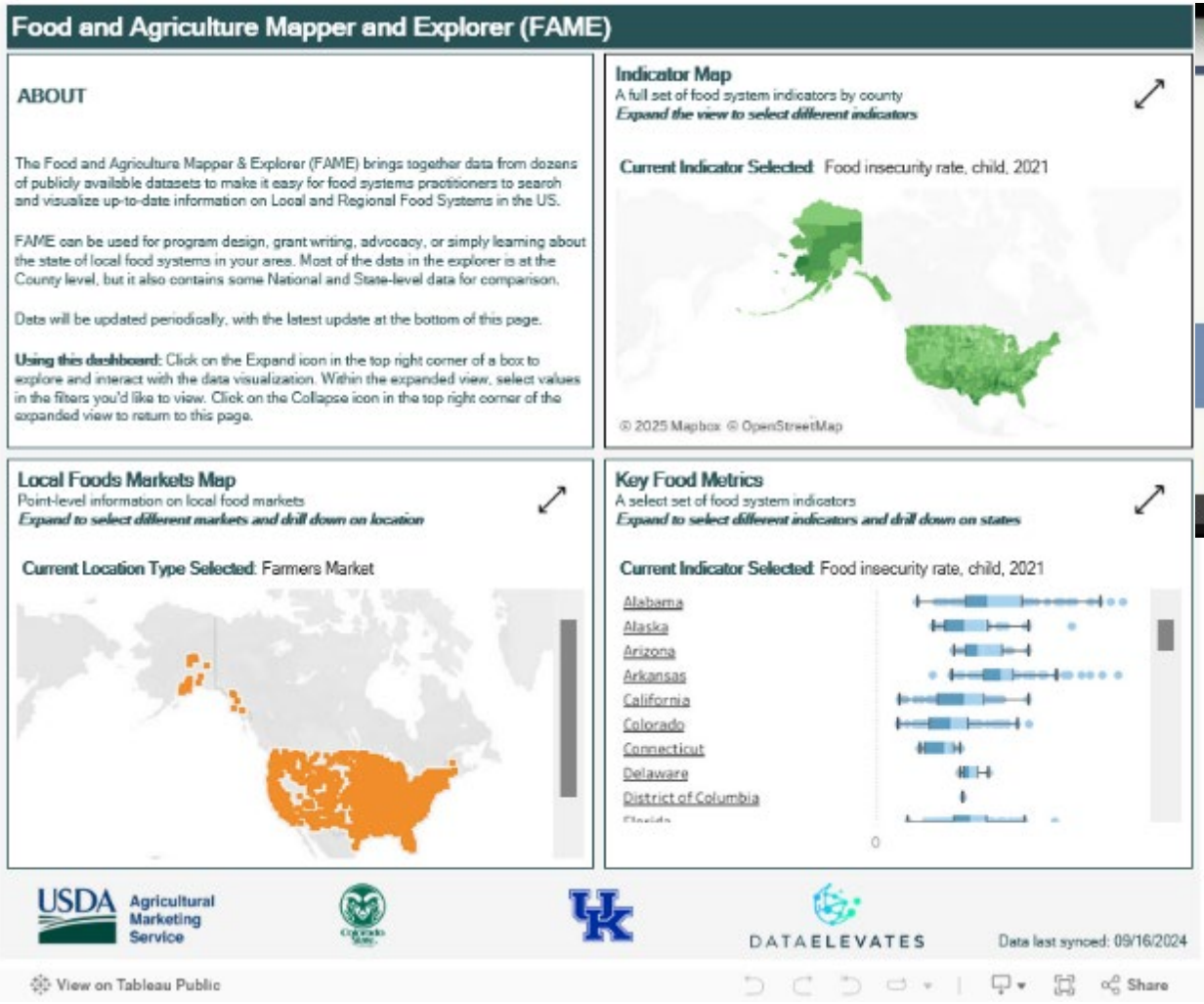
Economic and Community Data Platforms



- Includes over 600 indicators for all counties in the US!
- Updates coming 2026!

https://localfoodeconomics.com/data/food-and-agriculture-data-explorer/

Assumptions in Input-Output Modelling

- Constant Returns to Scale
- No Supply Constraints
- Fixed Commodity Inputs
- Homogenous Sector Output
- Homogenous Industry Technology

Constant Returns to scale

- Production functions are linear

- In English – if you increase output all inputs increase proportionally
  - If it takes 1.2 hours of labor to harvest one acre, it takes 2.4 to harvest 2 acres
  - No returns to scale

No Supply Constraints

- Unlimited access to raw materials
  - Assuming that if the material is not available from within the region can get it from outside the region
- In general:
  - Contractions are not a concern
  - Small expansion ok, but large expansions might be problematic

Fixed Input Structure

- Changes in prices of inputs do not cause a firm to buy substitute goods
  - So, changes in economy will effect the output but not the mix of commodities it takes to produce that output
- Makes model static and not good at prediction
  - In reality firms will adapt to price changes

Homogenous Sector Output

- Proportions of all commodities produced by an industry remain the same, regardless of total output.
  - An industry will not increase the output of one product without proportionately increasing output of all its products

Homogeneous Industry Technology

- Industry uses same technology to produce products regardless of output
  - Again a reason why input-output modelling is not appropriate for longer term forecasting

Definitions of Key Terms

Key Definitions

- Direct impacts
  - Economic impacts associated with the economic change that is being measured
- Indirect impacts
  - The impact of local industries buying goods and services from other local industries. The cycle of spending works its way backward through the supply chain
- Induced impacts
  - Response due to re-spending (employee compensation) through household spending patterns

Value Added

- Net revenues – difference between what they sell the good for and what they paid for all the components to produce the good
- Measure of GDP

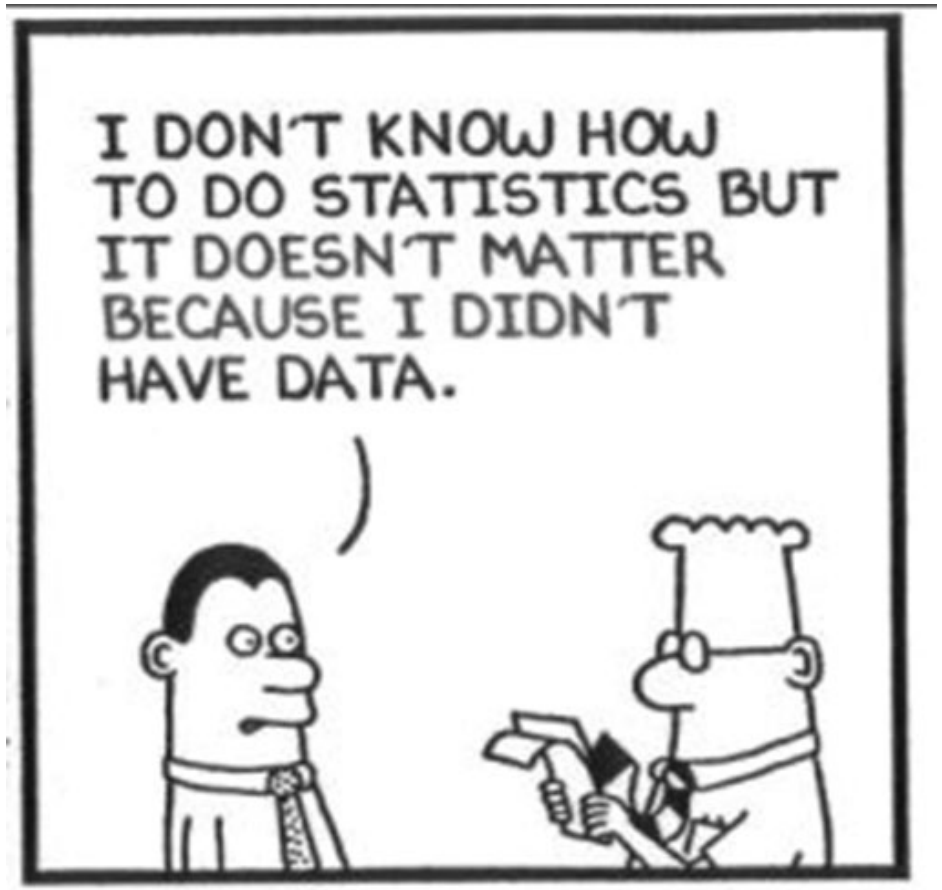
- IMPLAN includes four VA sub-components:
  - Employee compensation
  - Proprietary/proprietor's income
  - Other property type income
  - Taxes on production (used to be referred to as indirect business taxes)

Output and Employment

- Output:
  - The sales revenue or value of production
  - Gross expenditures (including value added)
- Employment
  - Represents the annual average of monthly jobs
  - NOT FTE

Framing an Economic Impact Assessment

- Estimating the economic impacts can be challenging!



IMPLAN

- We typically use a software called IMPLAN to evaluate economic impacts
  - Contains interconnected relationships in regional economies of 528 unique sectors
  - Often customize this initial data to fit our individual situations

Main Event Types

- *Industry event* – analyzing a change in an industry's production
  - IMPACTS
- *Industry contribution events* – estimating the effect of an existing industry's production
  - CONTRIBUTIONS

- *** Other less common event types not covered today: Labor income events, Household income events, institutional spending pattern events, Commodity output events

Examples of Events

- Construction and operation of a new business
- Impacts from new investments (such projects from grant dollars)
- Economic Impacts of visitor spending – due to an event, industry or business
- Spending changes due to population fluctuations
- Contributions of an existing company or industry
- Impacts from Environmental changes

Small Group Session

- In small groups
  - What events might you want to evaluate in your communities
  - Pick one of your ideas to develop further during the rest of this workshop

IO Is not a feasibility analysis

- IO assumes no supply constraints, so you first must determine that there is sufficient workforce and other resources for the event
- Important that you have already determined there is demand for the production

What Industries are Affected?

- How will the activities be represented?
  - What industries are impacted
- Does your question fit one of the existing industries?
  - Do local food producers have different expenditure patterns?
  - Have new or deeper business linkages emerged with community planning and investments?

What is your Region?

- What is the appropriate region?
  - Where the impact takes place, and where you want to understand the effect
  - This determines the boundary for quantifying spending supported by your event.
  - Spending that does not generate effects in the selected region is called leakage

Opportunity Costs

- One word of caution…these shocks do not happen in isolation, and there are very few scenarios where a shock would have only positive local economic impacts.

- Opportunity Cost: the benefit that is lost when one opportunity is chosen over another

Net effects

- Consider the **opportunity cost** or **countervailing effects** of any policy is critical!
  - e.g., farmers' decision to plant additional acreage in fruits and vegetables may mean less acreage planed in corn or soy. Likewise, the decision of the Federal government to stimulate the development of a food hub may have negative impacts on the local wholesale sector.

- Both positive and negative impacts need to be included
  - Will business be taken from something else?

Small Group Session

- Take the ideas you created in the last session and brainstorm the following:
  - Am I looking for a feasibility study not an IO study?
  - What industries will be impacted?
  - What region is most appropriate?
  - What are some of the opportunity costs I need to consider?

What's Next

- Frame your scenarios
  - Identify and collect needed data
  - Is secondary data available?
- Different types of scenario shocks:
  - Change in output?
  - Change in employment?
  - Change in employee compensation?
  - Change in proprietor Income?
- Each scenario may have multiple shocks
  - Remember opportunity costs

Your Purpose

- What is the purpose of the study?
- What are you trying to communicate?
- Who are the stakeholders?

- Your purpose can help guide the depth and scope of the study