Connecting Regional Supply Chains

Presentation to the Greater Philadelphia Food System Stakeholder Committee

November 7, 2014

TRF THE REINVESTMENT FUND
Capital at the point of impact.

TRF Profile

The Reinvestment Fund builds wealth and opportunity for low-wealth people and places through the promotion of socially and environmentally responsible development.

- **$1.4 billion** in cumulative investments and loans throughout the mid-Atlantic.
- Currently manage **$801 million** in capital, with more than 850 investors.
- Top AERIS score of AAA+1 (most recent 2014). TRF is 1 of only 5 CDFIs in the country with the top rating.

Business Lines


Lending and Investing


Policy Solutions


Real Estate Development

PolicyMap

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Our Outcomes

20,425 homes

48,395 education seats

13.3 million sq. ft of commercial space

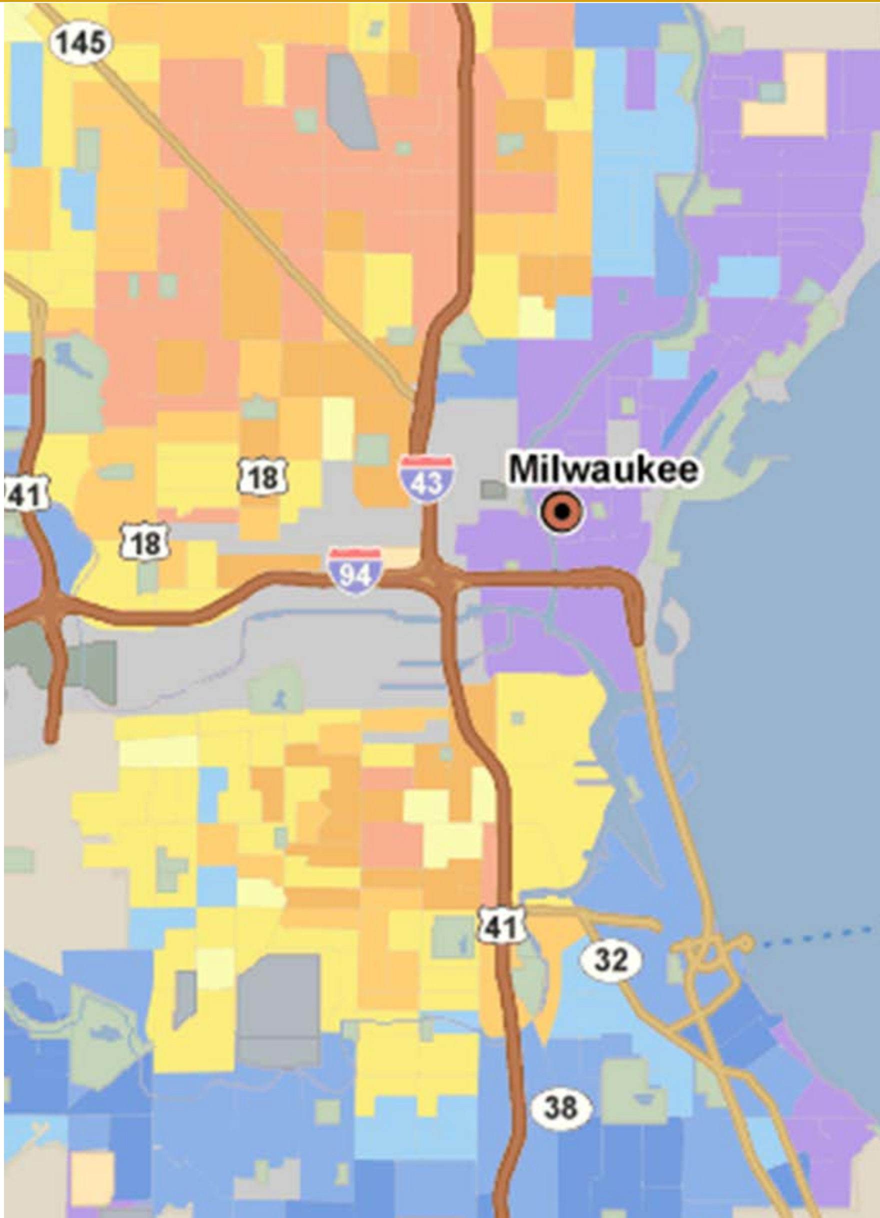
356,732 patient visits

64,265 jobs

Policy Solutions

A division of The Reinvestment Fund that combines rigorous data analysis with a distinctive ability to help clients think spatially.

- Real Estate Market Analysis
  - Market Value Analysis (MVA)
  - Limited Supermarket Access (LSA)
  - Commercial corridors analysis
  - Food Systems Research
- Program & Social Impact Assessment
  - Estimating Supermarket Access, School Lunch Analysis, Grantmaker Advisory



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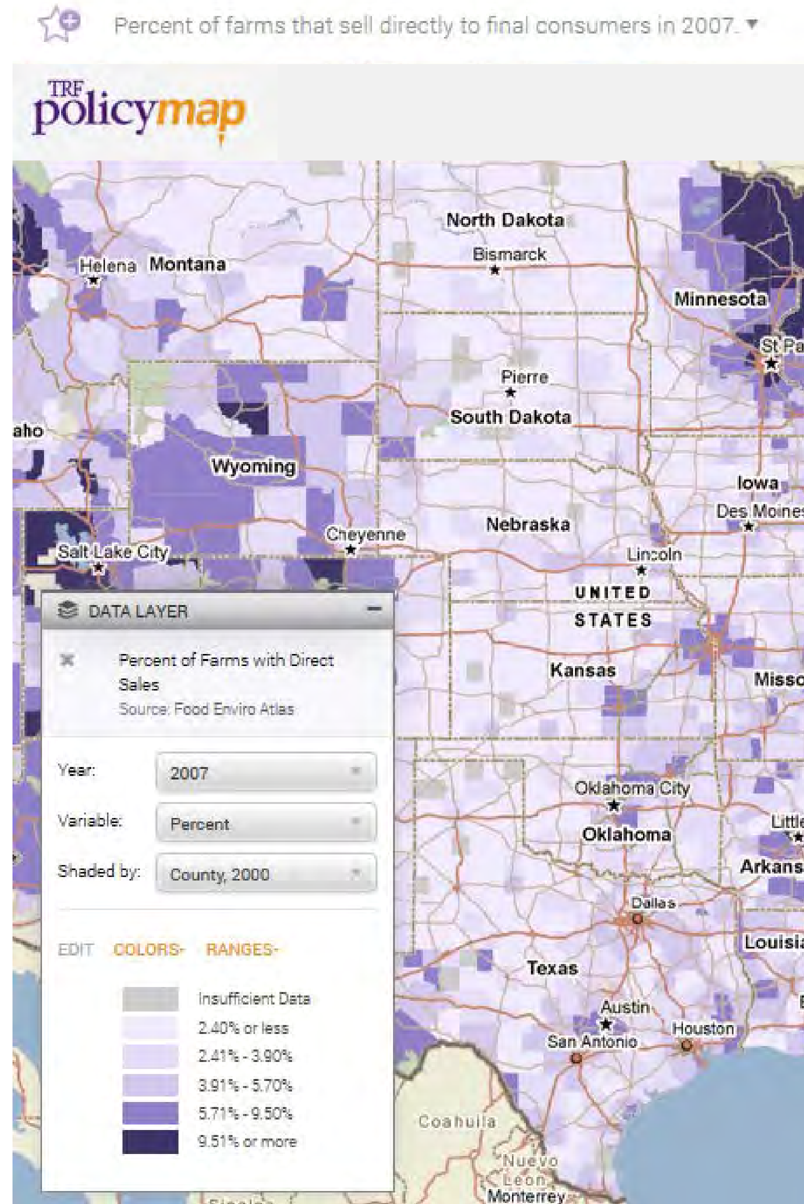
PolicyMap

TRF's PolicyMap enables government, commercial, non-profit and academic institutions to access data about communities and markets across the US.

- National data mapping and analysis tool
- Easy, online access to data and analytical tools in a sophisticated yet user-friendly web platform
- Over 15,000 data indicators as well as proprietary TRF analytics, with frequent additions
- CNET award winner for best of location-based services Web 2.0 products



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Research & Analysis

- Economic Impacts of Supermarkets
- FFFI Rural Grocery Case Study
- Limited Supermarket Access (LSA) Study
- Food Supply Chain Research

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Building Capacity

www.healthyfoodaccess.org

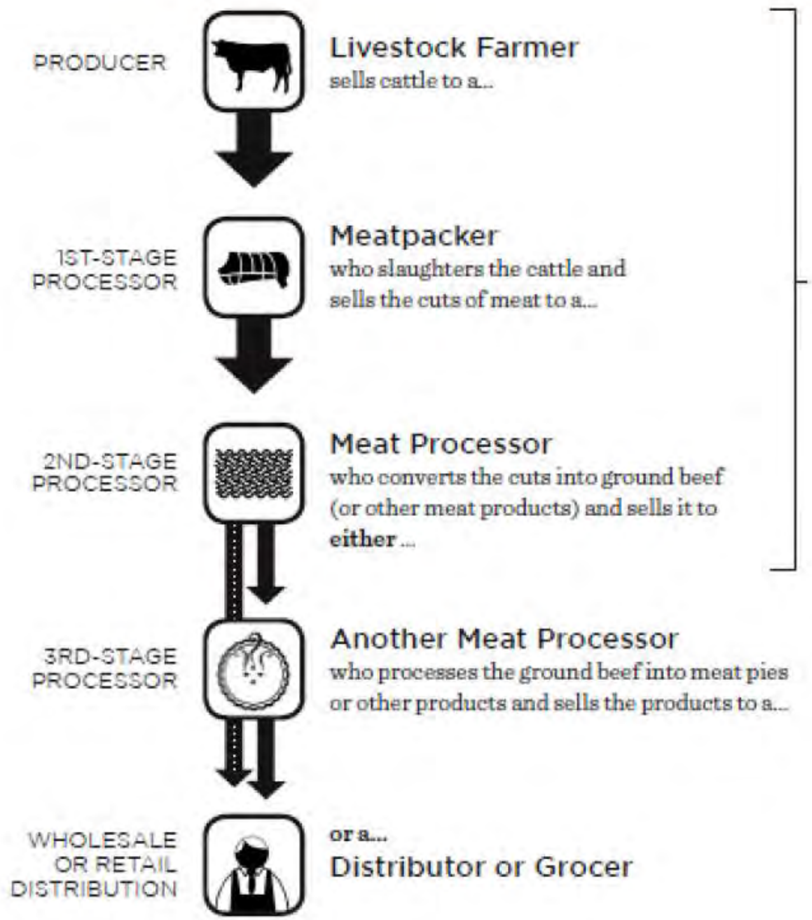
Research Objectives

- Existing research primarily focuses on global supply chains - we want to explore “what if regional” opportunities
- Facilitate regional economic development
- Expand access to capital for producers and processors
- Supplement anecdotal evidence of limited slaughter facilities with quantitative data

Methodology

1. SIC Code matrix of buyers/sellers
2. Minimum distance between buyer/seller
3. USDA price spreads
4. Allocation of buyer's inputs purchased from seller(s)
5. No preference for scale in supply chain
6. Multiple processing stages
7. Theoretical and not actual

Meat Supply Chain



SIC Code Buyer/Seller Matrix

Selected Industries in the Meat Supply Chain Matrix

Column Industries Purchase from Row Industries

				20110000	20119907	20130101	20130300	20139903
8-Digit SIC Code	Industry Description	# Firms	% All Firms	Meat packing plants	Sausages, from meat slaughtered on site	Beef stew, from purchased meat	Sausages and related products, from purchased meat	Cooked meats, from purchased meat
02110000	Beef cattle feedlots	892	17.9%	0.8457	0.7771	0	0	0
02120000	Beef cattle, except feedlots	2,351	47.2%	0.8457	0.7771	0	0	0
02130000	Hogs	325	6.5%	0.8457	0.6509	0	0	0
02139901	Hog feedlot	36	0.7%	0.8457	0.6509	0	0	0
02140000	Sheep and goats	53	1.1%	0.8457	0.7771	0	0	0
02140100	Goats	8	0.2%	0.8457	0.7771	0	0	0
02140101	Goat farm	34	0.7%	0.8457	0.7771	0	0	0
02140102	Goats' milk production	11	0.2%	0.8457	0	0	0	0
02140103	Mohair production	2	0.0%	0	0	0	0	0
02140200	Sheep	73	1.5%	0.8457	0.7771	0	0	0
02140201	Lamb feedlot	7	0.1%	0.8457	0.7771	0	0	0
02140202	Sheep feeding farm	3	0.1%	0.8457	0.7771	0	0	0
02140203	Sheep raising farm	72	1.4%	0.8457	0.7771	0	0	0
02140204	Wool production	8	0.2%	0	0	0	0	0
02190000	General livestock, nec	547	11.0%	0.8457	0.7771	0	0	0
20110000	Meat packing plants	194	3.9%	0	0	0.7085	0.624	0.7085
20110100	Beef products, from beef slaughtered on site	20	0.4%	0	0	0.7085	0.624	0.7085
20110101	Boxed beef, from meat slaughtered on site	3	0.1%	0	0	0.7085	0.624	0.7085
20110102	Corned beef, from meat slaughtered on site		0.0%	0	0	0.7085	0	0.7085
20110103	Veal, from meat slaughtered on site	11	0.2%	0	0	0	0.624	0.7085
20110200	Pork products, from pork slaughtered on site	6	0.1%	0	0	0	0.624	0.624
20110201	Bacon, slab and sliced, from meat slaughtered on site	2	0.0%	0	0	0	0	0.624
20110202	Hams and picnics, from meat slaughtered on site	3	0.1%	0	0	0	0	0.624
20110300	Lamb products, from lamb slaughtered on site	2	0.0%	0	0	0	0.624	0.7085
20110301	Mutton, from meat slaughtered on site	1	0.0%	0	0	0	0.624	0.7085
20110400	Meat by-products, from meat slaughtered on site	6	0.1%	0	0	0.7085	0.624	0.7085
20110403	Lard, from carcasses slaughtered on site	1	0.0%	0	0	0.7085	0.624	0.7085

USDA Price Spreads

Figure 1:

2010 USDA BEEF PRICE SPREADS

Farm Value (Producer)	$204
1st-Stage Wholesale Value (1st-Stage Processor)	$241
Percentage of 1st-Stage Processor's Sales Spent on Inputs from Farm	**85%**
2nd-Stage Wholesale Value (2nd-Stage Processor)	$340
Percentage of 2nd-Stage Processor's Sales Spent on Inputs from 1st-Stage Processor	**71%**
Retail Value	$440
Percentage of Sales Spent on Inputs from 2nd-Stage Processor	**77%**

Source: USDA ERS Beef and Pork Price Spreads, 2012.

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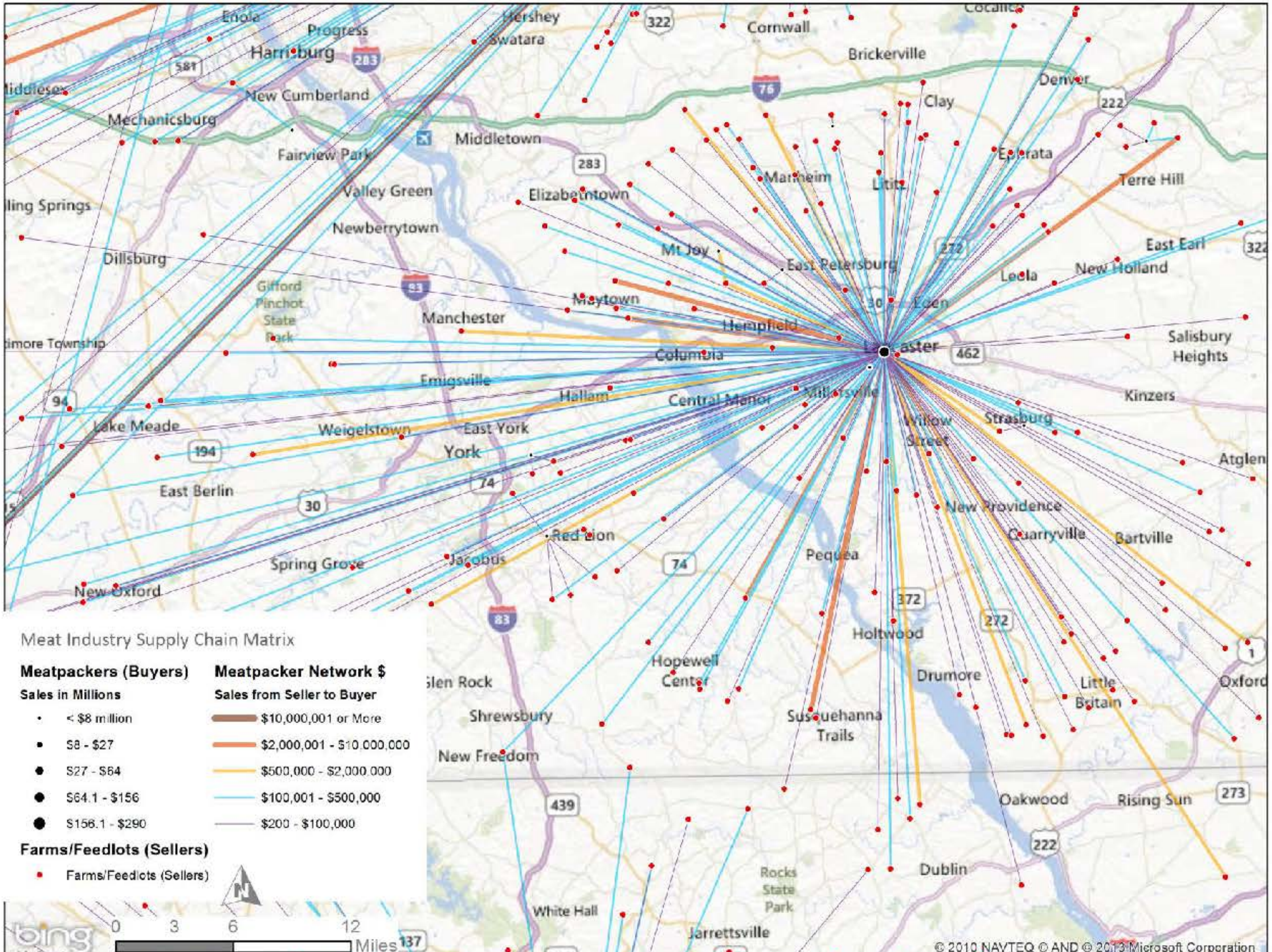
Sales Allocation – Minimum Distance



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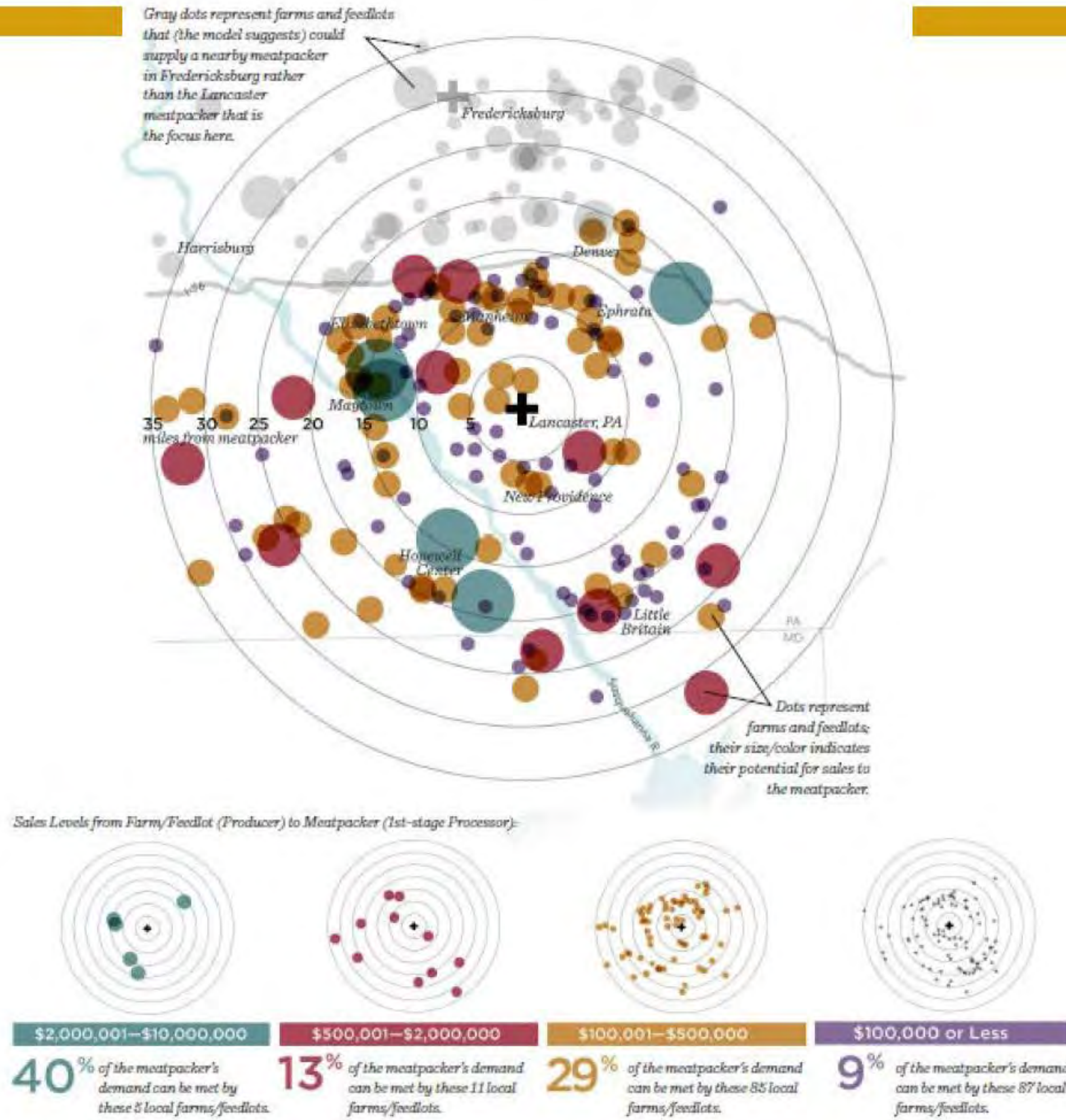
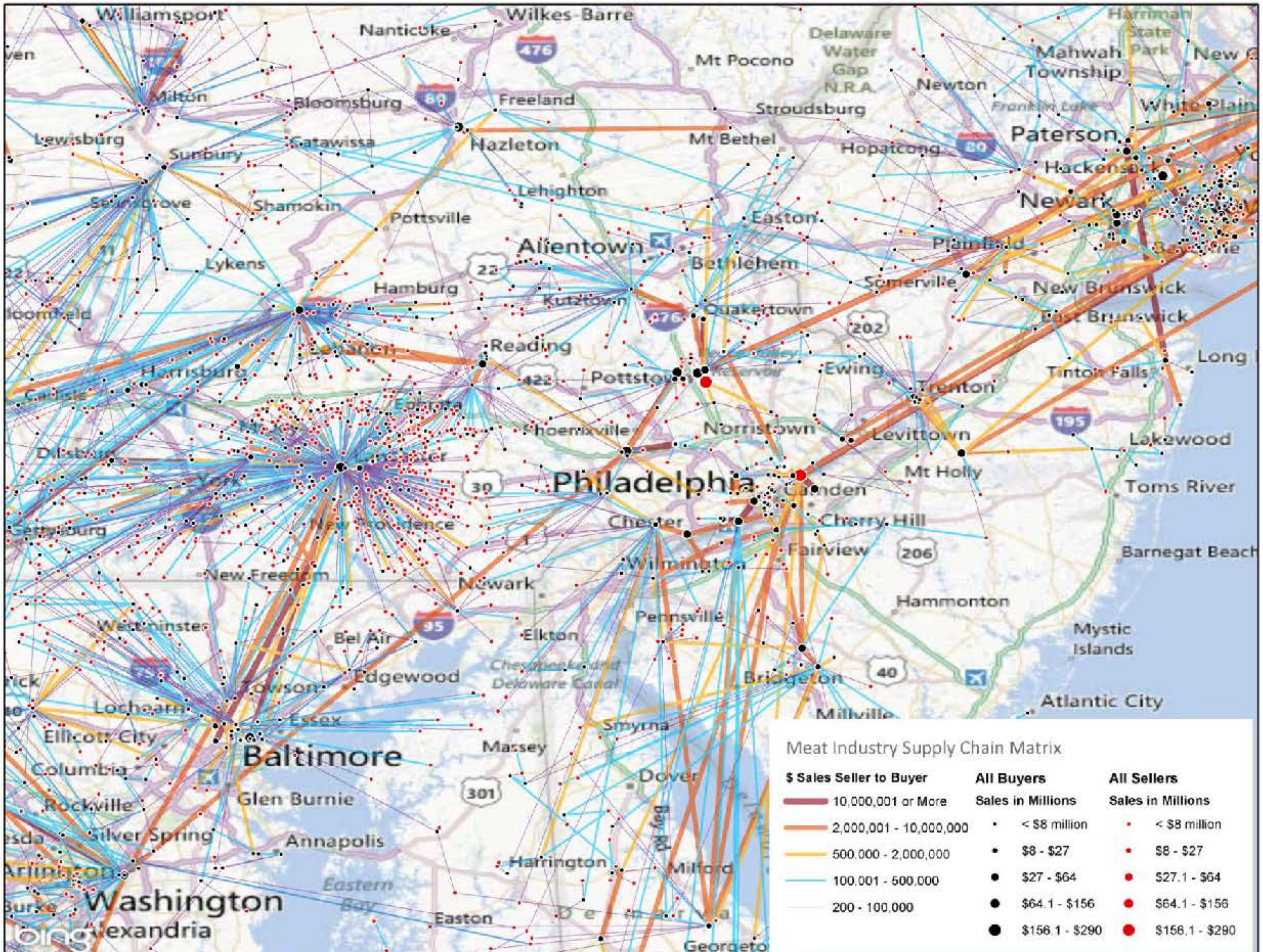
Sales Allocation – Minimum Distance



Multiple Processing Stages



Economic Development Strategies

- Import substitution
- Expand and attract businesses
- Connect existing food businesses
- Food aggregation facilitating economies of scale
- Incentive programs
- Targeted infrastructure investments
- State and federal funding
  - Location Quotients
  - Economic Multipliers

Location Quotients

Location Quotients for *Food Manufacturing*

State	*County*	*LQ Northeast Region Benchmark*	*LQ Nationwide Benchmark*	*# Employees in WPF Target Region*
NJ	Atlantic	0.21	0.17	173
NJ	Burlington	1.10	0.92	1,375
NJ	Camden	1.73	1.45	2,169
NJ	Cumberland	8.18	6.85	2,411
NJ	Gloucester	2.38	1.99	1,356
NJ	Mercer	0.49	0.41	632
NJ	Monmouth	0.92	0.77	1,515
NJ	Ocean	0.73	0.61	680
PA	Berks	3.37	2.82	3,357
PA	Bucks	0.48	0.40	880
PA	Chester	0.84	0.70	1,295
PA	Delaware	0.53	0.44	745
PA	Lancaster	4.73	3.96	7,493
PA	Lehigh	1.70	1.42	1,563
PA	Philadelphia	1.17	0.98	5,004
PA	York	5.12	4.29	5,524

Source: U.S. Census County Business Patterns, 2010

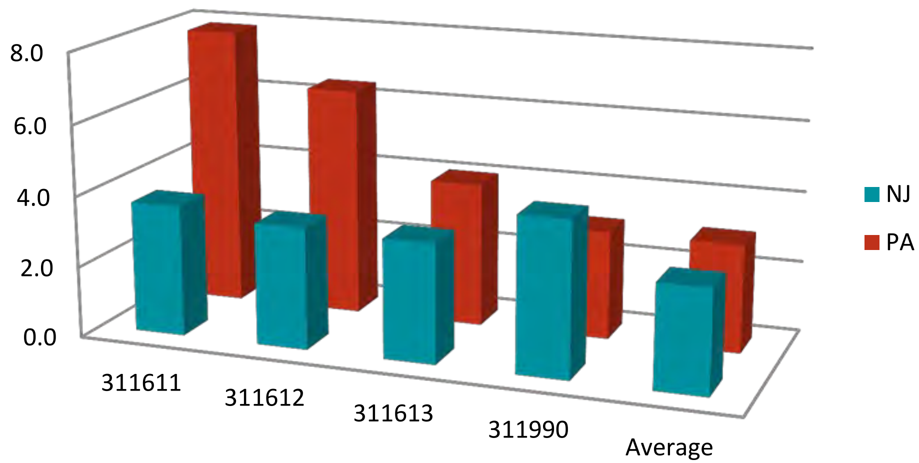
Economic Multipliers

Employment Multipliers for Meat Production and Processing

NAICS	*NAICS Description*	*PA*	*NJ*
311611	Animal, except poultry, slaughtering	7.9	3.7
311612	Meat processed from carcasses	6.4	3.4
311613	Rendering and meat byproduct processing	4.1	3.4
311990	All other food manufacturing	3.0	4.3
Average	Average All Industries	3.0	2.9

Source: Bureau of Economic Analysis RIMS II, 2010

State-Level Employment Multipliers in Meat Production and Processing Industries: PA and NJ



Practical Applications

- Food aggregators (hubs)
- Departments of agriculture
- Food industry councils and trade groups
- Processors at numerous stages
- Producers (farms and feedlots)?

How well does our theory match reality?...

Potential Features and Improvements

- Road network connectivity
- Matching buyers/sellers by scaled cohorts
- Wholesale distribution
- International import/export data (state level)
- Other food industries (poultry, vegetables)
- Incorporate supplier industries (animal feed, veterinary services, plant growth regulators)
- Others?

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Food System Planning Strategies

Farming and Sustainable Agriculture

- Access to Capital (pg. 32): help borrowers create business plans to support loan applications; help lenders underwrite loans to support food systems development

Ecological Stewardship and Conservation

- Farmland Preservation (pg. 39): facilitate demand for regional foods, potentially increasing selling price per pound and increasing the opportunity cost of converting farmland

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Food System Planning Strategies

Economic Development

- Business Development (pg. 44): market intelligence can help new food businesses identify optimal locations and develop economies of scale through collaboration
- Food Procurement (pg. 45): help food hubs to identify new producers and processors to aggregate and, in turn, sell to the region's institutional buyers
- Supply Chain Efficiencies (pg. 51): help maximize the efficiency of regional supply chains

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To view the report, visit:
http://www.trfund.com/wp-content/uploads/2013/08/TRF_MeatSupply_final.pdf

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