Oregon Food Infrastructure Gap Analysis

Where Could Investment Catalyze Regional Food System Growth and Development?

EXECUTIVE SUMMARY

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For more than twenty years, Ecotrust has converted $80 million in grants into more than $800 million in assets for local people, businesses, and organizations from Alaska to California. Ecotrust’s many innovations include cofounding an environmental bank, starting the world’s first ecosystem investment fund, creating programs in fisheries, forestry, food, farms, and social finance, and developing new tools to improve social, economic, and environmental decision-making. Ecotrust honors and supports the wisdom of Native and First Nation leadership in its work. Learn more at www.ecotrust.org

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Meyer Memorial Trust

Meyer Memorial Trust’s mission is to work with and invest in organizations, communities, ideas, and efforts that contribute to a flourishing and equitable Oregon by using a mix of strategic, proactive, and responsive investments, including grantmaking, loans, initiatives, commissioning research, supporting policy advocacy, and a range of community and nonprofit engagement strategies.
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What Is the Issue?
This project was proposed by Ecotrust and funded by Meyer Memorial Trust to meet three objectives on behalf of impact investors, practitioners, and policymakers:

1. To provide an overview of key supply, demand, and infrastructure drivers affecting the development of Oregon’s regional food system;

2. To illuminate aggregation, processing, and distribution infrastructure gaps inhibiting the flow of whole and minimally processed agricultural and food products from small and midscale Oregon producers to domestic wholesale food buyers, and;

3. To suggest opportunities for investment to advance the development of a robust regional food economy in Oregon.

What Did the Study Find?
At the highest level, the study confirmed that food aggregation, processing, and distribution infrastructure is not readily or affordably accessible by Oregon’s small and midscale, differentiated farmers, ranchers, and artisans, and that this lack of access is inhibiting the growth and development of a robust regional food economy. However, the study also highlighted many other
interdependent factors related to the development of a strong regional food economy.

**Supply**

Oregon has robust, diverse, and thriving agricultural and food sectors, with almost $4.9 billion of total agricultural output generated in 2012, and more than $11 billion spent on food in 2013. Of the more than thirty-five thousand farms and ranches in Oregon, nearly half of the state’s agricultural production is of nonfood products such as nursery stock, grass and other seed, wine grapes, and Christmas trees. This study focused on the twenty thousand to twenty-five thousand farms and ranches we estimate are directly producing food for human consumption or forage for livestock. Forage was included because of its obvious value as an input into meat production, and because it emerged as a key area of opportunity for investment and attention.

Highlights from the Supply section of the report include:

- **Primary food production regions** across the state are illuminated, including maps and general descriptions of important differences in terrain and production viability.

- **Scale of operation** is discussed as a key variable in understanding both where gaps exist and what type of producers (farmers and ranchers) and processors (value-added and specialty producers, artisan and entrepreneurs, or operators of enabling infrastructure) would most efficiently metabolize investment or other support into desired outcomes.

- We found it impossible to define a scale “sweet spot” because the gross sales ranges differ significantly across product categories, geography, and, to some degree, market channel (e.g., one acre of blueberries sold primarily via the Portland Farmers’ Market has the capacity to yield very different gross sales than one acre of pastureland for a cow/calf operator), and the fact that producers can and do participate in multiple categories.

- However, we explored the conceptual model described as “Ag of the Middle” and found it to be a useful construct in framing challenges and opportunities. In slightly abstracted terms, Ag of the Middle producers are those too small to compete in commodity markets, and too big to participate exclusively in direct to consumer channels such as farmers’ markets; what we now describe as “local values, wholesale volume”.

- The research indicates that for “Ag of the Middle” players to be financially viable, they must capture value based on **product differentiation**.

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3 Note: Because farms and ranches grow multiple crops, including both food and nonfood, and/or different varieties of both food and forage, it is impossible to create a clearly delineated chart of producers by product type from available data.
Differentiation can be achieved based on multiple dimensions related to product attributes, production practices, business structure, geography, brand, or a combination thereof (e.g., local, certified organic, farmer co-op).

**Ag of the Middle* Framework (AOTM)**

*“Ag of the Middle” is a conceptual framework, not a set of hard and fast rules. See www.agofthemiddle.org for more.

**Demand**

The population of Oregon is estimated at 3.97 million residents, 6 68 percent of whom live in the Willamette Valley, 5 mostly concentrated along the Interstate-5 corridor. Multnomah County, which includes Portland, is home to almost 20 percent of the state’s citizens, or nearly 750,000 people, and is expected to expand rapidly in the next twenty years. It has a thriving $4.3

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4 US Census Bureau, 2014.
billion food sector, and an international reputation as a hub of creative “farm-to-table” innovation.

Our research showed that:

• Demand for differentiated food is growing nationally, as evidenced by the rapid increase in retail, restaurant, and manufactured food brands promoting “local,” “natural,” or otherwise differentiated products and offerings. This trend is prominent in Oregon, particularly in urban areas.

• Export opportunities for Oregon-grown and -processed products, both in commodities and differentiated products, is significant and growing.

• Anticipated scarcity of long-term supply is motivating larger scale retailers, restaurateurs, and manufacturers to seek long-term contracts, or even purchase land directly, in order to secure supply.

• Institutions (e.g., schools, hospitals, colleges, correctional facilities) seem noticeably slower as a buyer segment (versus restaurants, retailers, and manufacturers) to respond to customer interest in differentiated products for a variety of reasons. Institutions may pose a unique opportunity to act as anchors for regional food economies. The study explores institutional demand and offers perspective on leveraging such facilities to equalize access to differentiated food by low-income and vulnerable populations.

• In the near term, demand is only demand at a price. If product differentiation is based on production practices that are less financially efficient, an economic analysis of the supply chain can help clarify where market value may be harvested to support the increased cost. We attempted one such analysis in the chicken supply chain as an illustrative example.

• Finally, Portland consumers generally do not have the same level of discretionary income as residents of markets like Seattle or San Francisco, and may be characterized as culturally more frugal. This is important in that it speaks to how quickly a nascent system, as yet dependent on affluent consumers paying higher prices, can grow.

Infrastructure
As originally conceived, “infrastructure” was defined as both the physical components of food aggregation, processing, and distribution (e.g., warehouses, equipment, trucks), as well as the network of relationships (e.g., producers, processors, butchers, brokers, distributors, chefs), required to move food from the farm or ranch (or ocean, river, or aquaculture facility, although seafood was beyond the scope of this study) to the point of consumption.

In actuality, infrastructure became the entry point into a much broader examination of the challenges and opportunities posed by the development of regional food systems. Highlights from the Infrastructure section of the report include:

Infrastructure
• It can be helpful to think of infrastructure as “first mile” or “last mile” in order to focus on the set of activities that occur conceptually (and sometimes physically) closer to the initial producer (post-harvest handling, cooling and processing, seed cleaning and sorting, animal slaughter) separately from those more buyer-oriented (value-added processing, packaging and labeling, last-mile logistics and distribution).

• In commodity markets, producers are most often supplying inputs into a well-orchestrated supply chain optimized for efficiency. They are price-takers, and usually responsible for only one significant link in the supply chain.

• Ag of the Middle producers are often taking responsibility for multiple links or entire supply ecosystems, from production, processing, and packaging, to market development and sales, as well as distribution. They may be bringing multiple products to market in order to maximize revenue streams and/or to meet environmental objectives. They work to negotiate pricing as partners with their buyers, and hope to capture more of the final value of the product by managing the intermediate steps.

• Because of the fundamental differences in their market strategies, we found that Ag of the Middle producers face significant infrastructure challenges relative to commodity players. They often don’t meet volume minimums, won’t make exclusive contracts, or can’t otherwise overcome barriers to entry to access existing infrastructure. Such producers, processors, artisans, and entrepreneurs must therefore spend significant time and energy to handle multiple pieces of the supply chain themselves (affixing labels, picking and packing orders, doing deliveries, etc.), or cobble together a constellation of suppliers, partners, or fellow producers to connect the dots.

• Last-mile warehousing and logistics seems to be a particular overarching pain point, especially for rural producers. Many describe the difficulty coordinating the myriad details required to manage...
multiple partners from afar, necessitating frequent trips to town and time spent while there coordinating operations rather than meeting with current and potential customers to grow their businesses.

- **Urban producers** and entrepreneurs face a similar bottleneck, in that self-distribution often requires energy and resources sufficient to stunt growth.

- Lack of access to **processing facilities** rose high on the list of overarching concerns, especially among beef and chicken producers, and among value-added producers seeking “right-sized” production space or co-packing.

- Beyond hard-asset infrastructure, few Ag of the Middle producers interviewed have experience with sales and marketing, and all seem to struggle with **market development**. As with operations, they are frequently cobbling together resources for at least a logo and product label, and perhaps some basic sales collateral and a website. They often simply go without brand and marketing strategy, consistent marketing communications, optimal sales outreach, or more robust strategic planning.

- Most factors of infrastructure are **unique to the product category** in which they operate. The beef category requires facilities for slaughter, cut and wrap, aging, and perhaps smoking, grinding, blast-freezing, or vacuum-packing. Vegetables on the other hand require washing, cooling, slicing, freezing or canning. Grains and seeds must be sorted, cleaned, hulled, milled, etc., and so on for each category. All have unique regulatory and food safety requirements as well.

- In order to understand the infrastructure challenges and opportunities at a more actionable level, we researched the markets for **six product categories** in Oregon: chicken, beef, pork, small grains, storage crops, and greens. Challenges and opportunities specific to each category are included in each of six separate chapters in the full report.

While it may seem counterintuitive given that humans have been farming in some form for ten thousand years, the differentiated regional food and agriculture sector characterized by Ag of the Middle production and values-based supply chains looks like an emerging market: highly fragmented, lacking consistent data and information, and dependent on personal relationships.

It has also been described as highly collaborative and supported by local communities (perhaps most notably in a January 2015 report to Congress on **Trends in US Local and Regional Food Systems** by the USDA Economic Research Service). This culture of collaboration is important because it has significant implications for the type of investments, capacity development, and support useful in growing the sector.
What are the Recommendations for Investment?

Pick a problem and go to work. This research confirmed that food infrastructure is not readily or affordably accessible by Oregon’s Ag of the Middle producers, and that the lack of access is inhibiting the growth and development of a robust regional food economy. The issues are many and varied, so coordination of a wide variety of investment and initiatives will be required to change the overall situation. Clearly needed are models that fill gaps in scale-appropriate aggregation, processing and distribution infrastructure, whether by working with established industry players to create access for smaller producers, or by developing new infrastructure specifically suited to support a distributed, regional-scale system.

Look for clear differentiation. All of the categories we studied—beef, pork, chicken, grains, greens and storage crops—have well established existing players that have the capacity to shift production practices and compete on any number of differentiating attributes. As this report is getting submitted, Tyson has just announced that it will eliminate antibiotics important to human health by 2017. Local chicken producers will have a very difficult time

“I can make more bagels, but I can’t deliver any more.”

MICHAEL MADIGAN, FOUNDER & CEO, BOWERY BAGELS
competing against Tyson on price if mainstream consumers are content with its approach being “good enough”. Opportunity for financial viability is likely better in niche categories, perhaps proteins such as lamb, goat, or buffalo, and niche produce like local adaptations of ethnic ingredients. Another alternative is to focus on products targeted at discerning customers who care, and are willing to pay for, storied product or a transparent supply chain that matches their values.

**Invest in models that help Ag of the Middle producers get or appear bigger.** As discussed in many of the individual product chapters, co-ops, collaborations, and alliances of many kinds hold potential for smaller scale Oregon producers and entrepreneurs to create leverage in domestic (and international) marketplaces. Because of the need for differentiation, regional brands can sometimes be problematic (producers may be better served to invest in their own brands), however shared use of processing facilities, storage capacity, distribution trucks, and other infrastructure can reduce costs for all. Co-marketing of complementary products can also help build sales and market share for like-minded producers and processors. Exploring potential partnerships or collaborations with existing players committed to regional food systems, like Organically Grown Company in the case of organic produce, or B-Line Sustainable Transport in the Portland market, seems a smart starting point.

**Seek to understand root causes.** The signal to noise ratio in regional food systems can be very high, given the degree of complexity and fragmentation. Understanding root causes will likely require examination of problems from multiple perspectives, as a great many proposed solutions address only symptomatic issues.

**Explore interdependencies among sectors.** The “food system” is a misnomer in many ways. The system is actually a collection of dozens of discrete industries, most of which do not cross over from one to another. Ag of the Middle producers and processors may offer opportunities to solve multiple problems at once because they tend to operate holistically.

We discovered an interesting chain of connections **between product categories** worthy of further exploration:

- Analysis shared in the infrastructure and beef chapters showed that adequate slaughter and processing facilities may not exist in the state to serve ranchers trying to develop their own value chain for beef (rather than participating in the commodity supply chain as a cow/calf operators).

- Like all other hard infrastructure, beef slaughter and processing require steady **throughput** of animals in order to be financially viable. Because differentiated product (e.g., antibiotic and hormone-free and/or grassfed) is likely to be seasonal, there is a significant processing crunch in the fall. A rancher may need to reserve a fall slaughter date more than a year in advance, but the equipment is underutilized during other parts of the year.
• Pork can be run in the same facilities and on the same equipment as beef, and can be raised year-round. Oregon ranchers don’t produce anywhere near the amount of pork we consume in Oregon (only about 2% of our consumption is produced locally) because commodity pigs usually eat corn and soy, so the hog industry is located closer to those fields in the Midwest.

• Pigs are omnivores and can be raised on a wide variety of feed options.

• Wheat farmers need to rotate crops in their fields to build fertility, disrupt disease cycles, manage pests and weeds, and increase yields. What do they grow in rotation? Stuff pigs eat.

• It seems worth exploring whether a special “Northwest Blend” of pig feed could also help wheat farmers monetize their rotational grains, while creating better utilization and perhaps more convenient location of livestock slaughter and processing facilities. Waste, including spent grains from breweries and compost from institutional foodservice (provided no pork products or bones were included), could also theoretically be aggregated and re-distributed to pork producers for feed.

• If a regionally appropriate hog feed were developed in partnership with wheat farmers, it seems possible that the same could be done for chicken.

• Our chicken supply chain analysis suggests that in some cases up to 60% of the cost of raising a differentiated chicken is purchased feed (higher if the
feed is Certified Organic), so a less expensive option could have a significant impact on the economic viability of local chicken production.

**Create space and structure for collaboration.** The food system is complex and the challenges are significant. As an emerging sector, regional food system players have shown a penchant for working together for mutual benefit, but the process is inefficient. Workshops, meet and greets and “hackathons” are often too superficial to spur engagement that goes deep enough to wrestle through the complexities. Ag of the Middle producers and processors may benefit from structured “containers” that facilitate collaboration and co-working directly on their businesses over a longer period of time.

**Clarify target beneficiaries.** In order to facilitate effective coordination, we believe it is helpful to describe the primary beneficiary or outcome desired in as much detail as possible. If an investor is keenly interested in facilitating the success of rural producers, then it is helpful to describe to which scale, stage of business and/or primary market channel (e.g. small/midsize, new and beginning/Ag of the Middle, direct to consumer/wholesale) the investor is most drawn. It may be helpful to ask, is there a specific product category (e.g. diversified mixed vegetable, chicken, beef) or production practice (e.g. Certified Organic, antibiotic-free, grassfed) for which you see opportunity and want to solve problems?

Consider, for example, how this report has helped refine and channel the focus of Ecotrust’s own Food & Farms program. Based on these research findings, we believe a programmatic strategy centered on institutions offers the best opportunity for us to help facilitate measurable impact on all three of the dimensions—financial, social and environmental—to which we’re dedicated. While we strongly believe relief for those among us experiencing hunger is critical, we are of the mind that creating truly equitable access to nutrient-dense food can’t happen without shifting the system itself.

We have therefore redoubled our commitment to helping institutional foodservice directors leverage their procurement dollars to build strong regional food systems, thus creating both local economic opportunity and equalized access to nutrient-dense foods. We have further narrowed our target to focus primarily on supporting public institutions that are serving significant proportions of vulnerable populations, however we understand that other institutions, such as corporate cafes and private event venues, are important secondary targets because they may help balance budget constraints and socialize new approaches among their professional peers. This clarity of focus has helped develop partnerships, notably with Healthcare Without Harm, the Oregon Department of Agriculture, Oregon Tilth, and Multnomah County, to develop a coordinated series of interventions all aimed at helping institutional foodservice directors overcome barriers to local sourcing. Our long-term ambition, together with those and additional partners, is to develop a network of regional foodservice directors that can function like an institutional-scale CSA (community supported agriculture). We expect that
this clarity of focus within the program will extend to Ecotrust’s investment activities in the local food sector as well.

**Consider the definition of “Local”.** In all cases it is helpful to describe relevant geographic filters, whether based on political boundaries, such as states or counties, naturally derived boundaries such as a watershed, “food shed” or bioregion, or a more abstract concept of geography such as “Salmon Nation” (which is Ecotrust’s region of interest and runs along the west coast from Northern California, through British Columbia to Alaska, and across Oregon and Washington into Idaho and Montana as far as the salmon have historically run). When considering whether a model will scale across multiple geographies, it is useful to parse which components of the model are unique to the region in which it is being developed, and which would apply to all regions.

One note of caution regarding geography as it relates to food. It is generally confusing or misleading to describe target geography for regional food systems in terms of mileage (as with constructs like the “100 Mile Diet”). Appropriate distance traveled is highly dependent on product category, location, season, and availability of enabling infrastructure. A conscientious eater in the Pacific Northwest may go no further than her backyard for a ripe tomato in late summer, but always need to buy avocados grown hundreds of miles away. Pigs may be raised by a producer within the county, but have to be trucked across the state for slaughter and processing, and then be trucked back to arrive in the local grocer’s meat case. Organic produce distributor Organically Grown Company is guided by the principle “go as far as necessary and no farther” to allow the necessary flexibility for seasonally appropriate sourcing; such a notion may be worth adapting to your context.

**Adopt a collaborative mindset.** As noted earlier in this report, collaboration has become a hallmark of regional food system development, which seems both in tune with and energized by the generational changeover currently happening across all industry sectors in the US. The approach seems well suited to food system investing also.

Whereas profit serves as an efficient organizing principle, and provides a simple scorecard, as a singular objective it has also contributed to the creation of many food products and related offerings which generate strong financial results, but deleterious health, community and environmental impacts. The addition of social and/or environmental targets in impact investing facilitate the incorporation of wellness (individual, community and of the natural resource base) into evaluations of success, however also result in multifaceted solutions and a need for multi-dimensional measurement.
Given the increased complexity, it may make sense to pursue a portfolio approach that is **broad than one's own portfolio**. In other words, by partnering, co-investing or collaborating with like-minded investors, multiple solutions to overcoming key challenges can be tested in a coordinated and transparent fashion, and the learning shared, to achieve the greatest possible impact. Furthermore, collaboration allows each investor to prioritize the opportunities most aligned with his or her objectives, confident in the knowledge that other investors in the collaborative network will focus on other pieces of the puzzle.

**Start with the soil.** Long-term competitive advantage in a resource-constrained environment is likely to ultimately go to players who effectively steward the resource base on which their business depends.

First, do no harm. Above all else, reviewing the existing portfolio and divesting from unaligned holdings may achieve the greatest incremental investment on behalf of regional food system development. Whether individually or on behalf of a foundation, if the investment thesis includes leveraging assets to promote values-aligned solutions (“impact investing”), then it may be counterproductive to focus energy on placing 5% of investments in “mission-related” vehicles (as is common), while leaving 95% of the portfolio invested in entities actively causing harm. Thus, reviewing the full portfolio and divesting from funds or other vehicles out of alignment with stated values or objectives could achieve an immediate spike in “social return on investment”.

For additional recommendations for local/regional market development and improved food access by vulnerable populations, please see the recommendations for philanthropic, governmental, and programmatic players (section 12.2), and for further research needed, section (12.3) of the report.

**How Was the Study Conducted?**
The project team engaged in secondary data collection, analysis, and mapping. Primary research was conducted with a variety of key stakeholders via interviews, visits, and tours with producers and processors. In-depth secondary research was conducted for specific product categories. All results were vetted by partners, advisors, and industry experts.

For more information about this project, please contact Amanda Oborne, Vice President of Food & Farms at Ecotrust (aoborne@ecotrust.org). To download the full report, visit http://www.ecotrust.org/publication/regional-food-infrastructure.