

#### **REPORT**

for Community Food Lab
Reinvestment Partners
February 2016



# Learning from Limits

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It is common sense to take a method and try it. If it fails, admit it frankly and try another. But above all, try something.

- Franklin D. Roosevelt



Bull City Cool

# Learning from Limits: Food Processing at Bull City Cool

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Locally-crafted bull sculpture stands watch outside Bull City Cool



#### Between success and failure

By most measures the Bull City Cool food hub is a great success. Fully occupied and financially self-sustaining, the hub adds a historic presence to the neighborhood and supports local food aggregation and distribution. It has become a central space for local food conversations and is reinforcing local food projects up and down the block.

So where's the failure? What's missing?

A frozen food processing kitchen, envisioned as the project's signature element, is missing. With funding for equipment, confident market research, and a creative project team, 18 months were spent planning this kitchen. The outcome, however, was abandoning the effort.

Looking back, what happened? How can the effort

spent on this missed opportunity be measured? What can be learned from the experience? Most importantly, in unsuccessfully pushing to make a food processing kitchen work, how was the rest of the project able to succeed?

# Who is this report for?

This report is written for local food organizations, project developers, and food system builders.

It is at once a case study in launching a particular kind of food hub; a set of lessons learned around small food processing enterprises; and a call to embrace risk and not shy from failure.

This report is for anyone taking on the urgent challenges of creating equitable and economically viable local food systems.

What are the lessons of experimentation and failure in an otherwise successful project? How should we value risk-taking and pushing limits when creating local food projects?

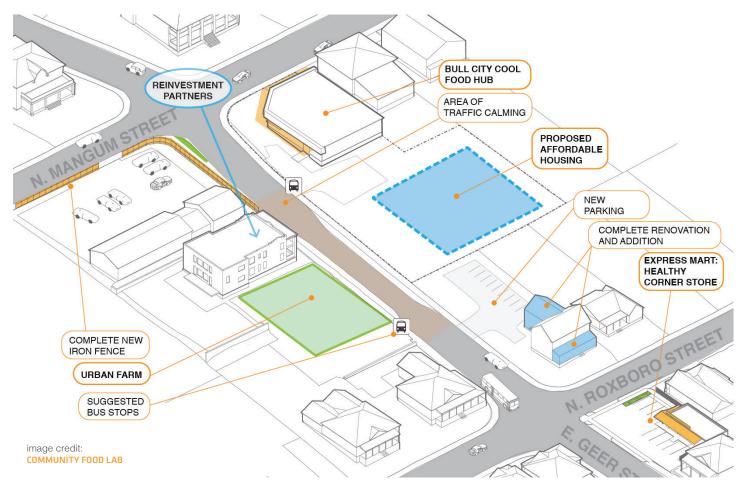
#### Introduction

Energy and investment in local food systems are increasing. From farmers to small businesses, from policy makers to community organizers, local food is gaining importance as a tool for building relationships, economic opportunity, and health. As local food's impact grows, new models of infrastructure and systems thinking are required to rebuild small and medium sized food networks that work in today's world. Creative new models of local food projects are emerging that connect new learning with social impact and diverse returns on investment.

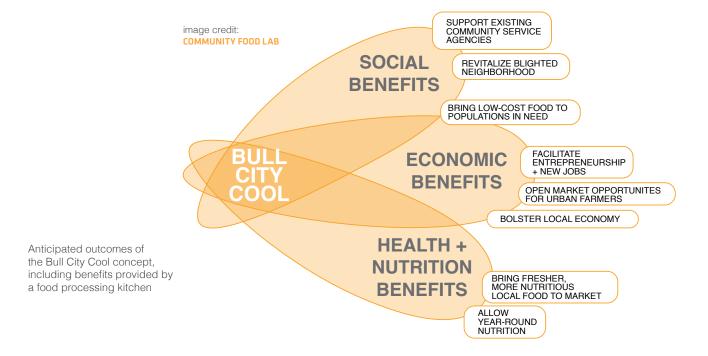
Taking advantage of these trends and new thinking, Reinvestment Partners began imagining

how local food could become a driver for their ongoing community development work. Working with Community Food Lab to build a strategic food system approach, in 2012 Reinvestment Partners sketched out a number of neighborhood-scale food projects that would make up the Geer Street Food Corridor.

This food system approach is built from Community Food Lab's innovative model for urban food initiatives, that includes the Geer Street Food Corridor and the Raleigh Food Corridor. This model uses food projects as development tools that deliver targeted, direct community benefit. Clustering diverse food projects together and facilitating relationships between them creates identifiable districts of food projects that multiply food system impact, increase social capital



Food and community improvement projects developed or facilitated by Reinvestment Partners along East Geer Street, Durham. In addition to traditional revitalization projects, The Geer Street Food Corridor also includes a food hub, urban farm, and healthy corner store.



and inclusivity, and add to the overall viability of each project within the initiative.

The Bull City Cool food hub is a food project within such a clustered initiative. Replacing a tire repair shop, Bull City Cool was designed as the anchor project of the Geer Street Food Corridor concept. The food hub would be an innovative community development project supporting relationships among local food assistance providers, local food distributors, the regional food economy, and the surrounding urban neighborhood.

Food hubs connect farmers to wholesalers and consumers, usually by aggregating produce from small or medium farms and distributing it to purchasers like institutions or restaurants or by selling direct to consumers. By aggregating the produce from multiple small farms, a food hub can allow small farmers access to larger, more reliable markets. These are called intermediary activities, as they bridge between farmers and consumers. Many food hubs are single entities, where the food hub both owns the building and operates the hub activities. Additional or extra space may be leased to other food intermediaries, such as independent or nonprofit food distributors.

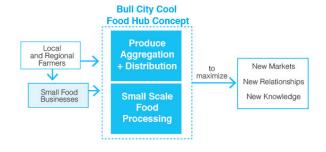
In addition to the cold storage and warehouse facilities required for aggregation and distribution, it is not uncommon for food hubs to include food processing facilities as well. These facilities help farmers as well as food businesses sell throughout



Food Hubs typically aggregate and distribute local produce



Small scale food processing adds valuable new opportunities for farmers and food businesses



Bull City Cool, as initially planned, would combine multiple functions

# OFFICE AREA 1 image credit: COMMUNITY FOOD LAB BATHROOMS RETAIL + EDUCATION OFFICE DRY STORAGE COLD STORAGE PROCESSING KITCHEN FREEZER EXISTING LOADING BAY COOL PACKING ROOM

Early Concept With Kitchen

Early Bull City Cool renovation plan showing mix of proposed uses, including aggregation and distribution space as well as a processing kitchen

the year and mitigate seasonal cash flow ups and downs. Freezing, drying, canning, or fermenting are common processing methods. By including equipment and space for food processing, food hubs can multiply economic opportunity in the local food system. By co-locating food processing with food distribution, these combined facilities increase potential for market expansion and business viability.

Bull City Cool was designed as a shared facility, owned and managed by Reinvestment Partners, with all food operations managed by third party tenants. Bull City Cool was planned to include facilities for aggregation, distribution, and food processing.

In realizing the Bull City Cool project, Reinvestment Partners played their familiar role of mission-based real estate developer, combining vision and an entrepreneurial attitude with pragmatic project development expertise. In designing the model for Bull City Cool, the project team worked hand in hand with food distribution organizations and businesses to develop a food hub space that worked for specific food system needs. The project team was interested in strengthening existing food organizations (for-profit and non-profit) by providing needed facilities, and was interested in offering food processing equipment to add value to the local food system.

A food processing space could provide valuable incubation resources for start-up food businesses, a

value-adding tool for farmers, and a potential source of jobs for the low-income communities nearby. After a feasibility study was completed, prospective tenants showed interest with early commitments from institutional buyers and retail grocery stores for locally grown frozen produce. The initial risk assessment was promising, as was the return-on-investment picture. From a mission-based standpoint, the Bull City Cool model, including frozen food processing, aligned well with Reinvestment Partners' goals.

Not long after the project began construction, cold storage and packing space began coming on line for the first tenants. At the same time, however, the project team was having difficulty crafting a viable plan for the food processing facility. The food processing concept played a major role in defining and energizing the early decisions for the project, but as time went by it became less clear how it could realistically fit into the building. In addition, as tenants began occupying Bull City Cool without food processing available, the possibility emerged of a sustainable project that reached its social and economic goals without the signature food processing facility even being built.

The timeline and project narrative that follow detail the 18 month process of exploring food processing at Bull City Cool - the motivations that drove the effort, the intersecting design challenges, and the ulitimate decision to abandon the food processing idea.

#### Mar 2012 Geer Street Food Planning Reinvestment Partners and Community Food Lab **Project Timeline** imagine food projects, including a food hub, along Geer St May 2012 Investigating the Food Hub Concept Reinvestment Partners begins convening partners, Minimally-Processed reviewing City regulations, and studying the property Fresh Food Dec 2013 🖸 Food Hub Feasibility Study Community Food Lab and Jennifer Walker collaboration; Study includes concept for minimally-processed fresh produce Reinvestment Partners buys the Property; Mar 2014 Flash-Frozen Community Food Lab begins frozen food study Concept Architect Selected for Renovation Apr 2014 Matthew Konar Architect Applications submitted: USDA and NCDA grants Jun 2014 These two grants would support the planning and implementation of a processing kitchen with flash-freezing equipment Sept 2014 🔼 We're Open! First Bull City Cool Tenant Moves In USDA Grant Awarded, NCDA Grant Denied Funds now available for equipment, other sources required for kitchen planning Dec 2014 Planning for Kitchen Ramps Up Community Food Lab resumes planning and design effort Refined Flash-Frozen to balance business, building, and equipment constraints Concept Partner Discussions on Food Process Model Feb 2015 Carolina Farm Stewardship Association, Center for Fresh Washed and Environmental Farming Systems, and others provide input Chopped Concept Mar 2015 Seal the Season as potential frozen food Operator Start-up frozen food business interested in Bull City Cool; Seal the Season's Flash-Frozen Concept Interest is not long lasting Apr 2015 **Decision Made to Abandon Processing Kitchen** Too many insurmountable barriers identified, and current tenants are finding success and synergy Sept 2015 **Bull City Cool Grand Opening** Orange dot image credit: indicates evolving COMMUNITY FOOD LAB

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food processing concepts

### **Project Description**





Before and after exterior views of Bull City Cool

#### Bull City Cool is a response to two

factors: Reinvestment Partners' growing awareness of local food as a community development tool, and identifying an underperforming building in their zone of community development effort along Geer Street. Over the last decade, this particular corner building had been used variously as a small church space, second-hand furniture store, and hair salon. In 2012 half of the building was being used as a tire repair shop and half stood mostly empty.

Planning for Bull City Cool began in earnest in 2012 with a concept development and feasibility study, followed by purchase by Reinvestment Partners. The food hub concept was strategically designed to leverage Reinvestment Partners' community development mission, creative fundraising capacity, and expertise in real estate projects. At the same time, the shared facility concept accommodated Reinvestment Partners' relative inexperience with food projects - they

understood that actually operating the food business activities was outside their skill set, scope, and mission. In planning Bull City Cool, Reinvestment Partners took on the critical roles of developer and building operator, and knew that tenants would need to operate the food hub activities of aggregation, distribution, and processing.

To evaluate this shared facility model, Community Food Lab and local landscape architect Jen Walker collaborated on a 2013 feasibility study for Bull City Cool. The study included a local food market analysis, site and regulatory review, and study of potential liability and risk. The conclusions supported the project concept, and based on this confidence Reinvestment Partners made the decision to move ahead with site control and purchase in March 2014.

In addition to the feasibility study, Community Food Lab took on varied project consultant roles: concept ideation, early phase building design, management of the architectural hiring process, business modeling around frozen foods, grant writing, and planning of the processing kitchen in coordination with the project architect. At each phase, Community Food Lab helped balance the critical project objectives and opportunities with day-to-day design challenges, allowing creative work to happen in context of numerous constraints and feasibility issues faced by Reinvestment Partners.

The kitchen concept included in the feasibility study had a relatively small floor area and was designed to minimally process, package, and label produce. Over the next 18 months this kitchen and food processing

# Bull City Cool by the Numbers

Building Size:	4200sf
Cold Storage:	450 sf
Frozen Storage:	250 sf
Anchor Tenants:	3
Other Users:	3 (varies)
Trucks:	1 R/F, shared
Total Project Cost:	\$650,000

concept moved through a number of variations, evolving in response to new discoveries, constraints, and opportunities as the overall project went forward. One by one each of the variations encountered barriers that forced the team to shift thinking and push the concept through further design phases.

This extended effort to design a feasible processing kitchen was motivated by a number of factors:

Positive market research and feasibility study;

Community Food Lab's creative expertise was included on project team;

A diverse business plan to mitigate overall risk;

Equipment funding already in hand and a promise to the USDA that we would install frozen food processing.

With the combined motivation of these factors, and with perhaps 90% of the project barriers overcome, the project team pushed hard through different scenarios to take advantage of the opportunity at hand.

During the push to solve the remaining project barriers, challenges were encountered around four separate problems: the space of the building needed to work; the facility needed to negotiate food safety regulations and best practices; the business plan of the operator needed to match the capacity of the facility; and the equipment and processing methods ought to complement existing infrastructure of the regional food system.

Up until March 2014 and the submission of the USDA grant, the food processing concept was relatively simple: a general purpose kitchen with equipment to wash, chop, and bag produce such as leafy greens and other vegetables.

At that point in the project the kitchen plan evolved

It was clear that we were looking for a solution to four problems: building fit, food safety fit, regional food system fit, and business fit.

to include what became a signature element of the Bull City Cool concept and what would be a major addition the regional food system: a shock freezer (sometimes called a flash-freezer) and associated equipment. This

Kitchen Concepts	Minimally- Processed Fresh	Flash Frozen	Refined Flash Frozen	Washed, Chopped	Seal the Seasons* Frozen Concept
Date	Summer 2013	Feb 2014	Dec 2014	Feb 2015	Mar 2015
Kitchen Size	440 sf	410 sf	700 sf	375 sf	700 sf
Products	Leafy Greens, Squash, Sweet Potatoes	Blueberries, Corn, Green Beans, Collards, Squash, Sweet Potatoes	Blueberries, Collards	Leafy Greens	Multiple Products
Key Equipment	Buffalo Chopper	Shock Freezer	Higher Capacity Shock Freezer, Urschel Dicer	Urschel Dicer	Higher Capacity Shock Freezer, Urschel Dicer
Reasons Against	Desire to create longer market season, and grow larger markets	Overly complex, desired more straighforward model	Equipment combination demands too much space	No certain operator, potential competition in Warren County	Business model too large for building, expensive food safety upgrades

\*Seal The Seasons is a startup in local frozen foods, and was a possible Bull City Cool kitchen operator

evolution in concept was spurred by conversations with institutional buyers and local food entrepreneurs that suggested a need for this equipment in central NC. While the nearby Piedmont Food and Agriculture Processing Center in Hillsborough makes a wide range of food processing equipment available to local business, the only other small-scale flash freezing facilities in North Carolina available for commercial use are in New Hanover County and Buncombe County, far to the southeast and west, respectively.

As regional freezing capacity was explored, other equipment became part of regional conversations as well. Later kitchen versions included a specific belt-fed vegetable dicer made by Urschel as part of the value-adding equipment, until it was realized that the same piece of equipment was being operated in nearby Warren County by Working Landscapes. Resulting conversations with Working Landscapes revealed their desire to expand distribution into Durham and their lack of frozen food processing. One food processing concept included diced vegetable deliveries from Warren County to be frozen at Bull City Cool, thus creating regional food system linkages between specialized processing equipment, rural farmers, and urban markets.

As regional understandings and concepts evolved, the building presented its own design pressures. The design for the frozen food processing line required more floor area and more careful connections between spaces than the early concept for minimally-processed food. Fitting this added space into the building was complicated by the fact that renovations of the building were now under way, and key cold storage units had already been installed. With limited options for locating the kitchen in the building and new constraints in place, the architectural design challenge grew more difficult but not yet insurmountable.

As workable architectural solutions gradually took shape, they were adjusted to allow for the team's growing understanding of food safety practices and quality control standards associated with frozen foods. During these months a food safety consultant joined the team to integrate a plan for food safety. The food safety dialogue could only move as quickly as the

kitchen layouts progressed, because this consultant's work happened in response to plan adjustments.

Creating safe spaces and separate flows of raw food and clean product were difficult within the building's space constraints. Another food safety complication stemmed from the quality of the building itself. Because the project renovated a building with historic and architecturally interesting details, the project team was not excited about covering over exposed brick walls, wooden ceiling structure, and large glass garage doors with smooth, easy to clean surfaces. Bull City Cool included offices and a community presence as well as aggregation and distribution; the needs of the food processing facility needed to co-exist in a shared environment. Finding a balance between food safety and architectural quality became another limiting factor in what parts of the building the food processing kitchen would fit into.

Alongside the food safety and quality issues, the project team knew that because Reinvestment Partners would not operate the food processing line, a suitable tenant or partner would need to take it on. During the kitchen planning phase, different potential operators stepped forward, but no firm commitments were made. This uncertainty around the operator meant that kitchen schemes were designed around one business plan and then another, exploring options for different operators. As a result, types of equipment, types of processing, and volume of product all became



Sliced fresh collard greens

# The team asked: "Are we trying to do too much with too little?"

moving targets as the likely operators switched. The most promising operator, in the end, backed away because their business plan would have them scaling up and out of the facility within two years, adding undue pressure on the other food hub tenants in the meantime as their business footprint grew.

Over the 18 month planning period, these interrelated challenges forced a number of redesigns, research, and explorations of business plans with potential partners. Through this process the team explored a wide range of innovative strategies and scenarios that took on risk of failure and pushed the limits of the building.

As the team came closer to abandoning the food processing facility, two things helped bring the effort to a close.

First, Pilot Mountain Pride, a Surry County NC food hub, closed its doors in 2015. A retrospective observation about this food hub was that it tried to do too much with too little. As pressure to solve the food processing challenges at Bull City Cool grew, this observation took on a cautionary tone in project conversations. Without an obvious plan worked out by this point, was food processing one thing too many for Bull City Cool to take on?

Second, additional food safety conversations with

the food safety consultant in April 2015 exposed what came to be insurmountable obstacles. After further review, achieving the needed food safety environment would trigger significant new expenses, reconstruction of newly installed building elements, and interruptions to current tenant operations.

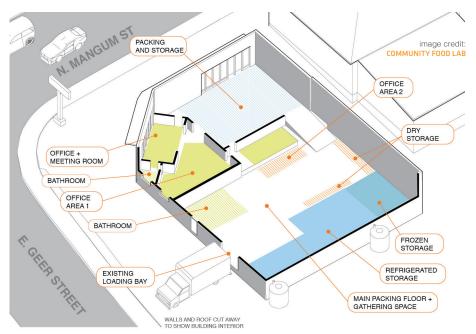
By the spring of 2015 the team had encountered enough obstacles to admit that the food processing facility, with shock freezer or not, was no longer a fit for the project. In a sense it was a defeat, but with the building at full occupancy and Bull City Cool financially sound, the idea of forcing a compromised solution into the building made less and less sense.

In early May 2015 Peter Skillern, the Executive Director of Reinvestment Partners, wrote the project team: "I have asked (USDA) to reprogram the money for the flash freezer and related equipment. At this point I can not figure out a successful business model and our existing resources are stretched to meet the immediate goal of opening the food hub for aggregation."

The food processing exploration at Bull City Cool came to an end, but in looking back what lessons can be drawn? How can this unsuccessful risk-taking be transformed into a stronger local food system?

# Final Plan, Without Kitchen

Final Bull City Cool plan showing mix of uses. No processing kitchen was included in renovation.



#### Shock Freezer Lessons

Frozen blueberries showing ice crystals that result from improper handling.

Unretouched photo credit: Ruth Hartnup, used under CC 2.0 license

Before beginning this project, no one on the project team had shock freezer experience or knowledge, and soon after beginning the project Community Food Lab led the research effort around shock freezing.

It was decided that a successful frozen foods business would need, at minimum, industry standard freezing technology to achieve IQF (individual quick freeze) quality, and it would need a large enough flow rate to process a profitable volume of product. IQF quality would allow large purchasers to shift purchasing from mainline food service vendors to a Bull City Cool business with minimal changes in their food handling - a key market advantage.

It became clear that the shock freezer (sometimes called a flash-freezer) was critical to design the facility around. It would be the most expensive piece of equipment, adding importance to a smart selection. A freezing capacity too high for the facility would be continually wasting capacity. If capacity was too low, scaling up new businesses would be limited.

Also realized in early planning was that there would be natural breakpoints in labor costs depending on freezer capacity. A slow freezer cycle might allow a single operator to wash and prep a batch of produce while another batch is being frozen, while a faster or larger freezer would require more workers to keep up with the process. Freezing capacity and labor breakpoints became driving factors in cost analysis work.

# Handling

Careful handling after freezing is critical in reducing small ice crystals from forming on the product. Bagging immediately after freezing in a cold room is necessary for consistent crystal-free product.

# Separate Condensers

Shock freezers can have condensers built into the unit, or purchased as a separate piece of equipment that can be placed at a distance from the freezer unit. This is important for laying out your building mechanicals as well as in budgeting.

# Capacity

Capacity matters. Typical capacity is indicated by the pounds of product that can be frozen in a cycle of certain length in minutes. The higher the pounds and the shorter the cycle, the higher the freezer capacity.

# Freeze Time (part of capacity)

Different food products will have very different freeze times, using the freezer's stated capacity as a baseline. Leafy greens may take up lots of space, but because they are so light they will freeze very quickly. Denser product like butternut squash will take longer. Also hot, just-blanched foods going into the freezer will take longer than pre-chilled product.

#### Food Safety Lessons

A comprehensive review of food safety regulations and requirements is beyond the scope of this report, but it does make sense to include highlights of food safety encountered in this work. Much shared here may seem like common sense - the trick is to apply this common sense to complicated projects.

In describing these issues, it is important to keep in mind that this project involved designing a food processing space to be inspected by the NC Department of Agriculture, and not a prepared foods kitchen that would be inspected by a local health department. The principles of food safety would be the same, but the methods of compliance will differ.

#### Flow

The flow of food through a facility is one of the first principles of safe food handling, and the space planning for the entire operation should start from this standpoint. Moving food efficiently saves time, avoids tracking errors, and reduces risk of contamination.

Smart location of unloading, handling, washing, processing, and storage spaces in the sequences that users will follow is critical to a successful facility.

# Clean vs Dirty

It is useful to think about food along the processing line as either "dirty" or "clean," depending on where it is in the process. Unwashed produce is dirty, and washed produce is clean. Everything in the process that happens after the wash stage, then, is clean, too.

Never cross your clean processing line with the movement or storage of dirty produce.

#### Surfaces

Every surface needs to be durable and easy to keep clean. In addition, it should be easy to visually notice when something needs to be cleaned. Light-colored smooth surfaces are standard. The historic renovated space at Bull City Cool didn't come with many smooth, light-colored surfaces, and creating this level of safety would not only have been costly, but it would also have diminshed the historic feel and character of the building interior.

# Expert Advice

The risk of food-borne illness is serious. Beyond the risk to public health, an outbreak of any kind can lead to serious consequences for food businesses and anyone who shares space with them.

Food safety experts can help create safe procedures and policies to keep food safety risks to a minimum.

# Discussion and Conclusions

Local food systems are emerging and growing around us. Many new projects are being built from scratch without many proven methods or best practices. Naturally some of these projects launch and go on to create big impact, while others falter. In the complex system of local food, this is a process of discovery. Bull City Cool is part of this discovery process.

In looking back, the project team realized that the experience of failing in food processing had value in being shared. The market opportunity still exists, and the lessons in this report may encourage others to take up a better-informed effort. More importantly, perhaps, the Bull City Cool creative process led to a better overall Bull City Cool project, with more partners and diverse resources cultivated through designing the food processing facility.

In addition to the above lessons on food safety and shock freezing, seven additional issues rise to the surface to share with food system builders. These conclusions are broad, meant to inform all kinds of innovative food system work.

# 1

#### Think Entrepreneurially

Bull City Cool's success is due to Reinvestment Partners' entrepreneurial approach to community development and their willingness to act as the risk-taking developer that needs to find a return on investment. Paired with Community Food Lab's creative project support, this entrepreneurial approach pushed a market-responsive exploration of frozen food processing further than expected within a purely grant-supported operational model.

Because outcomes were designed around market opportunities for sustainability, greater investment by the developer was justified. Creative social entrepreneurship in project planning allowed exploration of new areas of local food development and built new areas of expertise for our team.

The project pushed hard and failed on the processing kitchen without ignoring the food hub's bottom line. With a healthy roster of tenants, this sustainable investment is already contributing to Durham's local food movement.



#### Check Assumptions

At the outset of the project, the team expected farmers to be predominant tenants of Bull City Cool. The team also expected food processing to be a critical component of the hub's success.

Neither of these assumptions proved out, and the project is better for it. Working past these assumptions took time, but every key project decision followed this pattern: start with your best-informed assumptions, test them until they fail, make room to adjust as you go.

As any organization takes on new work, space must be allowed for adjustment. Care must be taken to avoid locking in on assumptions before they are tested and fully understood.

# 3

#### Foster an Ambitious Vision

The vision for Bull City Cool was designed to be ambitious, inspiring, and impactful. The project team saw value in setting a high target. As an unrealized part of Bull City Cool, however, the frozen food plan was perhaps too ambitious. As the subject of this report, was the target set too high?

By fostering an ambitious agenda, the team set up the chance of failing. Instead of seeing this as a mistake, this ambition was an important ingredient of Bull City Cool's success.

This ambition pushed the project to:

- Build greater knowledge in all of the proposed activities;
- Connect with organizations and individuals that could share information or experiences;
- Pursue and receive additional funding based in large part on the ambitious agenda we'd set out;
- Create a stronger understanding of Bull City Cool's core idea and message.

# 4

#### Know Your Limits

The project started with a building located for strategic economic development and neighborhood impact. Reinvestment Partners didn't choose the building so much as choose what to put into the small, complicated space.

The conceptual floor plan worked, but as detailed planning progressed, new pressures on the size of the kitchen were discovered. The number of location options for the processing kitchen shrank, eventually to zero. Testing

many variations on what to fit into the small building forced learning about food hubs, shared spaces, food safety, and food processing markets. This knowledge is vital for Bull City Cool's survival.

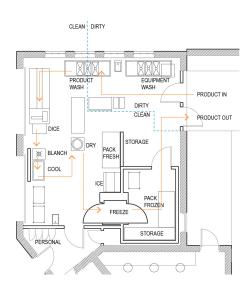
As the number of kitchen layouts and possible locations were evaluated and rejected, the most important aspects of the building revealed themselves. The building boasts large glazed garage doors, beautiful exposed brick walls, and wood framed ceiling. The existing tenants valued flexible open space that a kitchen would have taken up.

The process of pushing hard to incorporate the kitchen led to a number of unexpected discoveries and conclusions about what mattered and what was less important. Only by relentlessly pushing against the limits facing the project were these discoveries realized.

The challenges in this project prepared an entire organization for success in Bull City Cool and other future ventures.



Looking out from Bull City Cool's new garage doors



One of many kitchen layouts designed around our evolving business concept. Shown here is a plan for the Seal the Seasons concept, at approximately 700 sf.

#### Discover Hidden Problems: Small Scale Food Processing

Smaller mechanical equipment that fit the project was hard to find. The industry supports larger scale operations to take advantage of economies of scale and the available equipment and solutions are tailored for that conventional reality. Much food processing equipment has tended to grow in size and capacity and as a result the project tried to fit oversized and higher-capacity equipment into the limited kitchen area.

Adjusting the equipment size downward to match the building and to match emerging business plans became a key barrier to finding the right solution.

Small and versatile was the kitchen goal, but available equipment forced the project into hard decisions between mechanical efficiencies and small, hand-operated equipment. These decisions produced complicating ripple-effects in both business plans and kitchen layout planning.

The ingredient for future success of small-scale food processors? Start early with equipment research as part of business and space planning.

# Design for Food Safety

It seems an obvious point to make, but in integrating food safety into a viable plan our team was forced to play catch-up.

Food safety was a significant learning curve on the project. Designing for food safety requirements - cleanable surfaces, safe flow of food, reduction of cross-contamination, and effective tracking and management of food and personnel - from the start would have offered a better chance of making the pieces fit.

Because of the building and construction schedule, it's not clear that designing for food safety from the start would have allowed the processing kitchen to work. One could conclude, though, that deep food safety expertise incorporated into the team at the outset would have streamlined building, budget, and planning decisions.

# Be Realistic About Capacity; Bring Others to Fill the Vision

Reinvestment Partners had no illusions about being a food business. From the outset they enlisted partners, advisors, and consultants to fill in the gaps they had in food system knowledge and operational capacity. While as an organization Reinvestment Partners has naturally increased their food expertise through the ongoing process, they have managed to skillfully maintain mission focus and only take on new activity areas as necessary.

Their capacity was limited and they recognized this right away. Bull City Cool is a success story in innovation as a result.

# Project Team and Roles

DEVELOPER: Reinvestment Partners

FOOD SYSTEM CONSULTANT: Community Food Lab

PROJECT ARCHITECT: Matthew Konar Architect

FOOD SAFETY CONSULTANT: Norm Tarbell, Net Solutions LLC

ADVISORS: Carolina Farm Stewardship Association

Center for Environmental Farming Systems

Duke Law School

Durham Soil and Water Conservation

Farmer Foodshare Feast Down East

#### For More Information

Follow the food hub blog at http://www.bullcitycool.com/blog/





http://www.bullcitycool.com