Price Hill Food Access Project

University of Cincinnati
School of Planning
GIS Project Formulation and Management
Team Members

- Theresa Conley
- Eileen Crisanti
- Eileen Cunningham
- Dugan Murphy
- Katherine Charlton-Perkins
- Xiao Xiao
- Darine Salam
- Soumi Basu
- Tarun Jaiswal
- Bineyman Mezgebe
- Andrew Neutzling
- Christopher Will
- Cameron Ross

- Dr Xinhao Wang (Project Advisor)
- Beth Nagy (Project Manager)
Purpose: Food Access and Nutrition

- Nutrition-related health problems on the rise.
- Minority and low-income neighborhoods affected most.
- Access to healthy food options is key.
Price Hill Food Access Project

• Collaborative to Prevent Childhood Obesity (CPCO)
• The Nutrition Council
• Santa Maria Community Services
• Price Hill Will
• The Community Building Institute
• University of Cincinnati Center for Community Engagement
Food Access Project
Spring 2008

April
- Meeting with Clients to Determine Expectations: April 7
- Develop Project Proposal: April 21
- Present Proposal to Clients for Feedback: April 23

May
- Application Design: May 2
- Application Development Completed: May 21

June
- Final Presentation of Applications to Clients: June 4
Information Product Proposal, April 23

Developed Information Product Groups

- Interactive Access & Availability Query System
- Community Networking Resource
- Community Gardens
- Market Analysis

Discarded

- Price Hill FAIR: Nutrition
- Transportation, Mobility, and Built Environment
Strategy: Problem Identification and Action

• GIS as a tool to
  ▪ Identify available community networking resources
  ▪ Assess availability and accessibility of healthy food
  ▪ Guide community garden utilization and new garden location
  ▪ Identify market conditions
• Community Resources
• Existing Conditions of Food Outlets
• Community Gardens
• Price Hill Market Analysis
and finally…
• Recommendations and Implementation for the Project
Community Resource Application

Team members: Andrew Neutzling, Dugan Murphy, Soumi Basu
Community Resources Application

Community Organizations in Price Hill

Legend
- Community organizations
- Type:
  - Church
  - Community Action
  - Food Bank
  - Food Pantry
  - Library
  - School
- Neighborhood Boundary

Base Map
Community Resources Application

Connecting community organizations to make the best of Price Hill resources.
Community Resources Application

- A networking resource for community organization
  - Identifies available services and amenities
  - Provides contact information
- Identifying new sites for community organizations to locate
Community Resources Application

• **Why?** – Collaboration among organizations increases effectiveness

• **What?** – A tool which provides information about existing resources

• **How?** – Listing information about existing organizations and how to contact them

• **Who?** – Existing and start up community organizations
Community Resource Application

Process
- Telephonic interview
- Series of questions asked for better comparison of the different organizations
  - Area Served
  - No. of people served
  - Amenities
    - Meeting Room
    - Performance area
    - Kitchen
    - Garden
    - Unused building/space
  - What other services?
  - Address and Contact information
- All information compiled in a word document later hyperlinked to the points
- GIS - CommunityViz Application set up
Community Resource Application

Input → Selection Criteria → Output
GIS Application

- Type of Organization
- Kitchen Amenity
- Meeting Room Amenity
- Performance space Amenity
- Garden Amenity
- Unused land Or building Amenity

Selected Organizations

Desired Parcels Area desired for Activity Site Distance from Organizations
Selected Parcels
Number of parcels
Number of parcels
Community Resource Application

Carson School
2222 Greenway Ave
Cincinnati, OH 45225
(513) 263-9320
Contact person: Tracy Hopkins - (513) 263-9866

Description:
A school

Activities:
- Weekly after school program
- CASA - Local education and exercise for the children
- Walking club - the school organizes volunteers. Children from the 4th, 5th, and 6th grade can register.

People Served:
Children enrolled

Area Served:
NA

Funding:
Paid, funding is mostly through TIFCA.

Amenities and Resources:
- Owners: No
- Meeting Rooms: Yes
- Performance Area: Yes
- Eikdn: No
- Uzued Space: No

Additional Information:
They are moving to a new school building next to the old one and which is larger and better located with more space to rent. Old building being torn down.
Community Resource Application

[Image of a computer interface showing various windows and tabs related to community resource applications.]

(Graphical and Tabular assumptions windows with data entries such as Area desired for Activity Sites, Distance from Organizations, and Performance space.)

[Map showing locations with highlighted areas.]
Research Limitations
- Incomplete survey
- Simple application - more criteria can be incorporated

Recommendation
- More useful when the survey is complete
- Method of updating data and survey developed
- Criteria could be customized based on new information gathered
- Also can be used to promote the community
Community Resource Application

Live Demo!
through Web Shots
Existing Conditions of Food Outlets Application

Team members: Tarun Jaiswal, Eileen Crisanti, Theresa Conley
Existing Conditions of Food Outlets

Creates capability for residents and community organizations to query the inventory of existing food outlets in Price Hill and map the results.

Information Products:

- Descriptive Information About Each Food Outlet
- Information about Modes of Transportation and Crime Occurrences
- Healthy Food Basket Information
Existing Conditions of Food Outlets

• Why is this product important?
  ▪ To lay the foundation for further food access research
  ▪ To provide a tool for basic food outlet queries

• What does it provide?
  ▪ Establishes baseline conditions
  ▪ A survey tool for future use
  ▪ An accessible and searchable database

• How can it be used?
  ▪ A database
  ▪ A visual map
  ▪ A public interface
  ▪ Public education
  ▪ A template for future food access studies

• Who are the primary users?
  ▪ Clients – upkeep and grant research
  ▪ Public – food outlet searches
  ▪ Students – research and class projects
Existing Conditions of Food Outlets
How we got there…
• Broke into teams and collected baseline data & photos
• Summarized findings in Excel spreadsheet
• Imported spreadsheet into GIS and mapped food outlets by parcel
We also…
• Mapped crime data (from CPD) & transit data (from SORTA) into GIS
• Determined proximity of crime and transit to each food outlet

<table>
<thead>
<tr>
<th>Index</th>
<th>Store Name</th>
<th>Address</th>
<th>Store Type</th>
<th>Hours of Operation</th>
<th>Types of food served</th>
<th>Acceptable food stamps</th>
<th>Parking</th>
<th>Nearest Bus Route(s)</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example</td>
<td>Mr. Food</td>
<td>123 Main St.</td>
<td>Supermarket</td>
<td>24 hours M-Su</td>
<td>Cereal, Produce, Dairy</td>
<td>Yes</td>
<td>Yes</td>
<td>OK</td>
<td>OK</td>
</tr>
</tbody>
</table>
Existing Conditions of Food Outlets
Existing Conditions of Food Outlets
• Research Limitations
  ▪ Existing Conditions Data
    • Data based on CAGIS land use files, which may not be up to date
    • Hours of operation not standardized
    • Crime data is outdated, does not indicate type of crime, and does not coordinate with our food outlet categories
  ▪ Healthy Food Basket
    • Only records number of categories, not the specific types of food available
    • No overall scoring system for food outlets (combining food basket, accessibility, safety, and acceptance of food stamps)

• Recommendations
  ▪ Recruit high school students to conduct a more thorough, street-by-street survey
  ▪ Create a more descriptive & comprehensive scoring system for food outlets
Existing Conditions of Food Outlets

Demonstration: Searching for a food outlet
- Convenience/Corner store
- Accepts food stamps
- Along transit line
- No criminal activity
Community Gardens: Increasing Access to Fresh, Local Produce

Katherine Charlton-Perkins
Eileen Cunningham
Christopher Will
Xiao Xiao

Source: American Community Gardening Association 2008; Cincinnati Civic Garden Center 2008
Community Gardens

Community gardens produce a number of benefits for community members, including:

- **improve quality of life by providing a catalyst for neighborhood and community development**
- stimulate social interaction
- encourage self-reliance
- beautify neighborhoods
- **produce nutritious food**
- reduce family food budgets
- conserve resources
- create opportunities for recreation, exercise, therapy and education
- develop environmental stewardship

Source: American Community Gardening Association 2008; Cincinnati Civic Garden Center 2008
Community Gardens Application

- **Who:** Community Organizations, Residents, Food Vendors

- **What:**
  - Develop a garden produce network which links supply and demand via a distribution system
  - Existing and potential gardens (Supply)
  - Food vendors interested in selling garden produce (Demand)
  - Gardens distribute produce to nearby interested vendors (Distribution System)

- **Why:**
  - Increase community access to fresh, local produce
  - Civic involvement and entrepreneurship encourages community and economic development
  - Provide a context for education about importance of a healthy diet and a physically active lifestyle

- **How:**
  - Locate existing gardens and supporting organizations
  - Locate food outlets interested in selling garden produce
  - Identify suitable sites for new gardens
  - Distribute garden produce to interested vendors

Source: Cincinnati Civic Garden Center 2008
Existing Gardens

- Map existing gardens
- User is able to query gardens based on certain search criteria
  - type
  - community or zip code
- Links residents to existing gardens
- Facilitates the networking of gardens with one another to exchange of resources
Amenable Vendors

- Survey local food vendors to identify those interested in selling garden produce
- The contact information and spatial location of vendors is gathered for use in the garden produce distribution system

Source: American Community Gardening Association 2008; Cincinnati Civic Garden Center 2008
New Community Garden Location

- Assumption
  - Suitable factors options
- Map
  - The suitable parcels = Green Parcels
- Charts
  - The numbers of Suitable parcels
  - The Minimum and Maximum suitable parcel size (area) in Sq.ft.
- Assumptions
  - Three Factors changed
- Map
  - More green parcels (suitable selected)
- Charts
  - 58 more Suitable parcels
  - Maximum suitable parcel size increase to 10,730.67 Sq. ft
Produce Distribution System

- Creates “service areas” of existing and potential garden sites based on driving time
  - Service Area 1 (yellow): 0 – 1 mins.
  - Service Area 2 (pink): 1 – 2 mins.
  - Service Area 3 (blue): 2 – 5 mins.
- Based on garden location, generates a list of closest food vendors interested in selling garden produce
- Identifies shortest routes from gardens to food vendors and specific driving directions
Limitation and Recommendation

Limitation

• Incomplete survey
• Sample criteria in New Community Gardens location selection

Recommendation:

• Research police and fire stations, schools and/or community organizations that are willing to provide overarching garden maintenance in addition to maintenance provided by garden members. Locate new community gardens in close proximity to facilities.
• A survey should be conducted to find out which food outlets would like to distribute the products from community gardens.
• User may customize suitability factors by further research.
Community Garden Application

Live Demo:
Searching new Community Garden Sites!
Market Analysis Application

New Food Outlets: A Necessity in Price Hill

Team members: Bineyam Mezgebe, Cameron Ross, Darine Salam
Market Analysis Application

- Uses a site suitability analysis based on the existing Market’s supply and consumer’s demand
- Map of potential locations for new food outlets in Price Hill
- Map of improved existing food outlets in Price Hill
Market Analysis Application

• **Why?**
  - There is a perceived lack of resources in Price Hill and the Market analysis illustrates that there is a need for more and healthier food options

• **What?**
  - A tool that illustrates the service areas of current and potential food outlets

• **How?**
  - By examining vacant parcels and buildings along with existing food outlets new or improved outlets can be developed to improve access in Price Hill

• **Who?**
  - Community organizations and developers seeking to open businesses in Price Hill
Market Analysis Application

Price Hill
Food Outlet Coverage in Different Walking Distance(ft)
Market Analysis Application

Price Hill Bus Transit Coverage in Different Walking Distance (ft)
Market Analysis Application

Price Hill Population Coverages for Existing and Proposed Food Outlets

Legend
- Schools
- Proposed Market
- Super Markets
- Streets
- Bus Line

Walking time (min) from Existing Super Market
- 3 minute
- 5 minute
- 7 minute
- 10 minute

Walking time (min) from Proposed Super Market
- 2
- 3
- 5
- 7
- 10

Population
- 0 - 113
- 114 - 320
- 321 - 738
- 739 - 1788
- 1789 - 5256

Legend

0 650 1300 2000 2650 3300 3950 5200 Feet

N
Implementation

• Determine a home for these GIS applications.
  ▪ The Nutrition Council could be designed as host organization.

• Ensure access and licensing to GIS software as well as fast and efficient means of data sharing among ultimate users.

• Provide training to organization personnel for use of GIS software or hire new GIS personnel.
  ▪ The Community Council Institute (CBI) could be adopted as a training partner.

• Complete and maintain the databases
  ▪ Frequent updating will keep the system relevant and prevent it from becoming outdated.
  ▪ Involve the community in data collection.
Recommendations

- Set a comprehensive scoring system for food outlets, combining healthy basket ranking, accessibility, safety, and acceptance of food stamps.

- Use the healthy food basket ranking to help identify food outlets with a potential for services upgrading.

- Ensure completeness of data about community organizations to pool community resources in a comprehensive and efficient way.

- Prioritize the community gardens option to enhance access to food and find police and fire stations, schools and/or community organizations that are willing to provide global garden maintenance.

- Connect community gardens and food outlets to ensure the products distribution.
• Modify selection criteria to identify suitable garden sites, new food outlets locations, and potential sites for community organizations operations, as deemed necessary.

• Periodically update the data and involve high school students in future data collection.

• Adopt the Community Building Institute (CBI) facilitating entity as a training partner, and prepare a community action team (CAT) to be trained on the use of GIS for data update.
Price Hill Food Access Project

Questions or Comments?

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Thanks for the opportunity to work on a great project!