

concept + theory

community

history + context

the **THEORY** behind
the **CONCEPT** of
VERTICAL FARMING
what's all the hype about?

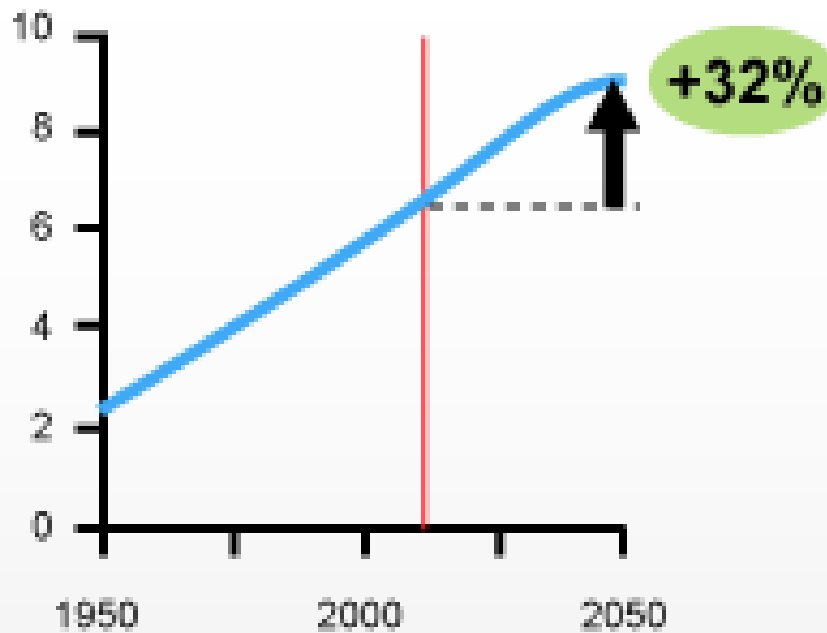
[charleston]
VERTICAL FARM



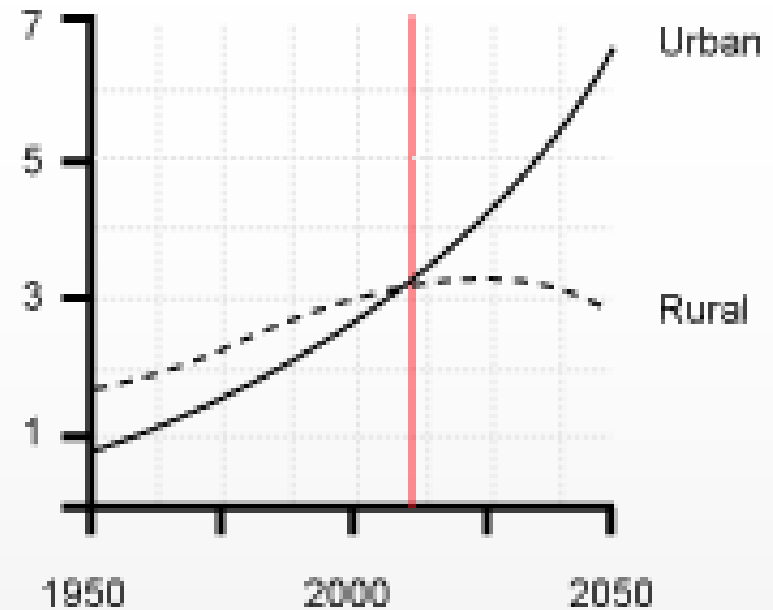
by 2050 the human population will increase by 3 billion and 80% of people will live in cities

POPULATION: 2050 population to reach 9bn

World population forecast
(billions of people)



Urbanization tipping point
(billions of people)



Source: UN Department for Economic and Social Affairs, DESA, and UN Habitat, Living Planet Report, 2005

concept + theory

community

history + context

currently, traditional agriculture makes it difficult to achieve **profitability**, distances **customers** from their food and **hurts the environment**

[charleston]
VERTICAL FARM



concept + theory

community

history + context

the fact is that **bad weather** makes farming difficult, risky and uncertain. Millions of tons of **valuable crops are lost** to hurricanes, floods, long-term droughts, and monsoons **every year**

[charleston]
VERTICAL FARM



concept + theory

community

history + context

so what is the **solution?** how do we revolutionize the **food system?** a new kind of **farming** has to emerge



urban farming



sky farming



vertical farming

[charleston]
VERTICAL FARM

concept + theory

community

history + context

THE URBAN FARM

[charleston]
VERTICAL FARM



concept + theory

community

history + context

THE URBAN FARM

[charleston]
VERTICAL FARM



concept + theory

community

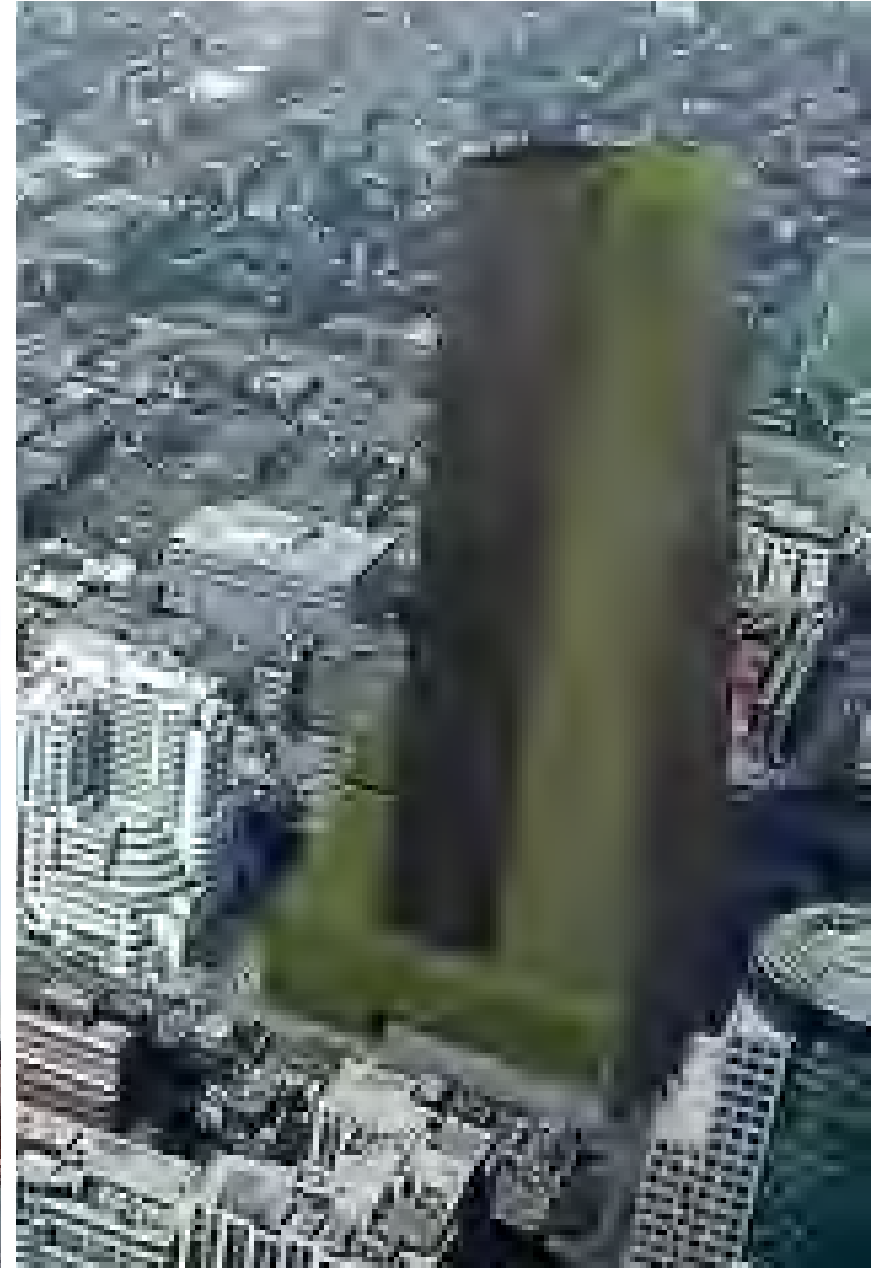
history + context

THE SKY FARM

[charleston]
VERTICAL FARM



The Living Skyscraper: Farming the Urban Skyline | Blake Kurasek



Pierre Sartoux's Living Tower | Gordon Graff

concept + theory

community

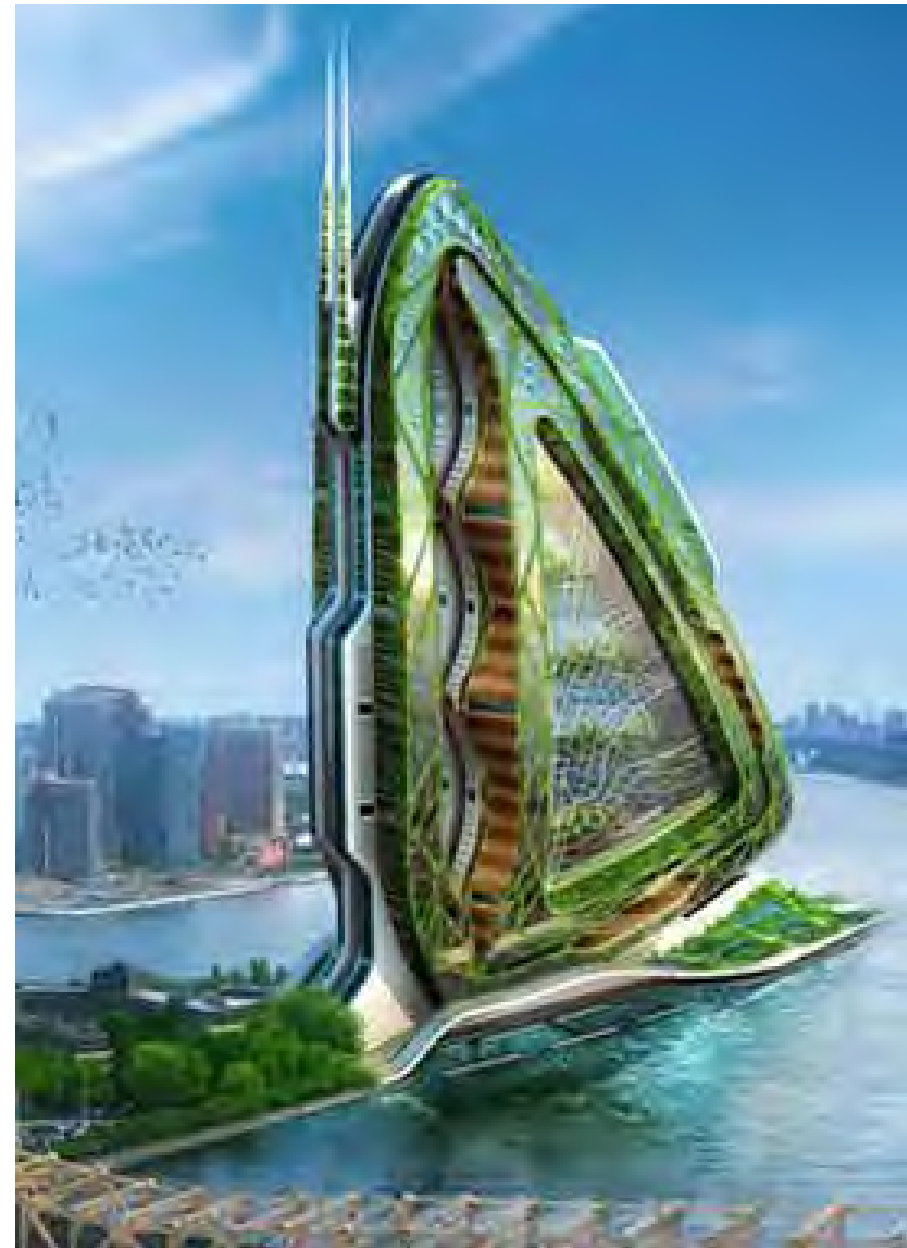
history + context

THE SKY FARM

[charleston]
VERTICAL FARM



La Tour Vivante | SOA Architects



Dragonfly | Vincent Callebaut

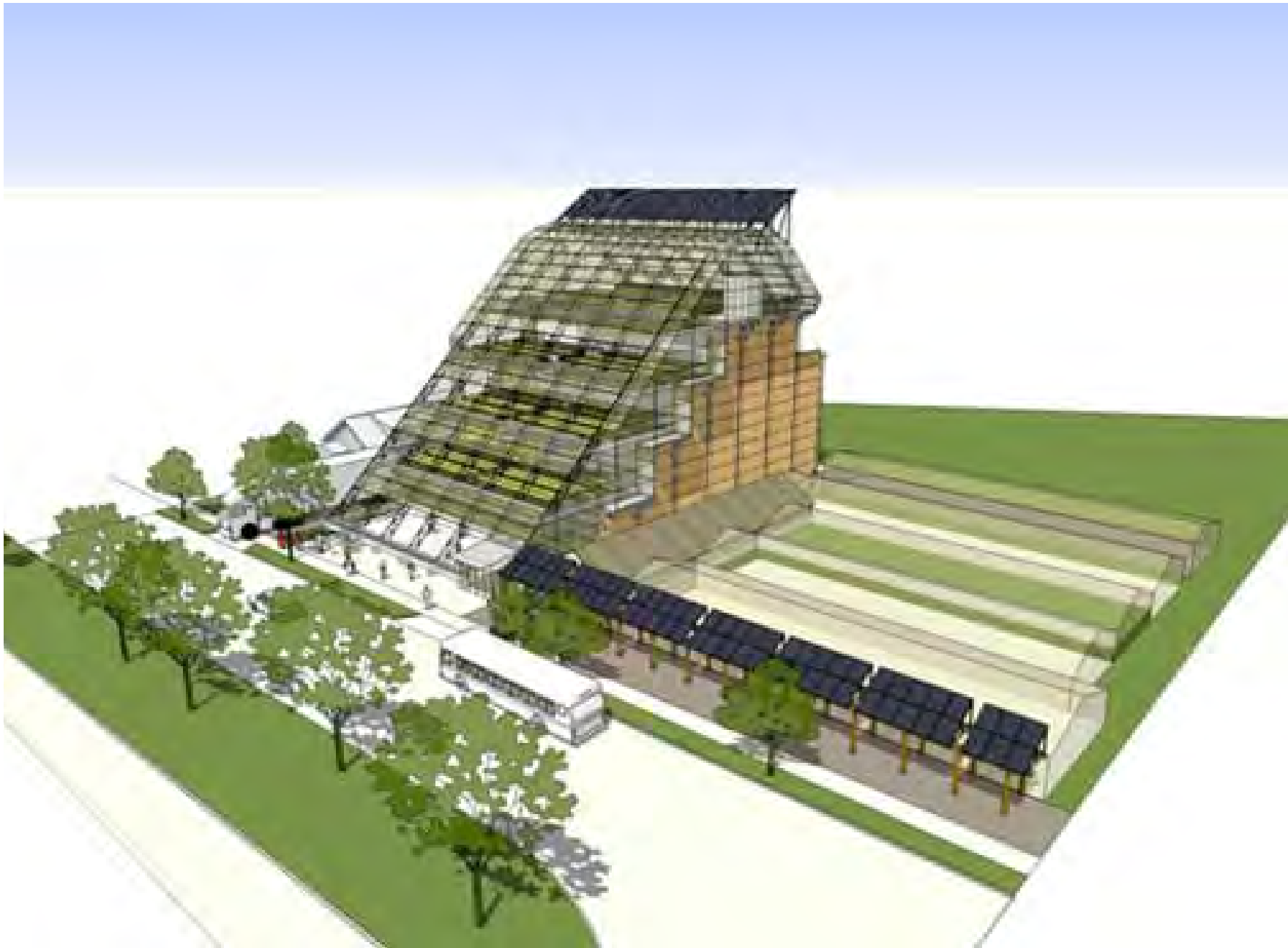
concept + theory

community

history + context

THE VERTICAL FARM

[charleston]
VERTICAL FARM



concept + theory

community

history + context

THE VERTICAL FARM

[charleston]
VERTICAL FARM



concept + theory

community

history + context

THE VERTICAL SOLUTION

[charleston]
VERTICAL FARM



The London City Farmhouse by Catrina Stewart

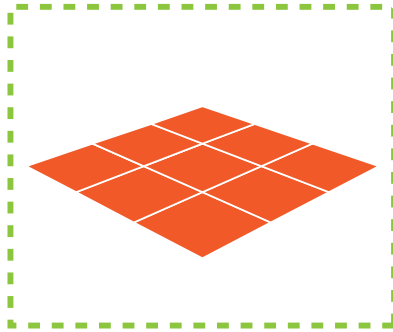
concept + theory

community

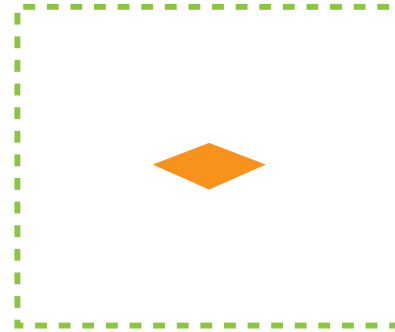
history + context

HORIZONTAL VS. VERTICAL

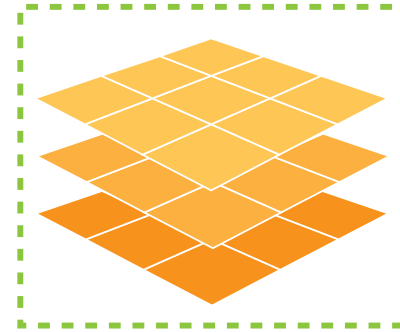
[charleston]
VERTICAL FARM



9 acres in a
horizontal farm...



equals 1 acre in a
vertical farm...



27 vertical farm
acres is equal to
243 horizontal
farm acres

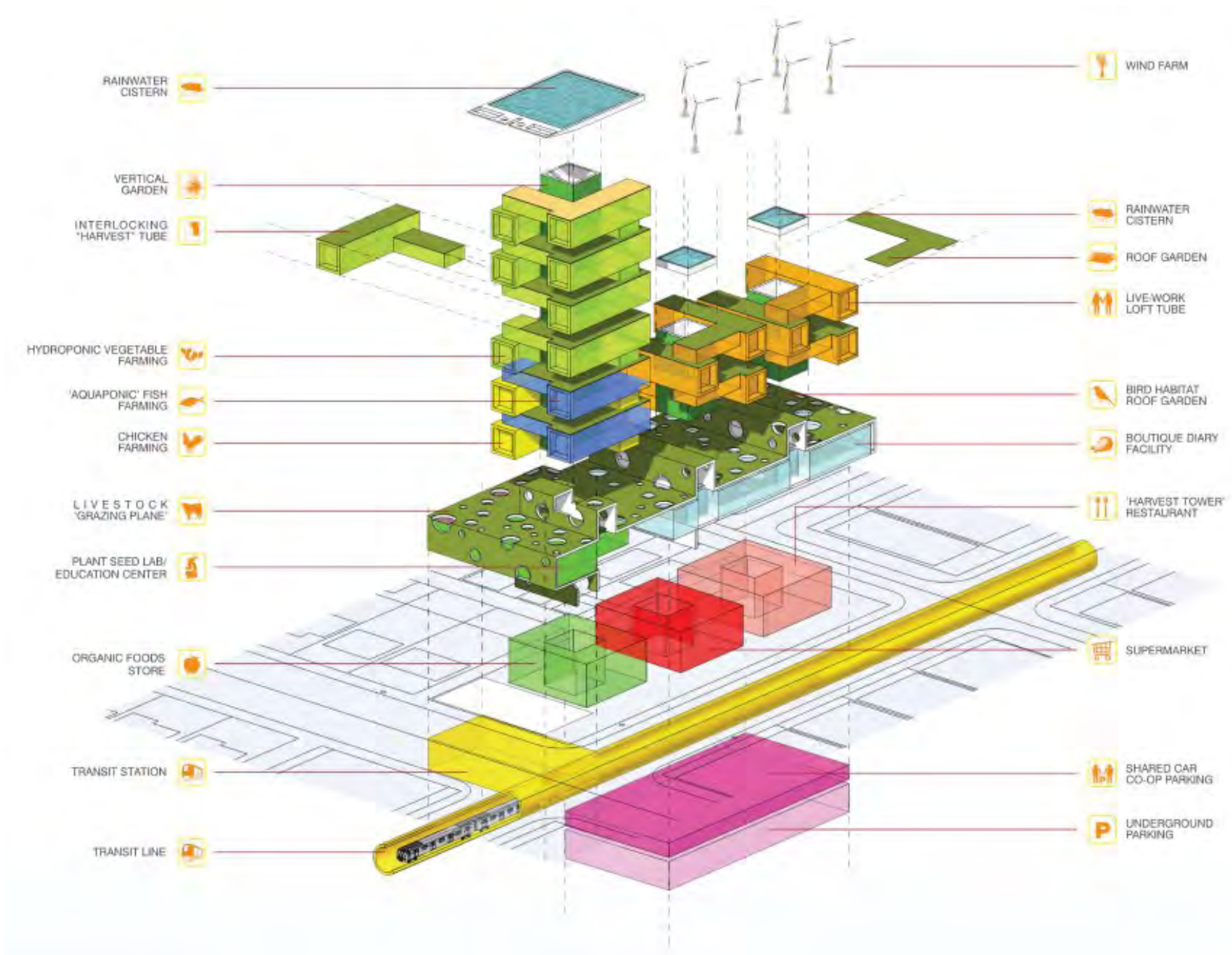
concept + theory

community

history + context

VERTICAL STACKING

[charleston]
VERTICAL FARM



concept + theory

community

history + context

COMMUNITY INTEGRATION

what do we get out of it?

[charleston]
VERTICAL FARM

FARMING



COMMUNITY

How can the vertical farm design target each of these groups within the community?



CROPS



FARMERS
MARKET



PEOPLE



EDUCATION



RETAILERS



RESTAURANTS

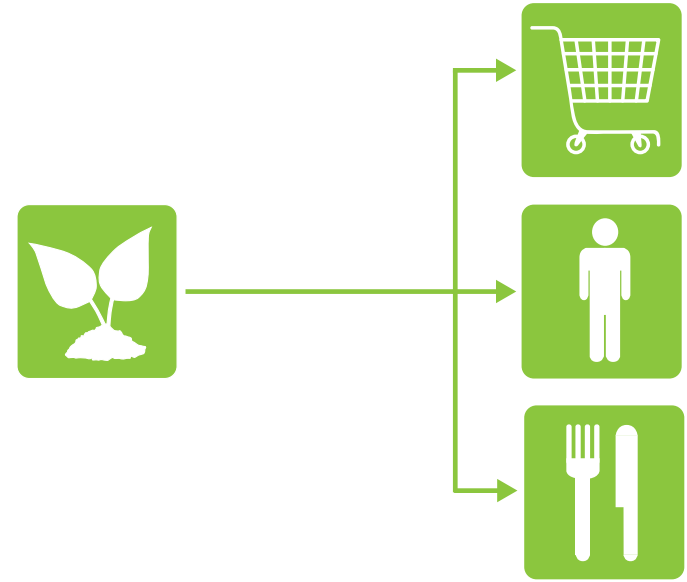
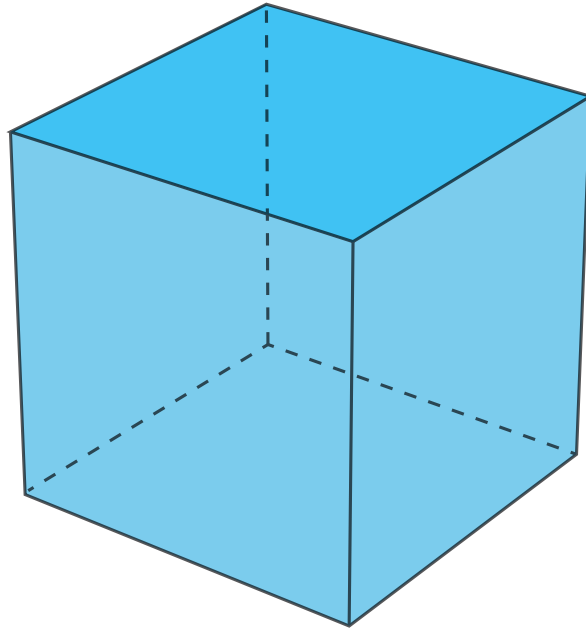
concept + theory

community

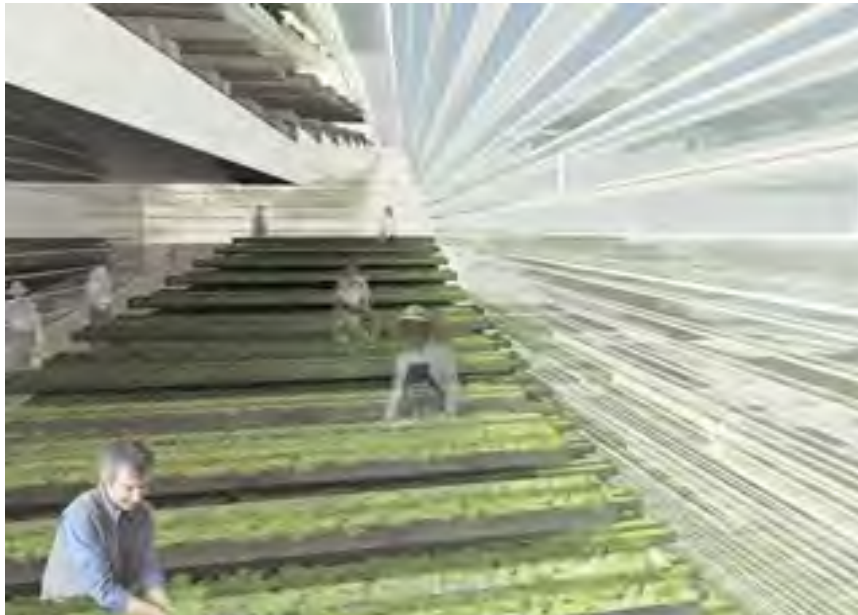
history + context

THE "U-PICK" SYSTEM

level of integration: high



[charleston]
VERTICAL FARM



Urban Farm, Urban Epi-center | Jung Min Nam



Vertical Farm | Victorian Eco Innovation Lab

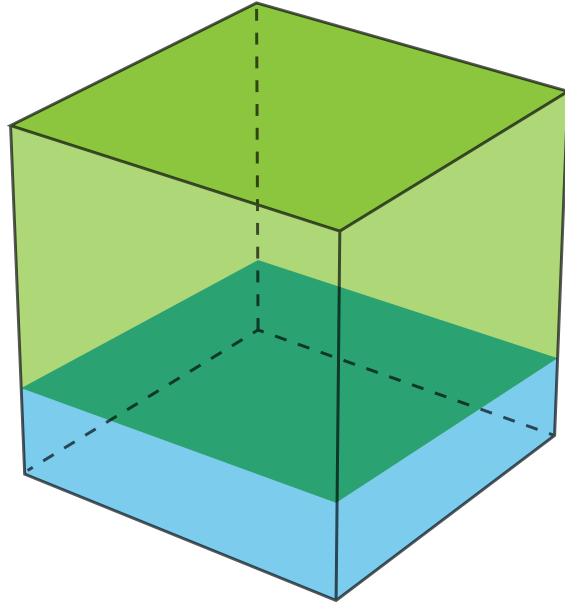
concept + theory

community

history + context

THE FARMERS MARKET

level of integration: medium



[charleston]
VERTICAL FARM



Vertically Integrated Greenhouse | Kiss + Cathcart Architects



Vertical Farm Outdoor Market | TKWA + Growing Power

concept + theory

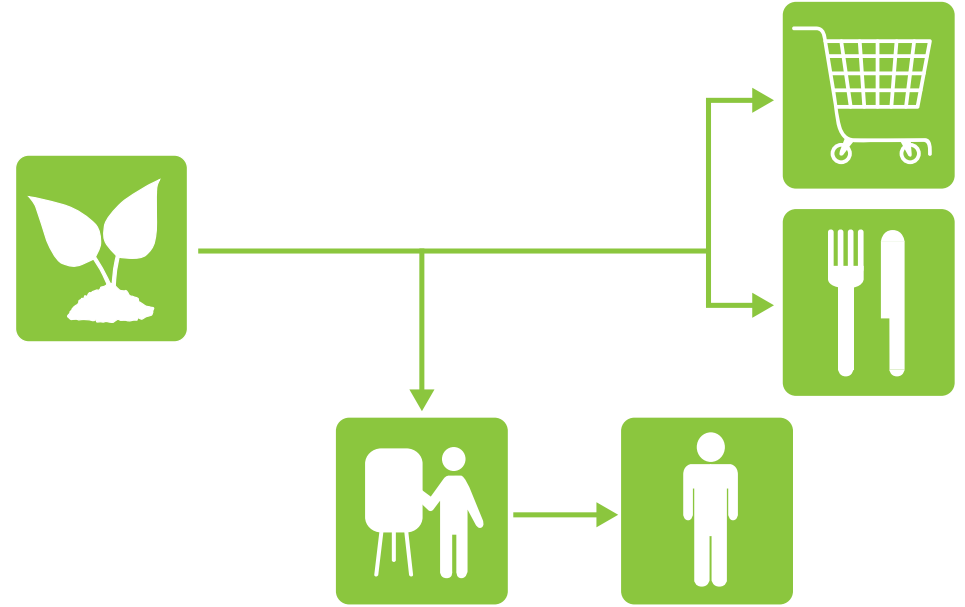
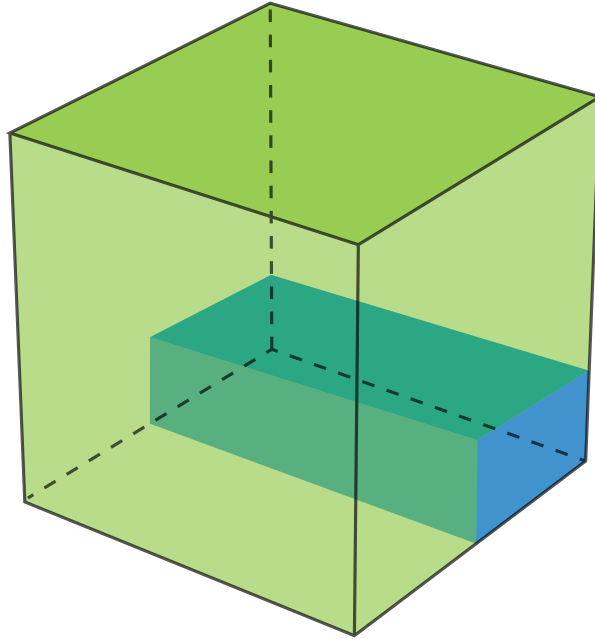
community

history + context

THE EDUCATION LAB

level of integration: medium

[charleston]
VERTICAL FARM



Singularity University | Agropolis



Eco-Laboratory | Weber-Thompson

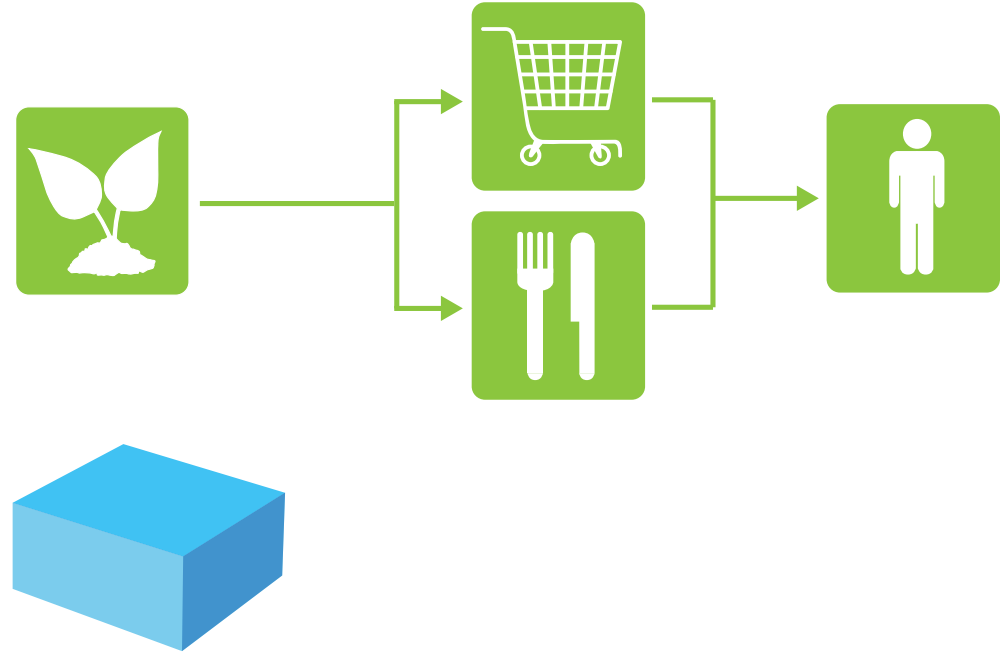
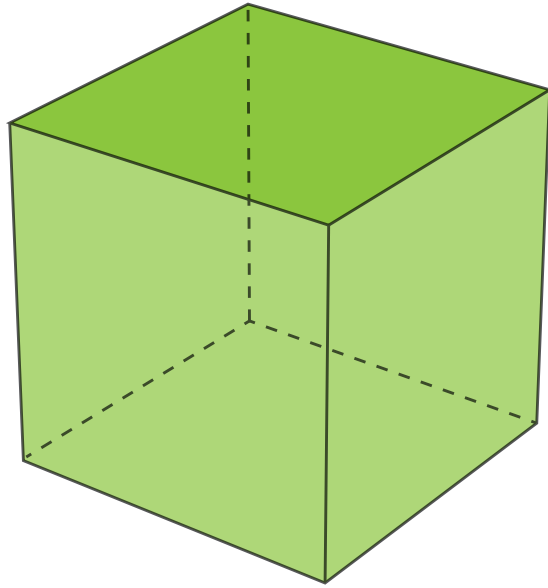
concept + theory

community

history + context

THE EXPORT SYSTEM

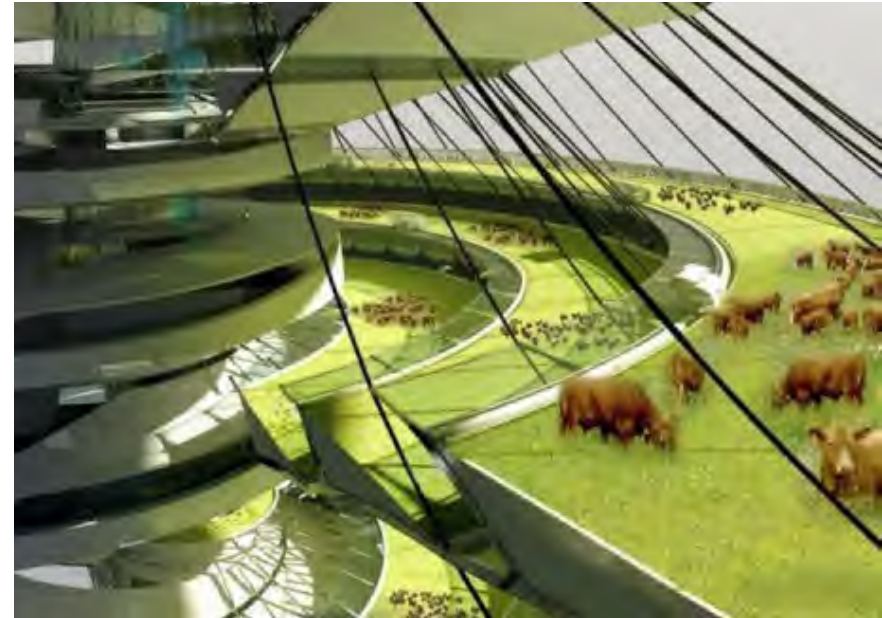
level of integration: low



[charleston]
VERTICAL FARM



Vertical Farm | Chris Jacobs



Vertical Farm | Lee Dongjin, Park Jinkyu, Lee Jeongwoo

concept + theory

community

history + context

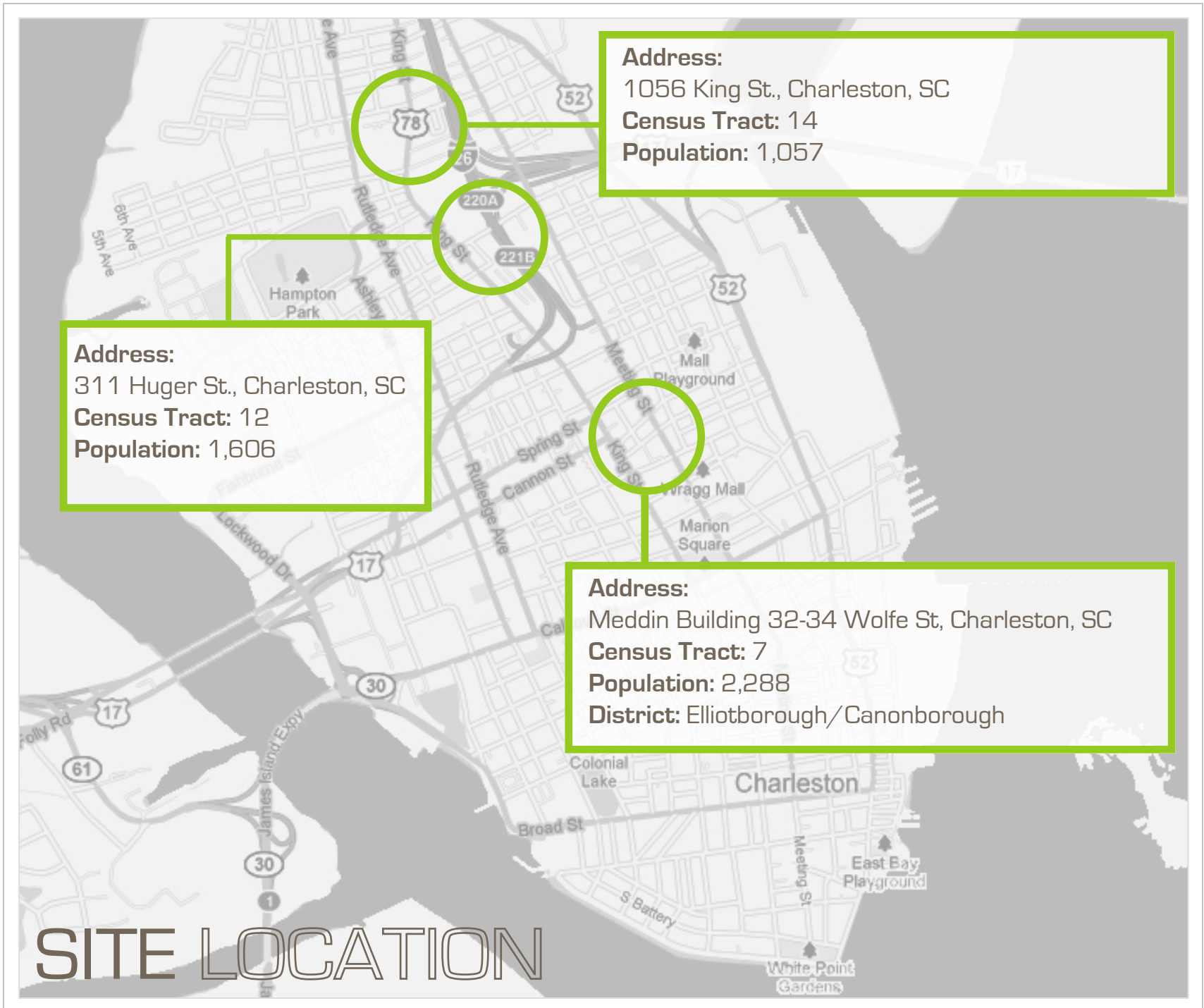
VERTICAL FARMING FOR THE COMMUNITY

[charleston]
VERTICAL FARM



concept + theory
community
economics

[charleston]
VERTICAL FARM



concept + theory
 community
 economics

SUSTAINABLE NEIGHBORHOOD

[charleston] VERTICAL FARM



URBAN FABRIC



PROPOSED & EXISTING CORRIDORS



- Transition areas
- Redevelopment areas
- Stable corridors
- Stable neighborhoods

The historic spine of the peninsula, the Upper King/ Meeting corridor will be strengthened with improved transit and infill development.

Cross peninsula trails will connect to Riverwalk.

Upper Lockwood will contain new employment uses such as corporate headquarters and high tech research and development.

Ballpark Park will be extended south.

MUSC plans to expand its facilities.

Public access to the Ashley River will be improved.

Lower Lockwood contains infill housing opportunities as well as the chance to considerably enhance the public space at the water's edge.

The Market could become an ecological park or living job.

The removal of the Cooper River Bridge will create the opportunity to knit the East Side neighborhood together with new housing.

The Federal Building site, one of the most prominent on the peninsula, could accommodate a major new public use and housing.

Upper Concord neighborhood and Union Pier will likely receive new housing and office employment opportunities with significant new open spaces.

Riverside, walkable-oriented growth is encouraged on Market Street.

Corridors below Calhoun Street will remain stable.

Growth will be directed away from the city's neighborhoods.

- DOWNTOWN PLAN**
- NURTURE INCLUSIVE, VIBRANT NEIGHBORHOODS
- PURSUE ECONOMIC DIVERSITY
- FOSTER SUSTAINABILITY
- REINFORCE THE EXISTING URBAN STRUCTURE
- RESPECT THE GRAIN, SCALE AND MIX OF THE PENINSULA'S URBAN FABRIC
- ENSURE ARCHITECTURAL INTEGRITY
- ENCOURAGE A BALANCED NETWORK FOR MOVEMENT
- USE GROWTH STRATEGICALLY
- MAINTAIN DOWNTOWN AS THE REGIONAL CENTER OF CULTURE AND COMMERCE

concept + theory
community
economics

TRANSPORTATION

- _ CARTA Charleston Area Region Tranist Authority
- _ bus routes converge at the visitor center
- _ site is in good relation with system
- _ most parking sits south of site



[charleston] VERTICAL FARM

concept + theory
community
economics

[charleston]
VERTICAL FARM



NATIONAL CITY RANKING

_#20 city with strongest arts, entertainment, recreation, accommodation and food services industries

_#47 city with highest percentage of college students

_#72 city with largest land areas

_#19 zip codes with the most museums in 2005

_#68 zip codes with the largest charity contributions

_#75 zip codes with the highest 2004 average reported profit/loss from business

_#18 county with the best general health status score of residents

_#58 county with the highest percentage of residents that exercised in the past month

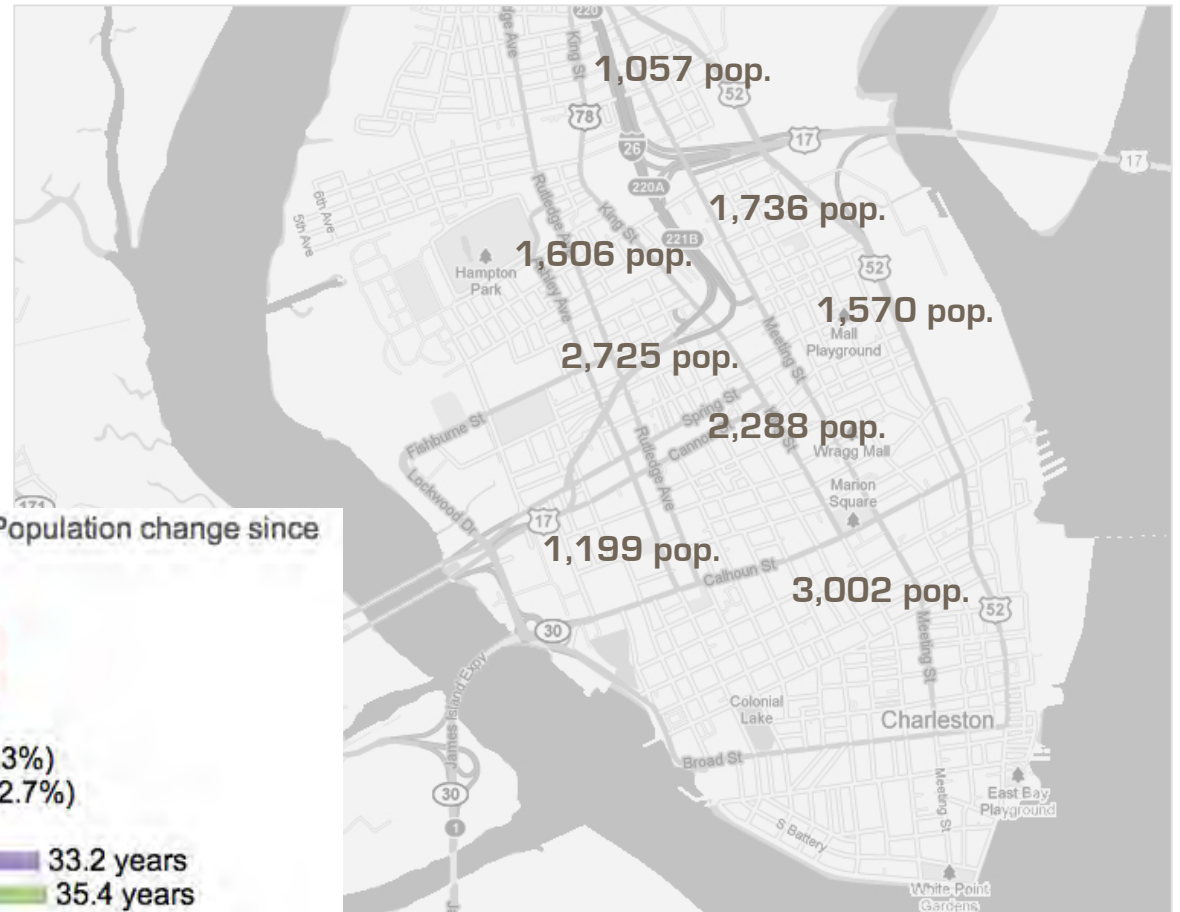
_#61 county with the highest percentage of residents that drank alcohol in the past 30 days

COMMUNITY PERSONALITY

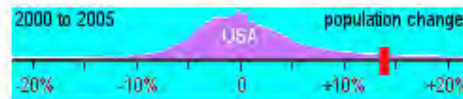
POPULATION

2010 POPULATION ESTIMATE (estimated figures shown will be achieved during 2010 when permitted housing units are occupied)

Area of City	2000 Census (04/01/00)	04/2000-12/2009 Persons Annexed	2000-09 New Constr. (Persons)	2000-09 Housing Loss (Persons)	TOTAL 2010 ESTIMATE
Peninsula	35,157	0	2,285	834	36,608
West Ashley	45,954	941	10,681	173	57,403
James Island	12,741	809	4,543	48	18,045
Johns Island	1,676	29	3,178	14	4,869
Daniel Is./Cainhoy	1,122	14	6,532	0	7,668
TOTALS	96,650	1,793	27,219	1,069	124,593



Population in July 2009: 115,638. Population change since 2000: +19.6%



Males: 54,747 (47.3%)
Females: 60,891 (52.7%)

Median resident age: 33.2 years
South Carolina median age: 35.4 years

concept + theory
community
economics

AGE DEMOGRAPHICS

POPULATION BY AGE

COLLEGE STUDENTS ENROLLED

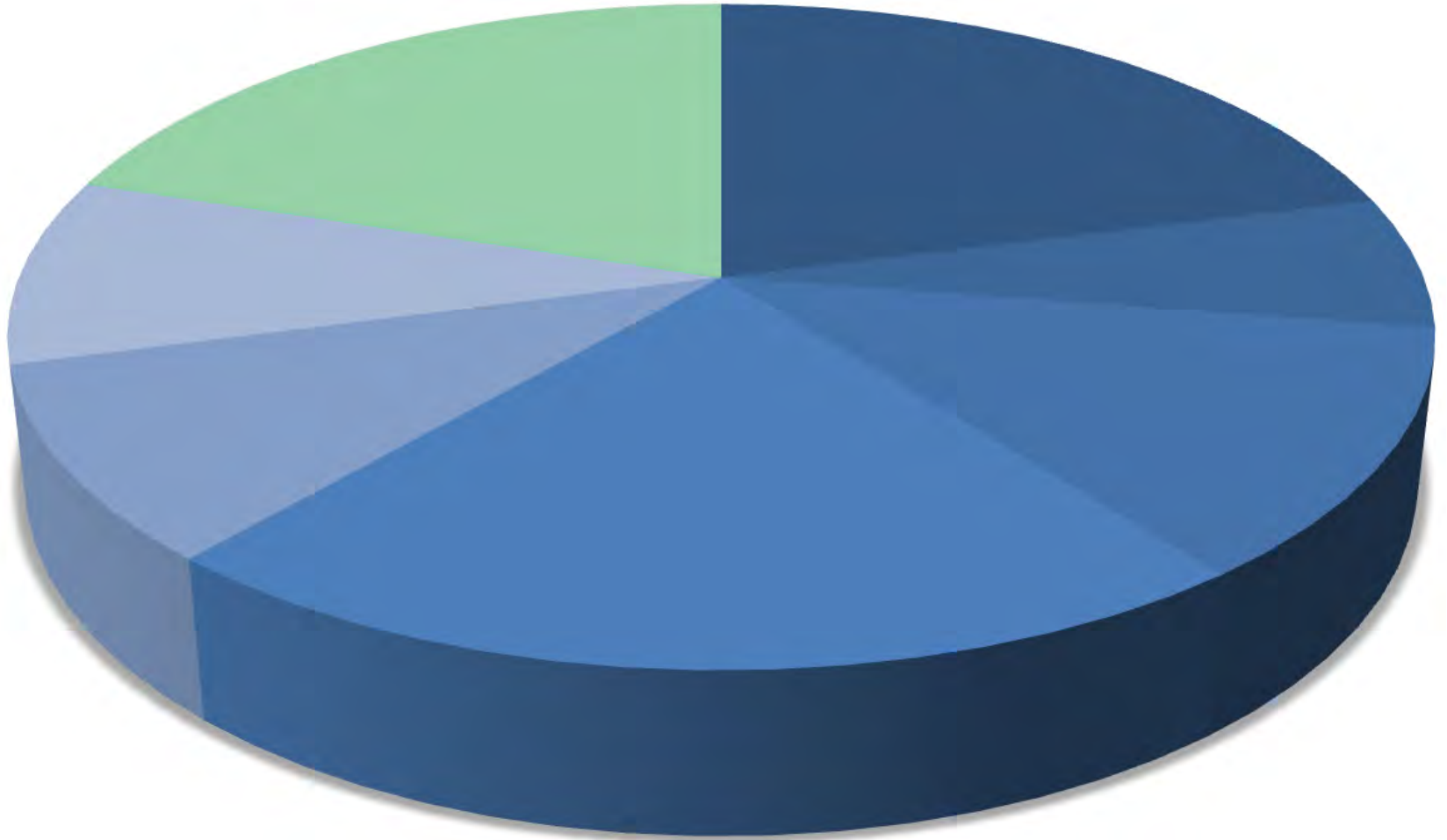
120,083

APPROX **30,000**

0-19
20-24
25-34
35-54
55-64
65+

26.2%
8.0% Trident Technical
15.1% College of Charleston
27.2% Citadel
11.8% MUSC
11.4% Charleston School of Law

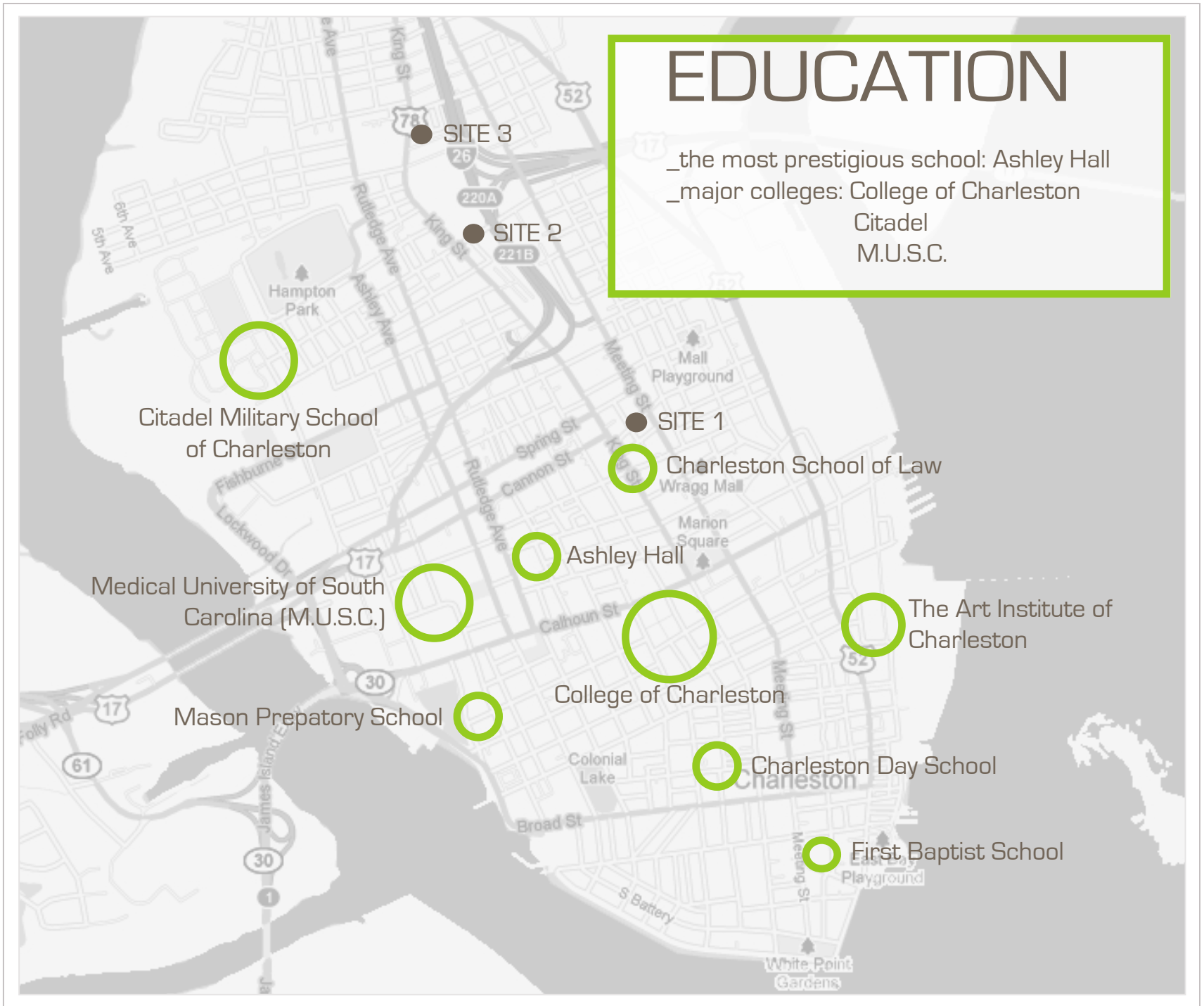
12000
11320
3300
2528
640



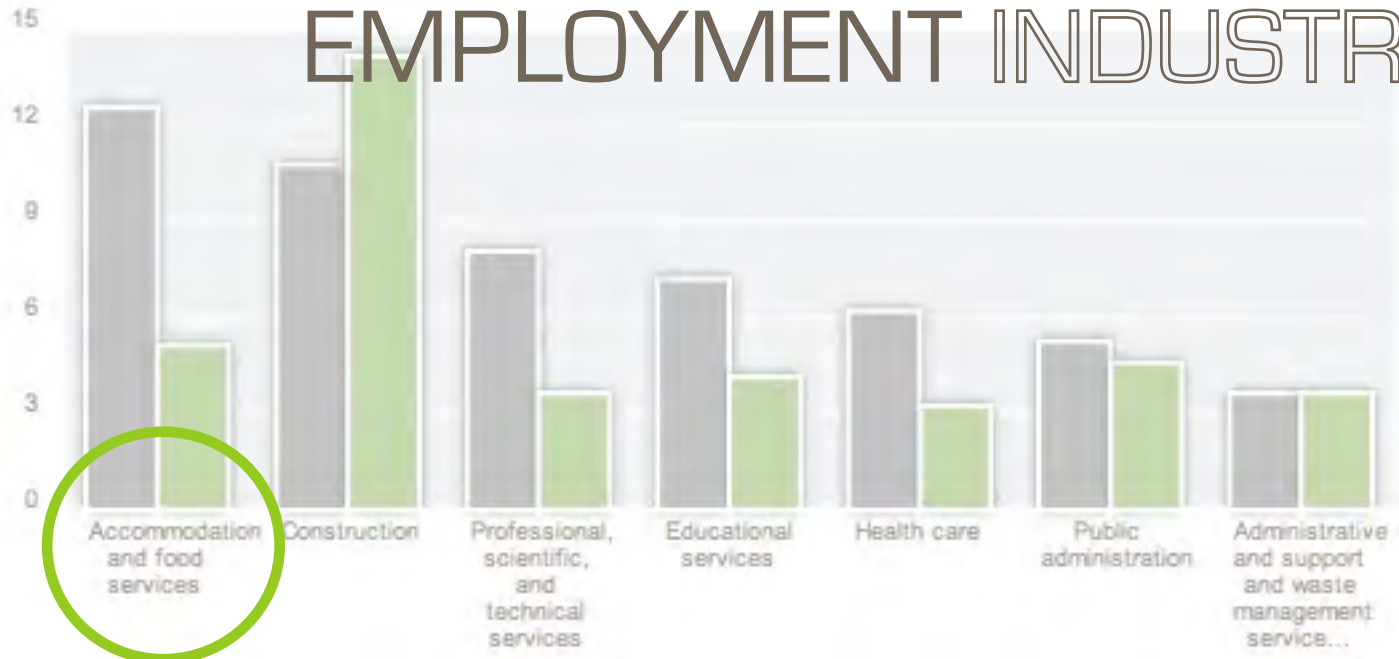
[charleston]
VERTICAL FARM

concept + theory
community
economics

[charleston]
VERTICAL FARM



EMPLOYMENT INDUSTRIES



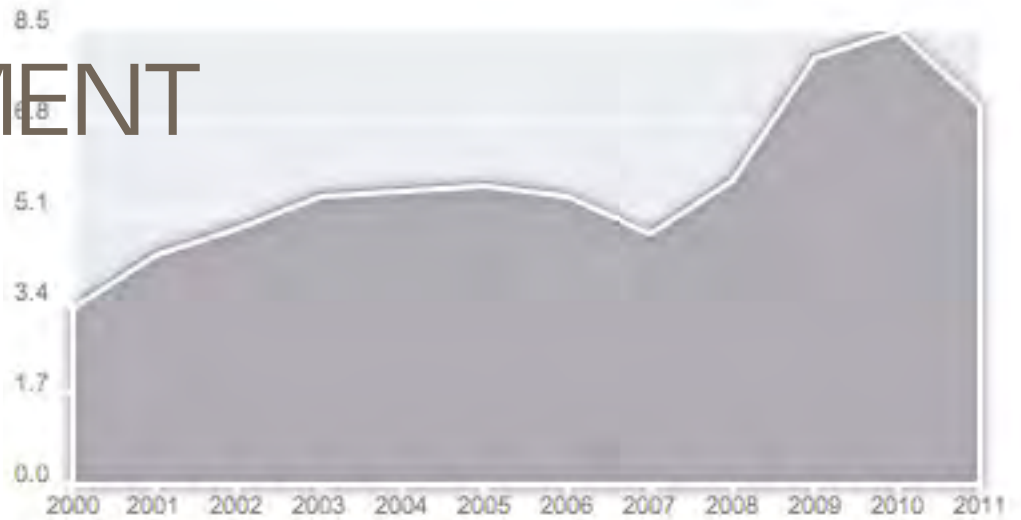
Accommodation and Food Service is the major industry of Charleston at 13%

Charleston South Carolina

UNEMPLOYMENT

From March 2011

Charleston 7.1%
 South Carolina 9.6%

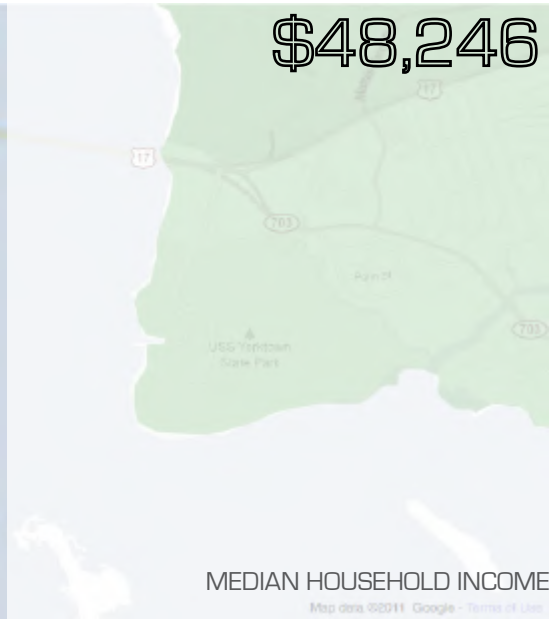
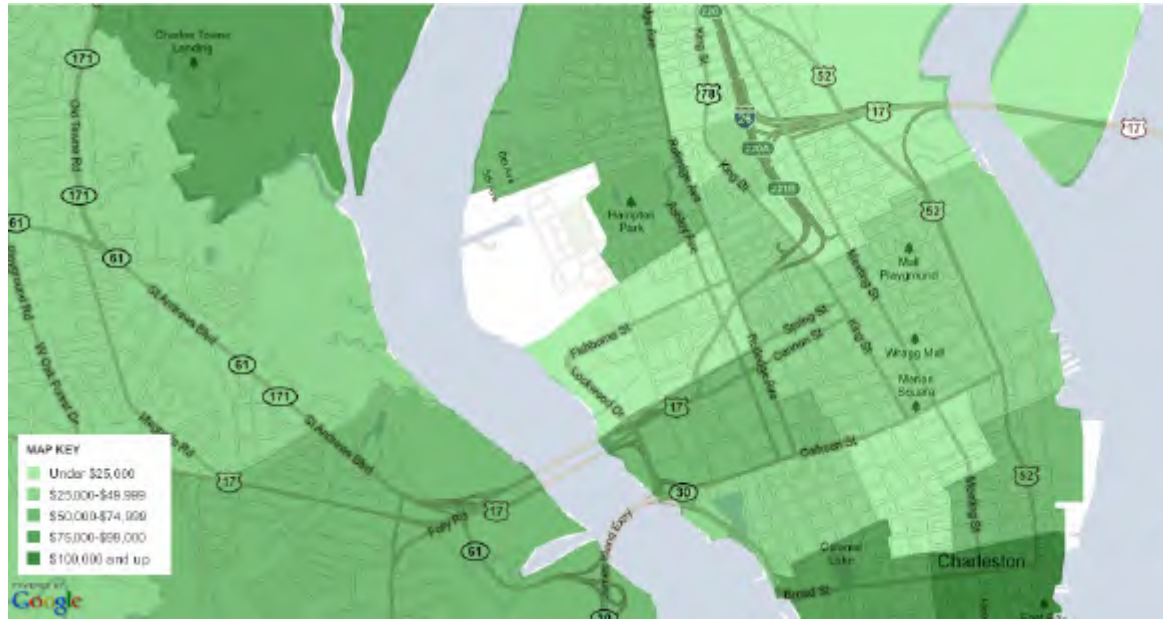


concept + theory
 community
 economics

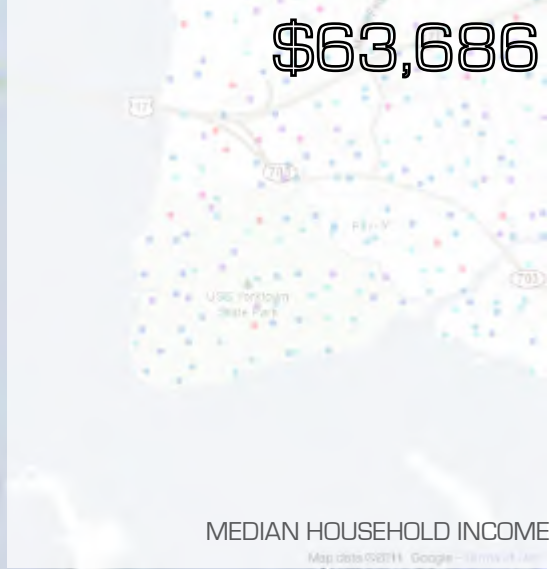
INCOME DEMOGRAPHICS

[charleston] VERTICAL FARM

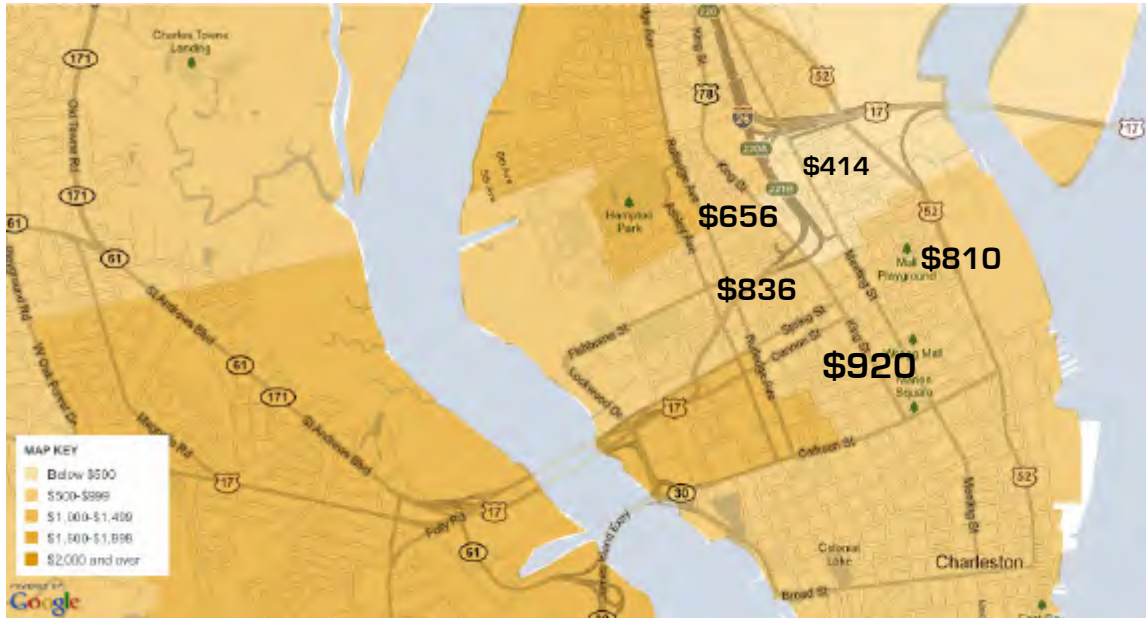
Median Household Income (2009)



Average Household Income (2009)

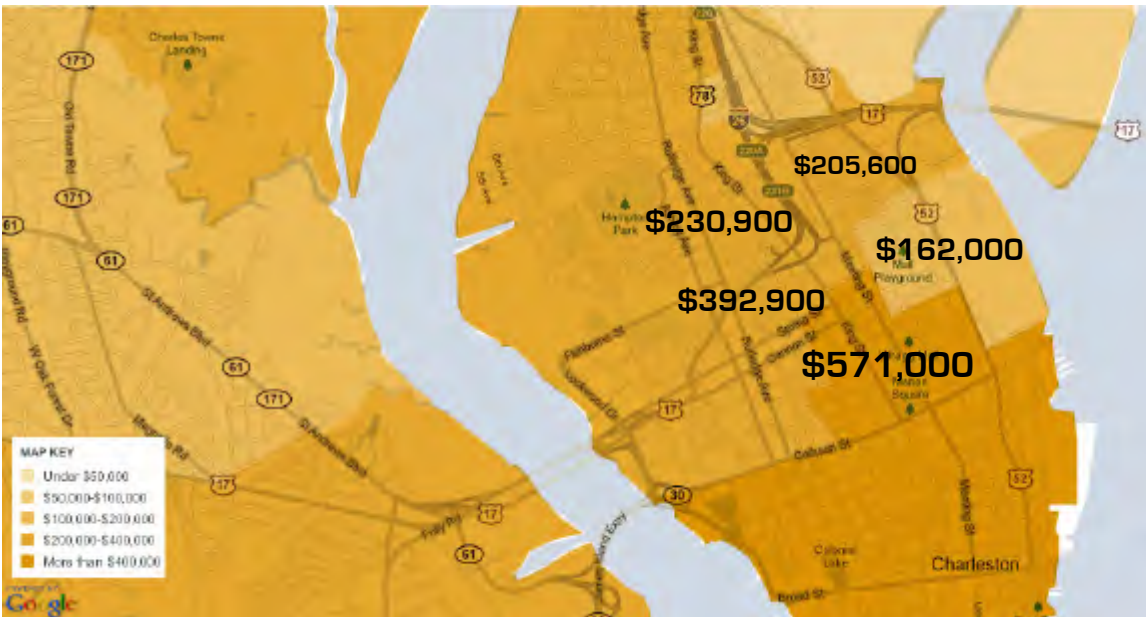


COST OF LIVING DEMOGRAPHICS



All Items (Composite)	Index
Grocery Items	105.7
Housing	92.3
Utilities	96.8
Transportation	93.9
Healthcare	104.2
Misc. Goods	101.5
US Cities Baseline Index	100

MEDIAN MONTHLY RENT
Map data ©2011 Google - Terms of Use

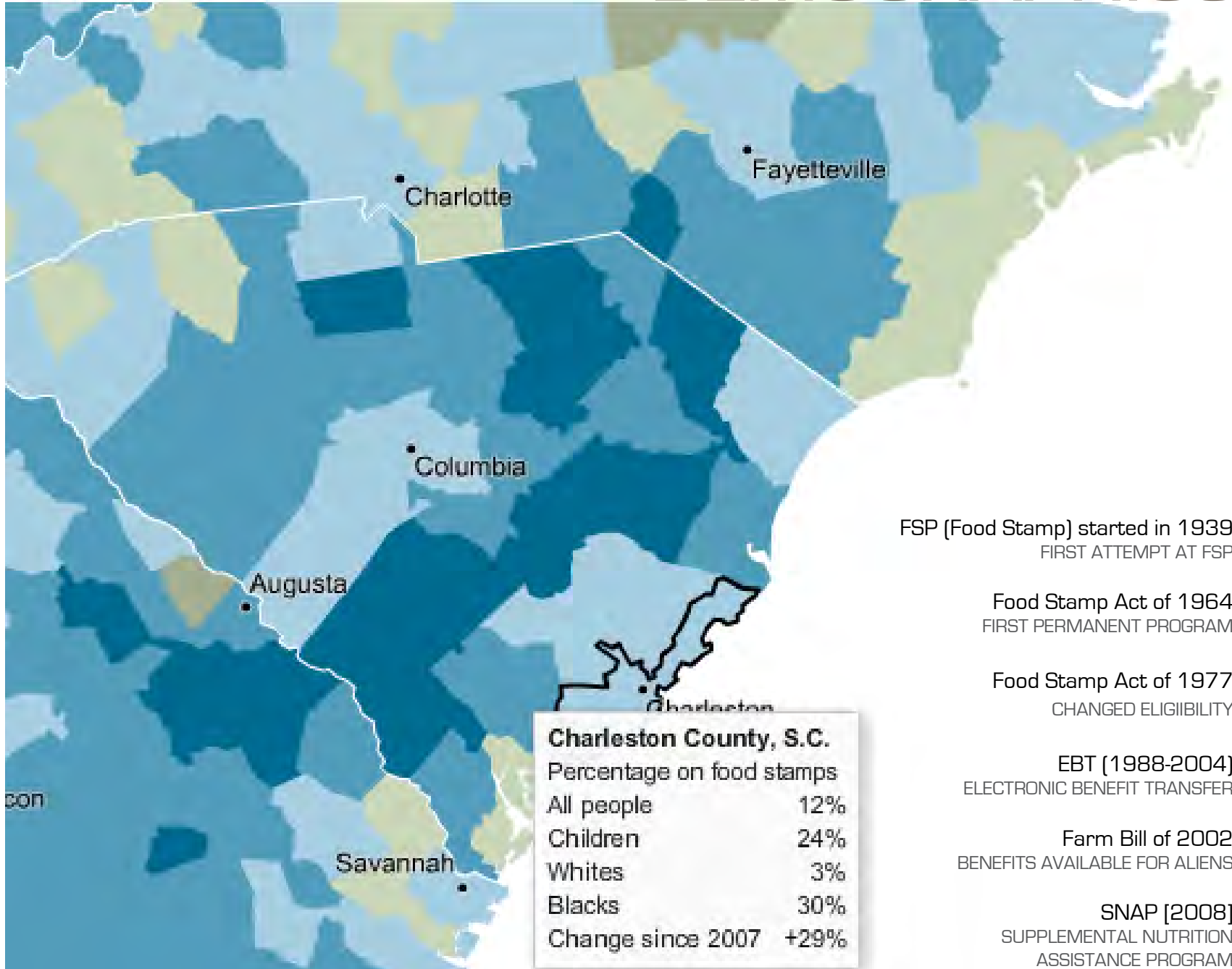


MEDIAN HOME VALUE
Map data ©2011 Google - Terms of Use

concept + theory
community
economics

FOOD STAMPS DEMOGRAPHICS

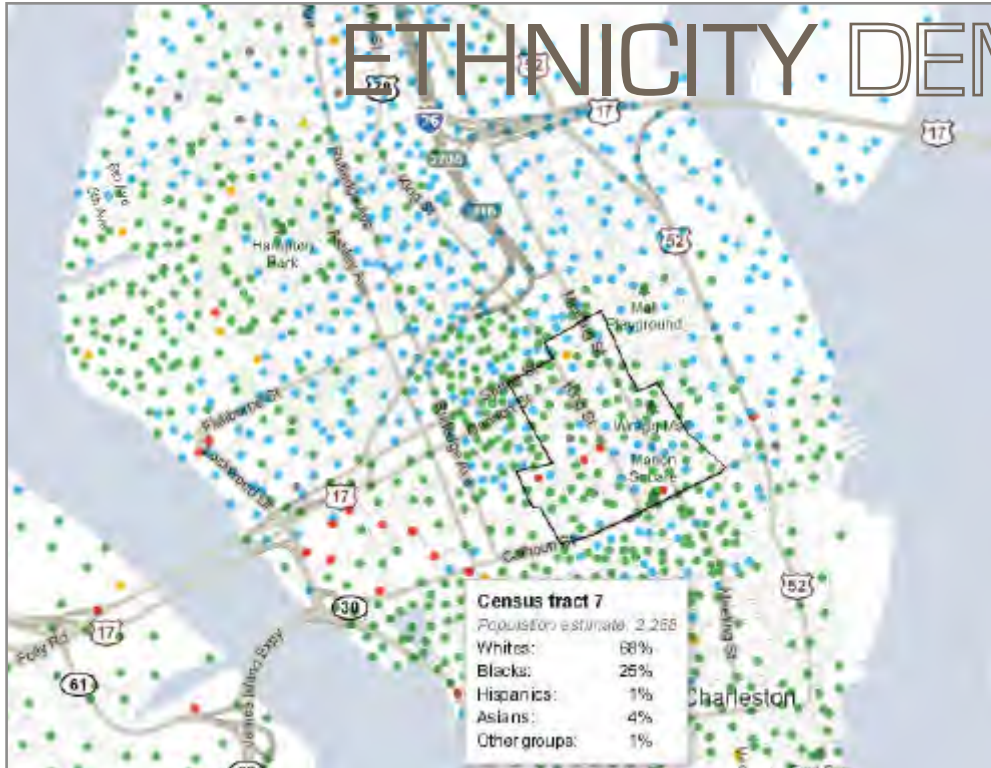
[charleston] VERTICAL FARM



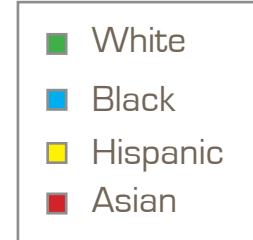
concept + theory
community
economics

[charleston] VERTICAL FARM

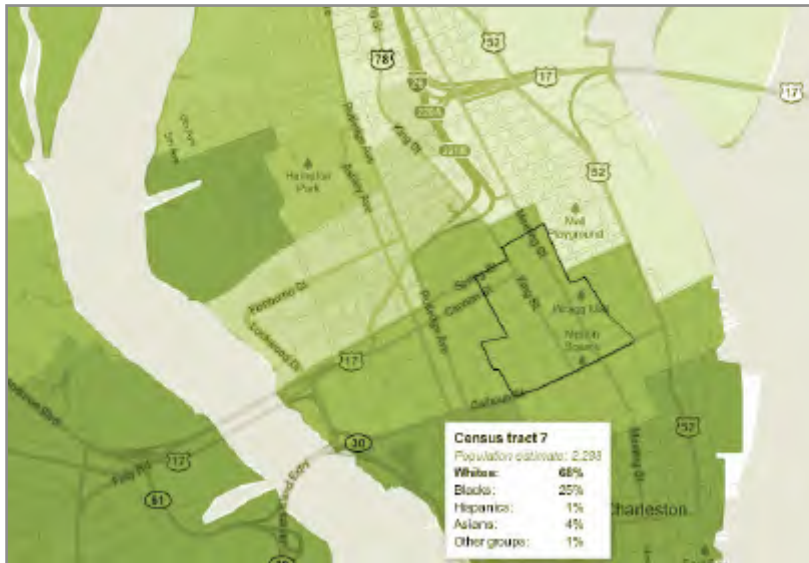
ETHNICITY DEMOGRAPHIC



_majority of population: black and white
_strong ethnic divide



WHITE POPULATION DISTRIBUTION



BLACK POPULATION DISTRIBUTION



Number of grocery stores: 88
This county: 2.56 / 10,000 pop.
South Carolina: 1.99 / 10,000 pop.

Number of supercenters and club stores: 5
Charleston County: 0.15 / 10,000 pop.
South Carolina: 0.15 / 10,000 pop.

Number of convenience stores (no gas): 19
Here: 0.55 / 10,000 pop.
South Carolina: 0.85 / 10,000 pop.

Number of convenience stores (with gas): 140
Here: 4.08 / 10,000 pop.
South Carolina: 5.38 / 10,000 pop.

Number of full-service restaurants: 393
Charleston County: 11.44 / 10,000 pop.
State: 7.75 / 10,000 pop.

Adult diabetes rate:
Charleston County: 8.8%
State: 10.6%

Adult obesity rate:
Here: 25.5%
South Carolina: 29.4%



FOOD ENVIRONMENT STATISTICS

concept + theory
 community
 economics

BUY LOCAL NEIGHBORHOOD



LOWCOUNTRY LOCAL FIRST

ADVOCATES THE BENEFITS OF A LOCAL LIVING ECONOMY BY STRENGTHENING COMMUNITY SUPPORT OF OUR LOCAL INDEPENDENT BUSINESSES AND FARMERS.



TOP TEN REASONS TO EAT LOCAL

1. SUPPORTS LOCAL FARMERS
 2. FRESHER & TASTIER
 3. BETTER FOR THE ENVIRONMENT
 4. SUPPORTS LOCAL ECONOMY
 5. SUPPORTS SUSTAINABLE LAND USE
 6. EATING SEASONALLY IS HEALTHIER
 7. FREE RANGE MEAT TASTES BETTER
 8. IT'S OUR HERITAGE!
 9. GREAT DINNER CONVERSATION
 10. BE THANKFUL FOR THE EARTH
- LOWCOUNTRYLOCALFIRST.ORG

[charleston] VERTICAL FARM

concept + theory
community
economics

BUY LOCAL NEIGHBORHOOD



BUY LOCAL

Campaign is a grassroots campaign designed to educate Lowcountry residents to Think Local when they are considering where to make purchases, to Buy Local whenever possible and to Be Local by supporting businesses that keep our community unique.

WHY BUY LOCAL?

1. KEEPS MONEY IN THE LOWCOUNTRY
 2. EMBRACES UNIQUE COMMUNITY
 3. FOSTERS BETTER SERVICE
 4. CREATES MORE JOBS
 5. HELPS THE ENVIRONMENT
 6. SUPPORTS COMMUNITY GROUPS
 7. ENSURES YOU GET WHAT YOU WANT
 8. PUTS YOUR TAX DOLLARS TO GOOD USE
 9. SHOWS THE COUNTRY YOU BELIEVE IN
- THE LOW COUNTRY
LOWCOUNTRYLOCALFIRST.ORG

concept + theory
community
economics

MIDTOWN CONTEXT

[charleston] VERTICAL FARM



King Street elevation



Midtown project

\$150 MILLION PROJECT

PRIVATELY FUNDED

INCORPORATES EXISTING HISTORIC BUILDINGS

115 FEET TALL

“THERE’S NO WAY TO STOP INVESTORS FROM DRIVING UP THE PRICE OF THE NEARBY HOUSING... LONGTIME RESIDENTS THAT MIGHT NOT BE ABLE TO AFFORD TO STAY “

REV. SIDNEY DAVIS

program introduction
building codes
concept + theory
community
history + context
tectonics
economics

[charleston]
VERTICAL FARM

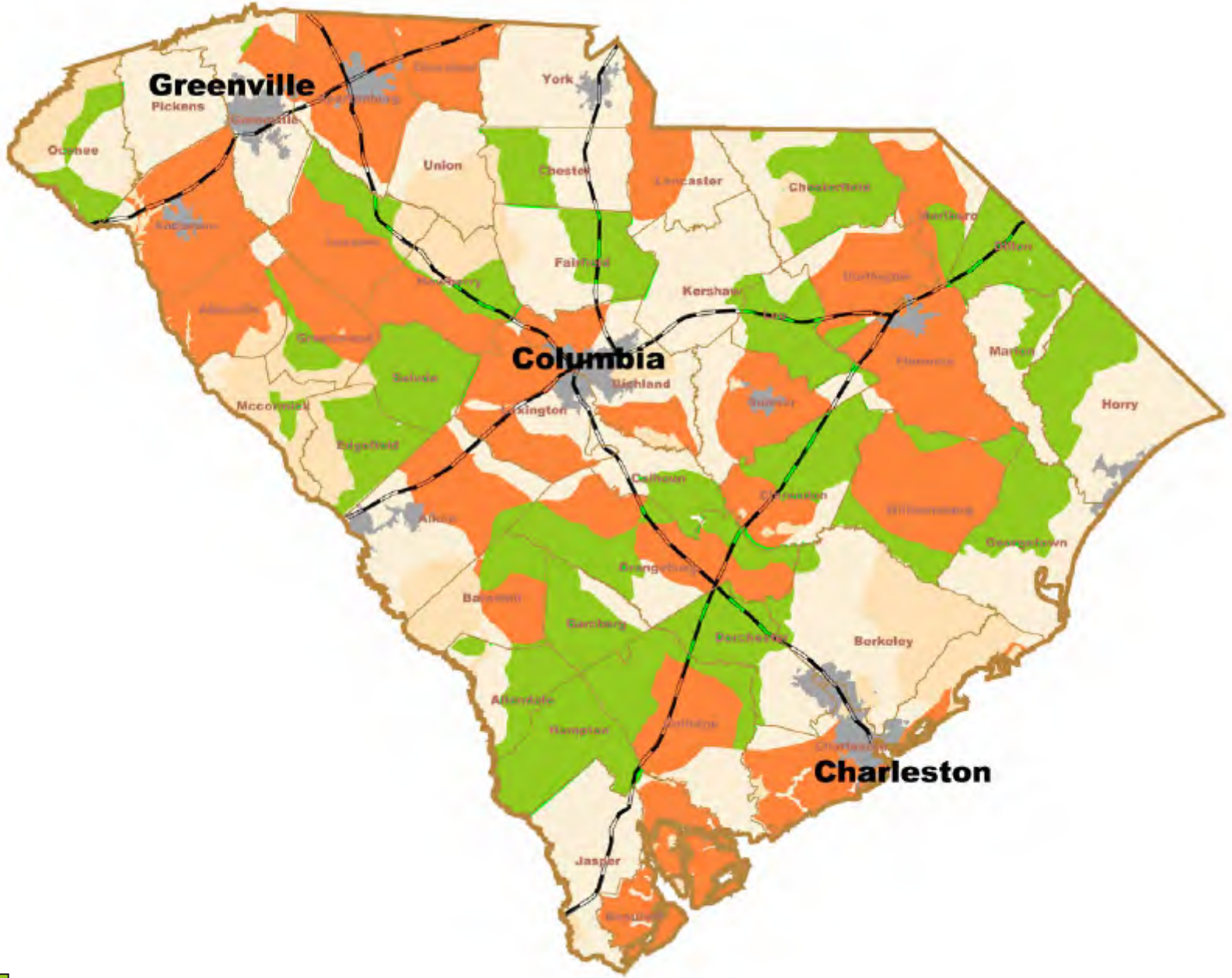


What does vertical farming mean for Charleston?

restored ecosystems
reduced transportation
less hunger

program introduction
building codes
concept + theory
community
history + context
tectonics
economics

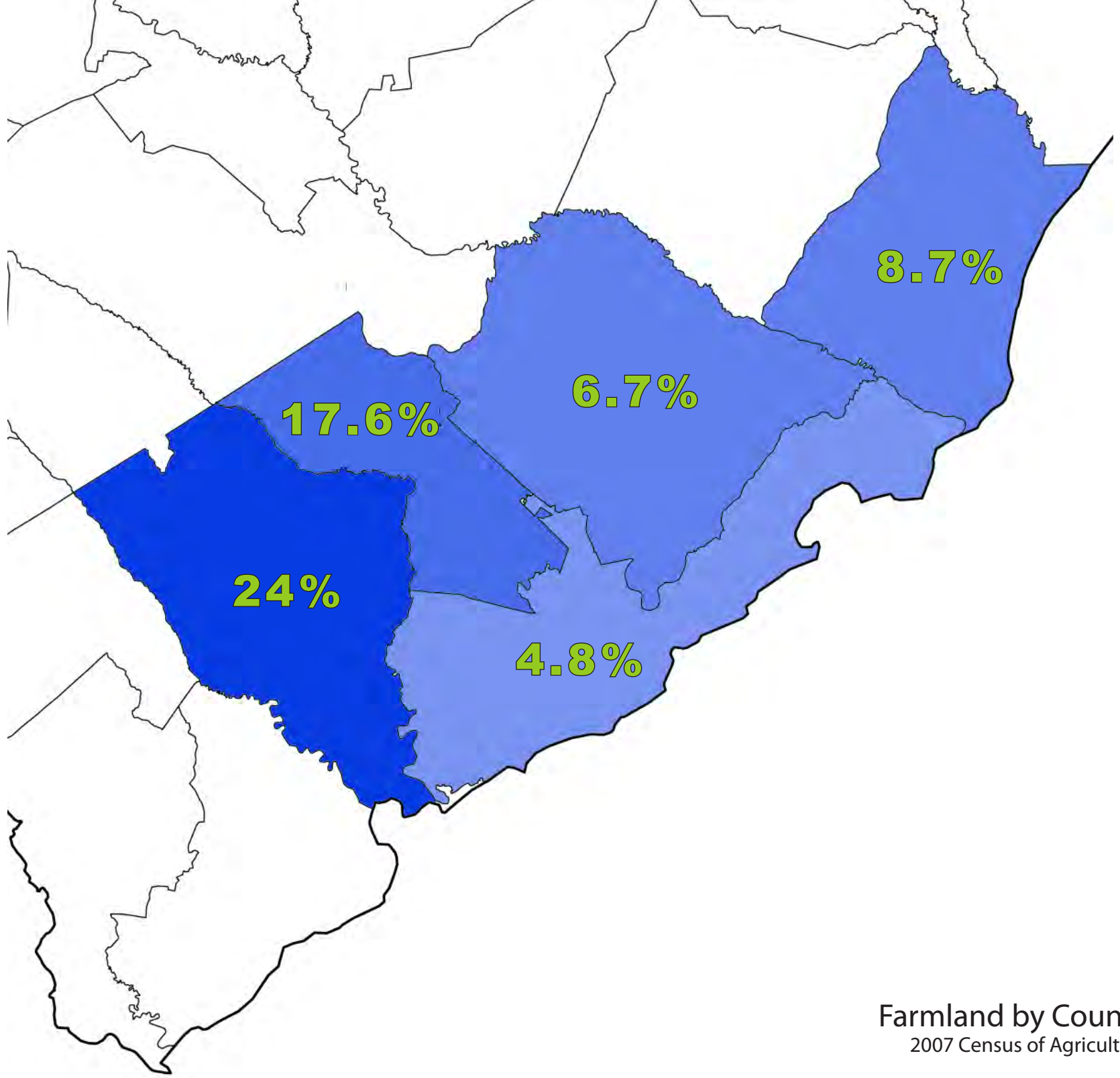
[charleston] VERTICAL FARM



- High Quality Farmland + Low Development
- High Quality Farmland + High Development
- Urban Areas

- program introduction
- building codes
- concept + theory
- community**
- history + context
- tectonics
- economics

[charleston]
VERTICAL FARM



Farmland by County
2007 Census of Agriculture

program introduction
building codes
concept + theory
community
history + context
tectonics
economics

[charleston]
VERTICAL FARM

2000 - 2010 population growth

Charleston

13%

Colleton

1.6%

Dorchester

41.6%

Berkeley

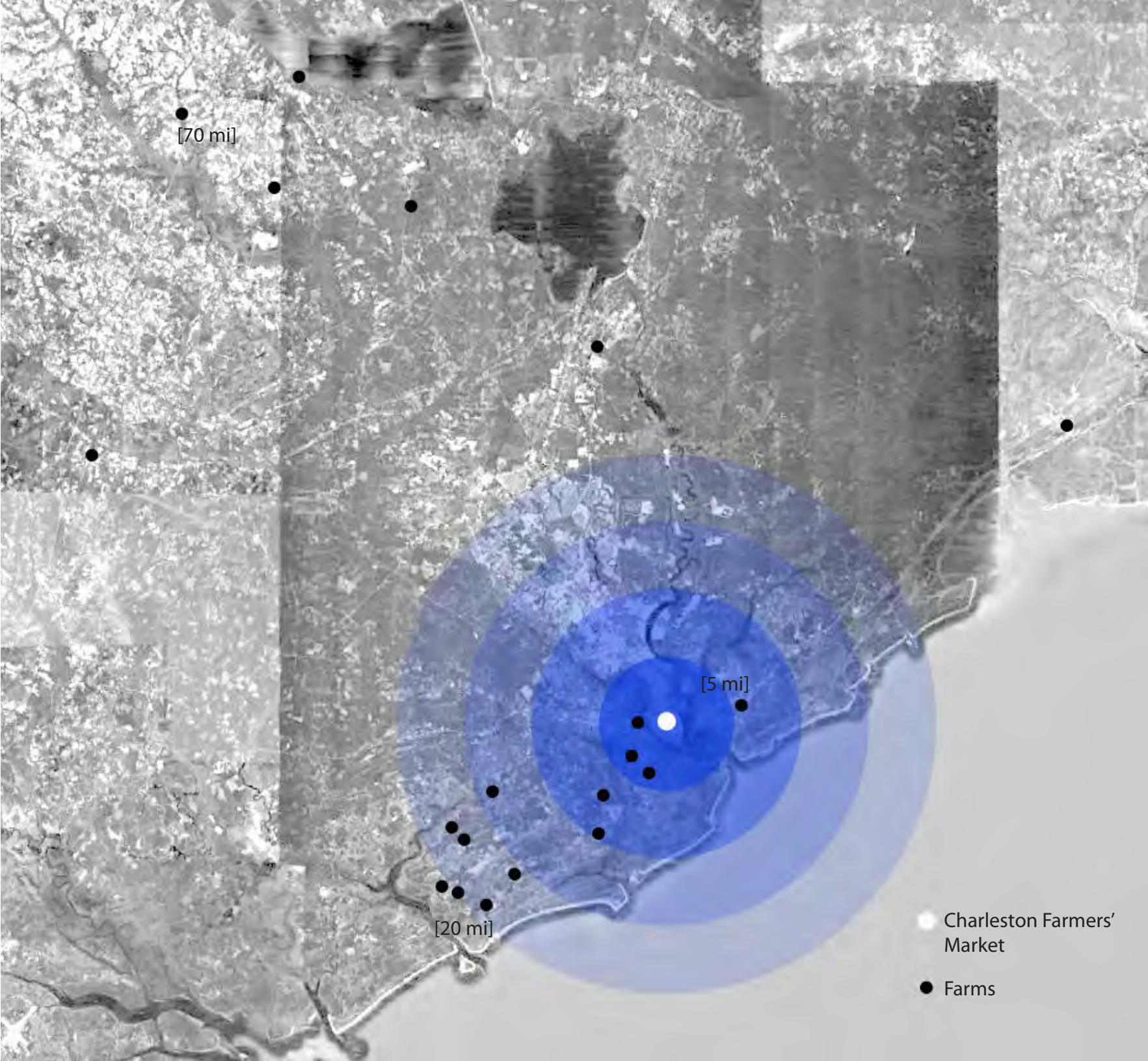
24.7%

Georgetown

7.8%

program introduction
building codes
concept + theory
community
history + context
tectonics
economics

[charleston] VERTICAL FARM



- Charleston Farmers' Market
- Farms

program introduction
building codes
concept + theory
community
history + context
tectonics
economics

[charleston]
VERTICAL FARM

only
10%
of vendors
within
5 miles

average
vendor
travels
25
miles

35%
of vendors
more than
20 miles
from market



FOOD DESERT

low income - low access

program introduction
building codes
concept + theory
community
history + context
tectonics
economics

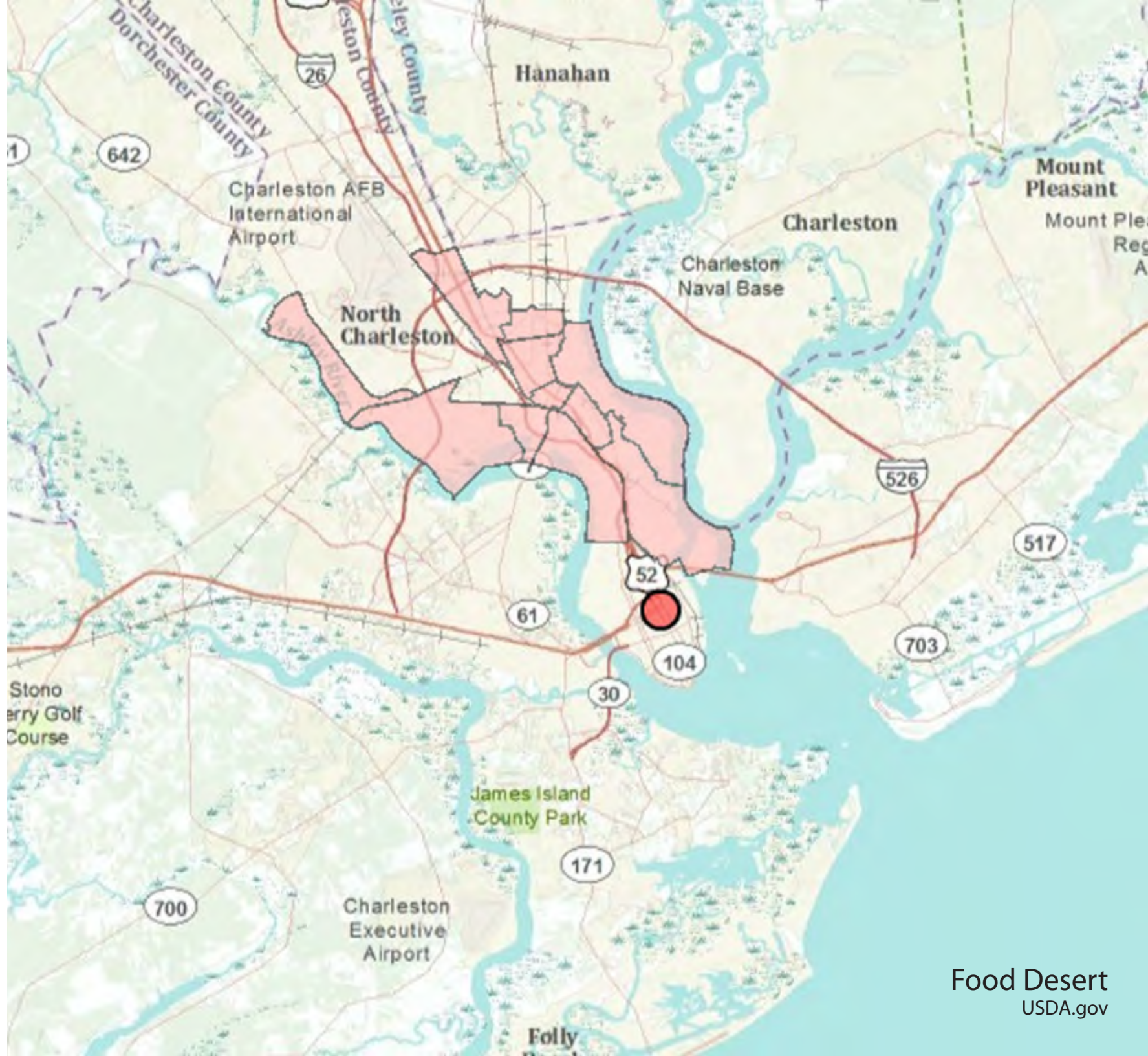
[charleston]
VERTICAL FARM

poverty
rate over
20%

33%
live over
1 mile away
from supermarket

- program introduction
- building codes
- concept + theory
- community
- history + context
- tectonics
- economics

[charleston] VERTICAL FARM



Food Desert
USDA.gov

program introduction

building codes

concept + theory

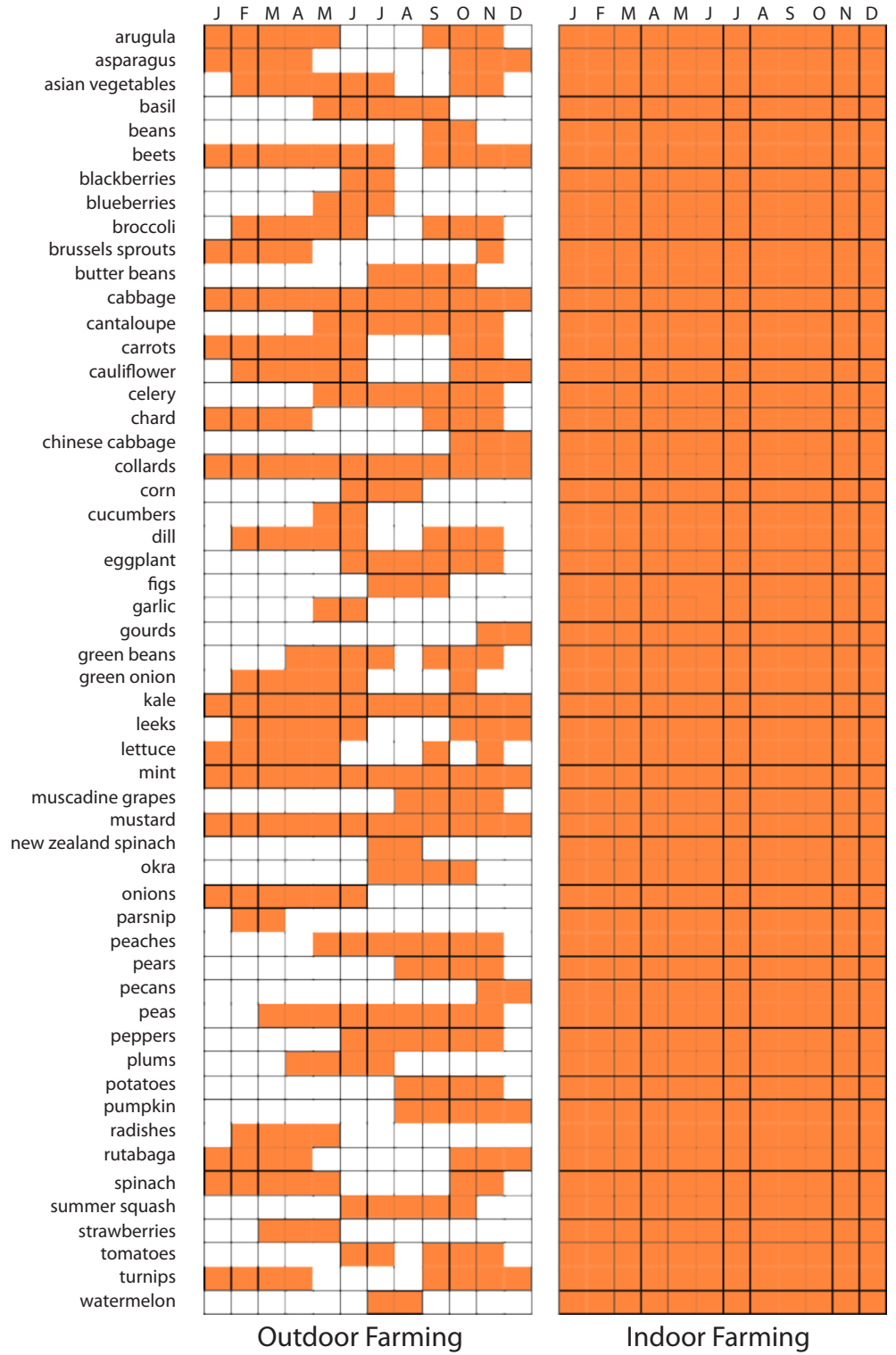
community

history + context

tectonics

economics

LOWCOUNTRY PRODUCE AVAILABILITY



Outdoor Farming

Indoor Farming

program introduction
building codes
concept + theory
community
history + context
tectonics
economics



Okra
Peanut
Green Onion
Radish
Apples
Pecans
Tomatoes
Peas
Corn
Cucumbers
Watermelons
Leaks
Squash
Sweet Potatoes
Wheat
Beans
Peaches
Oats
Grapes

program introduction
building codes
concept + theory
community
history + context
tectonics
economics

[charleston] VERTICAL FARM

Clean 15 Lowest in Pesticide

- 1  Onions
- 2  Sweet Corn
- 3  Pineapples
- 4  Avocado
- 5  Asparagus
- 6  Sweet peas
- 7  Mangoes
- 8  Eggplant
- 9  Cantaloupe - domestic
- 10  Kiwi
- 11  Cabbage
- 12  Watermelon
- 13  Sweet potatoes
- 14  Grapefruit
- 15  Mushrooms

Dirty Dozen Buy these organic

- 1  Apples
- 2  Celery
- 3  Strawberries
- 4  Peaches
- 5  Spinach
- 6  Nectarines - imported
- 7  Grapes - imported
- 8  Sweet bell peppers
- 9  Potatoes
- 10  Blueberries - domestic
- 11  Lettuce
- 12  Kale/collard greens

program introduction

building codes

concept + theory

community

history + context

tectonics

economics



Pesky Pesticides

A USDA survey found samples of various fresh fruits and vegetables contained pesticide residues at the following rates:

Apples	98%
Grapes	97
Strawberries	96
Cilantro	94
Potatoes	92
Oranges	92
Cucumbers	85
Green onions	66
Sweet potatoes	48
Lettuce (organic)	20
Asparagus	10
Sweet corn	0.1

^aAfter washed in water for 10 seconds

Source: Department of Agriculture, Annual Summary for 2009 (published May 2011)

program introduction
 building codes
 concept + theory
 community
 history + context
 tectonics
 economics

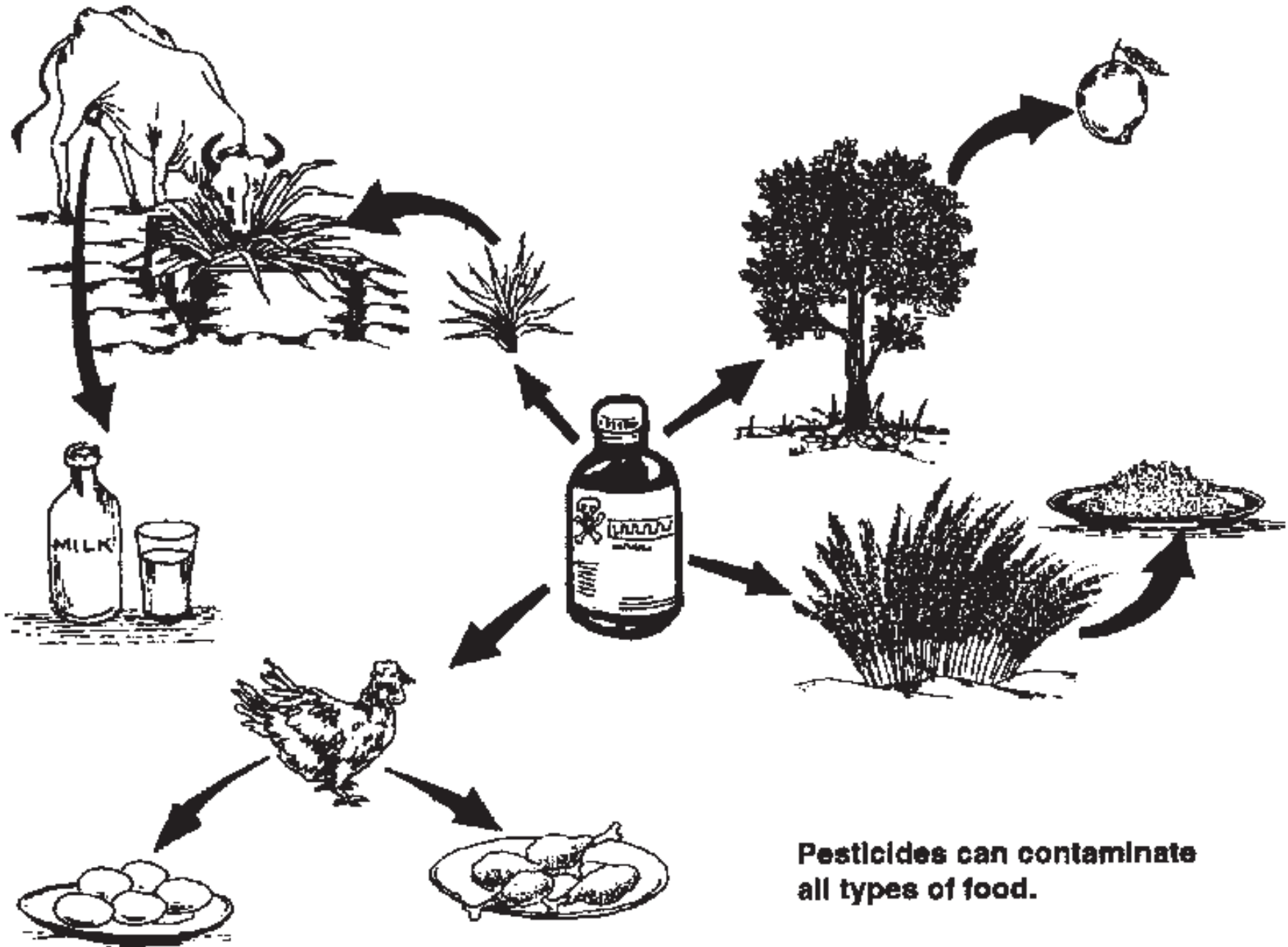


<i>E. coli</i> O157:H7	Hemorrhagic colitis or <i>E. coli</i> O157:H7 infection	1-8 days	Severe (often bloody) diarrhea, abdominal pain and vomiting. Usually, little or no fever is present. More common in children 4 years or younger. Can lead to kidney failure	5-10 days	Undercooked beef (especially hamburger), unpasteurized milk and juice, raw fruits and vegetables (e.g. sprouts), and contaminated water
Hepatitis A	Hepatitis	28 days average (15-50 days)	Diarrhea, dark urine, jaundice, and flu-like symptoms, i.e., fever, headache, nausea, and abdominal pain	Variable, 2 weeks-3 months	Raw produce, contaminated drinking water, uncooked foods and cooked foods that are not reheated after contact with an infected food handler; shellfish from contaminated waters
<i>Listeria monocytogenes</i>	Listeriosis	9-48 hrs for gastro-intestinal symptoms, 2-6 weeks for invasive disease	Fever, muscle aches, and nausea or diarrhea. Pregnant women may have mild flu-like illness, and infection can lead to premature delivery or stillbirth. The elderly or immunocompromised patients may develop bacteremia or meningitis	Variable	Unpasteurized milk, soft cheeses made with unpasteurized milk, ready-to-eat deli meats
Noroviruses	Variously called viral gastroenteritis, winter diarrhea, acute non-bacterial gastroenteritis, food poisoning, and food infection	12-48 hrs	Nausea, vomiting, abdominal cramping, diarrhea, fever, headache. Diarrhea is more prevalent in adults, vomiting more common in children	12-60 hrs	Raw produce, contaminated drinking water, uncooked foods and cooked foods that are not reheated after contact with an infected food handler; shellfish from contaminated waters
<i>Salmonella</i>	Salmonellosis	6-48 hours	Diarrhea, fever, abdominal cramps, vomiting	4-7 days	Eggs, poultry, meat, unpasteurized milk or juice, cheese, contaminated raw fruits and vegetables
<i>Shigella</i>	Shigellosis or Bacillary dysentery	4-7 days	Abdominal cramps, fever, and diarrhea. Stools may contain blood and mucus	24-48 hrs	Raw produce, contaminated drinking water, uncooked foods and cooked foods that are not reheated after contact with an infected food handler
<i>Staphylococcus aureus</i>	Staphylococcal food poisoning	1-6 hours	Sudden onset of severe nausea and vomiting. Abdominal cramps. Diarrhea and fever may be present	24-48 hours	Unrefrigerated or improperly refrigerated meats, potato and egg salads, cream pastries
<i>Vibrio parahaemolyticus</i>	<i>V. parahaemolyticus</i> infection	4-96 hours	Watery (occasionally bloody) diarrhea, abdominal cramps, nausea, vomiting, fever	2-5 days	Undercooked or raw seafood, such as shellfish
<i>Vibrio vulnificus</i>	<i>V. vulnificus</i> infection	1-7 days	Vomiting, diarrhea, abdominal pain, bloodborne infection. Fever, bleeding within the skin, ulcers requiring surgical removal. Can be fatal to persons with liver disease or weakened immune systems	2-8 days	Undercooked or raw seafood, such as shellfish (especially oysters)

For more information, contact: The U.S. Food and Drug Administration Center for Food Safety and Applied Nutrition
 Food Information Line at 1-888-SAFEFOOD (toll free), 10 AM to 4 PM ET, Monday through Friday.
 Or visit the FDA Web site at www.fda.gov.

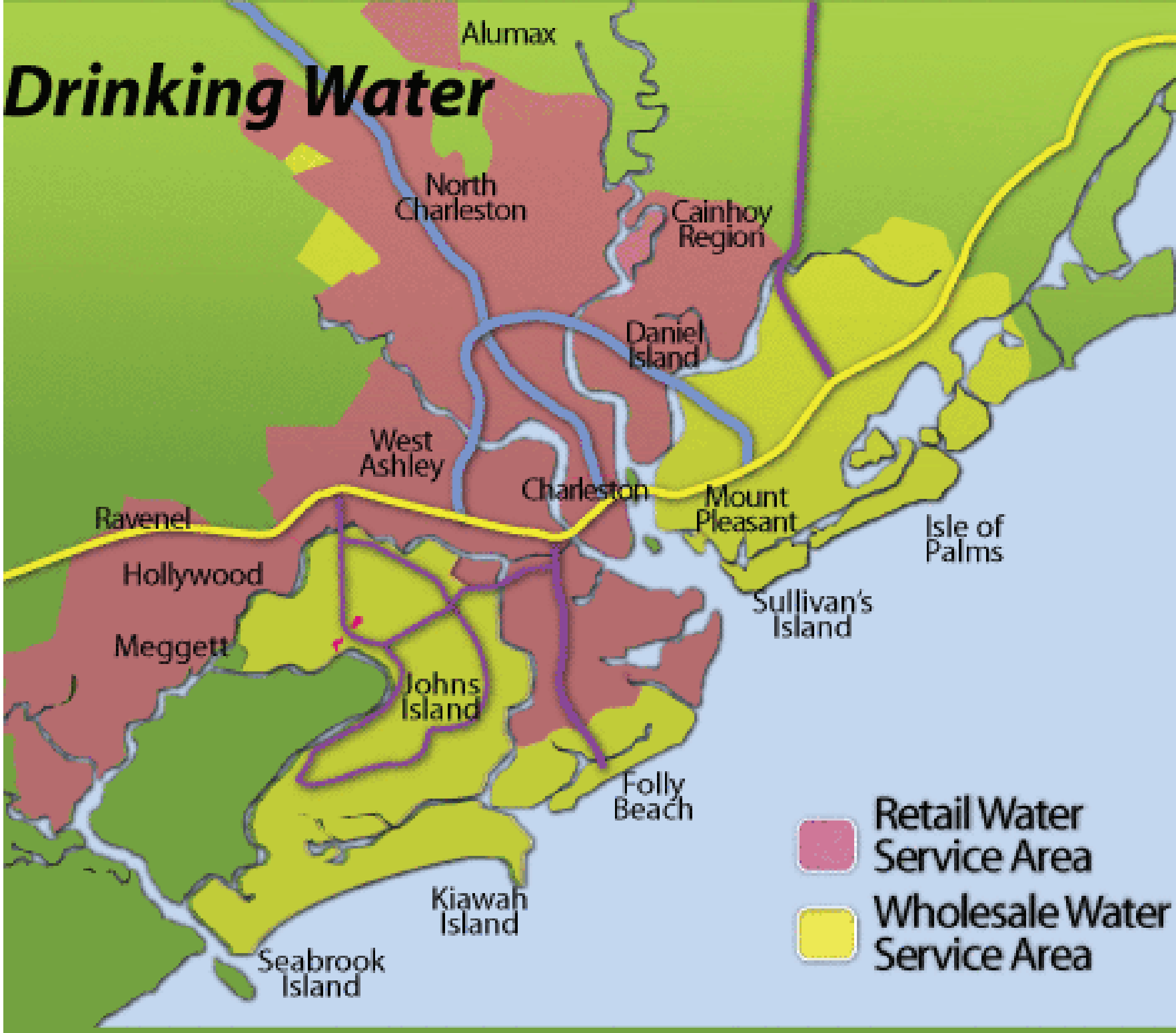
- program introduction
- building codes
- concept + theory
- community
- history + context
- tectonics
- economics

[charleston] VERTICAL FARM



Pesticides can contaminate all types of food.

Drinking Water



- program introduction
- building codes
- concept + theory
- community
- history + context
- tectonics
- economics

[charleston] VERTICAL FARM

What's in Runoff Pollution?

- Bacteria
- Trash
- Heavy Metals
- Mercury
- Pesticides
- Fertilizers & Nutrients
- Sediment
- Motor Vehicle Fluids

Bacteria

Source: Raw sewage from failing septic systems, overflowing sewer lines, pet waste, farm animals and wildlife can all be sources of bacteria.

Effect: Stormwater contaminated from these sources can contain bacteria and viruses that may cause illnesses in people following swimming in contaminated lakes, rivers or the ocean. Illnesses may also occur after the consumption of raw or improperly cooked shellfish from these contaminated areas.

Table 3.6. Average Pollutant Loading for Various Land Uses (mg/L)

Land Use	Pollutant Loading (mg/l)											
	BOD	COD	TSS	TDS	TP	DP	TKN	NO ₂ / NO ₃	Pb	Cu	Zn	Cd
Forest/ Rural Open	3	27	51	415	0.11	0.03	0.94	0.80	0.000	0.000	0.000	0.000
Urban	3	27	51	415	0.11	0.03	0.94	0.80	0.014	0.000	0.040	0.001
Agricultural/ Pasture	3	53	145	415	0.37	0.09	1.92	4.06	0.000	0.000	0.000	0.000
Low Density Residential	38	124	70	144	0.52	0.27	3.32	1.83	0.057	0.026	0.161	0.004
Medium Density Residential	38	124	70	144	0.52	0.27	3.32	1.83	0.180	0.047	0.176	0.004
High Density Residential	14	79	97	189	0.24	0.08	1.17	2.12	0.041	0.033	0.218	0.003
Commercial	21	80	77	294	0.33	0.17	1.74	1.23	0.049	0.037	0.156	0.003
Industrial	24	85	149	202	0.32	0.11	2.08	1.89	0.072	0.058	0.671	0.005
Highways	24	103	141	294	0.43	0.22	1.82	0.83	0.049	0.037	0.156	0.003
Water/ Wetlands	4	6	6	12	0.08	0.04	0.79	0.59	0.011	0.007	0.003	0.001

Adapted from NURP (1983), Horner et. al (1994), and Cave et. Al. (1994)

- | | |
|---------------------------------|--|
| BOD = Biochemical Oxygen Demand | TKN = Total Kjeldahl Nitrogen |
| COD = Chemical Oxygen Demand | NO ₂ /NO ₃ = Nitrates / Nitrites |
| TSS = Total Suspended Solids | Pb = Lead |
| TDS = Total Dissolved Solids | Cu = Copper |
| TP = Total Phosphorus | Zn = Zinc |
| DP = Dissolved Phosphorus | Cd = Cadmium |

- program introduction
- building codes
- concept + theory
- community
- history + context
- tectonics
- economics



bakersarcesranch.com



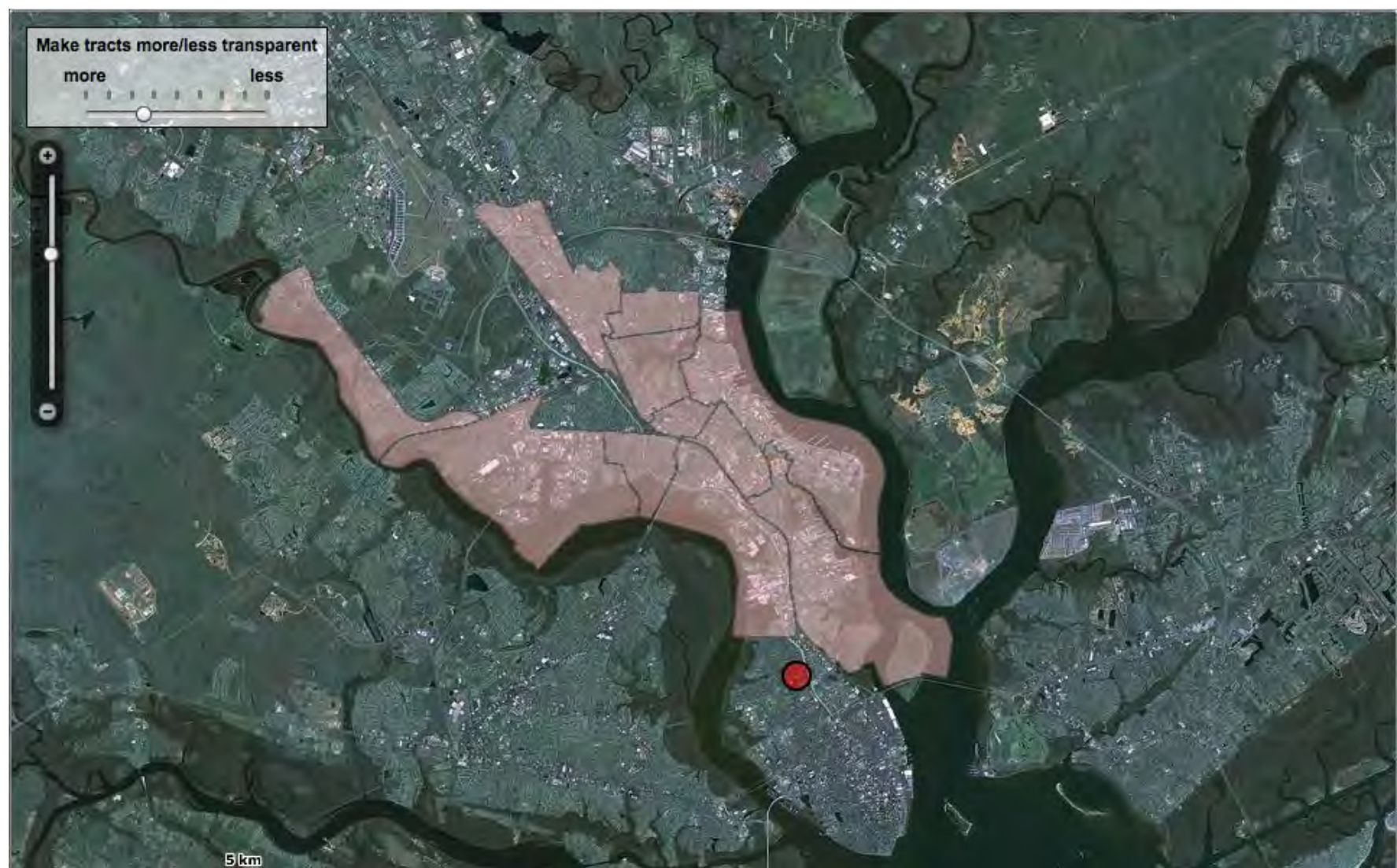
lowcountrylocalfirst.org



LimeHouseproduce.com

[charleston] VERTICAL FARM

[charleston]
VERTICAL FARM



[charleston] VERTICAL FARM



[charleston] VERTICAL FARM

meddin
target tire
port city paper



[charleston]
VERTICAL FARM





COMMUNITY

engagement

Does it fit with the fabric of the community?

This location tells us that if we were to build a vertical farm, the bottom floor:

should act as a community center

promote education (cooking, nutrition, plants, sciences)

be hands on, interactive

inclusion, community is an active participant

meddin
target tire
port city paper

[charleston]
VERTICAL FARM



COMMUNITY OUTREACH

educating the stakeholder

[charleston]
VERTICAL FARM



corporate



local



vertical



Charleston Charter School of Math and Science



Dee Norton Center



North Central Apartments [senior home]

BONUSES:

community/ neighborhood

school

library

mosque

church

strong existing community

social justice

access

parking



food lion

Collaboration with adjacent businesses

- integration with a grocery
- change Food Lion business model
- becomes prototype
- influence on national level

[charleston] VERTICAL FARM

meddin
target tire
port city paper





CHALLENGES:

building orientation

- southern exposure is blocked by neighboring building

- could it be retrofitted structurally

parking/access

- negotiate parking with Food Lion?

pedestrian traffic/crosswalks

safety

social climate

farming is inter-generational

- parallels traditional farming with family units
- mentor/mentee relationships
- okra

deals with the process from where it begins to how it's utilized as a consumed product

[charleston]
VERTICAL FARM



[charleston]
VERTICAL FARM

meddin
target tire
port city paper

port city paper
it takes a village to farm
you are what you eat



meddin
target tire
port city paper

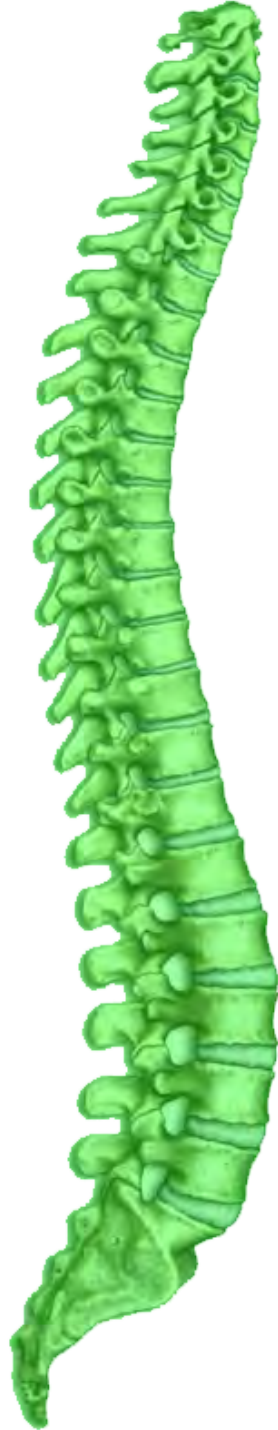
[charleston]
VERTICAL FARM



<http://www.youtube.com/watch?v=aMfSGt6rHos>

Port City Paper
Target Tire
Meddin Building

[charleston]
VERTICAL FARM



GreenSpine

Port City Paper
Target T
Meddin Buildi

[charleston] VERTICAL FARM

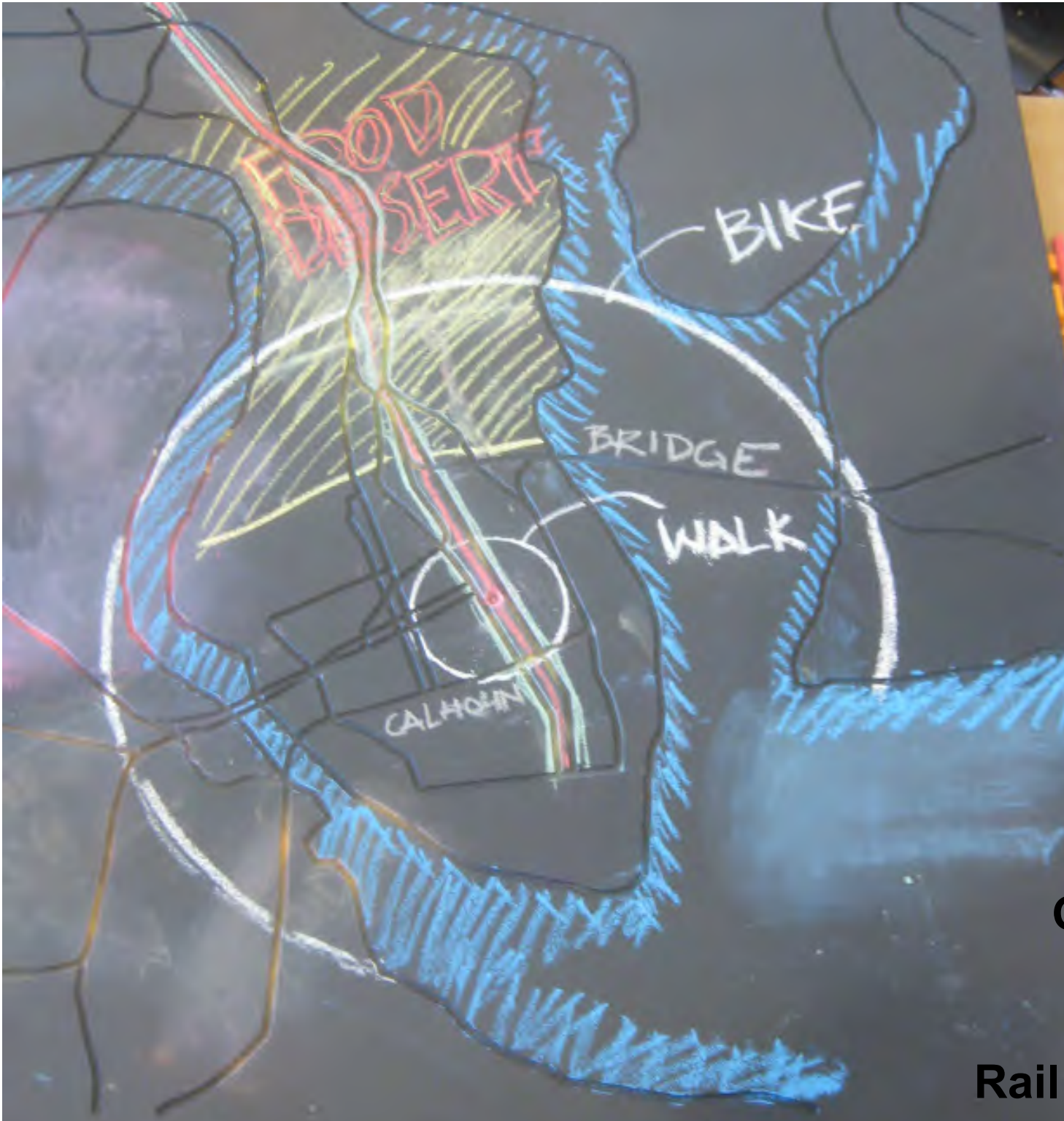


Strength

- Tourist district
- Museum mile
- King street

SITE LOCATION

Port City Paper
Target Tire
Meddin Building



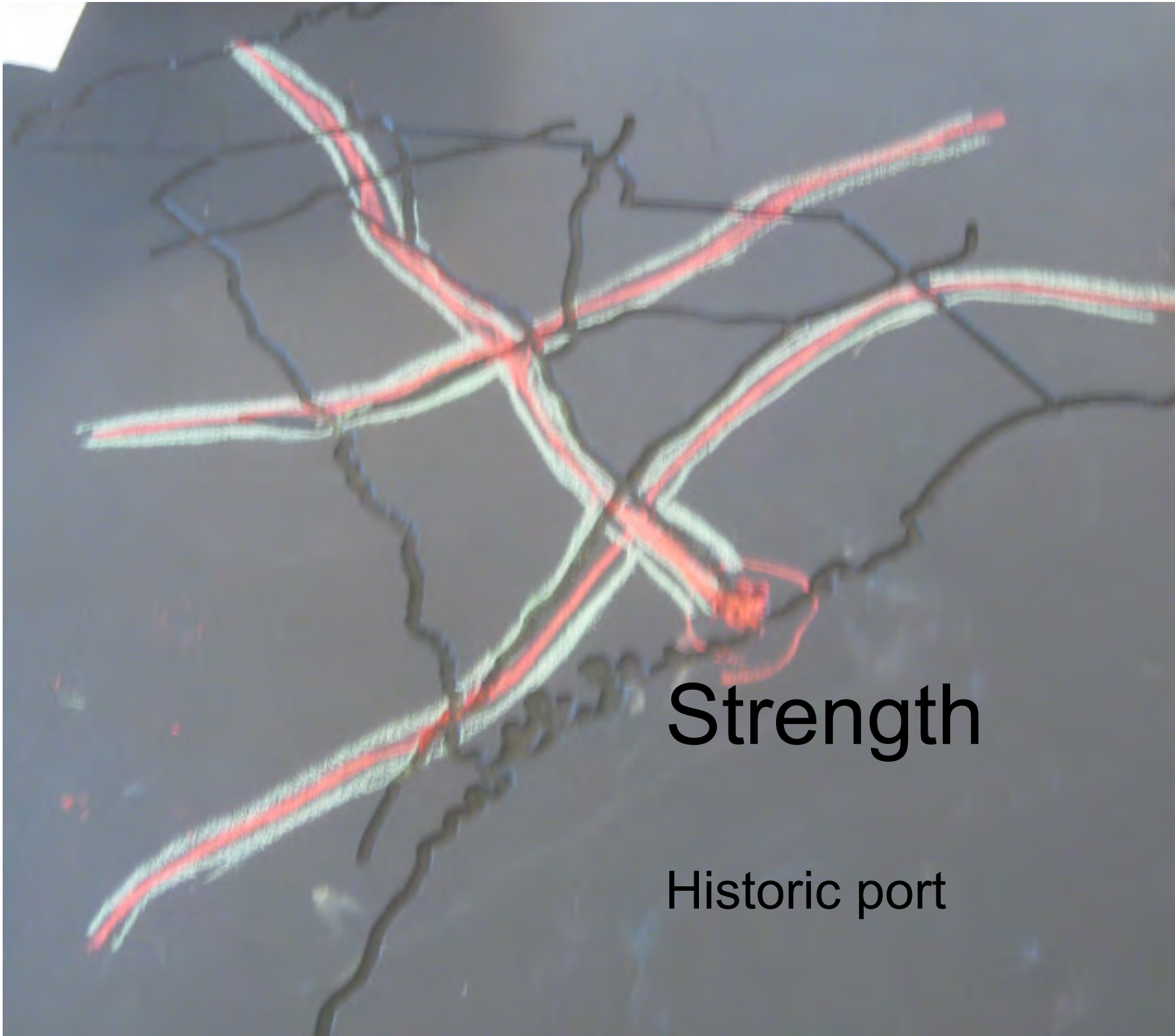
[charleston]
VERTICAL FARM

Strength

**Green spine
Ownership
Transit
Rail connection**

Port City Paper
Target Tire
Meddin Building

[charleston]
VERTICAL FARM



Strength

Historic port

Port City Paper
Target Tire
Meddin Building

[charleston]
VERTICAL FARM



Strength

Access
Transit

Strength Historic Structure



Port City Paper
Target Tire
Meddin Building



Strength

Transit

[charleston] VERTICAL FARM

Port City Paper
Target Tire
Meddin Building

[charleston] VERTICAL FARM



Port City Paper
Target Tire
Meddin Building

[charleston]
VERTICAL FARM



Weaknesses

Historic Structure

Food dessert



Opportunities

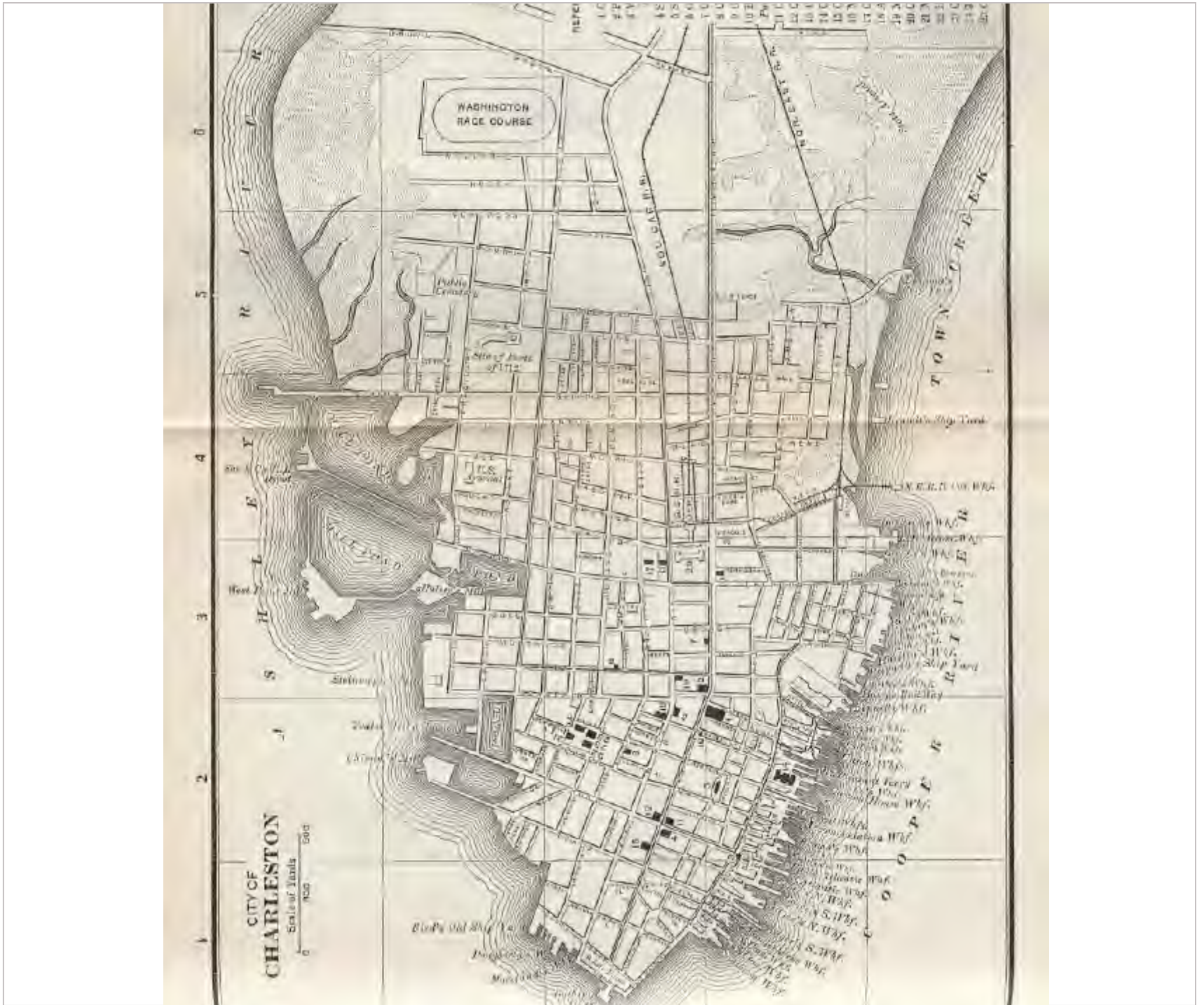
- Tourist
- Restaurants
- Sustainability
- Waste/Composte
- Rainwater Harvesting



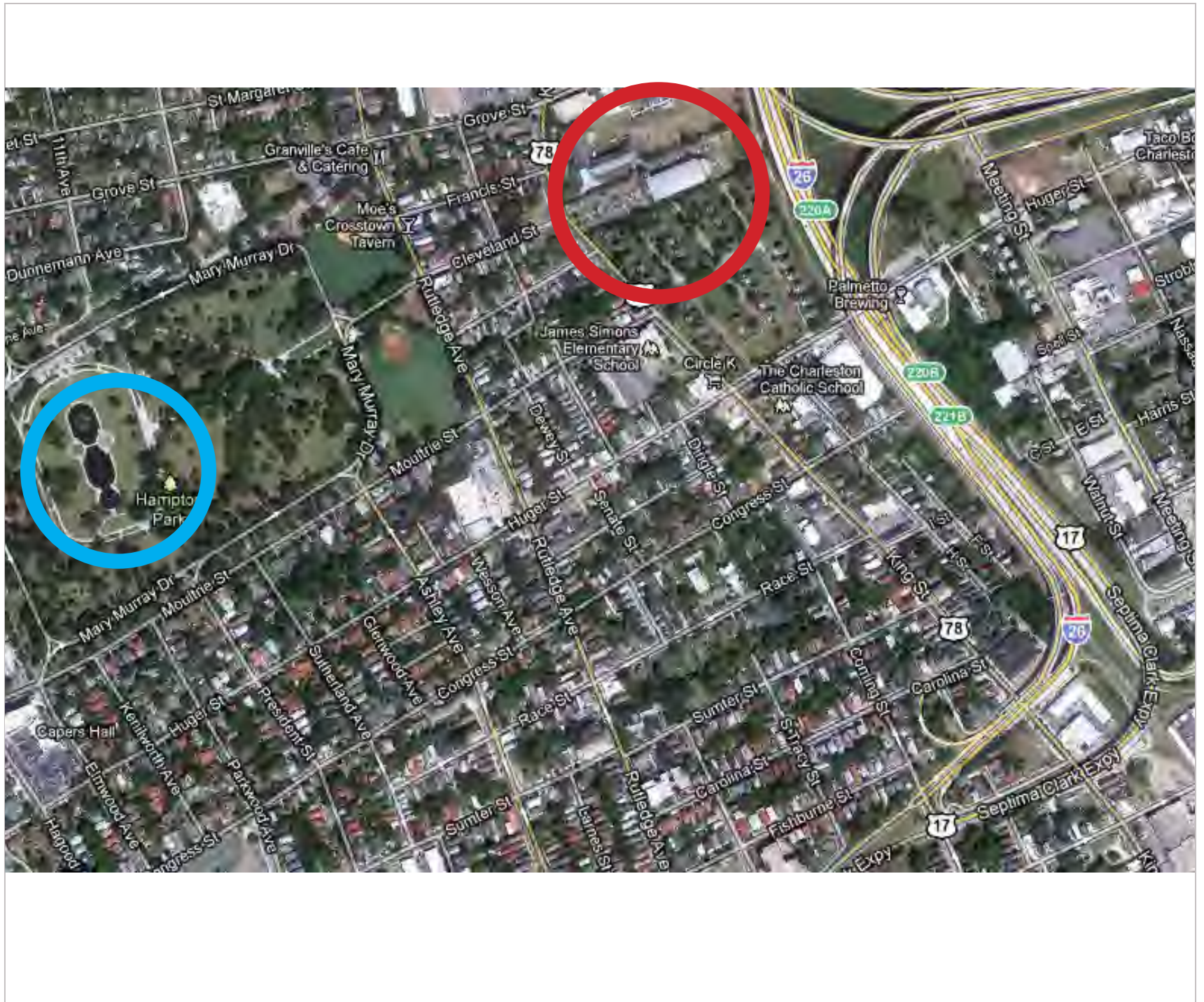
Opportunities

Urban Farm Connection

[charleston]
VERTICAL FARM

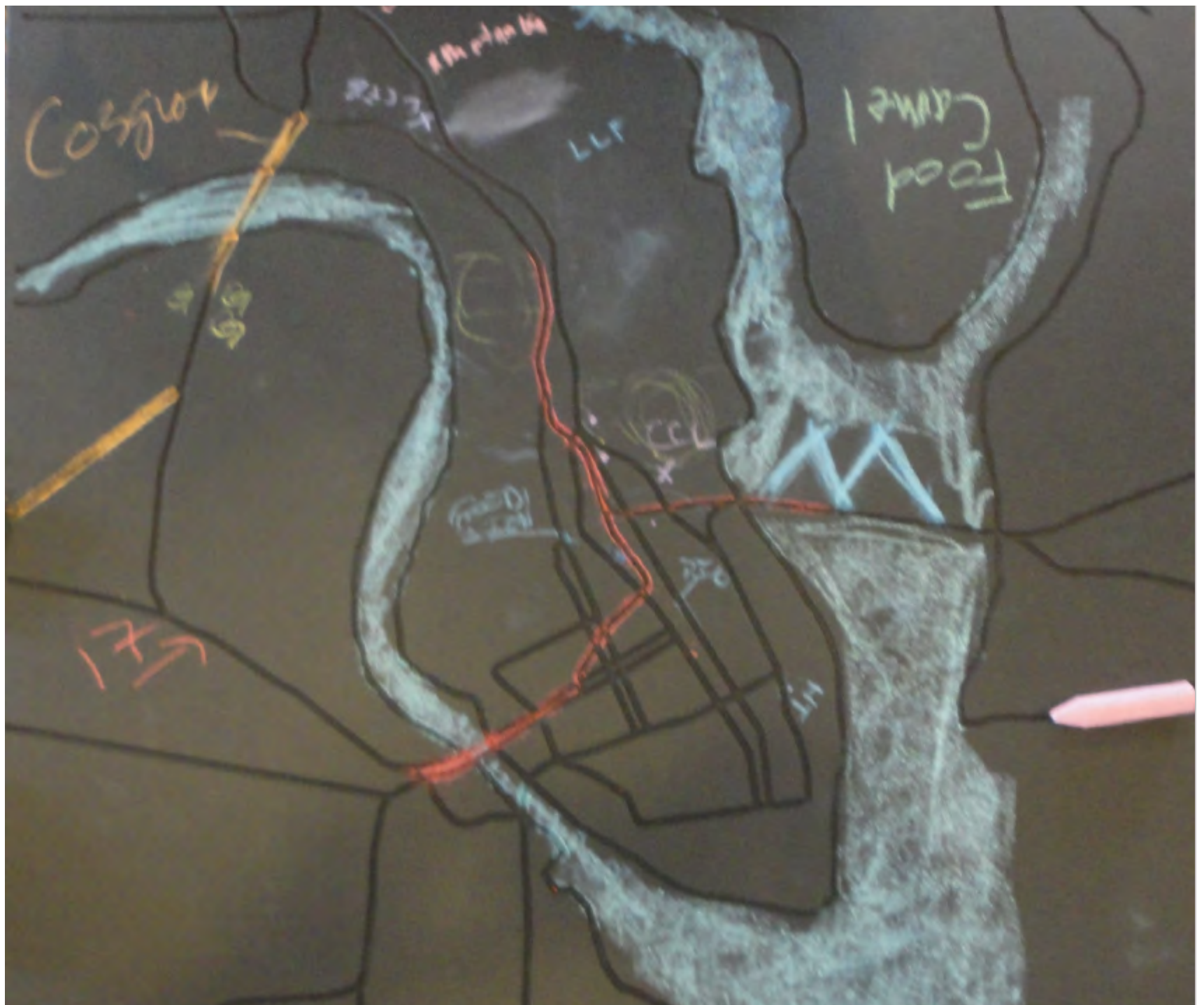


[charleston]
VERTICAL FARM

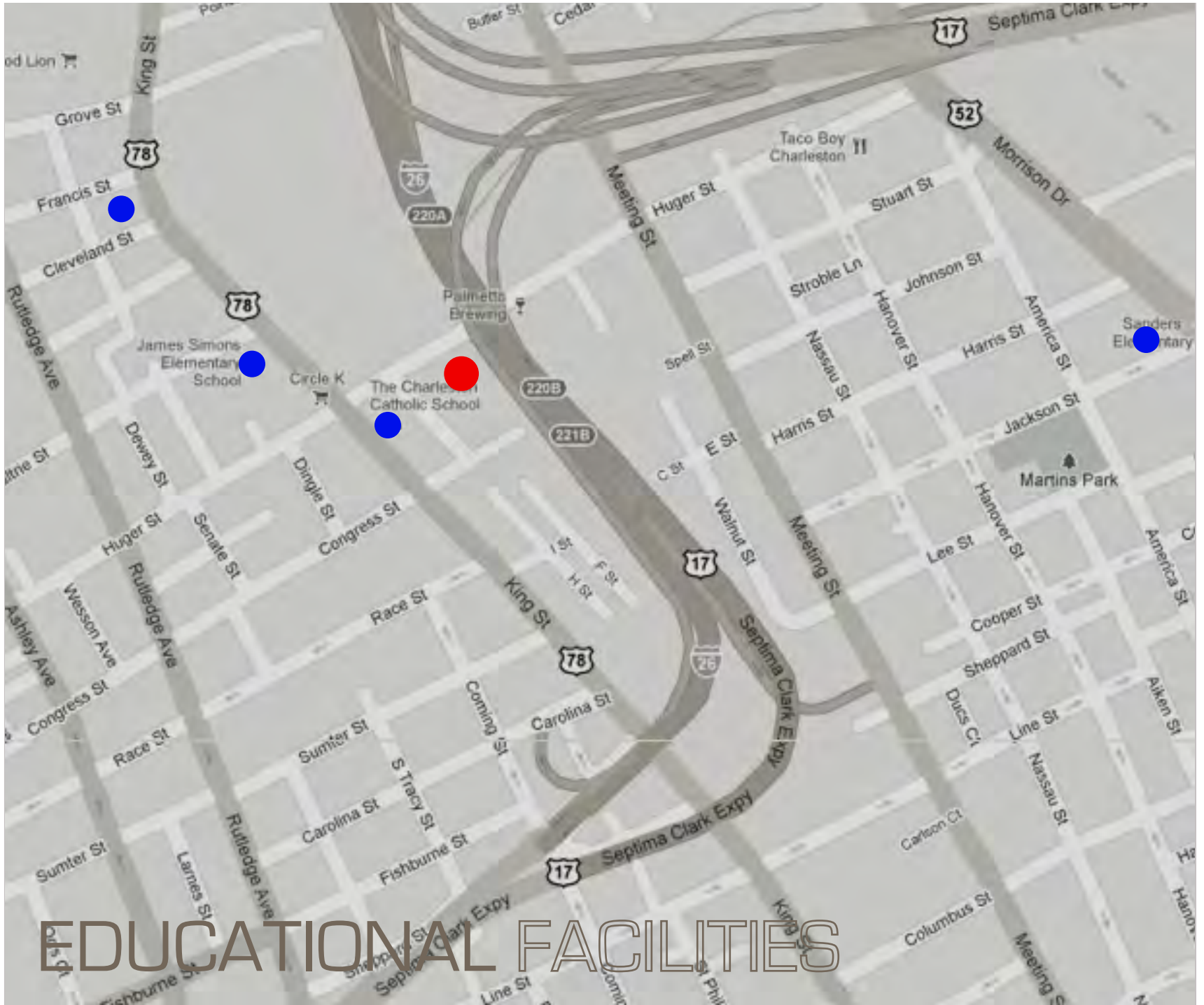


Meddin
Target Tire
Port City Paper

[charleston]
VERTICAL FARM

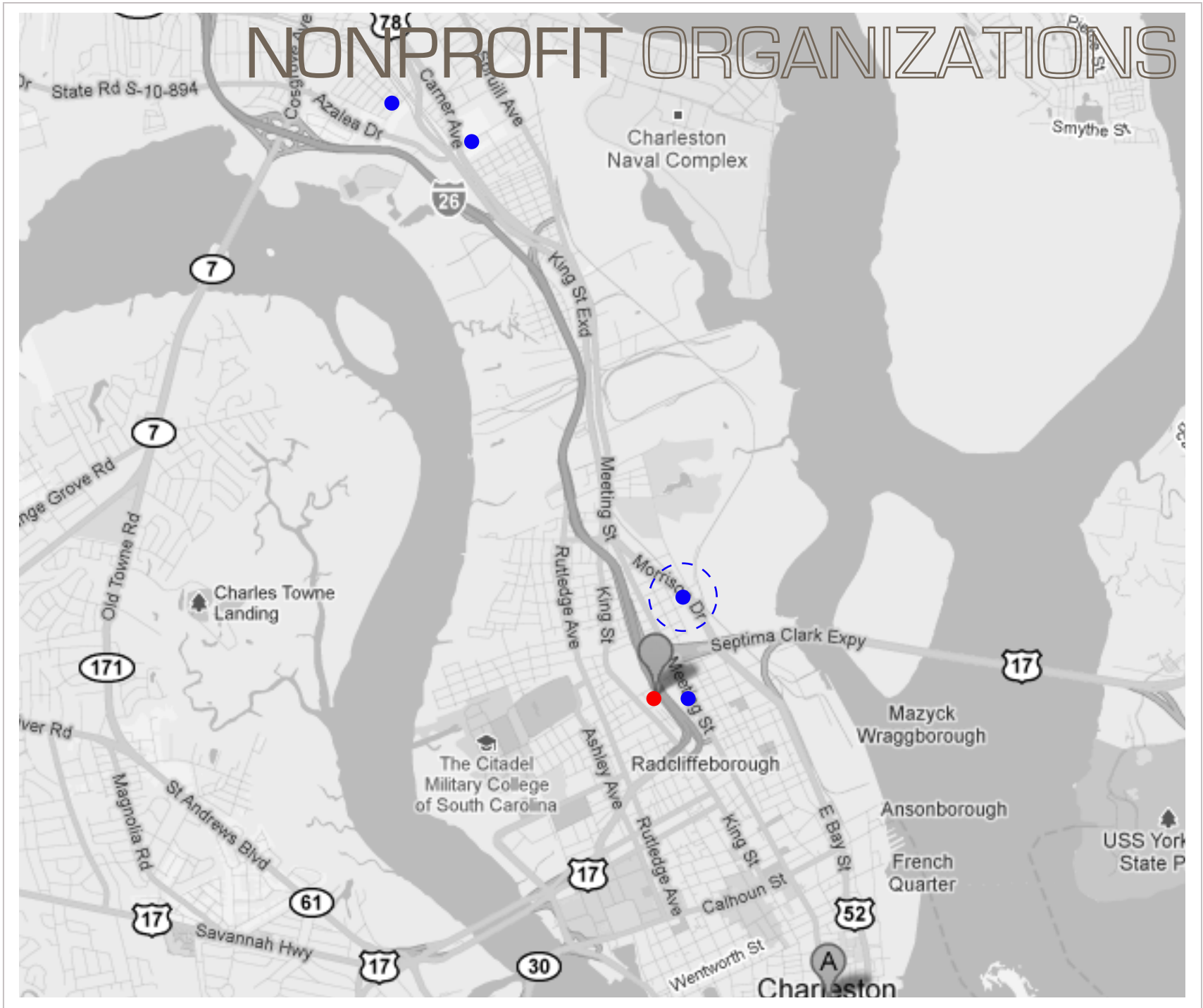


[charleston]
VERTICAL FARM



EDUCATIONAL FACILITIES

NONPROFIT ORGANIZATIONS



Meddin

Target Tire

Port City Paper

[charleston]
VERTICAL FARM



[charleston]
VERTICAL FARM



Meddin

Target Tire

Port City Paper

[charleston]
VERTICAL FARM



Meddin

Target Tire

Port City Paper

[charleston]
VERTICAL FARM



Meddin
Target Tire
Port City Paper



[charleston]
VERTICAL FARM

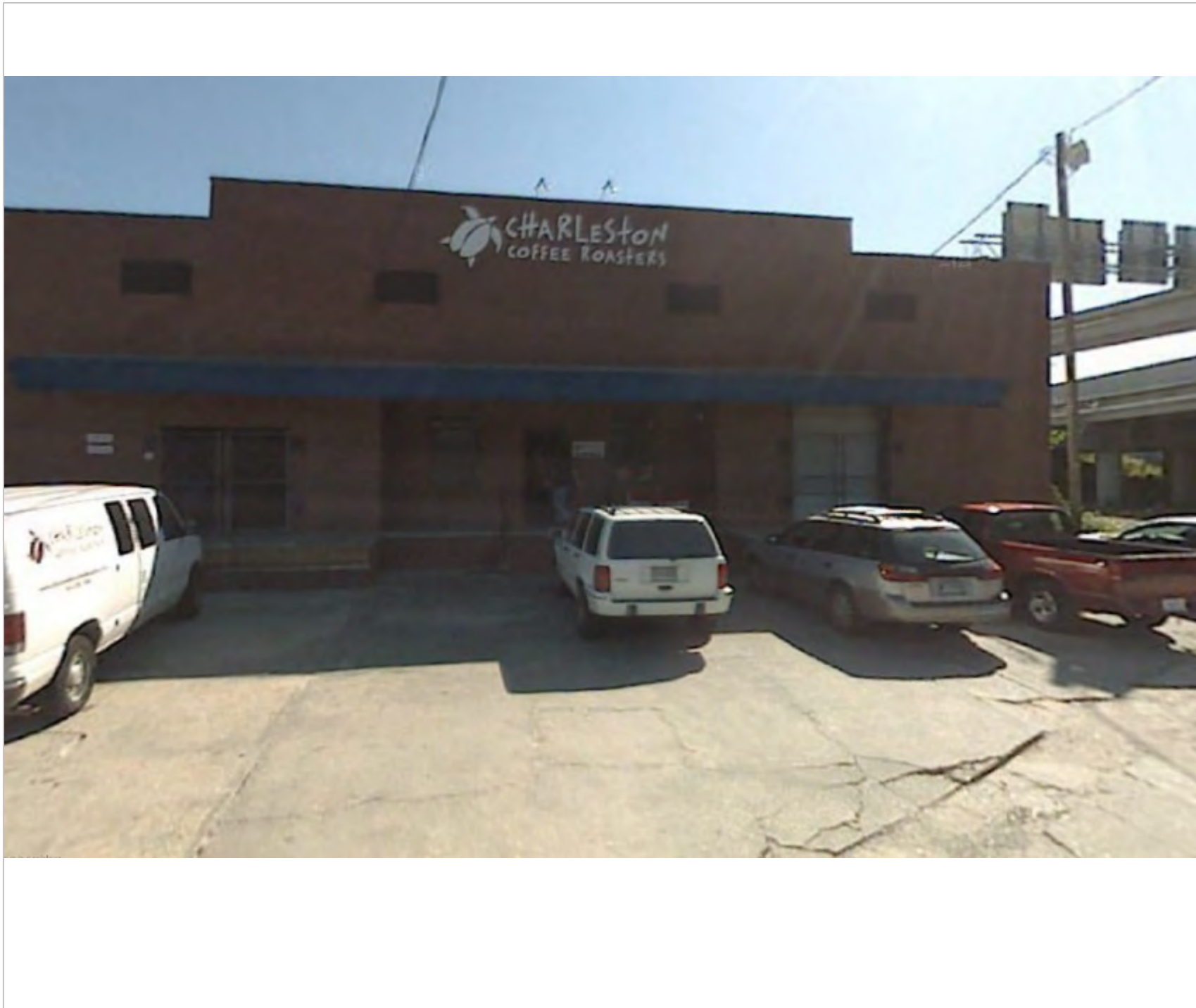


Meddin

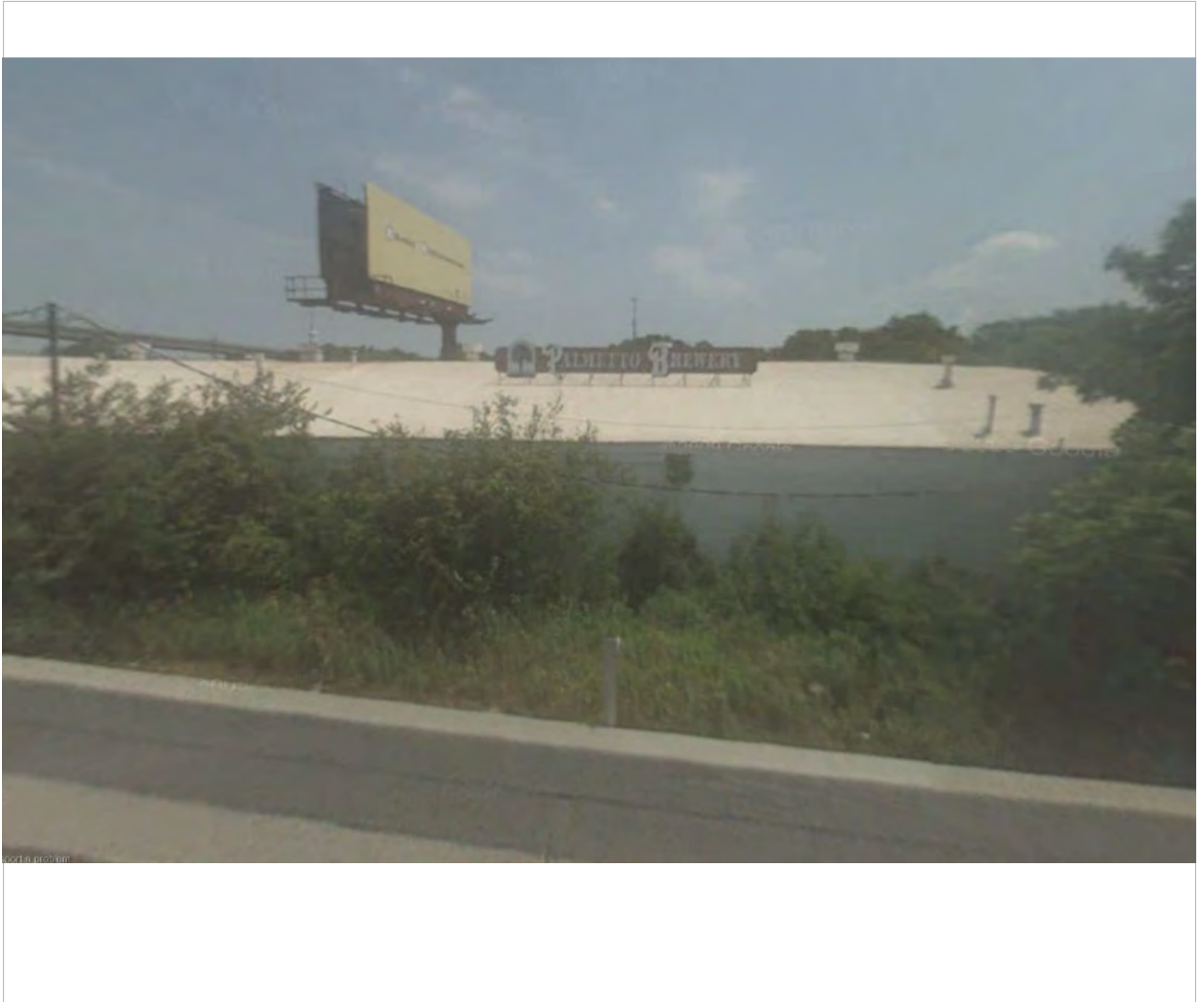
Target Tire

Port City Paper

[charleston]
VERTICAL FARM



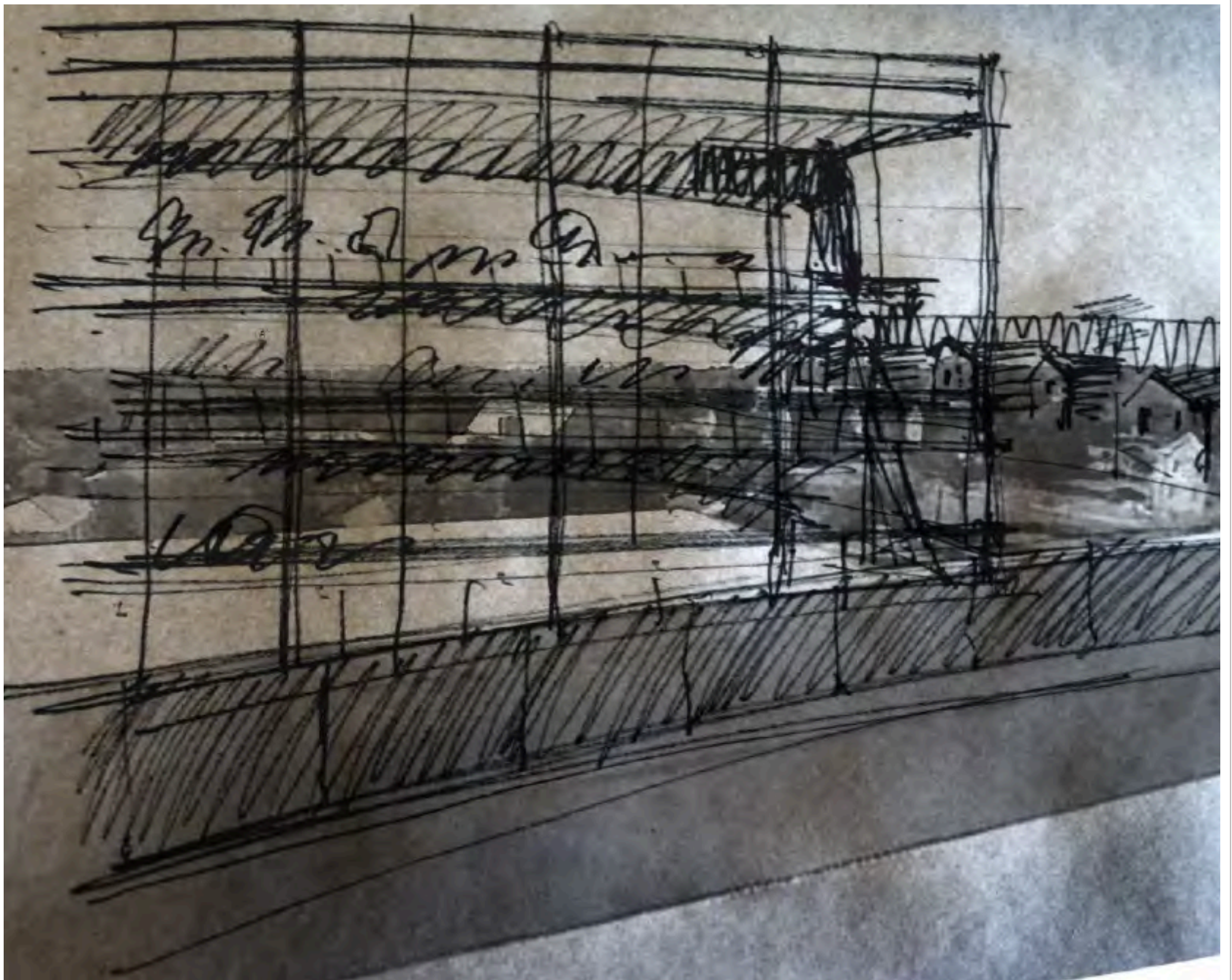
[charleston]
VERTICAL FARM



[charleston]
VERTICAL FARM



[charleston]
VERTICAL FARM



SCALE STUDY FROM I-26

SUMMARY

- Location's proximity to major transportation routes
- Reconnecting the neighborhood
- Proximity to schools
- Proximity to non-profits and the synergy that creates
- Proximity to the few businesses in the neighborhood is synergistic
- Already industrial
- Already has truck access and a loading dock
- Visually accommodating
- The overpass creates the potential for a multi-modal path connecting to both the lower peninsula and the neck
- The structure lends itself to verticality
- The existing street venter vibe in the neighborhood
- Neighborhood brand
- Community hub

