

# RMLVI

March 6, 2020



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Building the Infrastructure for the  
Next Generation of Food...



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# Introductions



## ◇ Matthew C. (Quint) Redmond

- Owner Agriburbia LLC
- Masters Urban and Regional Planning
- Masters Landscape Architecture
- BS Geology
- Worked through Grad School as Ranch Hand



## ◇ Jennifer G. Redmond

- Owner Agriburbia LLC
- Masters Urban and Regional Planning
- BS Biology
- Raised on 100 acre farm in Pennsylvania
- (The smart one)

# Introductions



## ◆ Partners and Associates

- Jon Beckner      Real Estate and Finance
- Paul Newton      Design and R&D
- Nate Newman      Technology
- Jan Cleveland      Legal and Administration
- Steve Long      Operations
- Jon Fenton      Young Go to Guy



# Agriburbia LLC (holding company)



## ❖ Aburb Development LLC

Real Estate Development, Finance  
Sustainable Development Management

- o Ag Feasibility
- o Ag Supply Chain Consulting
- o Ag Infrastructure Design and Consulting
- o Ag Estate Planning

## ❖ Aburb Design/Build LLC

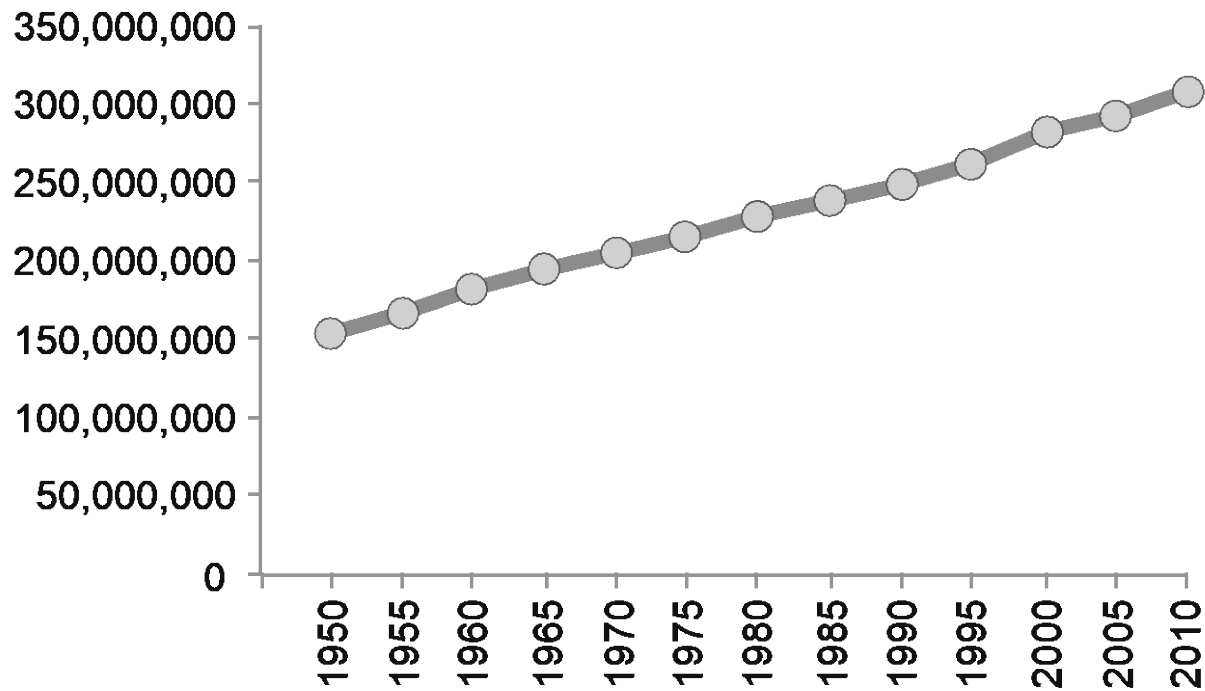
Landscape Architecture  
Land Planning  
Civil Engineering  
Agricultural Construction and Management

## ❖ Aburb Operations LLC

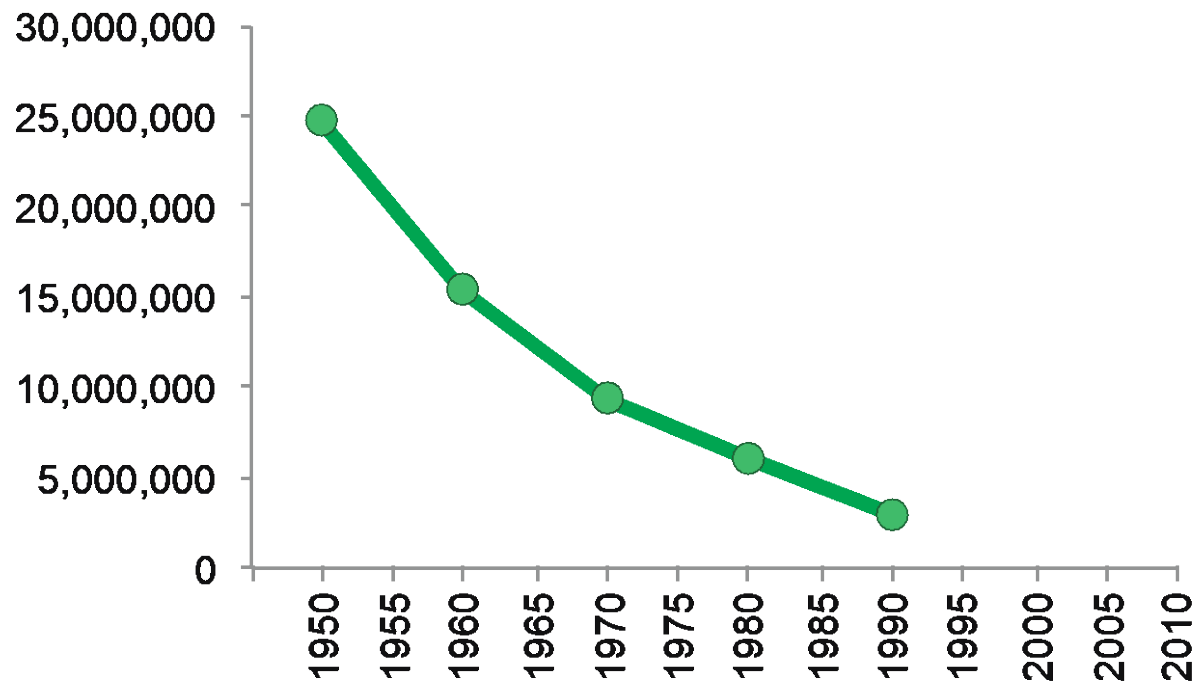
Farming, Agricultural Operations  
Food Sales, Supply chain



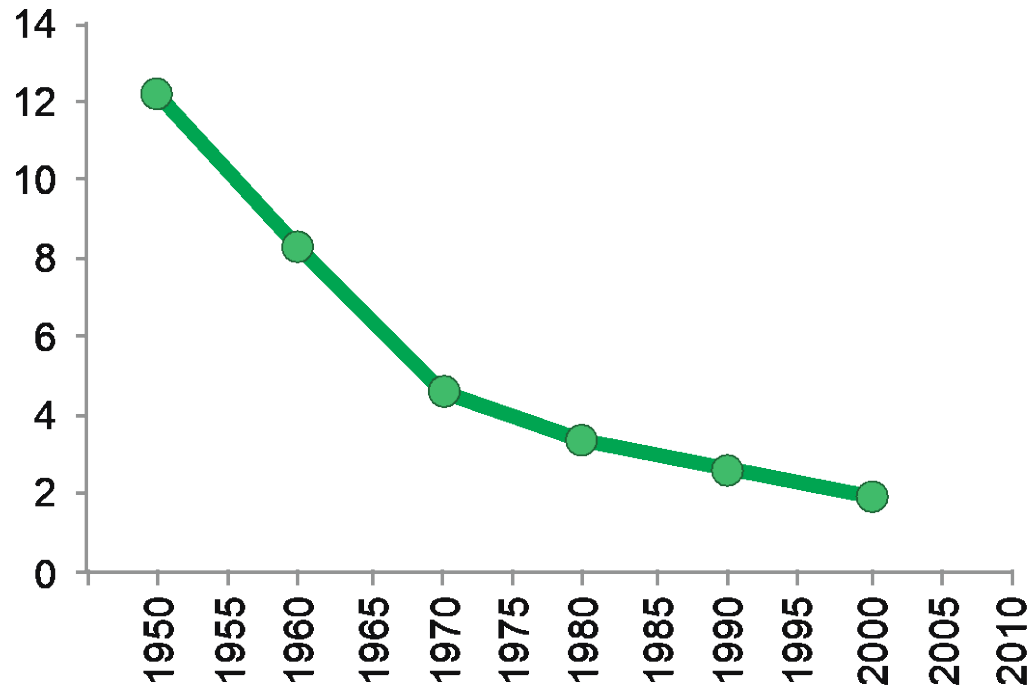
# Trends: U. S. Population



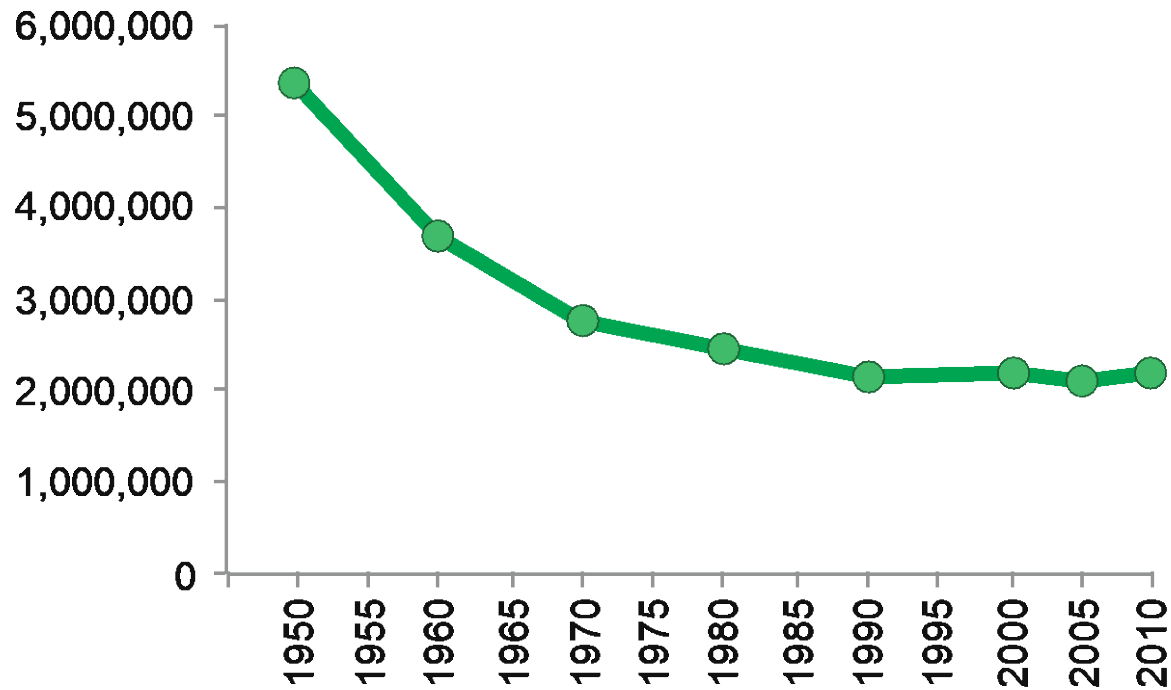
# Trends: Farm Population



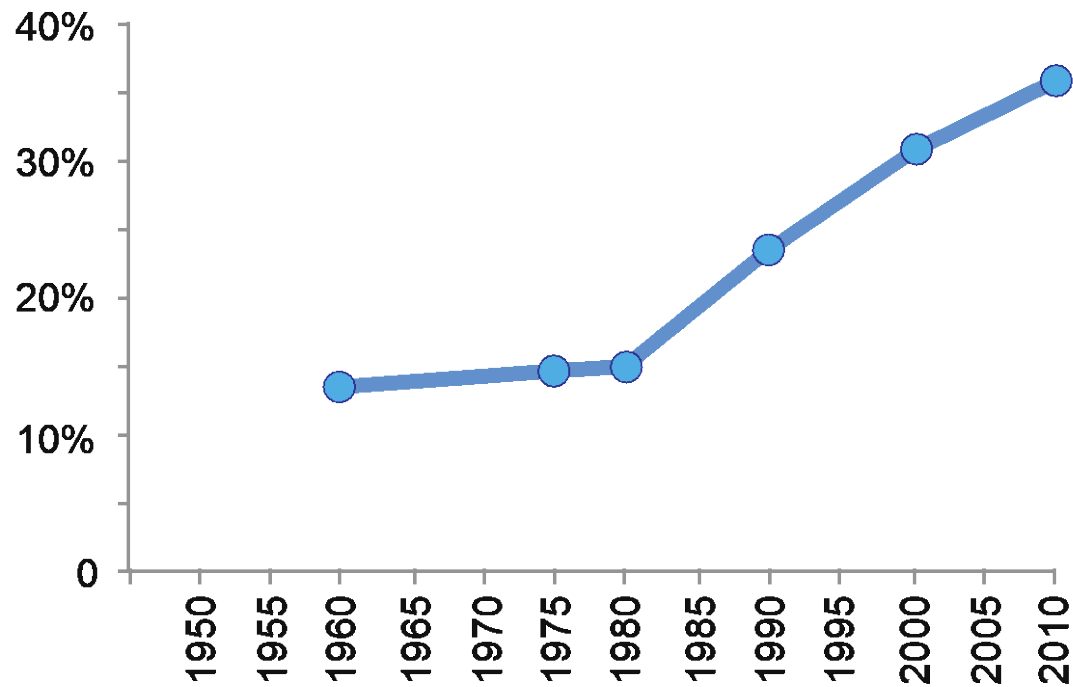
# Trends: Percentage Farmers in US Labor Force



# Trends: Number of Farms

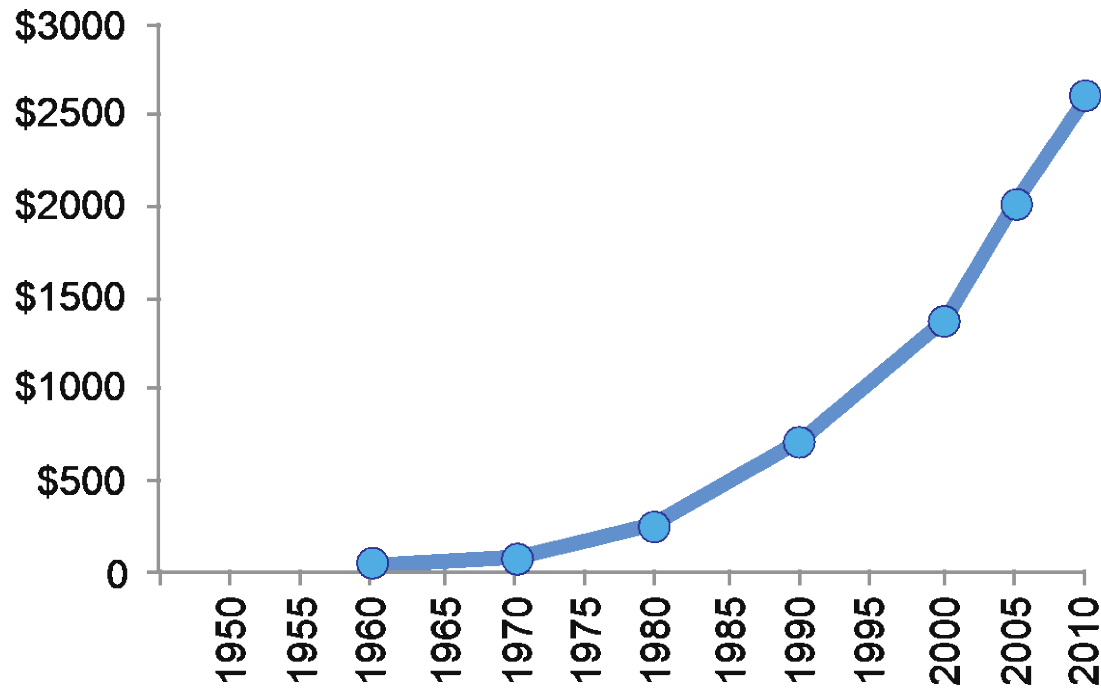


# Trends: Obesity Rate

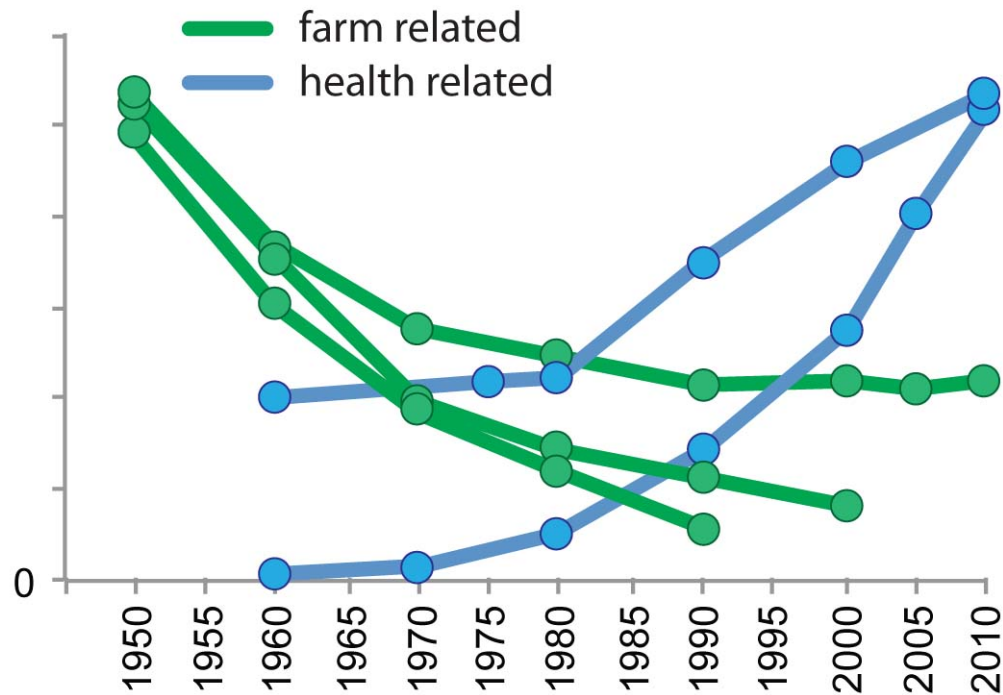




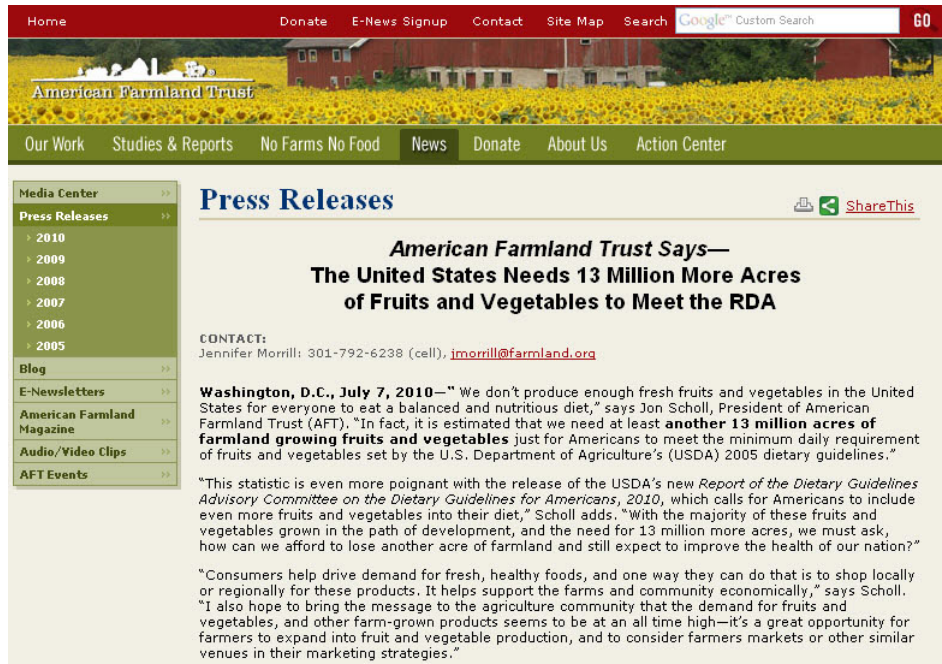
# Trends: Health Cost in Billions



# Trends: What is the Real Problem?



# 13 Million Acres Short (currently)



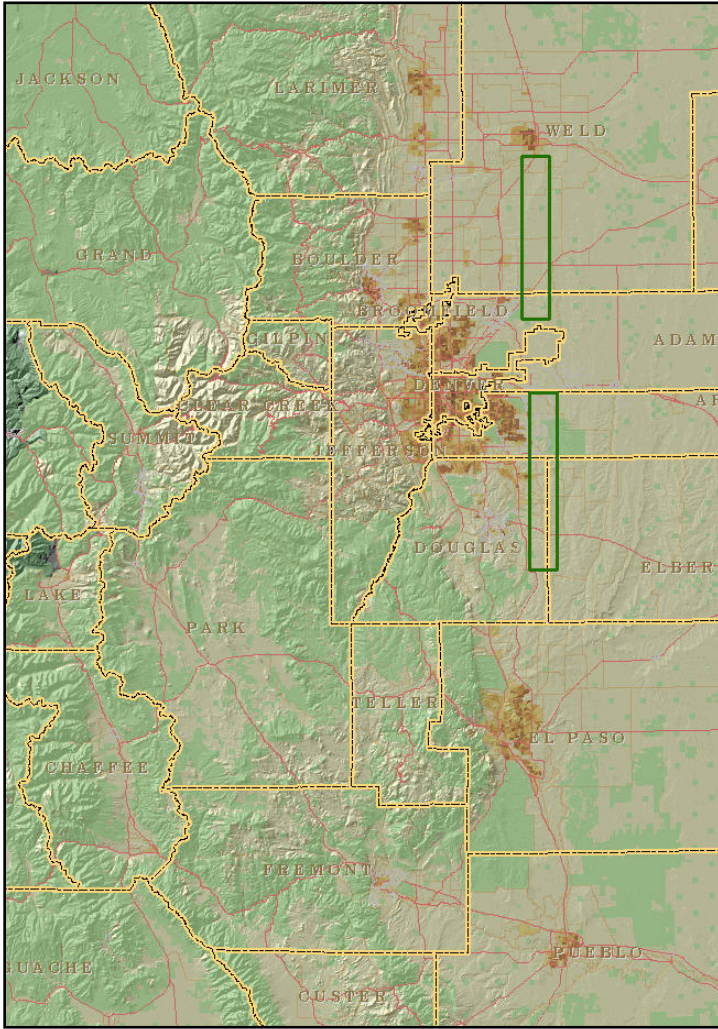
The US is 13 Million Acres Short of Vegetables and Fruits to Meet Current Population Dietary Recommended Intake

\*\* Does not account for Future Population Growth

\*\* Based on revised USDA DRI allowance & the American Farmland Trust (2010)

- ❖ Colorado Population: 5,024,748 (about 1.6% of US)
- ❖ By Population Colorado Needs 208,000 Additional Acres
- ❖ 208,000 Acres of Farm = 83,200 Jobs

# 30 Seasons (attempts) . . . .



- ◇ To Feed 50% more People by 2050 (World Pop.: 9 Billion)
- ◇ To Develop Infrastructure
- ◇ To Develop Skills
- ◇ The Food Problem is primarily:
  - Proximity / Distribution issue
  - Quality / Freshness issue



# 30 Million New Farmers...



- ❖ There is a national call for new professional commercial farmers.
- ❖ These are not overalls and tractor guys...
- ❖ They are hospitals, clinics, school districts, inspired developers and cities and counties that want a healthy future.



# New Decision Drivers...

- ◇ Resilience
  - CEOs looking to invest...
    - Energy
    - Water
    - Food
- ◇ Health & Wellness
  - Medical industry changing models
- ◇ Creativity
  - iPhone 25...who cares...





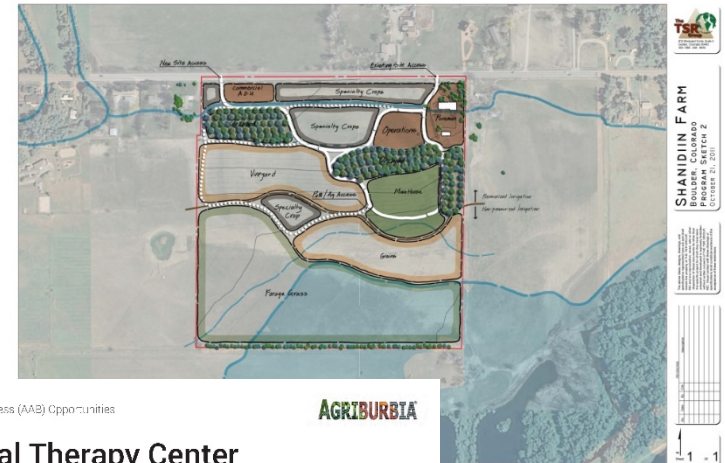
# Agriburbia Types

- ◆ Development

- o Public Civic Farms (Open Space)
- o Private Steward Farms
  - Edible Landscape (Permaculture)
  - AABEs
- o Office / Industrial Parks

- ◆ Institutional

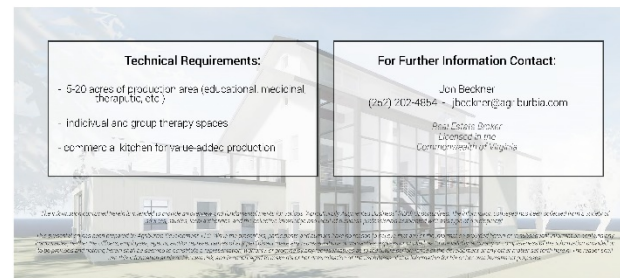
- o Hospitals
- o Schools and School Districts
- o Academic Higher Ed Campus
- o Churches
- o ?



While various forms of physical, mental and emotional therapy have been practiced for thousands of years, Occupational Therapy as a formalized field is relatively new. Today, it is used primarily to mitigate the dependency experienced by those with a variety of physical, mental and emotional conditions.

Some individuals leverage Occupational Therapy to assist in injury or surgery recovery while others use it to develop hard and soft social skills that improve career opportunities and foster independence.

The intersection of Occupational Therapy and agricultural processes of all sorts is clear. The physically, mentally, and emotionally engaging characteristics of a small agricultural operation can foster meaningful improvements in the lives of many via: job coaching, stress and PTSD relief, farm-based physical therapy, skill development (agricultural production, livestock management, value-added production methods, etc.)



# Agriculture as Infrastructure

## ♦ (Sub)Urban Utilities:

- o Water
- o Sewer
- o Roads
- o Electricity / Energy
- o Digital
- o Agriculture ?



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# FarmKit™

## ◇ AABEs:

- Wellness
- Chiropractor
- Dentist
- Daycare
- STEM School
- Agriculture ?



# Amazon Proof

Agriculturally Augmented Business (AAB) Opportunities

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## Occupational Therapy Center



Agriculturally Augmented Business (AAB) Opportunities

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## Farm-Based Daycare

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Childcare, in one form or another, has been a part of daily life for humans and other species for millennia. While childcare was once the responsibility of family members, elders, or other close community members, we find that childcare today is often hosted by professionally staffed indoor daycare centers. These sorts of environments often expose children disproportionately to each other, and limit exposure to the world outside.

With this in mind, a morning of time children are spending with childcare services carries a demand for alternatives to limited indoor programs; alternatives that expose children to more than just their peers.

Agricultural augmentation of contemporary childcare will provide multiple benefits to children, families and communities alike. An active and stimulating agricultural environment will help to teach children about the foods they consume and the fibers they wear, all while helping them to form a sense of place in the world.

### Technical Requirements:

- 2-10 acre production area
- commercial kitchen for meal prep
- year-round friendly landscape (vegetables, ornamentals, play areas, group education areas, etc.)

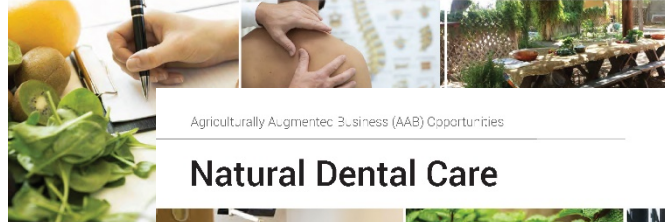
### For Further Information Contact:

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Real Estate Broker  
Licensed in the  
Commonwealth of Virginia

Agriculturally Augmented Business (AAB) Opportunities

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## Chiropractic Services



Agriculturally Augmented Business (AAB) Opportunities

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## Natural Dental Care

Many health professionals believe that a root function. An integrated approach is common.

The field of chiropractic back pain, and various other conditions, identify the root cause.

The agricultural augmentation of a variety of treatments, the root cause.



Dental care has been practiced throughout the world for over 10,000 years. In the United States today, dental care looks very different than it has for most of recorded history. Most dental procedures are performed in uninviting medical office environments, employing substances known to be toxic to the human body (triclosan, sodium lauryl sulfate, and fluoride to name a few).

Consumer markets are increasingly defined by demand for local products and supply chain transparency. Meeting this growing demand will require the integration of new models for contemporary dentistry.

Agricultural augmentation of contemporary dental practice will provide multiple benefits to practitioners and communities alike. A comfortable and stimulating agricultural environment will aid in attracting maintaining a client base. On-site cultivation of various crops (spearmint, stevia, etc.) will enable the on-site production of natural toothpastes and mouthwashes free from toxic chemicals.

### Technical Requirements:

- 2-10 acres of production area (spearmint, stevia, etc.)
- commercial kitchen for processing (essential oil extraction, blending, bottling, etc.)
- centrally managed drip irrigation system

### For Further Information Contact:

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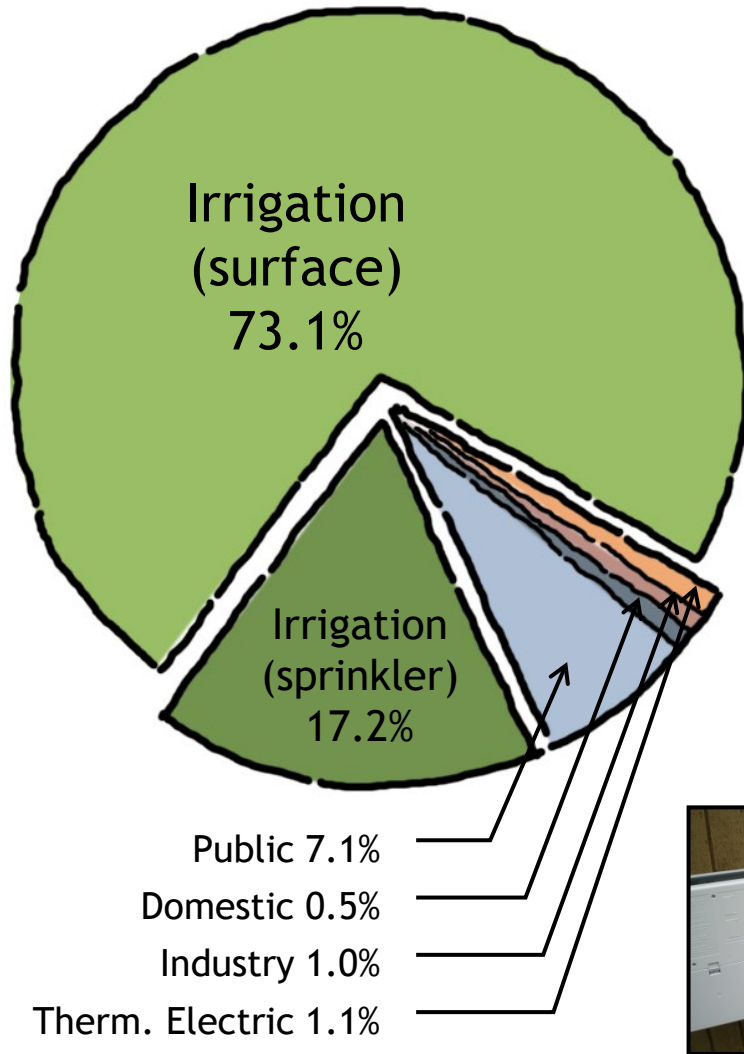


# Research and Planning Agenda

- ♦ Fundamental and Applied Research at the Intersection of Agriculture and Real Estate
  - Food Security Planning
    - Community Food Fraction™ (Caloric Proximity)
    - Irrigation and Water Security (Calories per Acre/Foot)
    - Agricultural Infrastructure (Land / Water / Labor)
  - Carbon Consumption Modeling (Carbonless Food)



# Agricultural Infrastructure (Water)



- ◇ Which Uses Would You Pursue if You Wanted to Save Large Amounts of Water?
- ◇ Calories Per Acre/Foot

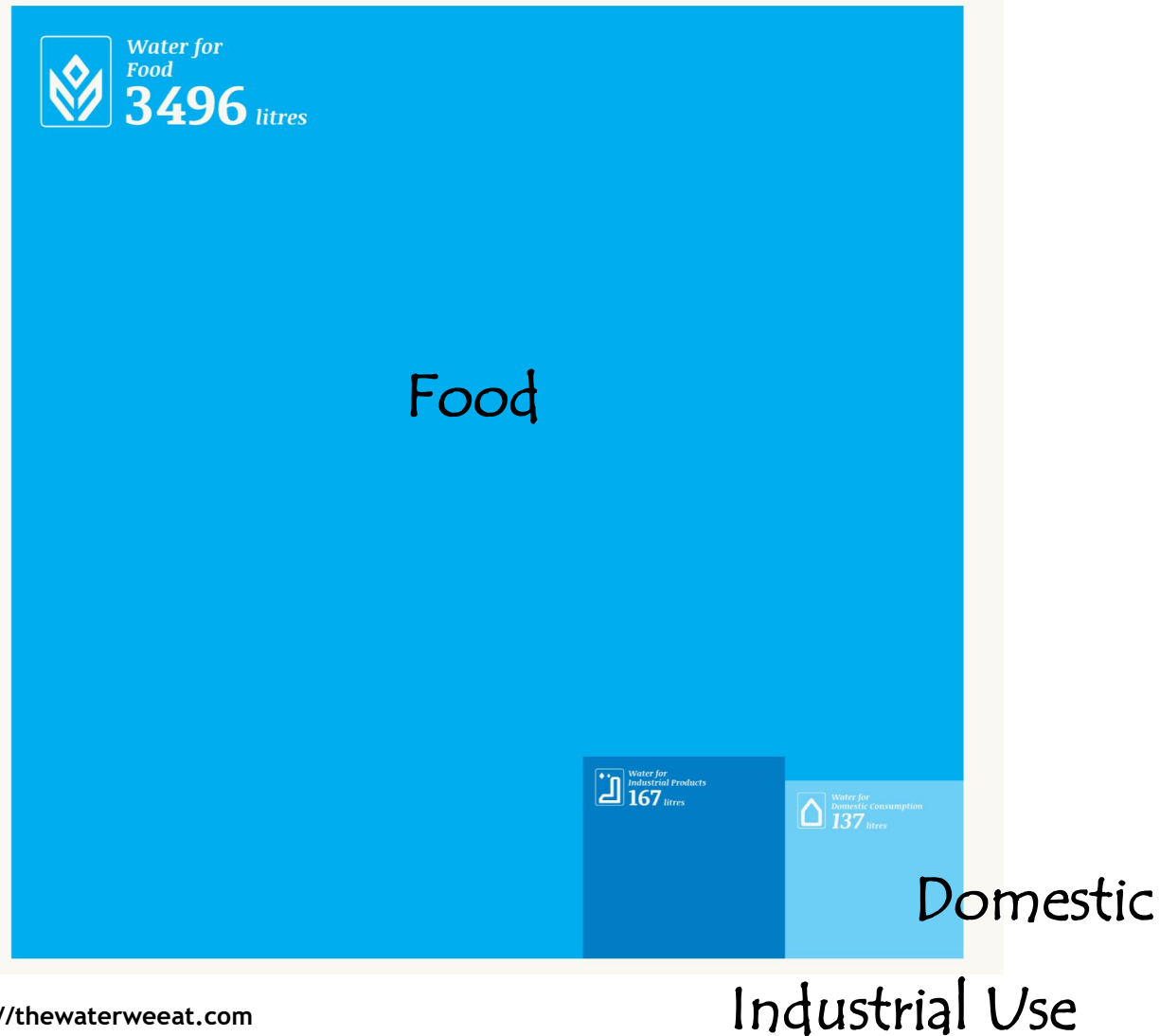


Source: USGS Estimated Water Use in the US, 2004 (Colorado Statistics)



# Embodied Water in Food...

This amounts to  
**3496 litres per day**  
which means that  
**92%** of the water  
we use is **invisible**  
and it is **hidden in**  
our food!



Source: <http://thewaterweeat.com>

# Food Security Planning

(Comp Planning / Land Use Code)

- ❖ Caloric Proximity is a Real Estate Question
- ❖ Community Food Fraction™
- ❖ How many calories does your community produce?
- ❖ How many calories does your community consume? (Caloric Need by Census Tract)
- ❖ How much food could you produce if needed and what kind? (What do your codes/policies look like?)

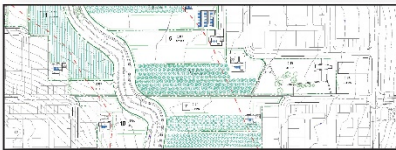


# Smart Cities / IoT

## Our Technology Intellectual Property (Patents Pending)

### FarmKit™ Site Technology

Agriburbia's systems and methods are covered by one or more pending patents.



#### Comprehensive Analysis

- + LIDAR Drone Surveys
- + Geospatial Database Management
- + Soil Quality/Constituent Testing

#### Multidisciplinary Design

- + BIM Modeling
- + GIS Database Management
- + Natural Resource Planning
- + Production Planning

### FarmKit™ Building Technology

Agriburbia's systems and methods are covered by one or more pending patents.



#### Streamlined Construction Process

- + Pre-designed and pre-fabricated kit of parts arrives on site
- + Geographically-based teams (salaried, skilled labor positions) assemble kits on site

#### Resilient Live/Work Habitat

- + SIP Construction
- + Geothermal and Energy Recovery
- + Layout enables varying uses:
  - Winery Module
  - Doctors Office Module
  - Bakery Module
  - Brewery Module
  - Pickling Module
  - Day Care Module

### FarmKit™ Production Technology

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#### Agricultural Hardware

- + Modular Trellis, Sparky Farmer
  - ADA and 55+ accessible
  - GPS and RFID tracking
  - designed to integrate with existing agricultural technologies

#### Big Data

- + Collection, Analysis and Distribution
  - RFID and Drone Data Retrieval
  - Real-time Trend Analysis
  - On-demand Data
  - On-farm Market Analysis tools

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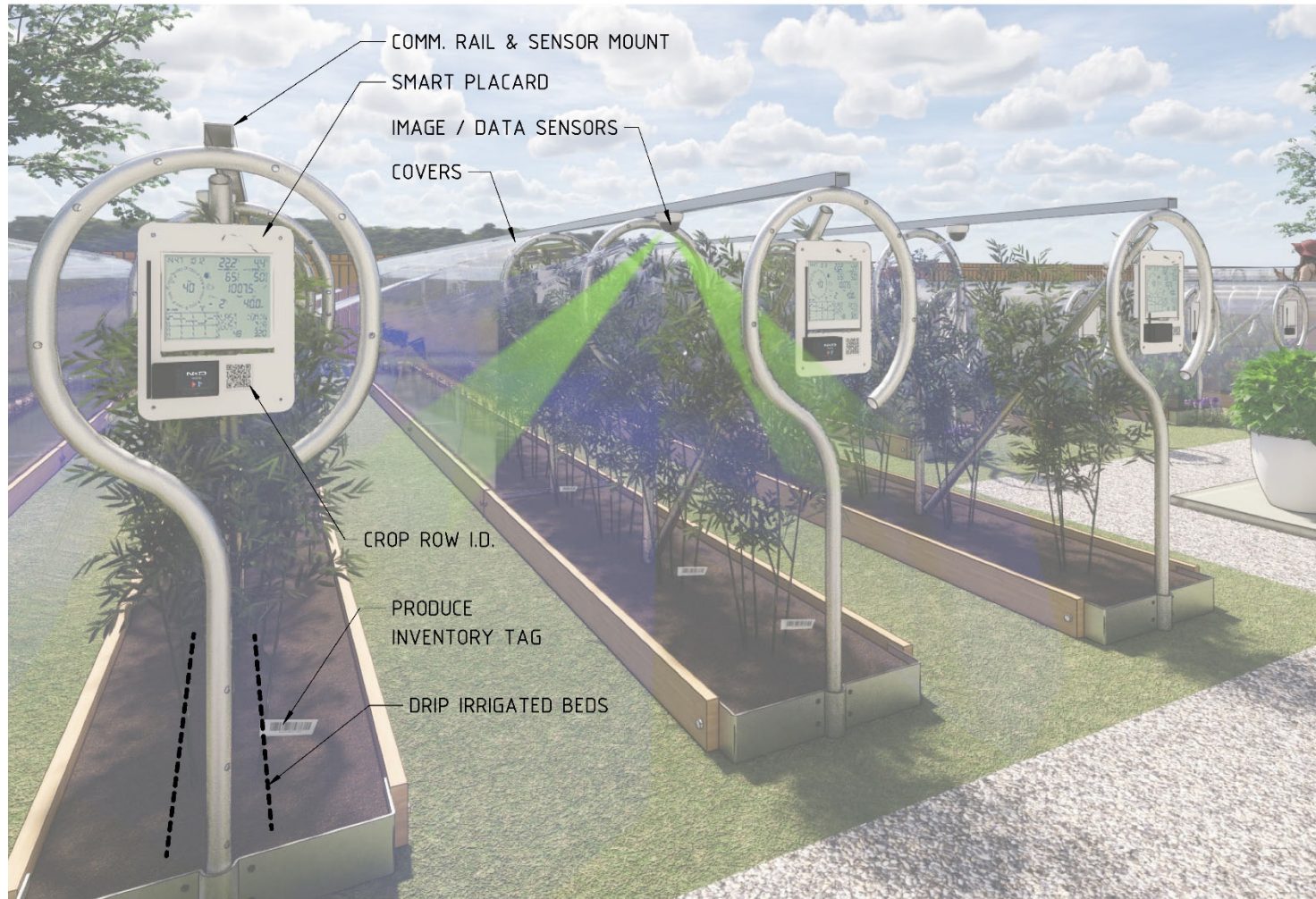
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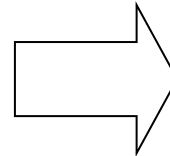


# Smart Cities / IoT



# Trans-Disciplinary Nature (Economics)

- ♦ **WHAT** do we need to eat? (Health/Nutrition)
- ♦ **WHERE** do we Eat it? (Geography). . then. . .
  - ♦ How do we have **LAND** there?  
(Business/Real Estate/Design)
  - ♦ How do we have **WATER**  
there? (Design/Engineering)
  - ♦ How do we get **LABOR** there?  
(Business/Law)
  - ♦ How do we **GROW** it there?  
(Agriculture/Agronomy)



**AGRIBURBIA®**



# The future...



- ◇ We need to connect more of the population to the land and to the source of their food. (It will provide greater mutual respect for all concerned)
- ◇ We (urbanites and farmers) need to teach our kids to know and love the land, (even if it is only a quarter acre lot)
- ◇ It is not necessarily the size of the farm, it is quality of the products and margins on the revenue for the amount of effort and inputs...



# Thomas Jefferson...before industrial revolution



1785 Oct. 28.

"It is not too soon to provide by every possible means that as few as possible shall be without a little portion of land. The small landholders are the most precious part of a state." (T) to James Madison, B.8.682)

As professional farmers, suburbanites, and city dwellers, we need to work together to use our resources as wisely as possible – land, water, and human ingenuity - to prosper in the coming days.

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