

# Using GIS to Develop Policies that Address Social Justice Issues for Inclusion in the General Plan City of Delano Case Study

American Public Health  
Association  
138<sup>th</sup> Annual Conference

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With Appreciations to:  
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# Presenter Disclosures

Keith Woodcock

- (1) The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:**

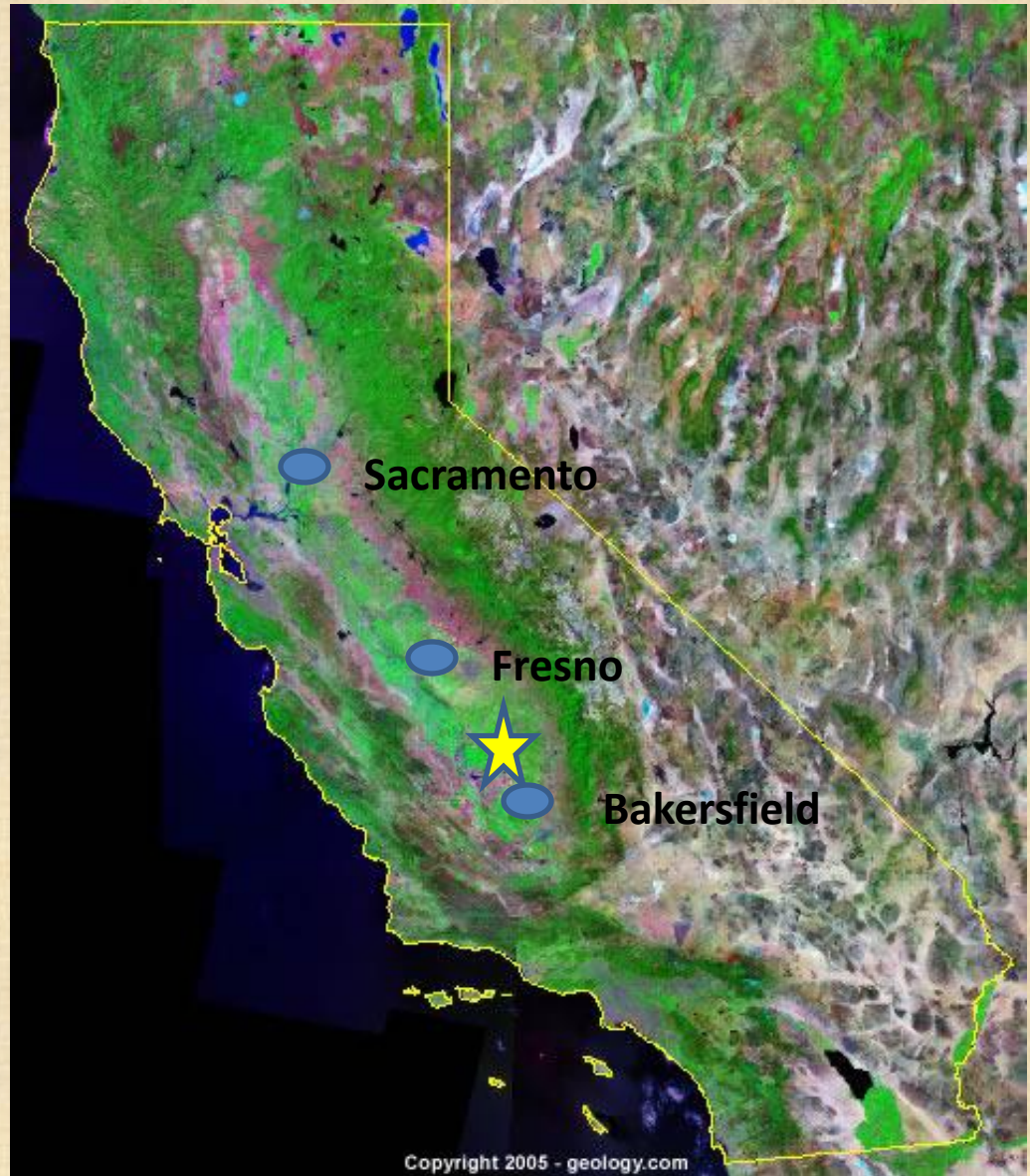
“No relationships to disclose”



# A Primer on Delano

Founded 1893 as a  
rail town

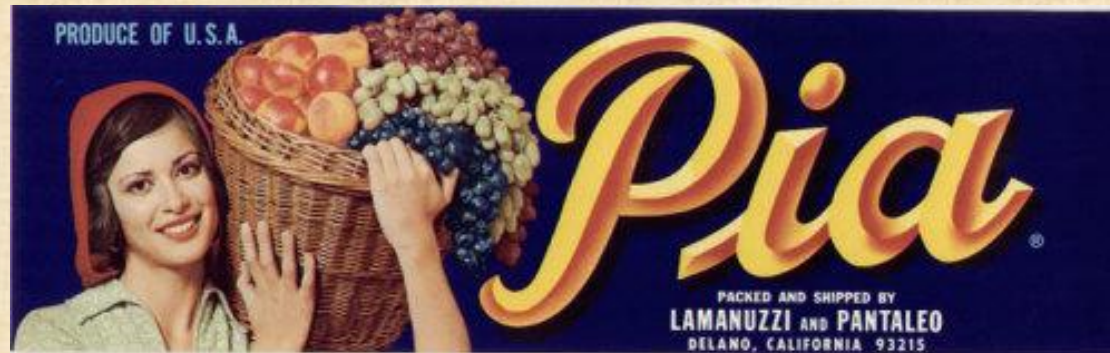
Named for Columbus  
Delano, U.S. Sec. of  
the Interior 1870-1875



# Employment

## Agriculture

Grapes





Almonds



Dairies

Citrus



Carrots

# Other Employment



Shipping and Receiving



Education

Regional Medical





# Other Notes



Voice of  
America

State Prisons



# Selected Demographics

Population: 2000 – 38,824 2008 – 52,388

Median Family Income: \$28,143

(State of CA: \$51,647)

(National: \$41,994)

Education: 27 percent High School;

16 percent College; 1.3 percent Advanced

Meaning: 55.7 percent with no High School



# Demographics (cont.)

- 26 percent White
- 15.9 percent Asian
- 5.4 percent Black/African American
- 47.1 percent Other Races
- 68.5 percent consider selves as Hispanic

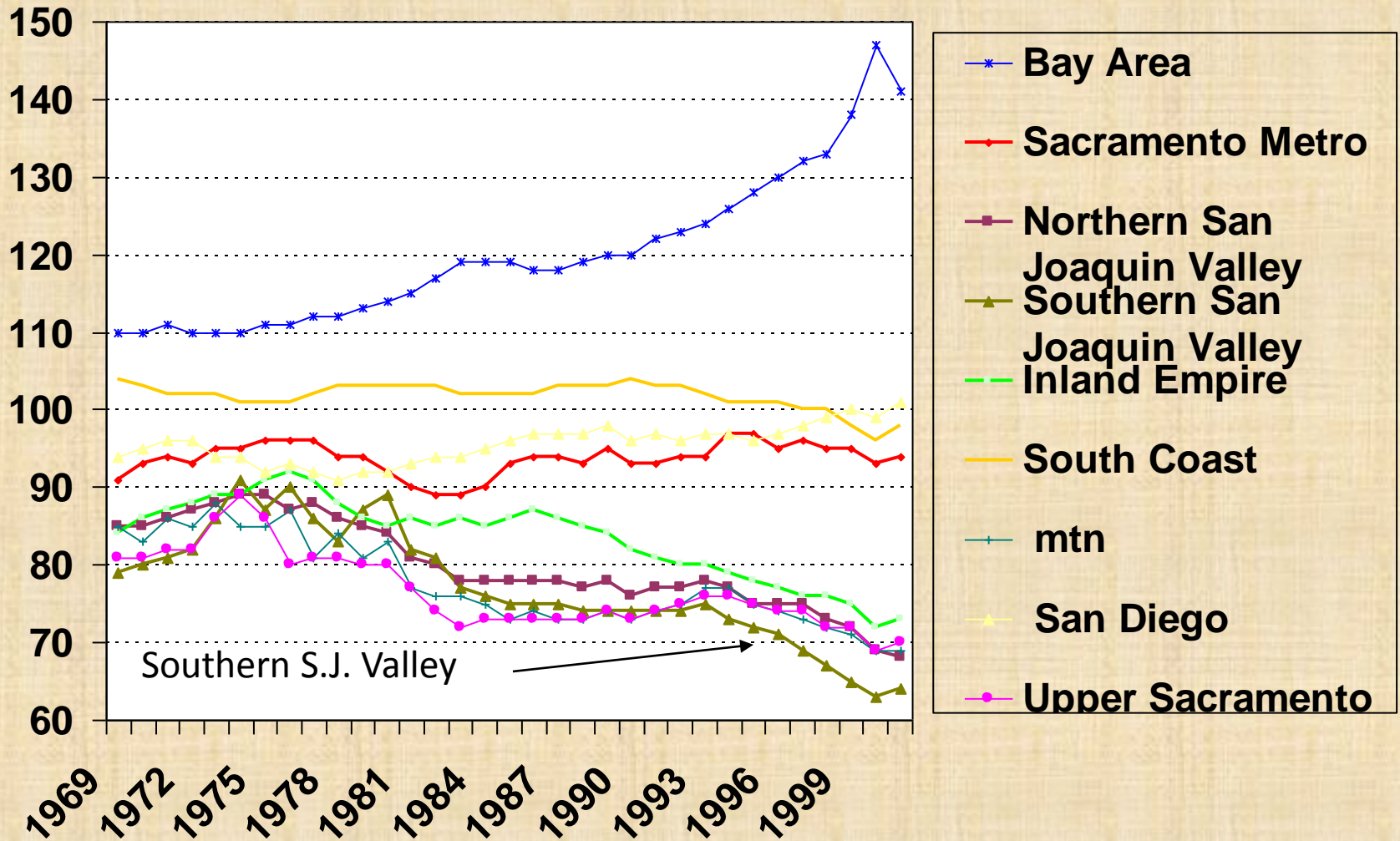
State: 60 percent White, 12.3 percent Asian, 6.2 percent Black, 17.3 percent Other, 36 percent Hispanic

# Demographics (cont.)

- 45 percent of population under 24 (28 percent under 15)
- 33 percent of population between ages of 25-44
- Less than 8 percent over 65
- 3.88 persons per household



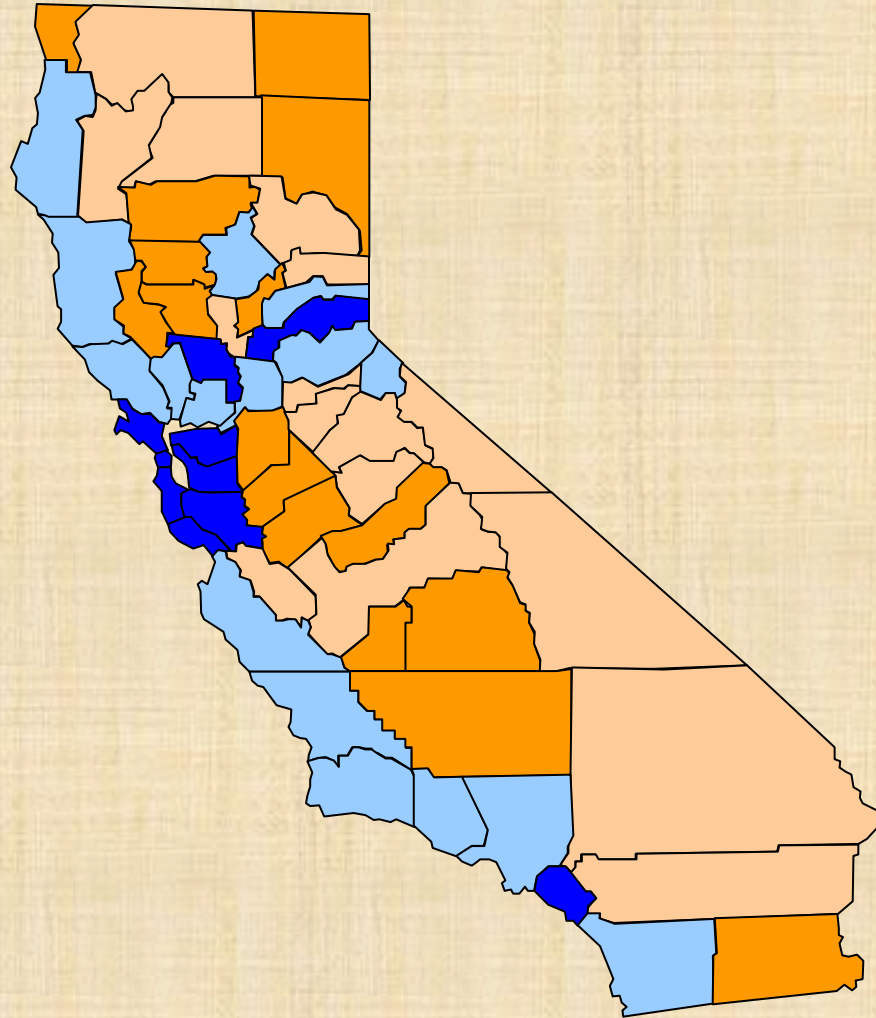
# Social Economic Concerns



Per Capita Income

# Social Economic Concerns

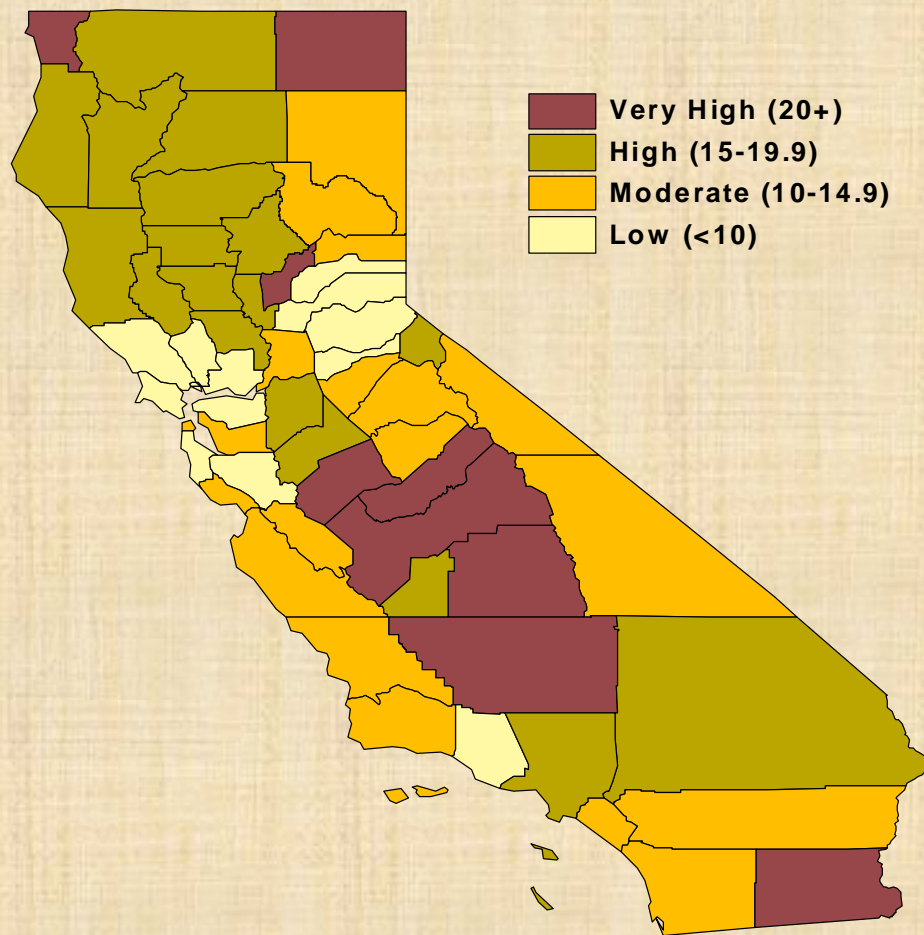
More than 30%  
20% to 30%  
15% to 19%  
Less than 15%



Percent College Graduates, 2000



# Social Economic Concerns



Poverty Rate Per County, 1999

# What is a “Healthy Delano”?

- Definition?

- How Measured?

What Indicators do we use?

- What’s the Goal?

To support and encourage good health practices





# First Steps (Getting Our Act Together)

- Formation of a “Health Discussion Group”
  - City (Community Development, Police, Fire, City Engineer, Public Works, Community Services)
  - Business (Delano Chamber of Commerce)
  - Health (Kern County Public Health, Delano Regional Medical Center)
  - Education (Delano Elementary School District, Delano Jt. Union High School District)

Technical Assistance provided by Public Health Law and Policy, Central California Regional Obesity Prevention Program, Local Government Commission, Get Moving Kern – Kern County Network for Children

# Quantifying “Health”

- Determinates of Health  
(What are the ‘roots’ of health?)
- Indicators of Health  
(What are the ‘outcomes’?)

# Health Determinates

- Income and Social Status ✓
- Social Support Networks ✓
- Education ✓
- Employment and Work Conditions ✓
- Social Environment ✓
- Physical Environment ✓

Which of these are influenced by the 'Delano's Built Environment'?

Source: US Dept. of Health and Human Services 2001



# Health Determinates (cont.)

- Gender
- Culture ✓
- Personal Health Habits and Coping Skills
- Healthy Child Development ✓
- Health Services ✓
- Biology and Genetic Endowment

Which of these are influenced by the 'Delano's Built Environment'?

# Leading Health Indicators

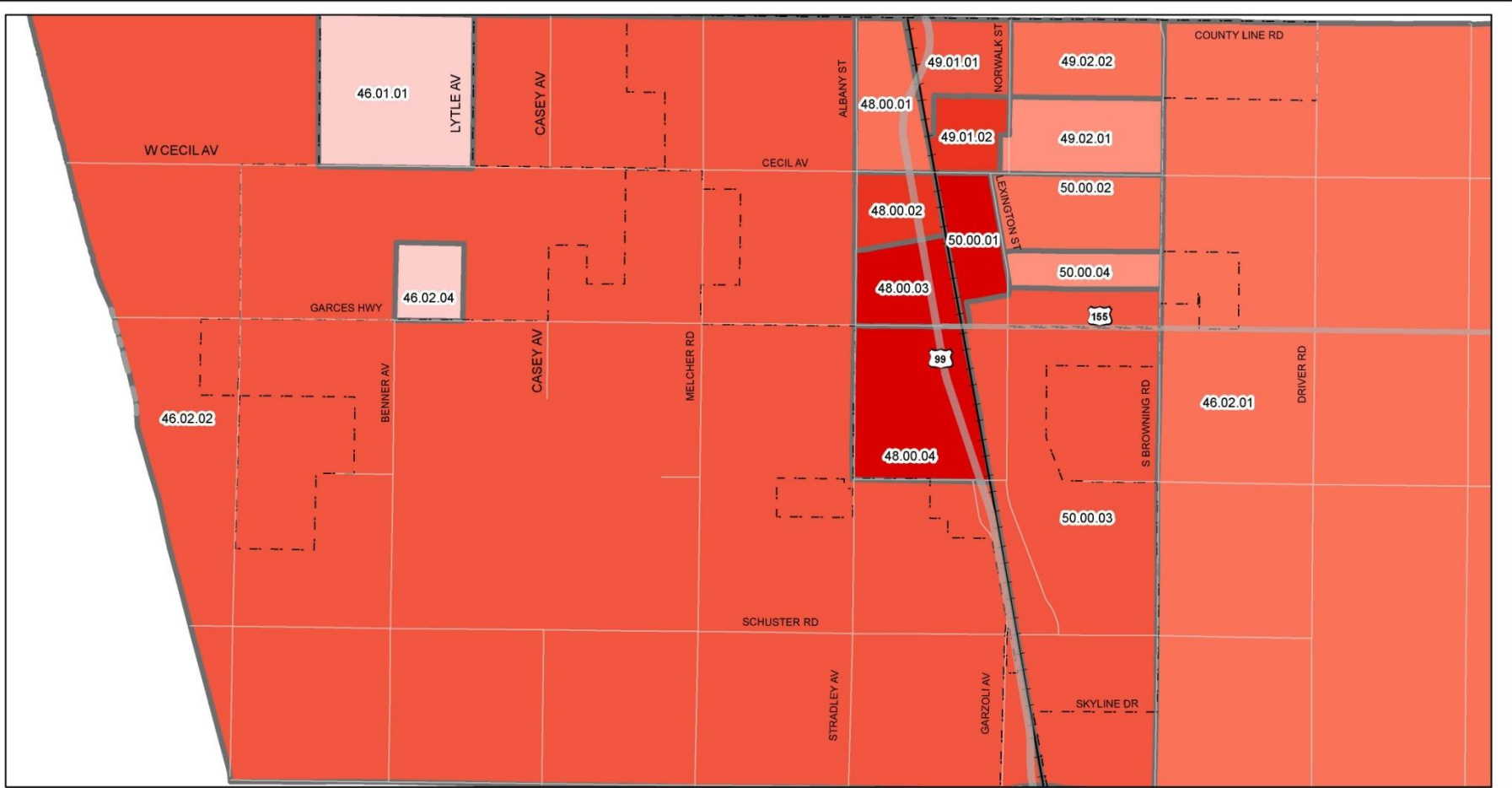
- Physical Activity ✓
- Overweight and Obesity ✓
- Tobacco Use
- Substance Abuse
- Responsible Sexual Behavior
- Mental Health ✓
- Injury and Violence ✓
- Environmental Quality ✓
- Immunization
- Access to Health Care ✓

Which of these are influenced by Delano's 'Built Environment'?

# Using GIS (Examples)

- **Determinate: Social Environment and Income/Social Status**
  - Indicator: Census Tract Information on Income, Housing, Age
- **Determinate: Physical Environment**
  - Indicator: Physical Activity (Parks)
  - Indicator: Injury and Violence (Pedestrian Accidents)
  - Indicator: Access to Health Care (Bus Routes)
  - Indicator: Access to Fresh Food (Locations Available)





### Median Income Less Than \$24,999

Kern County Median Income: \$35,446  
 Delano Very Low Income 0-50% of \$35,446 = 0\$ - \$17,723  
 Delano Low Income 50.01%-80% of \$35,446 = \$17,724 - \$28,357  
 US Census designation \$0 up to \$24,999, \$0 up to \$29,999

- Arterial
- Highway
- Rail Road
- Delano City Limit

**Delano Block Group**  
**Median Income \$24,999 or less**

- 0% - 10%
- 11% - 20%
- 21% - 30%

- 31% - 41%
- 42% - 51%
- 52% - 61%
- 62% - 71%



\*Rounded to the nearest percent

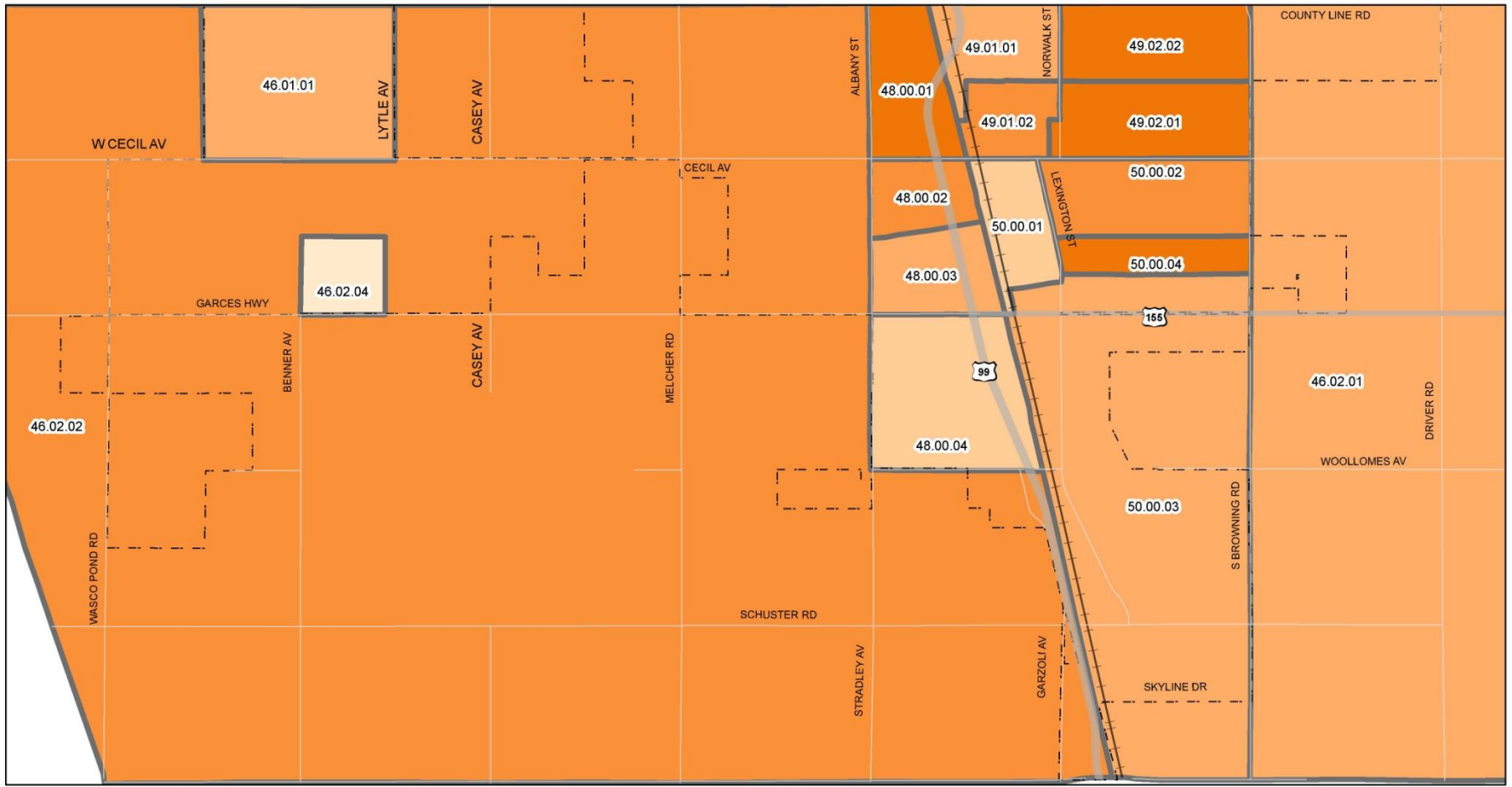


Community Development Department

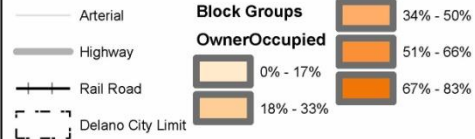
Source: US Census 2000

Date: February 2009

Contact: Karen Snow, GIS



## Owner Occupied Housing Units



\*Rounded to the nearest percent

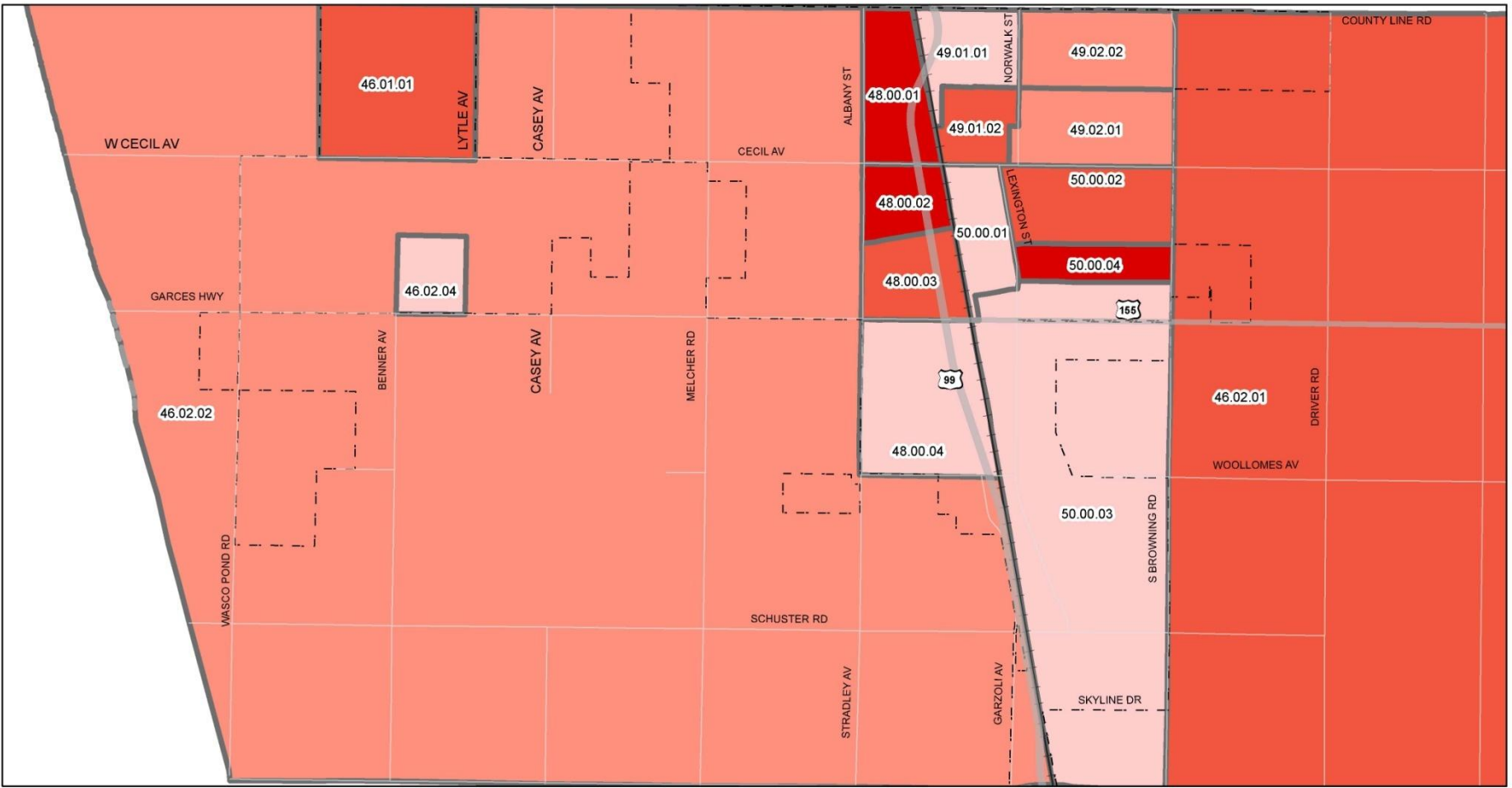


Community Development Department

Source: US Census 2000

Date: February 2009

Contact: Karen Snow, GIS



# Owner Age 65 and Older

— Arterial  
 — Highway  
 — Rail Road  
 - - - Delano City Limit

**DelanoBlkGrp**  
**Owner 65 years +**  
 0% - 6%  
 7% - 13%  
 14% - 19%  
 20% - 25%



\*Rounded to the nearest percent



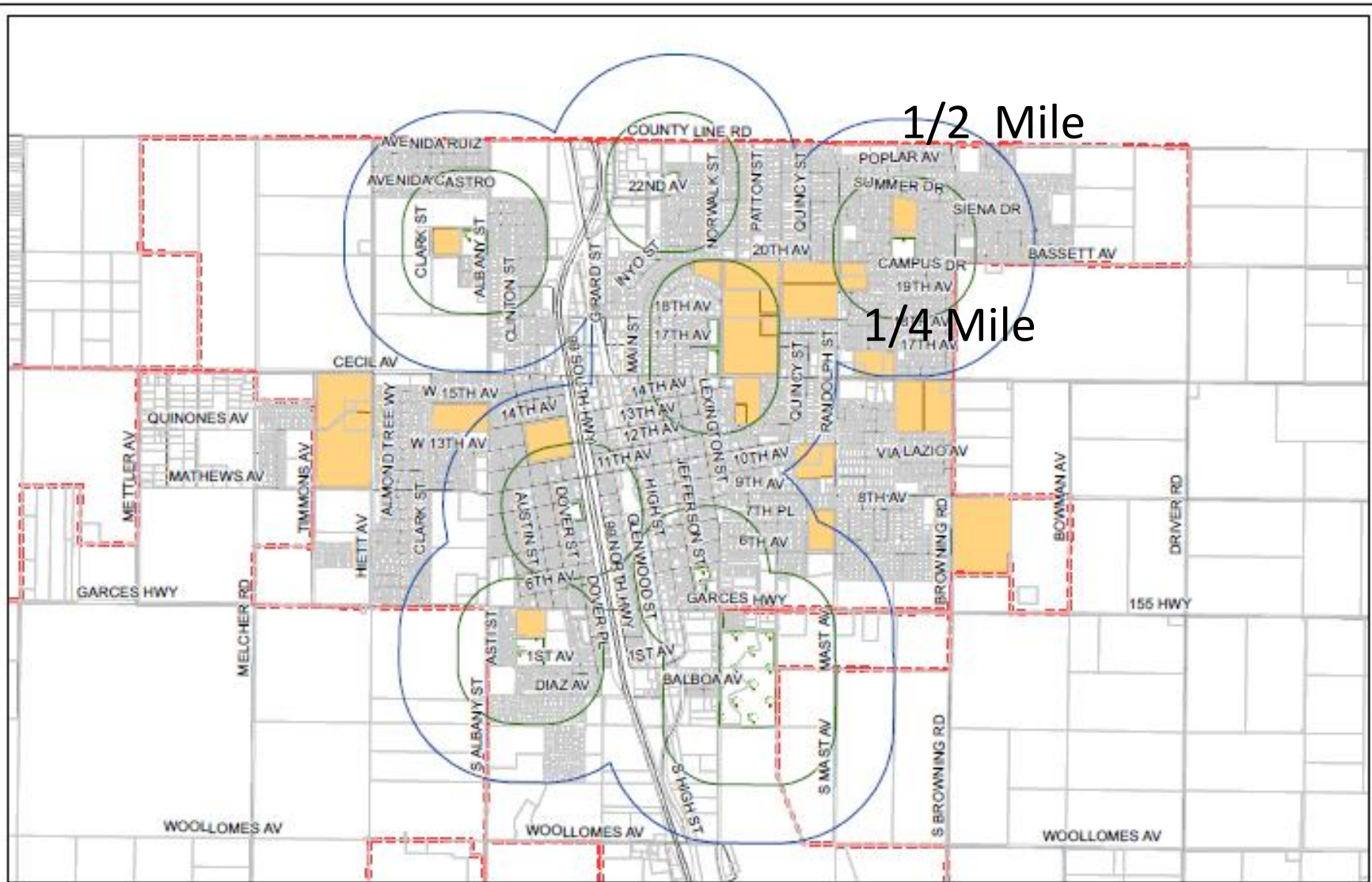
<b>Community Development Department</b>
<b>Source: US Census 2000</b>
<b>Date: February 2009</b>
<b>Contact: Karen Snow, GIS</b>



# Making the Connections

- Health Indicator: Physical Activity
- Relationship to the Built Environment: Parks provide opportunity for physical activity
- Research Question: Do residents have access to parks? Are there 'gaps'?
- GIS Measurement: Map parks and provide buffers of one-quarter mile and one-half mile





# Access to Parks

- Legend**
-  Park
  -  .25 mile buffer
  -  .5 mile buffer
  -  School
  -  City Limit



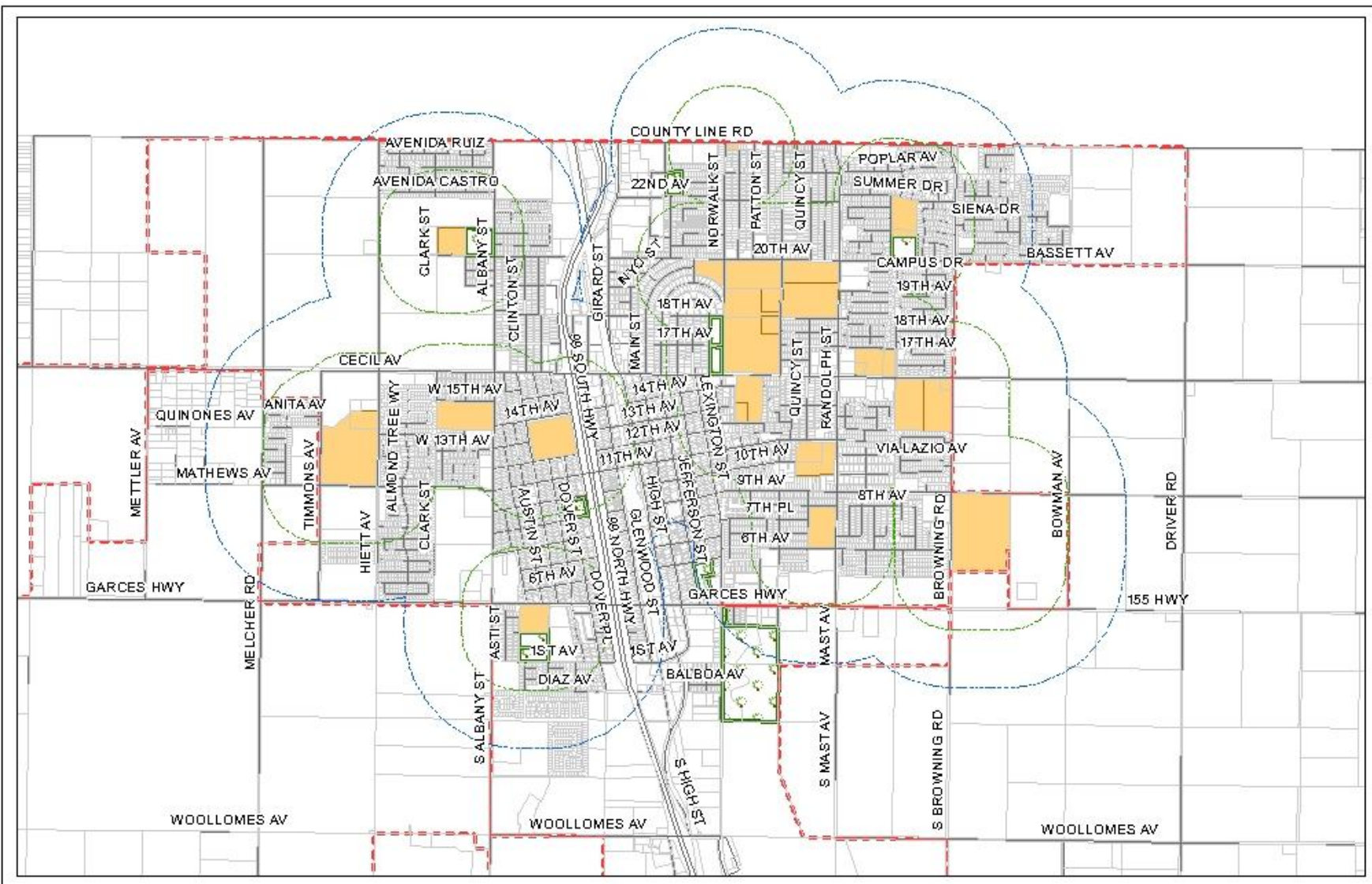
**Community Development Department**

Source: Community Development

Date: January 13, 2009





Contact: GIS





# School Facilities Potential Access

Legend

-  Park
-  School
-  Potential School Access .5 mile
-  Potential School Access .25 mile



**Community Development  
Department**

Source: Community Development

Date: January 13, 2009

Contact: GIS

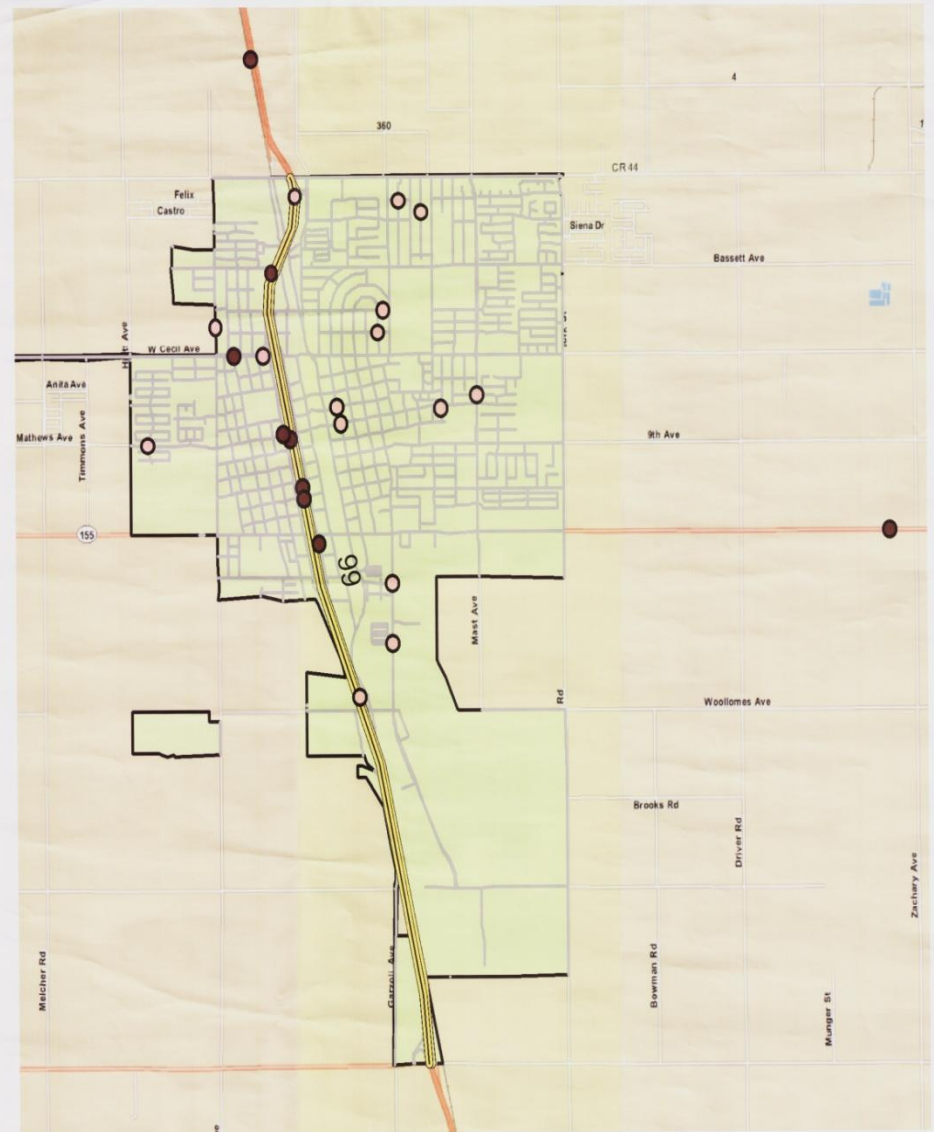
# Analysis and Policy Implications

- There are areas within the City that are not within one-half mile of an existing park.
- Option 1: Acquire park sites in underserved areas.
- Option 2: Develop an After School Policy with the School Districts to allow access.
- Option 3: Amend General Plan and Subdivision Ordinance to require all residential units be within one-quarter mile of a park



# Injury and Violence

## Delano & Vicinity Pedestrian Collisions



### Legend

#### Pedestrian Collisions

- Fatal
- Severe injury

Delano  
 Area = 10 square miles  
 Population = 38, 824  
 Pedestrian Collisions (2003-2007)\*  
 Fatal:6 Severe:18 Total:24

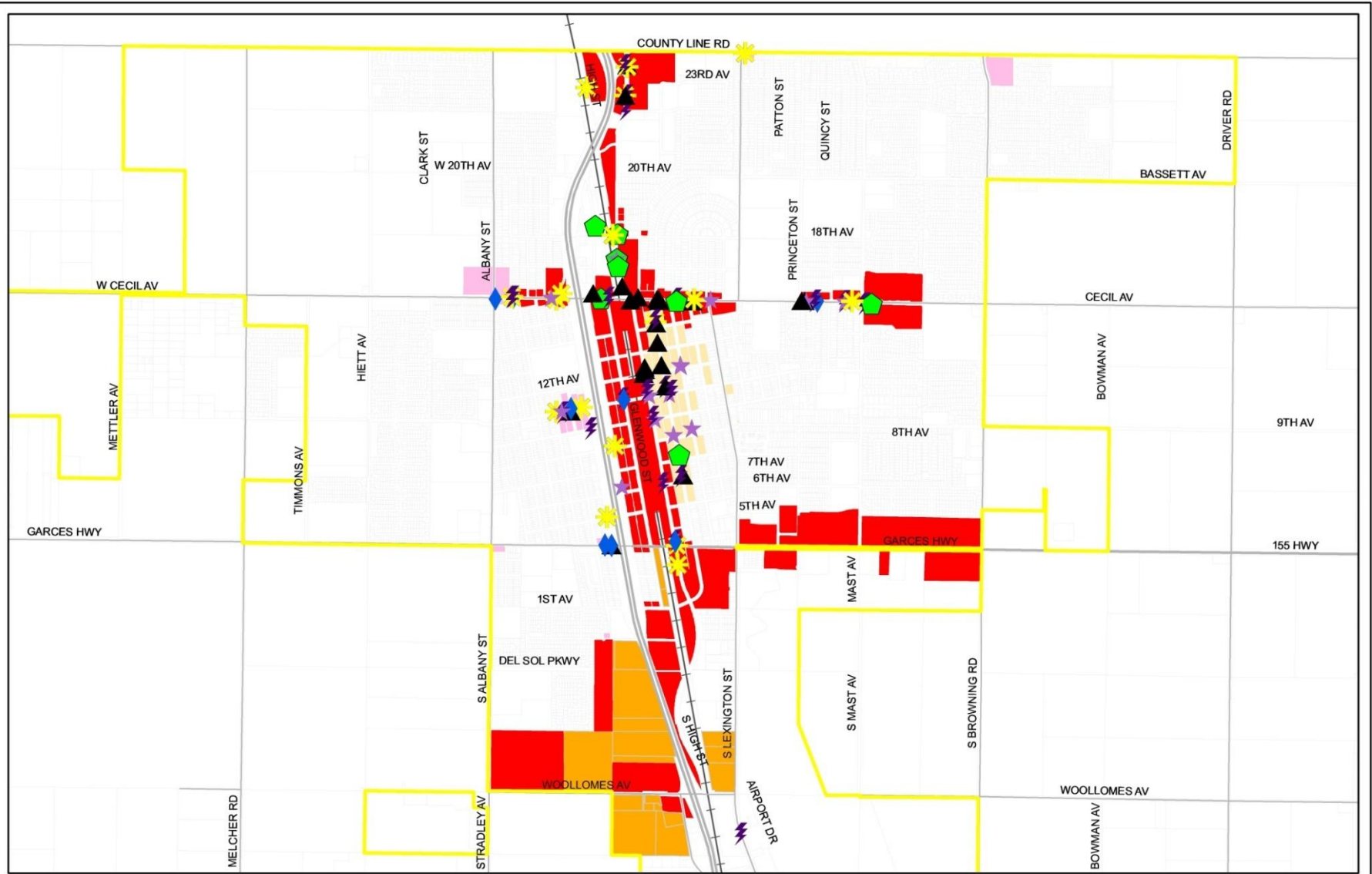
Funding by the  
 Caltrans Office of Traffic Safety

DATA SOURCES  
 US Census 2000  
 SWITRS 2003-2007  
 \*Geocoded Collisions

# Making the Connections

- Health Indicator: Access to Fresh Foods
- Relationship to the Built Environment: Location of where Fresh Food items are available
- Research Question: Do residents have access to fresh foods? Are there 'gaps'?
- GIS Measurement: Map retail sales of foods by type





# Retail Sales of Food Commercial Zoning Delano

**Legend**

Retail Sales of Food  
● <all other values>

**CATEGORY**

▲ FAST FOOD

◆ GROCERY

★ MINI-MARKET

◆ NEIGHBORHOOD-MARKET

⚡ RESTAURANT

★ SPECIALTY

**Zone 2009**

■ CRC - Community Retail Commercial

■ DC - Downtown Commercial

■ GC - General Commercial

■ NC - Neighborhood Commercial

■ DelanoCityLimit2008

— Railroad



**Community Development  
Department**

**Source: Community Development**

**Date: October 12, 2010**

**Contact: GIS**

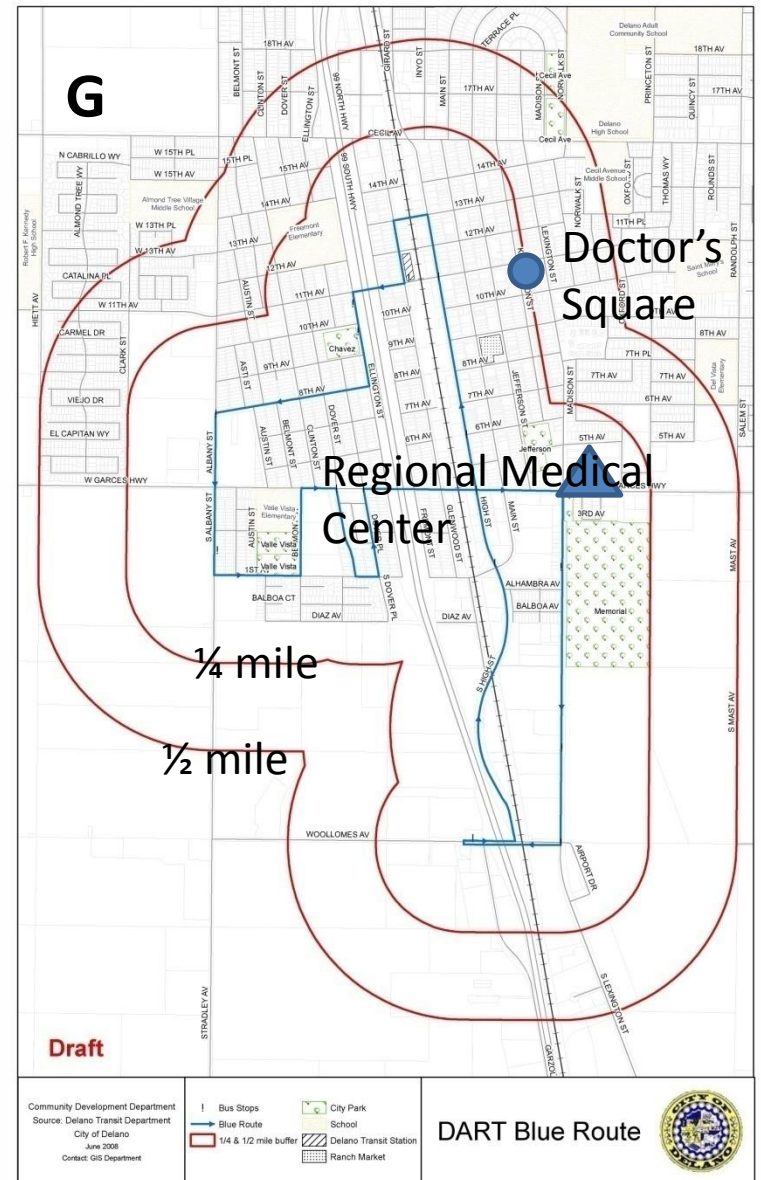
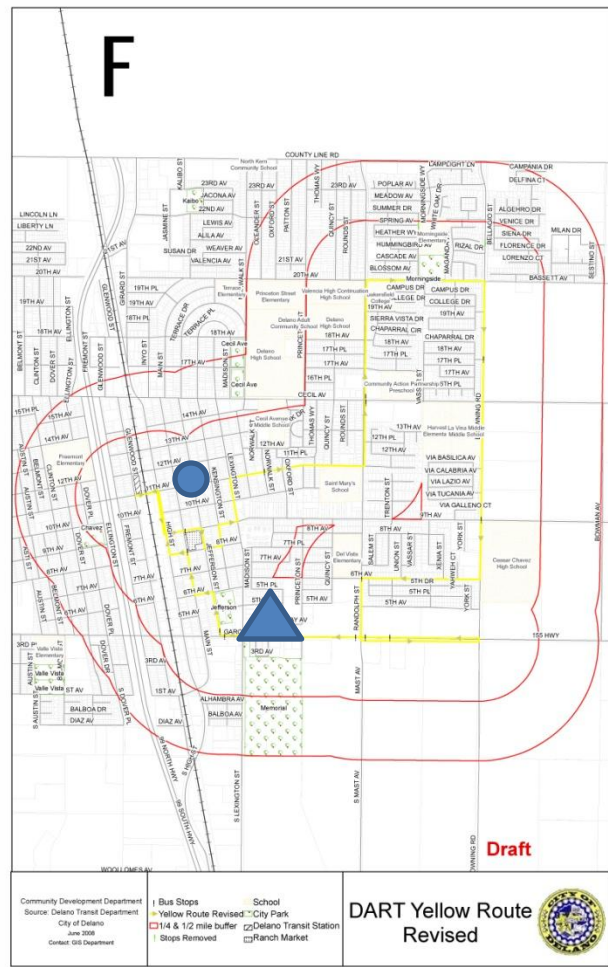


# Analysis and Policy Implications

- The Southwest area of the City has limited access to fresh food
- Option 1: Work with existing stores to improve counter space to include fresh food items.
- Option 2: Amend General Plan and develop new sites for local markets.



# Community Access – Health Clinics



# Analysis and Policy Implications

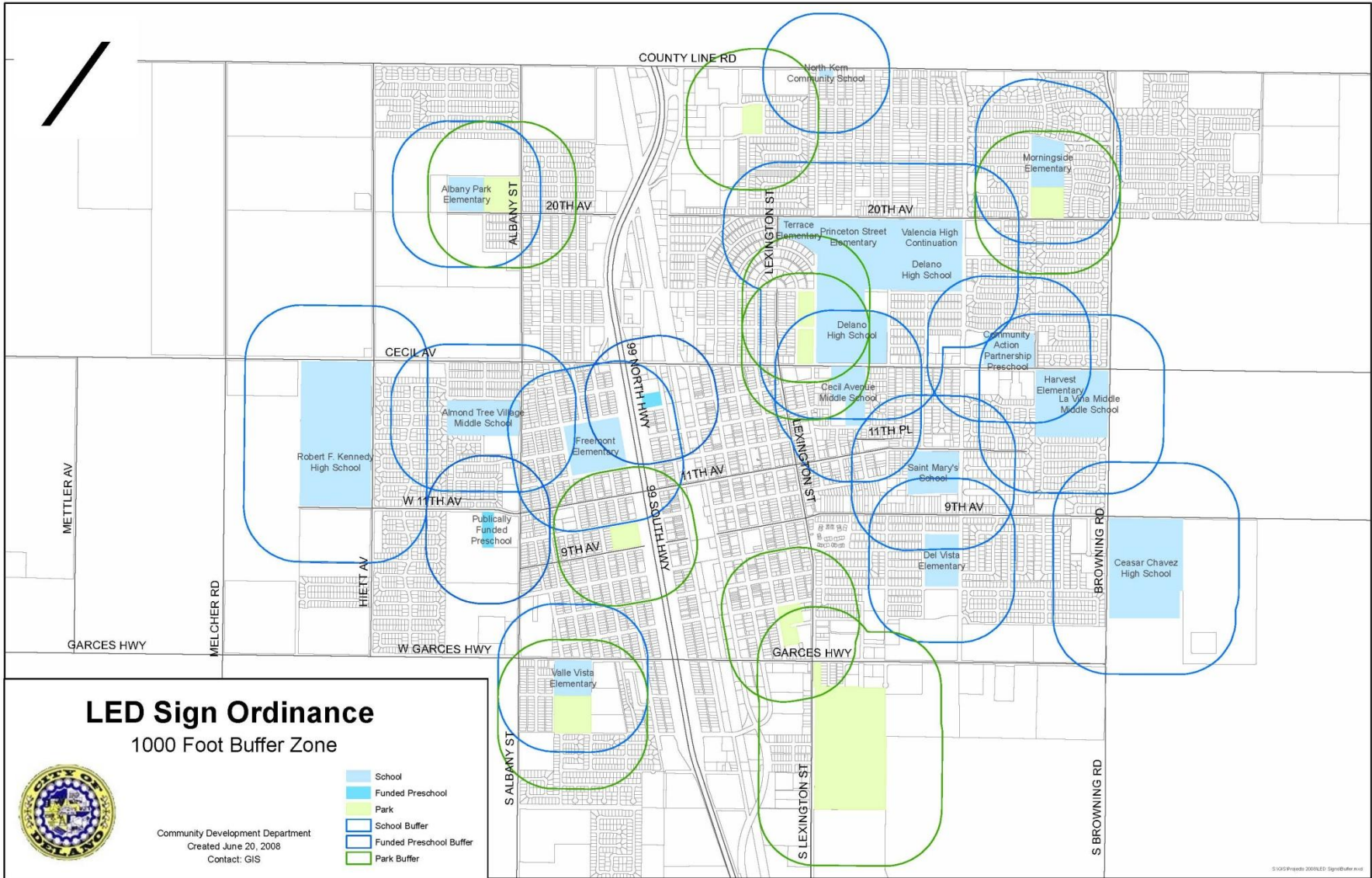
- While all local bus routes provide access to the Regional Medical Center, why are there not any clinics and pharmacies in Southwest Delano?
- Option 1: Identify potential sites that could be used as clinics.
- Option 2: Identify interest by non-profits, etc. to establish clinics.

# New Policy Considerations that have emerged

Does it matter where alcoholic beverages and tobacco products are advertised?

Look at proximity to schools and parks





# LED Sign Ordinance

## 1000 Foot Buffer Zone



Community Development Department  
 Created June 20, 2008  
 Contact: GIS

- School
- Funded Preschool
- Park
- School Buffer
- Funded Preschool Buffer
- Park Buffer



# Non-Traditional Land Use Issues

- Food Security

‘Access by all people at all times to enough nutritious food for an active, healthy life.’  
(USDA)



- Day Care Needs



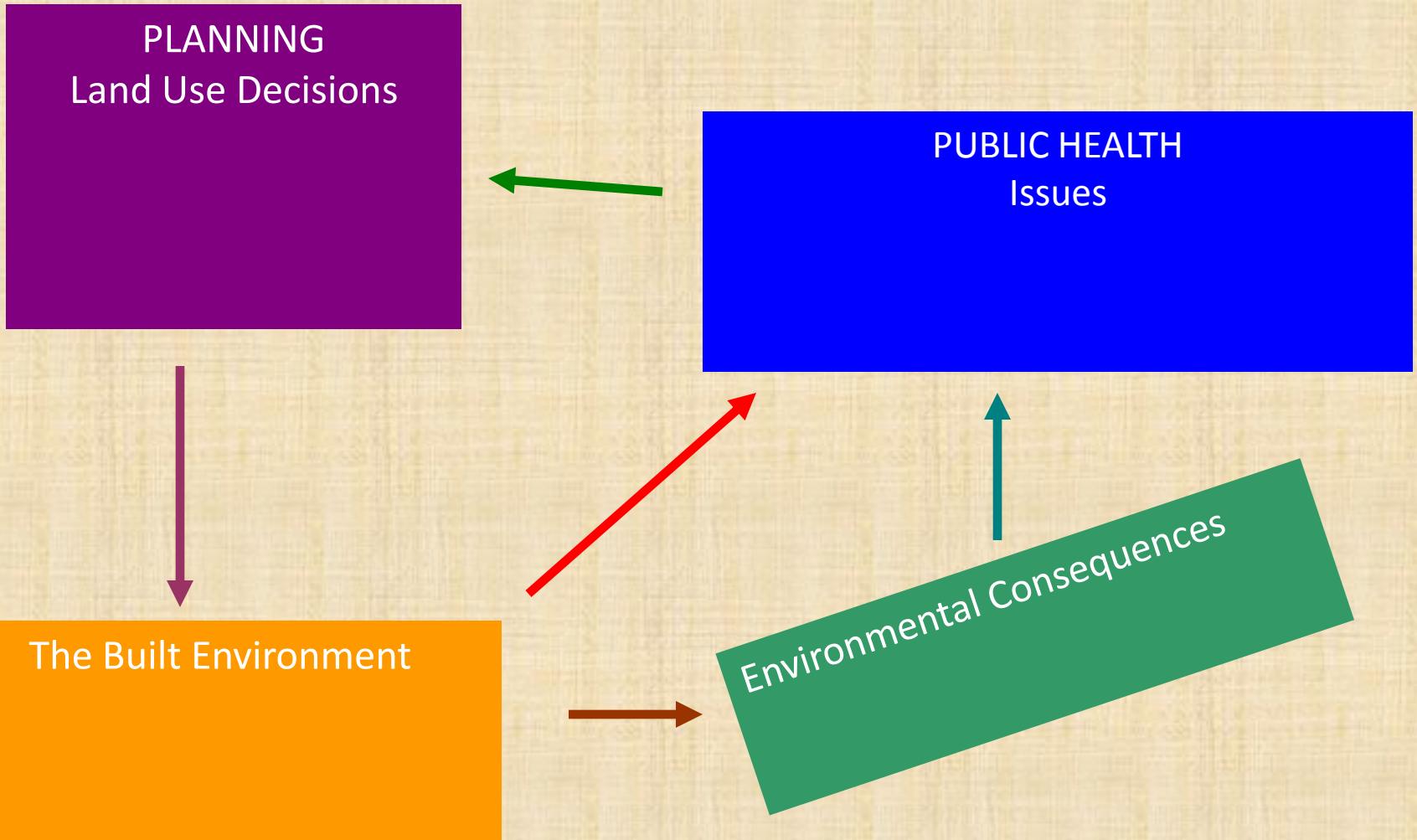
# Closing Comments and Thoughts

A Healthy Community Focuses on “Community”

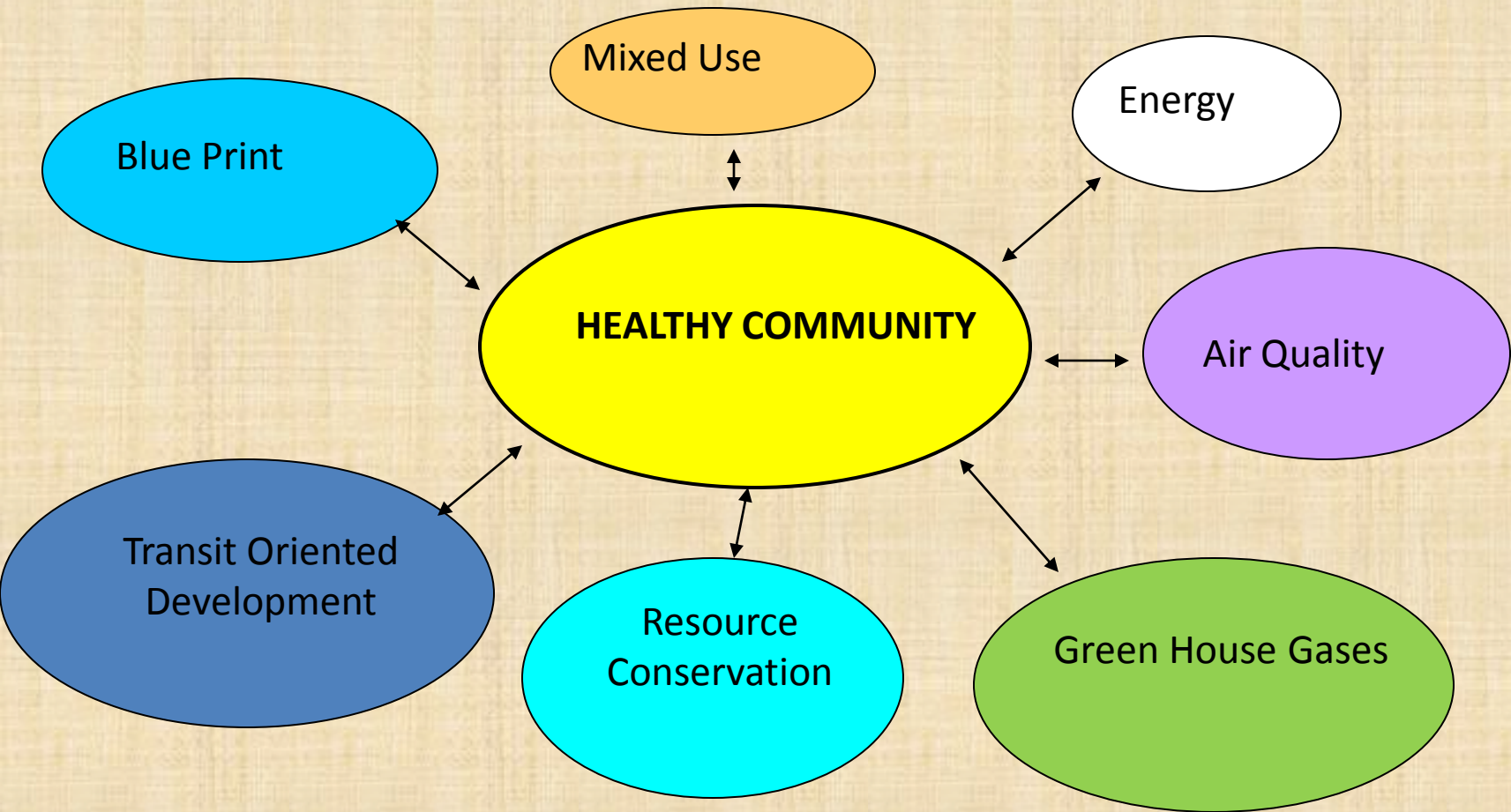
- 1) membership
- 2) influence
- 3) integration and fulfillment of needs
- 4) shared emotional connection

McMillan and Chavis 1986

# BUILDING THE BUILT ENVIRONMENT

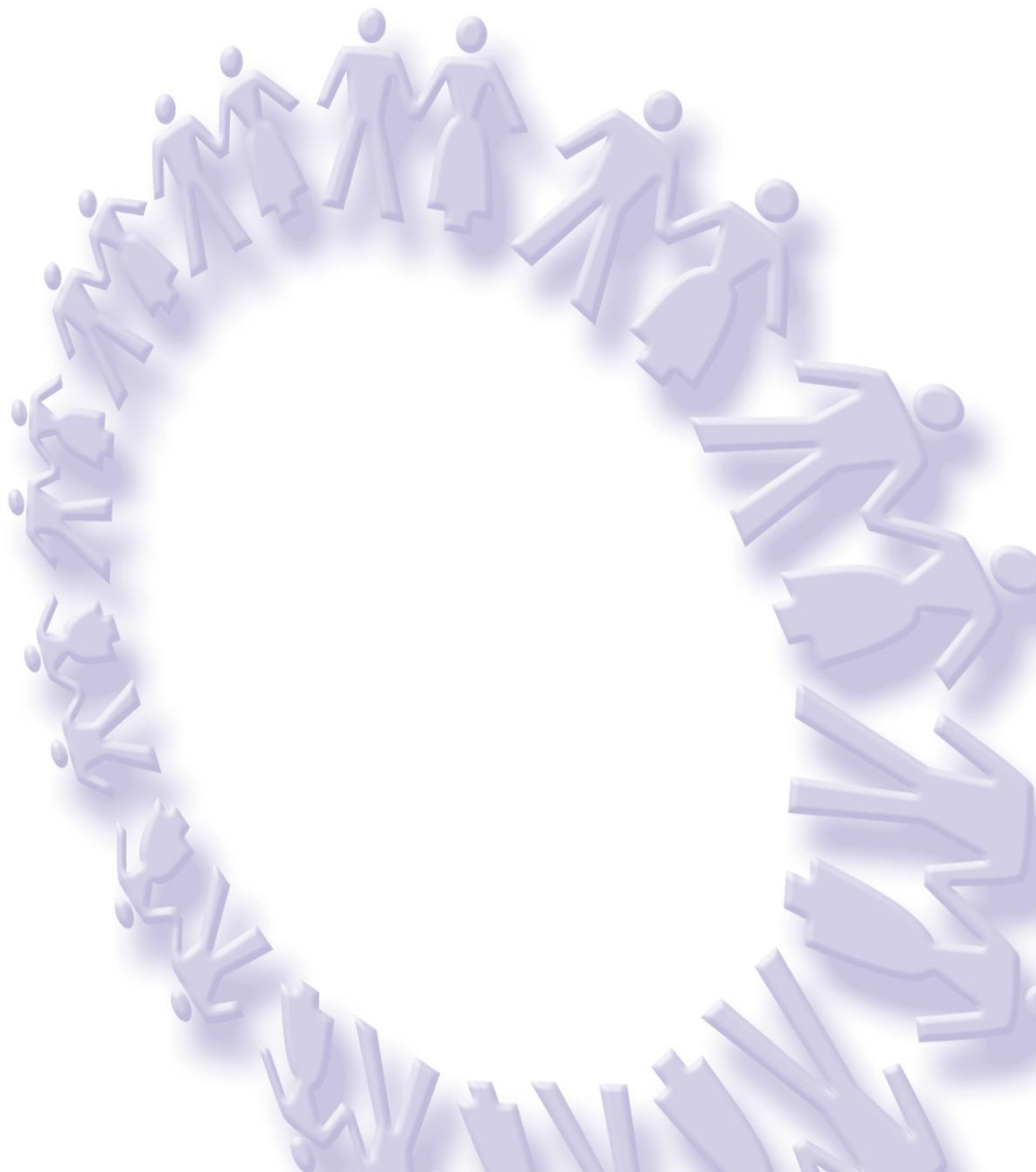


# It Look for Opportunities!





# It Takes a Collaborative Effort



# Us here, Right now, In this room

- Each of us can be “Change Agents”



# Contact Information

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THANK YOU!

