Integrating Rural and Urban Planning: Working Together to Support California's Diverse Communities

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West Sacramento, CA
What We All Have In Common!
World Becomes Urban

World Became Majority Urban - May 23, 2007

Urban Percentage of World Population

1900: 13%
1950: 29%
2005: 49%
2050: 67%

May 23, 2007
China - India facts: URBANIZATION 2030

**China**
- 70% of Chinese will live in cities with more than 1 million people.
- China will add 221 cities with more than 1 million people.
- China will add more than U.S. population.

**India**
- 46% of Indians will live in cities with more than 1 million people.
- India will add 68 cities with more than 1 million people.
- India will add more than population of Spain.

“India’s urban awakening” April 2010
8 Mega Cities > 10 Million

If current trends continue, nearly one billion people will live in China’s cities by 2025. The urban population will grow by some 350 million people—more than the population of the United States today. Some 240 million of China’s city dwellers will be migrants. China will have 221 cities with more than one million inhabitants—compared with 35 in Europe today—of which 23 cities will have more than five million people. There will be eight megacities with populations of more than ten million.
China – Water supply and demand gap

Gap between existing supply and projected demand in 2030
Percent of 2030 demand

Size of gap
- Surplus
- Moderate (0% to 20%)
- Severe (20% to 90%)

Water demand by sector
Withdrawal: billion cu

- Municipal & Domestic
- Industry
- Agriculture

CAGR 2005-30
- Percent

1. The unconstrained projection of water requirements under a static policy regime and at existing levels of productivity and efficiency

SOURCE: China Environment Situation Fact Book, China Agriculture Annual book, Study of China water resources strategy, China grain security planning; basin annual bulletin; price search; 2010 Water Resources Group.
California by Geography is Mostly Rural

Distribution By Population
- Urban: 96%
- Rural: 4%

Distribution By Geography
- Urban: 5%
- Cropland: 10%
- Parks & Rec: 25%
- Forest: 27%
- Pasture / Range: 28%
- Misc Rural: 5%

Rural: 95%
Urban Rural Water Connection

Rural and Urban Stakeholders

- Rural Area Source of Urban Water
- Distribution of Water “Use”
  - 41% Ag
  - 48% Environmental
  - 10% Urban
- Distribution System
- Storage System
- No Water No Food

Mountain Forest Watershed Produces Two Thirds of CA Water
Snapshot California Agriculture

California Farm Gate

- $47 Billion
- 13% of US total
- 400 Different Commodities
- 1/3 US Vegetables
- 2/3 US Fruits and Nuts
- Top Billion Dollar Products: Milk, Almonds, Grapes, Cattle, Strawberries, Lettuce, Walnuts, Tomatoes, Pistachios, Hay

California Agriculture Exports

- $20.7 Billion
- 15.6% of US $133 Billion Total
- Top Billion Dollar Exports: Almonds, Dairy, Walnuts, Wine, Pistachios
- Top Billion Dollar Markets: EU, Canada, China/HK, Japan, Mexico

Source: CDFA
Economic Activity Created By CA Ag Exports
Three Fourths Are Off Farm

Source: USDA ERS
Jobs Created By CA Ag Exports
Two Thirds Are Off Farm

Source: USDA ERS
If rural business grows output 6%, the urban area picks up 16% of all new jobs and 38% of all output. A $1 billion decrease in rural manufacturing output results in a loss of 1,043 jobs and $207,822,848 in revenue among urban businesses.

Figure 1: The agriculture and food value chain

- **Domestic**
- **International**

- **Farmers**
  - Crops
  - Meat
  - Dairy

- **Input companies**
  - Seeds
  - Fertilizer
  - Crop protection
  - Animal health and nutrition
  - Crop insurance
  - Food ingredients

- **Traders**
  - Crops
  - Meat
  - Oils/meal
  - Biofuels

- **Retailers**
  - Hypermarkets
  - Supermarket
  - Corner shops
  - Bakery
  - Meat
  - Dairy
  - Snacks
  - Beverages

- **Consumers**
  - Urban
  - Rural

**Source:** KPMG International
Disruptive Event
Urban Rural Connection

THE BATTLE AGAINST
Invasive Pests and Diseases

Ca Citrus Crop
Worth $2.3 Billion

Asian Citrus Psyllid Spreads
Across California
Disruptive Event
Urban Rural Connection
Shrinking Farm Labor Pool
Probability of Rural Mexicans Working in Ag (anywhere, in Mexico or the US)

The farm labor supply from rural Mexico is decreasing by \textbf{11,200} people each year.

- Mexican and CA farmers have to compete for this dwindling number of farmworkers.

Source: Charlton and Taylor (2014)
Rural Urban Impact of Travel
Critical for some rural counties

<table>
<thead>
<tr>
<th>Rank</th>
<th>County</th>
<th>Percent Employment From Tourism</th>
<th>Percent Earnings From Tourism</th>
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<tbody>
<tr>
<td>1</td>
<td>Mariposa</td>
<td>52%</td>
<td>33%</td>
</tr>
<tr>
<td>2</td>
<td>Mono</td>
<td>49%</td>
<td>32%</td>
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<tr>
<td>3</td>
<td>Alpine</td>
<td>34%</td>
<td>16%</td>
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<tr>
<td>4</td>
<td>Inyo</td>
<td>24%</td>
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<tr>
<td>5</td>
<td>Sierra</td>
<td>23%</td>
<td>13%</td>
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<tr>
<td></td>
<td>El Dorado</td>
<td>8.2%</td>
<td>5.8%</td>
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<td></td>
<td>Nevada</td>
<td>5.5%</td>
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<td></td>
<td>Placer</td>
<td>5.4%</td>
<td>2.6%</td>
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</tbody>
</table>

- **Global Travel 2016**
  - $1.2 Trillion Spending
  - 1.2 Billion Travelers

- **US Travel**
  - $990.3 Billion Domestic & World
  - $157.8 Billion Fed, State, Local Taxes

- **CA Travel**
  - $126.3 Billion Spending
  - $10.6 Billion State and Local Taxes
  - Mariposa $512.2 Million Spending
    - $37.2 Million Taxes
  - Los Angeles $26.8 Billion Spending
    - $2.3 Billion Taxes
New Agriculture Development Cycle

How IoT technology is benefiting today’s modern farming industry

Platform for Rural Prosperity

- **RURAL BROADBAND**
- **NEW AGRICULTURE TECHNOLOGY**
  - Production
  - Water
  - Energy
- **ENVIRONMENT**
- **FOOD SAFETY**

- **RURAL TELE-HEALTH / TELE-Medicine**
- Distance Learning
- Public Libraries
- Transportation & Logistics
- Public Safety - FirstNet
- Direct Market Access to Global Markets
- Rural Agro Tourism & Recreation

New Agriculture Cycle

- Food Safety
- Water
- Energy
- Environment

AgTech

Science

Agriculture
Rural Urban Broadband Interface

Urban

- Direct Market Access
- Distance Learning
- Tele Med
- Tele Health
- Quality of Life

Rural

- Farm Field
- Sensor Centric Ag
- Data Centers

Trans & Logistics
- Business Economics
- Goods Movement
- Manufacturing

Data Agralytics
- IT Driven Design and Production
- New Local Manufacturing
- E Commerce
- Social Media Presence
- Public Libraries
- Colleges

Public Safety
- FirstNet

RURAL
“The digital divide is the number one threat to community economic development in the 21st century”

North Counties and Central Valley Have Greatest DDI

<table>
<thead>
<tr>
<th>County</th>
<th>DDI</th>
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<tr>
<td>Santa Clara</td>
<td>22.5</td>
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<tr>
<td>Sacramento</td>
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<tr>
<td>Fresno</td>
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<td>Merced</td>
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<td>Glenn</td>
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<tr>
<td>Colusa</td>
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<td>Amador</td>
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<td>Modoc</td>
<td>71.1</td>
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</table>
Fresno County 46.6 DDI Obscures Wide Variation Within County

Clovis 36.3

Coalinga Tract 65.5

Huron Tract 66.1

West Hills 56.5