Rural-Urban Connections Strategy

RUCS Project Overview

Rebecca Thornton Sloan
• MTP 2035 EIR mitigation measure for impacts to agricultural resources; greenhouse gas emissions

• Research project as part of the Transportation Control Measure Program

• Supports the NEPA Streamlining effort
RUCS Objectives

• Look more closely at unique issues in rural areas
• Economic and environmental sustainability
• Develop tools to help answer questions
• Engage the region in a conversation
• Develop strategies
Blueprint Principles

- Housing Choice
- Transportation Choice
- Compact Development
- Use Existing Assets
- Mix Uses
- High Quality Design
- Protect Natural Resources
Key to the Map

- Golden areas: areas of existing and future development
- Green areas: green areas (e.g., open space, parks, wetlands, vernal pools, stream corridors, hardwood stands)
- White areas: agriculture and other undeveloped lands
- Light blue areas: rivers, streams, and lakes
- City boundaries
- Highways
- County boundaries

Note: Some vernal pools in Yuba, Sutter and southwest Placer counties are preserved, but are not shown on these maps.
Key to the Map

- **areas of existing and future development**
- **green areas (e.g. open space, parks, wetlands, vernal pools, stream corridors, hardwood stands)**
- **agriculture and other undeveloped lands**
- **rivers, streams and lakes**
- **city boundaries**
- **highways**
- **county boundaries**

Note: Some vernal pools in Yuba, Sutter and southwest Placer counties are preserved, but are not shown on these maps.
Land Developed for Urban Uses

Through 2050
in square miles (ac.)

<table>
<thead>
<tr>
<th>Base Case</th>
<th>661 sm (423,000 ac.)</th>
</tr>
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<tbody>
<tr>
<td>Blueprint</td>
<td>304 sm (195,000 ac.)</td>
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- 228,000 ac.
Impacts on Resources

• Vernal Pools
  – 46,200 ac. (43% of resource)
• Hardwoods
  – 95,500 ac. (20% of resource)
• Annual Water Use
  – 271,000 ac.-ft. (31% reduction)
• Development in Floodplain
  – 9,000 ac. (17% reduction)
Enhancing Rural Economic Viability

Challenges & Opportunities

Topic Areas
1. Land Use and Conservation Policies and Plans
2. The Infrastructure of Agriculture
3. New Economic Opportunities
4. Forest Management
5. Regulations
Current Conditions Paper
(Challenges & Opportunities)
- Current Conditions Workshop + Wiki
- Innovations Paper
- Innovations Workshop + Wiki
- Summary Report
- Implementation
Fresh Strawberries
Now Open
produce for sale right here!
Land Use
Rural-Urban Interface

“Hard Edge”

“Soft Edge”
Rural-Urban Interface

“Hard Edge”

“Soft Edge”
Reducing Conflict

RURAL
- Dust
- Spray
- Noise
- Odor

URBAN
- Traffic
- Pets
- Invasive plants
- Theft
- Vandalism
Rural-Urban Interface:
Percent likelihood of fallowing at...
Innovations at the Edge and Beyond

Rural-Urban Edge
- Buffers
- Ag Parks
- Right-to-Farm
- Policy Boundaries
- City-County Agreements

Supporting Ag Viability Beyond the Edge
- City-County Agreements
- Voter Initiatives
- Supportive Zoning
- Open Space Plans
- Easements, TDRs, etc.
Innovations at the Rural-Urban Edge
Land Use Innovations: Buffers, Ag Parks, Right-to-Farm
Land Use Innovations: Policy Boundaries
Growth Boundaries, Spheres, Districts
Land Use Innovations: Rural housing zoning regulations
Infill and Redevelopment

Through 2050
in square miles (ac.)

Base Case

661 sm
(423,000 ac.)

Blueprint

- 228,000 ac.

304 sm
(195,000 ac.)
Land Use Innovations:
City-County Agreements
Innovations Beyond the Edge
• City-County Agreements
• Ag Zoning and “farm home” sites
• Rural Residential evaluation criteria
Land Use Innovations: Economic Development/ Relief
Land Use Innovations: Preserve Open Land
Top innovations from Stakeholder Workshops

- Growth boundaries
- Public-private collaboration
- Less restrictive zoning
- Limitations on parcelization for new ranchette development
For every 10 acres:

- Agriculture = 0.5-1.0 ton / YEAR
- Development = 0.5-1.0 ton / DAY
The Agriculture Economy
Purpose: Understand future risks and uncertainties that affect agriculture

- Global markets’ affect on local producers?
- What factors most affect which crops?
- Possible changes in crop patterns?
Factors in crop decisions:

– Temperature
– Precipitation
– Soil quality
– Elevation & slope
– Proximity to roads, rivers, cities
– Water & weather
– Costs and prices
Forecasting Model: Factors affecting viability

- Variables affecting crops:
  - Chemicals
  - Equipment
  - Fertilizer
  - Fuel
  - Irrigation
  - Labor
  - Seed
  - Commodity Prices
Forecasting Model: Scenario Examples

- Russian drought and fire reduce wheat harvest
  \[ \Rightarrow \text{Grain prices increase} \]
- Oil resources become more scarce
  \[ \Rightarrow \text{Fuel, chemical and fertilizer prices increase} \]
- Construction industry heats up again
  \[ \Rightarrow \text{Labor prices increase} \]
- Drought persists
  \[ \Rightarrow \text{Surface water decrease, Irrigation costs increase} \]
Forecasting Model: Scenario Examples

Crop Type: Grain

Grain Prices: Stable
- Alfalfa, 15%
- Tomato, 17%
- Rice, 10%
- Rangeland, 8%
- Grain, 36%
- Fallow, 14%

Grain Prices: Double
- Alfalfa, 15%
- Tomato, 17%
- Rice, 10%
- Rangeland, 8%
- Grain, 50%
- Fallow, 0%
Forecasting Model: Scenario Examples

Crop Type: Tomato

Fuel Prices: Stable
- Alfalfa, 13%
- Tomato, 34%
- Grain, 28%
- Rice, 18%
- Fallow, 6%
- Rangeland, 1%

Fuel Prices: Double
- Alfalfa, 13%
- Grain, 24%
- Tomato, 28%
- Rice, 17%
- Fallow, 17%
- Rangeland, 1%
Change in Fallowing on Annual Crop Land due to Change in Cost or Price

- **Base Conditions**: 80,000 acres fallow
- **Current Condition**: Approx. 640,000 acres of annual crop land fallow
Purpose: Understand agricultural viability by using "what if" scenarios:

- Market changes
- Cropping patterns
- Farm practices
- Planning that supports agriculture

Example: Changing alfalfa rotation to dried plums improved economic return
PLACE$^3$S Model Design

Model Inputs
- Current or future crops
- Costs (labor, fuel, fertilizer, etc.)
- Crop yield and price
- Other factors (e.g., habitat, easement value)

Model Outputs
- Crop value
- Demand for inputs (water, seed, trucking, etc.)
- Profit (Revenue – Cost)
2,000 ac. of Alfalfa
Alfalfa Converted to Dried Plums
Less Than 0.5% of County Ag Land:

- **Value**: + $8M
- **Return**: + $2M
- **Water**: + 1,000 ac-ft
- **Labor**: + 35 workers
- **Trucks**: - 250 trips

### PLACE^3^S

**COMPARE SCENARIOS - RESULTS**

<table>
<thead>
<tr>
<th>CURRENT PROJECT</th>
<th>PROJECT TYPE</th>
<th>LEAD ORGANIZATION</th>
<th>STUDY AREA</th>
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<tbody>
<tr>
<td>RUCS YOLO DAVID</td>
<td>NEIGHBORHOOD</td>
<td>SACOG</td>
<td>CUSTOM STUDY SHAPEFILE</td>
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**CURRENT SCENARIO**: ALFALFA TO DRIED PLUMS

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**JOB DIVERSITY CHART**

**HOUSING DIVERSITY CHART**

Logged in as: SHAHAZAN

Contact Site: HELPDESK
The Local Food System
Local Food System

Purpose: Estimate supply and infrastructure needs to meet consumer demand for locally grown food

• Changing diets
• Expanded direct markets
• New wholesale and institutional markets
• Retail and value-added markets
Production and Consumption

- Total Production = 3.4 M tons/year
- Total Consumption = 2.2 M tons/year
- Less than 2% from local growers
Value of the Food System

- Regional Farm Gate Value: ~ $1.6 billion
  *(Total of ~ $3.3 billion in econ. activity)*

- 180 wholesalers ~ $3.3 billion

- 849 stores ~ $4.7 billion

- 4,206 food service outlets ~ $2.1 billion
Local Market Advantages

- Direct sales and local distribution and processing increase profit, create jobs
- Local consumers connect to local producers
- International market fluctuations less disruptive
Local Market Objectives

1. Connect Farmers to Available Land
2. Provide Farmer Business Training Opportunities
3. Expand Local Distribution
4. Increase Local Processing
5. Expand Farm-to-Institution Programs
6. Increase Number & Type of Local Food Outlets
7. Promote Agritourism
8. Increase Consumer Education and Marketing
1. Connect Farmers to Available Land

- Agriculture parks
- Connecting organizations
- Inventory and map available land
2. Provide Farmer Business Training

- Production and business assistance offered by:
  - FarmLink
  - UC Co-op Extension
  - Agricultural Resource Center
3. Expand Local Distribution

- Shared or cooperative facilities
- Grower-owned rural aggregation center
- Distributor-owned aggregation center
- Co-op Aggregation Warehouse
- Electronic (web-based) broker
Shared or cooperative facilities
• Repurpose existing processing
• Commercial kitchens
• Mobile processing
Regional Food Hub

- For-profit – non-profit partnership
- Aggregate local produce
- Use existing distributors to get local food to market
- Volume for larger customers
- Marketing and labeling as “local”
5. Expand Farm-to-Institution Programs

- Schools
- Hospitals
- Correctional facilities
6. Increase Number & Type of Food Outlets

- Urban farm stands, farmers markets
- Hospitals, schools, churches, libraries
- Grocery stores
- Permanent Farmers Markets
7. Promote Agritourism

- Regulations and permitting
- Improve access
8. Increase Education and Marketing

- Local and regional branding
- Education in schools and low-income communities
- Regional buyer’s guide (Food Atlas)
Transportation
1. Urban Rural/Edge Travel: The Challenge

How will we deal with traffic conflicts along rural roads used by both agricultural vehicles and commuters?
1. Urban Rural/Edge Travel: Existing Conditions

- High speed vs. low speed traffic
- Commuter traffic vs. goods movement traffic
- Urban road standards vs. rural road standards
1. Urban Rural/Edge Travel: Innovations

- Rural Traffic Counts
- Safety Analysis
- 44% of fatal collisions vs. 13% of population
2. Farm-to-Market Travel: The Challenge

How will we plan and invest in a network of highways and rural roads to serve needs of production and local agricultural needs?
2. Farm to Market Travel: Existing Conditions

- Key Routes with Critical Improvement Needs
  - 48% of road miles vs. 13% of population
- Consolidation of Processing and distribution facilities outside the region = longer truck trips
2. Farm to Market Travel: Innovations

- Farm to Market Routes Identified
- Local Market Needs?
- Monitoring of Road Maintenance Conditions
- Funding for Additional Planning to Focus Future Improvements
Can we provide new and expanded travel options for rural and small town residents, including agricultural workers?
3. Expanded Mobility: Existing Conditions

- Unsafe & Unreliable Transportation for Agricultural Workers – 72% in statewide survey
- Demand for More Travel Options
- Constrained Funding Opportunities
3. Expanded Mobility: Innovations

- Agricultural Worker Transportation Program (AWTP)
- Increased Funding Information & Coordination of Transportation Services