~ sustainable urbanism ~

Watershed-based Planning Strategies for Ventura County

reigning in the rain workshop
ventura CA
april 08

clark anderson
local government commission
We are growing...

- Statewide: 50 million people by 2032
- LA: 3.5 million new residents by 2050 = total of 13 million
- Ventura: ~ 500,000 new residents from 2000 to 2050
- Many issues to address: Where will those people live? What will they drink? Where will they work?
- From the watershed’s view, how and where we grow are key
Creating Lots of Impervious Surfaces
...and Losing the “Good Stuff”
Why are we growing like this?
We are getting what we plan for...

Conventional development is the result of conventional planning policies (zoning and ordinances)
Conventional land use policies are driving inefficient development patterns creating more impervious cover and replacing more natural land.
The Water Impacts
The Ahwahnee Water Principles

Smart Location, Efficient Development Patterns, Compact Community Design

Preserve and Restore Natural Infrastructure

Sustainable Site Design, Green Infrastructure
Application: Ventura Project

Watershed-based Planning Strategies

Ventura’s Planning Context

- County + 10 Cities
- History of Growth Management
  - Guidelines + SOAR
- Distinct Cities
  - Mix of Urban + Ag

Who’s involved

- County + All 10 Cities
- LA Regional Water Board
- Environmental Organizations
- Building Industry Association
a convergence of ideas

Smart Growth + New Urbanism + Green Design
(Location, Form and Design)
Many Issues to Address

Our Ecological footprint has many toes - all important

- Landscape
- Water
- Energy
- Air
- Climate
- Social

Integrated planning and design
must be just that or else you
might stub a toe...
Goals

Conserve Natural Infrastructure – Preserve and enhance areas that provide ecological services, create efficient development patterns, and encourage good community form.

Reduce the Overall Development Footprint – Accommodate growth in efficient development patterns and compact form to minimize watershed-scale impervious cover and conserve land.

Minimize Development Impacts – Design development to prevent and minimize the impacts of the built environment, and supports compact community form and development patterns.
Overarching Themes

- Natural Infrastructure
- The Importance of Scale
- Development Context
- The Development Footprint
- The Transportation Footprint
- Orchestrating the Elements
Protect Natural Infrastructure
Shrink the Development Footprint

Which pattern is better for water?
Metropolitan Seattle Imperviousness

Per Acre

Per Capita

Source: Criterion Planners for the Puget Sound Regional Council
Scale and Development Context
Importance of Scale

Stormwater will be most deftly managed when the site, the neighborhood, district or community (subwatershed) and the region (watershed) are simultaneously considered for opportunities and impacts.

Same development pattern...... different scale.
Development Context
The Importance of Development Context

Should development on these sites be treated the same?

Need to recognize the differing environmental performance of different development patterns.
- No measure of ecosystem services lost
- Redevelopment of a one acre parking lot treated the same as bulldozing one acre of open space
The Transportation Footprint

Reducing the overall development footprint requires closer attention to the role of transportation related impervious cover. Watershed efforts that fail to address the transportation footprint are likely to miss the largest source of impact.

What inflates the transportation footprint?
- Separation of uses
- Insufficient Density to Support Walking / Transit
- Parking Requirements
- Street Design
- Lack of Transportation Options
- Access and connectivity
- Lack of Jobs - Housing Balance
The Transportation Footprint

requires attention to:
trip generation, parking lots, VMT
The Power of Redevelopment

Redevelopment offers multiple opportunities:

Prevention - recycle pavement
Restoration - retrofit practices
Revitalization - ecological/economic

Thus, redevelopment is likely to play a large role in solving the urban runoff problem. It is critical to enable redevelopment so it can provide these benefits.
Coordination of Design Elements
Coordination of Design Elements

Dense, Green, Redevelopment

- Consolidated, structured parking for entire site
- Cisterns incorporated into architecture
- Bio-retention basin collects roof run-off
- On-street parking is maximized
- Bio-filtration swale in street median
- Containerized bio-retention basins (above grade)
- Recreational open space on parking structure roof
- Preservation of existing mature trees
- Extensive green roof
- Intensive green roof
- Infiltration trenches and permeable paving used for emergency access lane/pedestrian walkway
- Sidewalk bio-retention strip (below grade)
We looked at:
• Open Space
• Compact Design
• Use Mix
• Infill and redevelopment
• Streets and Mobility
• Parking
• Environmental and Site Design

And asked…

1. Which codes drive excess impervious cover at the lot, neighborhood, district, community or regional level?

2. Conversely, which policies support a more compact, less ecologically disruptive development footprint?
What Drives Impervious Cover?

- Use Separation
- Bulk Regulations
- Streets Regulations
- Parking Regulations
- Barriers to infill and redevelopment
What Reduces Impervious Cover?

- Use Mix
- Open Space
- Recycle Pavement
- Infill
- Compact Design
- Mobility Options
- Parking
- Street Design
What Drives Impervious Cover?

Use Separation
Use Separation

This type of housing... ...is served by this type of retail, roads, and parking.
Researchers at Purdue University examined two possible project sites in the Chicago area and found that the hypothetical low density development on the urban fringe would produce 10 X the runoff the a mixed-use development in the urban core.
What Drives Impervious Cover?

Bulk Regulations (height, setbacks, frontage density, intensity)
Enabling Compact Form

The Importance of Compactness
- minimize the development footprint
- minimize the transportation footprint
- enable alternatives to auto
- create market alternatives to “big box” commercial
- enable human contact
- dismantle sprawl
- efficient land use
- minimize water demands
Stormwater Benefits of High Density Development

Condominiums at Ionia

**SW Benefits**

- Compact footprint
- Pavement Reduction
- Land conservation
  - vertical density
  - structured parking
  - mixed use
Stormwater Benefits of High Density Development

Condominiums at Ionia

95.3% Runoff Reduction
The watershed’s perspective
Redevelopment

Analysis in King County, Washington, found enough vacant and eligible redevelopment property to accommodate 263,000 – 500,000 people.

A George Washington University study (2002) found that for every brownfield acre that is redeveloped, 4.5 acres of open space are preserved.
How would this development demand (225 residential units and GF retail) look out in the watershed?
Redevelopment recycles pavement

Photo Simulation by Steve Price, Urban Advantage (www.urban-advantage.com)
Redevelopment recycles pavement

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Photo Simulation by Steve Price, Urban Advantage (www.urban-advantage.com)
How would this development demand (278 Units and 4,486 sq. ft. of retail, 420 Parking Spaces) look out in the watershed?

- 4.26 Acres
- 278 Condominium Units
  - (65 Units/acre)
- 4,486 sq. ft. of Retail
- 7-level Parking Garage
  - 420 Parking Spaces
Urban Design BMPs: Mixed Use - Infill

• 176 Apartment Units (100 Units/Acre)
  – 47 Affordable Units
• 12,000 sq. ft. of Retail
• 2006 “Project of the Year” Business Journal

How would this development demand (176 Units and 12,000 sq. ft. of retail) look out in the watershed?
Urban Design BMP: Residential Infill

How would 109 Units + Parking look out in the watershed?

Capital Park Homes
- 25 du/ac
- 64 Single-family Town Homes
- Tuck-under Garage
- Work/Office on First Floor

Metro Square by: Saris Regis
45 Residential Units
What Drives Impervious Cover?

Parking
Parking

the watershed’s perspective

Fixing parking:
Reduce the parking footprint - parking programs, reducing VMT, trip-making, walkability, transit
LID applications
What Drives Impervious Cover?

Street Design
Street Design
the watershed’s perspective

Watershed goals: connectivity, grid pattern, walkability, mobility options, geometry (width/length), paving materials.

Most codes require overly wide streets to enable higher design speeds.

Arterial streets shall be not less than 84 feet wide. Street width shall be between right-of-way lines.

• Collector streets shall be not more than 84 feet wide.
• Industrial streets shall be not less than 74 feet wide.
• Generally, local streets shall be not less than 60 feet wide.
Accommodating 10,000 units on a 10,000 acre sub-watershed at different densities

Streets and Parking
- permeable pavement -

The Ventura County Fire Protection District's Codes and Ordinances limits paving materials to asphalt and concrete in travel lanes.

Standard 14.6.9 on Alternative Pavers
"Alternate surface pavers are allowed on a limited case by case basis only… approved by the Fire Prevention Bureau and comply with all the requirements of this standard."

Most codes focus on quantity, not quality. We have too much “meaningless” open space.

**Meaningless Open Space?**
- screening, landscape strips, hedges, etc.
- OK when land is abundant, but not now

**Meaningful Open Space?**
- large connected areas
- ecologically / economically valuable areas
- social interaction
- multiple functions (drainage, play, connectivity, aesthetics)
- enables compact form
- provides “near-by” nature
Multi-functional parks and open space
~ floodplain+parks+habitat+open space+wetlands ~
Why a program for “alternative” compliance?
- Dismantle the components of sprawl (don’t add to them)
- Address transportation footprint/impacts
- Prevent imperviousness and land conversion
- Reduce the overall development footprint
- Avoid unintended consequences
- Attain a higher level of environmental performance
- Coordinate with other community objectives
R-What?

Redevelopment Project Area Master Plan

- A way to “credit” infill and redevelopment
- A defined planning area within a city (permittee)
- Must be approved by Regional Board
- Can receive “credit” inside the RPAMP
  - on-site requirements can be reduced

Permittee(s) or a coalition of … may apply to the Regional Board for approval of an (RPAMP) for … projects within Redevelopment Project Areas.

RPAMP… may substitute in part or wholly for on-site requirements.
Recognize sensitivity and target solutions for those sites.
Inside an RPAMP

Credit design strategies that fit the development context

Infill & Redevelopment
- Transit proximity
- Mixed Use
- Density
- Streets and Parking

LID Techniques
- Urban sites
- Retrofit prioritization

City of Ventura Urban Watershed
RPAMP Upsides & Downsides

Downsides:
Administrative Nightmare?
How big and where?
What are the performance thresholds?
What values for various development types?
Does not recognize good form in greenfield sites

Upsides:
Gets location, scale and context right
Could align with lieu fees for priority needs / retrofits
Could tee up shared drainage opportunities
Ideas for a successful program

1. Toss the name RPAMP (too much baggage)
2. Agree on overall goals of the program
3. Assess best options for administration (tiered, location-based, point system, combination)
4. Determine “weights and measures” for development types
5. Try it out - modeling
Thanks and Stay Tuned!

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