

Līhu'e, Kaua'i SDAT:
Building a Framework for a Sustainable Future

AIA Communities by Design
ENVISION. CREATE. SUSTAIN.

What is an SDAT?

The **Sustainable Design Assessment Team** program provides broad **assessments** to help frame future policies and sustainability solutions.

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SDAT Principles:

- Multi-Discipline Team
- Objectivity
- Community Participation

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Local Steering Committee

Imai Alu, Deputy Director, County of Kaua'i Planning Department
 Neil Clendennin, MD and Lihu'e Business Association member
 Pat Griffin, President, Lihu'e Business Association
 Palmer Hafdahl, Palm's Hawaii and member, AIA and Lihu'e Business Assn.
 Karen Ono, Director, Kaua'i Board of Realtors
 Shawn Shimabukuro, Project Manager, Grove Farm
 Diane Zachary, President & CEO, Kaua'i Planning & Action Alliance

Kaua'i SDAT Support

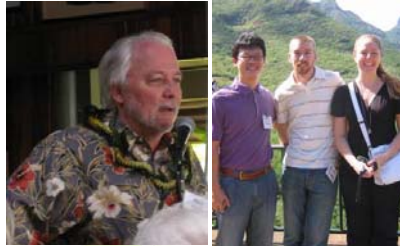
University of Hawai'i



GRADUATE STUDIES

Clark E. Llewellyn, AIA Dean, School of Architecture

**Alana Bohler,
Eric Siwy,
Hong Joon Yang
Graduate Students**



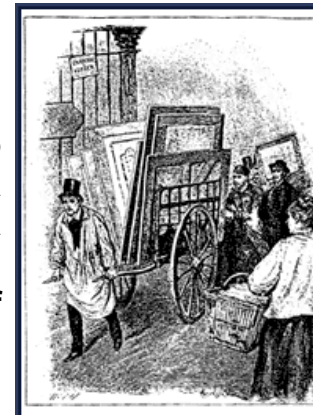
National SDAT Team

Peter Arsenault, AIA- *Team Leader*
Dennis Andrejko, AIA- *Renewable Energy*
Kerry L. Dietz, AIA- *Housing Affordability*
Jed Kolko, *Economic Development*
Daniel Meyers, AICP- *Transportation and Transit*
Dan Williams, FAIA, APA- *Land Use and Smart Growth*
Erin Simmons, AIA Center for Communities by Design



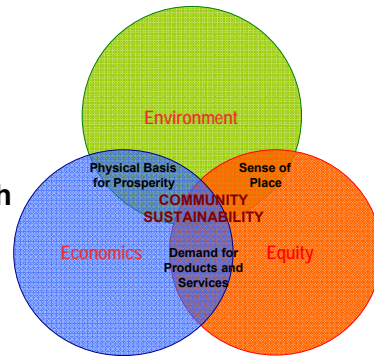
Charrette: the little cart

A focused effort to produce a result in a defined period of time.



Three Elements of Sustainability

- Environmental Stewardship
- Social Equity
- Economic Development/Growth



All planning decisions must be assessed based on all three elements- advances in only one, to the detriment of the others, is not sustainable.

Kaua`i SDAT Presentation

- Common Themes Overview
 - Land Use Planning
 - Housing
 - Transportation
- Economic Development
 - Renewable Energy
 - Next Steps

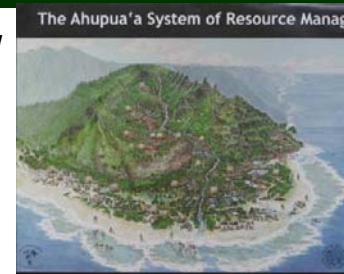
1. Lihue as "The Gathering Place of Kaua`i"

- Government / Political Center
- Commercial center
- Transportation Center with links to rest of island and rest of world
- Center as the "heart" of the community



2. The Land and the People are Connected

- Love of the outdoors / Love of the island - *Aloha Aina*
- Recreation and Parks
- Green energy that respects the island
- Places to walk, bicycle, and to know people



3. Self-sufficient and Independent Kaua'i

- Embrace the unique cultural make-up
- More local food production
- More local and renewable energy
- Self sufficiency through diversity



Common Themes

4. Need to Act Now to Overcome Uncertainties

- “Business as Usual” may not be best
- Island is vulnerable
- People have concerns about long term welfare
- Political leadership



Common Themes

Land Use & Smart Growth* Transportation * Housing

Daniel Williams,
FAIA, APA
Seattle, WA

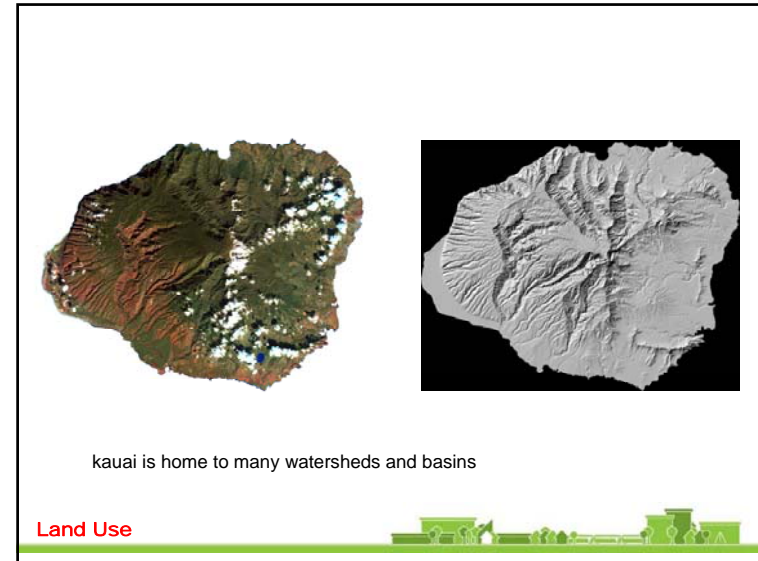
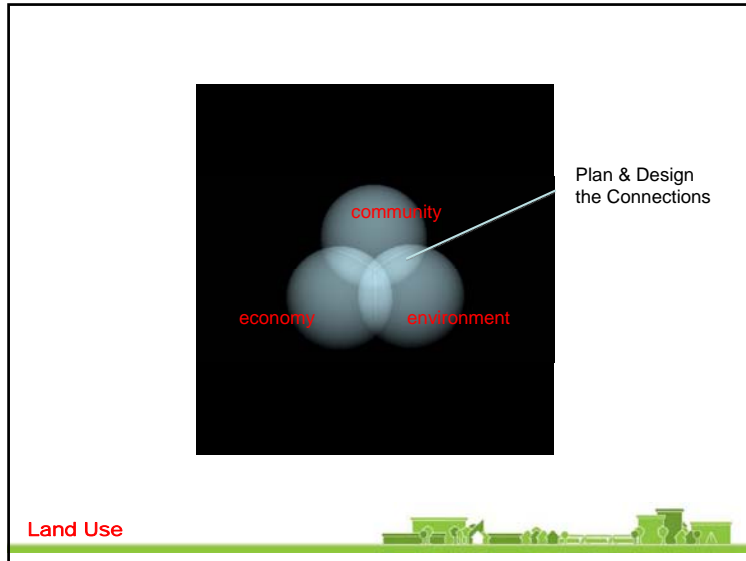
Daniel Meyers, AICP
URS Corporation
Minneapolis, MN

Kerry L. Dietz, AIA
Dietz & Company Architects
Springfield, MA

Land Use and Smart Growth

Patterns for simultaneous economic, community and ecologic well being

Land Use



land use and smart growth

What is **land use** and **smart growth**?

the intentional, thoughtful development of patterns that will guide development, preservation and efficient growth in a specific area.

How can **land use planning** help develop sustainably?

by placing and connecting compatible land uses in a manner that improves efficiency.

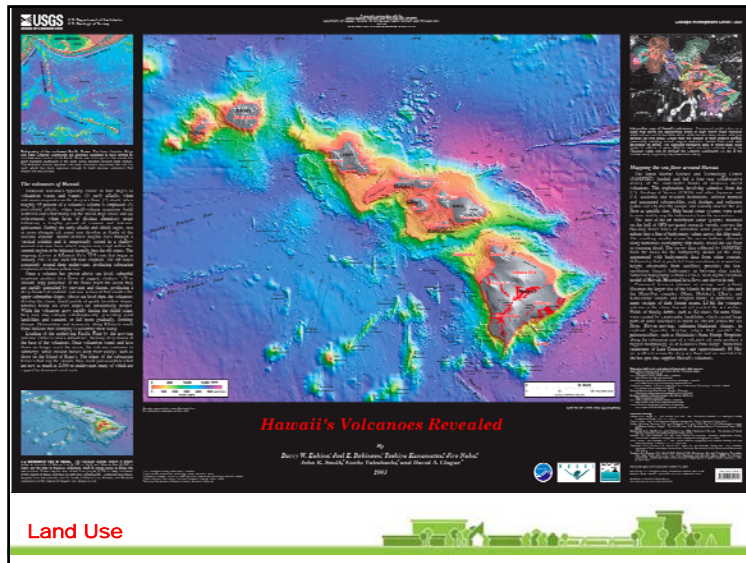
Kauai – Lihū'e sustainable land use planning – smart growth

Land Use

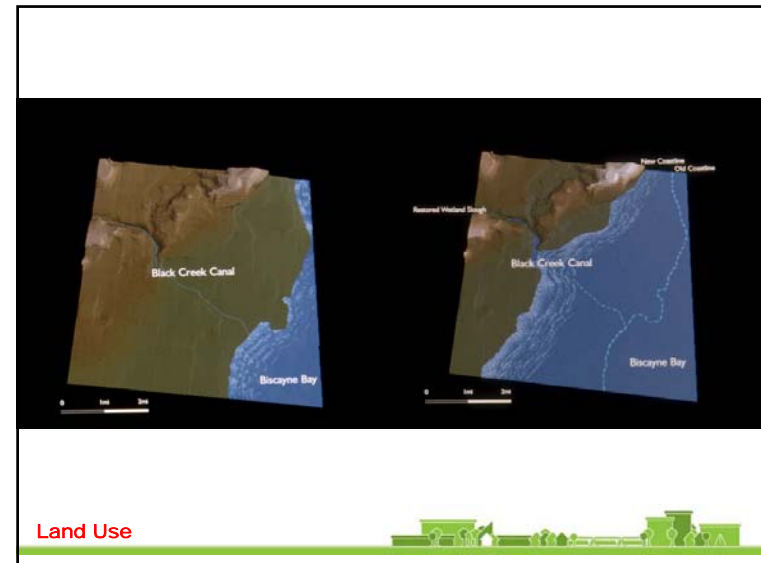
assessment

Strengths	Weakness	Opportunity	Threats
<ul style="list-style-type: none"> ✓ Island system ✓ Historic ✓ Deliberately zoning ✓ Islands of Hawaii ✓ Strong sense of community ✓ Family ✓ Open space ✓ Military history ✓ Spirit of aloha ✓ Culture ✓ Independence ✓ Self-sufficiency ✓ Resilience ✓ Desire for sustainable, responsible energy use ✓ Agriculture based ✓ Infrastructure (Historically) ✓ Have the ability and determination to make change 	<ul style="list-style-type: none"> ✓ Identify an impact based covering ✓ no official plan, and knowledge ✓ Lack of alternative energy ✓ Lack of job production ✓ Lack of policy of government ✓ Government permitting time ✓ Heavily dependent on tourism ✓ Community leader ✓ Lack of infrastructure ✓ Infrastructure ✓ few jobs ✓ History 	<ul style="list-style-type: none"> ✓ Smart growth can preserve the most liberal when preparing ✓ Decision maker well-situated ✓ Mobility ✓ New zoning program to implement ✓ Do not have to follow existing trends ✓ Green jobs ✓ Least cost smart growth regulations ✓ Community based planning ✓ Shift tourism paradigm ✓ Strong medical sector ✓ Health & wellness ✓ Niche tourism ✓ Agriculture 	<ul style="list-style-type: none"> ✓ Strong local position ✓ Economic budget not sound ✓ Overl development ✓ Drugs and Gaming ✓ Unreliable, unreliable land with regulations and permitting ✓ Lack of jobs ✓ Heavily dependent on imports – fuel, food and building materials ✓ Agricultural distribution network ✓ Consumer habits ✓ Increasing carrying capacity ✓ House vs. Home Niche ✓ Housing prices ✓ release of land

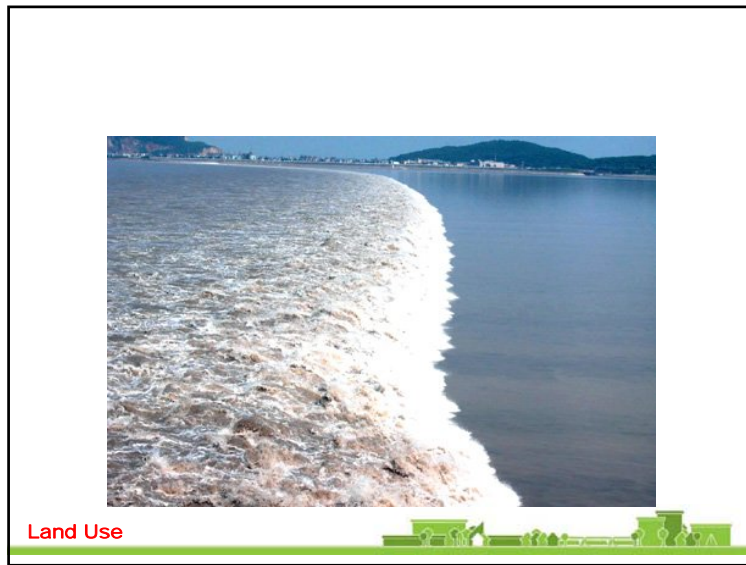
Land Use



Land Use



Land Use

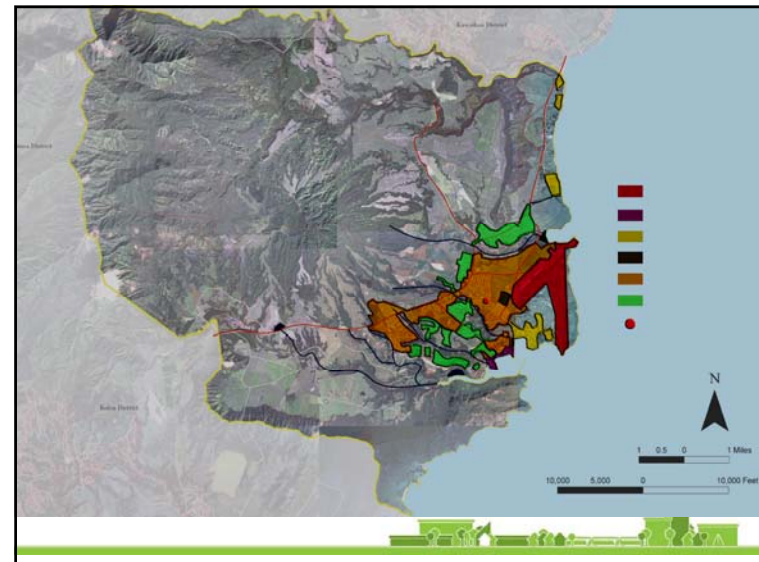
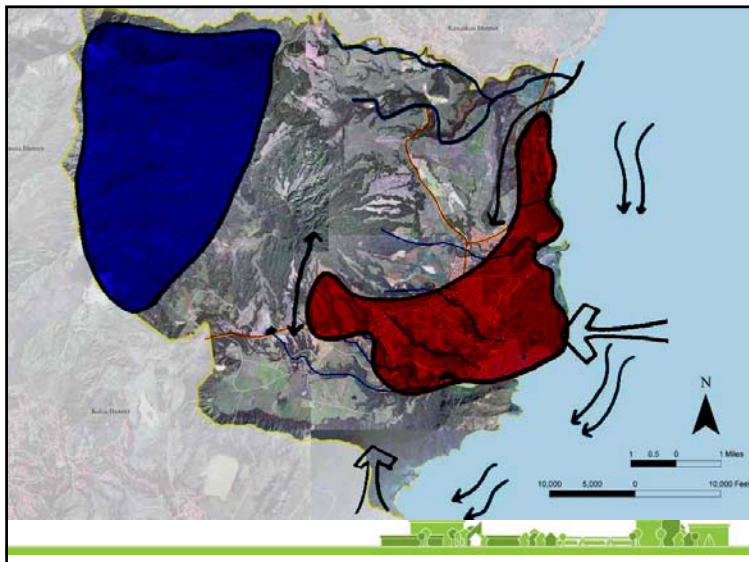
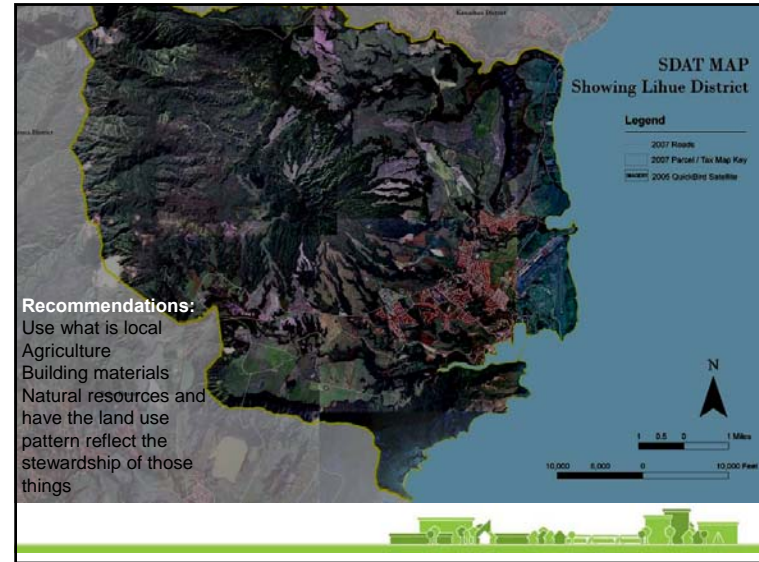
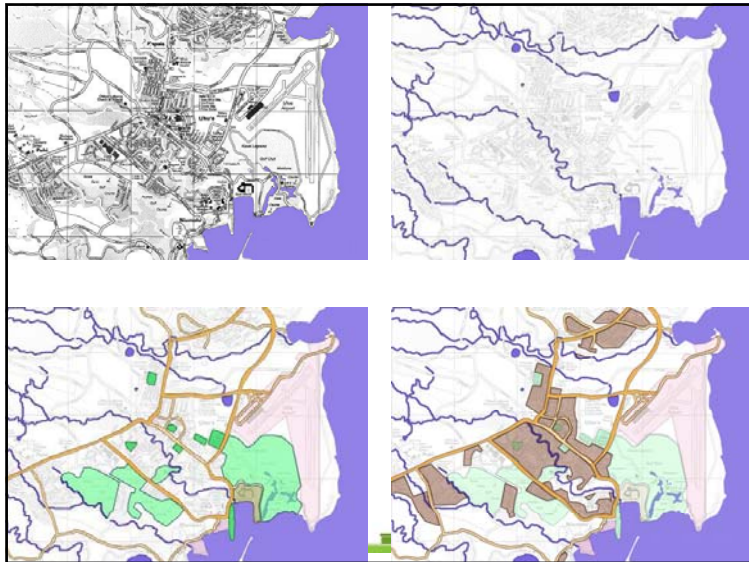


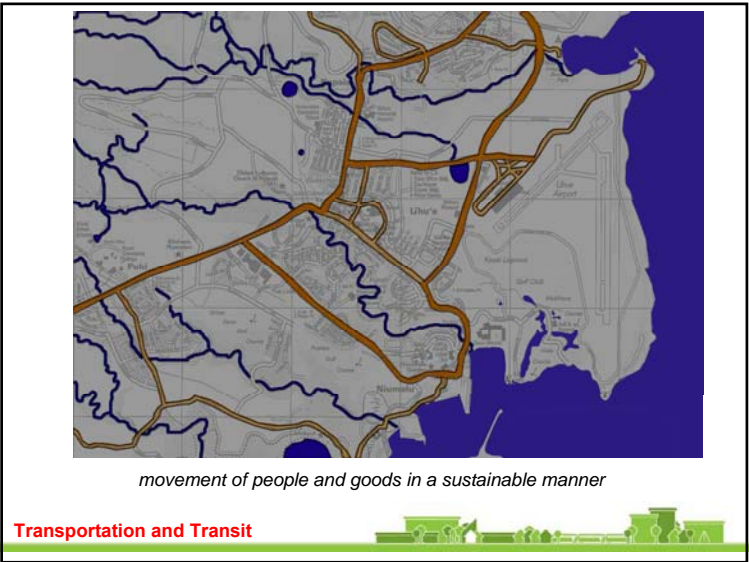
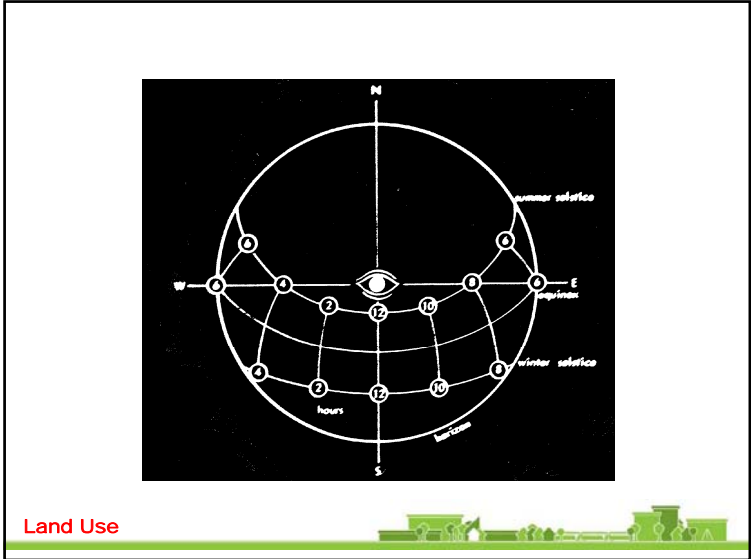
Land Use



Land Use







Sustainable Transportation

- Background
 - Congestion growing
 - Bottlenecks at peak travel times
 - Managing congestion
 - Excellent base transit system – ridership growing
 - Initial shared use pathway complete
 - Excellent airport and harbor facilities



Transportation and Transit



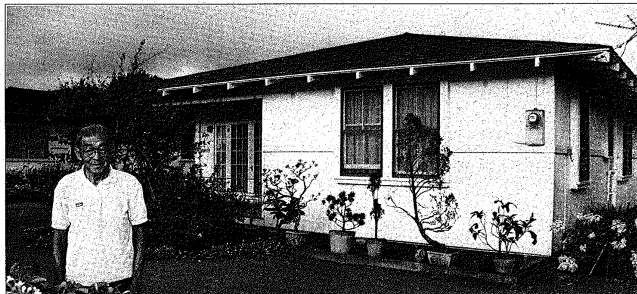
Assessment

- Need to build on success of transit and pathways
- Lack of land use – transportation connection
- Pathways to major nodes missing
- Evacuation and traffic accident delays
- Lack of alternative fuels
- Funding levels diminished
- No current transportation sustainability plan

Transportation and Transit



Housing for Kaua'i's Future



Housing



Is this what we want?

- “Lots of my friends are worried about affordable housing. They are concerned that their kids won't have the opportunity. When I was in elementary school we would walk home every day. Back then every home had only one car per family. The roads in Lihu'e were developed for horse and buggy. I miss the “old” days. Life was simple and SLOW. I would walk down and around Lihu'e... You cannot stop progress but we can slow it down until we get it right. You can't turn back the hands of time but you can look at Maui and ask ourselves – Is this what we want?”

From a participant at the Lihu'e's Baby Lu'au

Housing



Context

If the
current median costs of housing are
Single family residence - \$515,000
Condominium - \$520,000

And

Median household income is \$47,176

Housing



Context

and

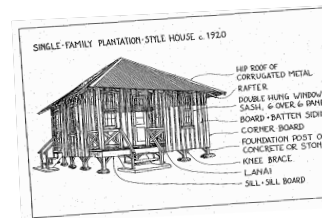
If housing costs are limited to 30% of the
household income, then \$1,180 is
available per month for a mortgage

This means all you can afford is an
\$180,000 house

Housing



Key Strengths

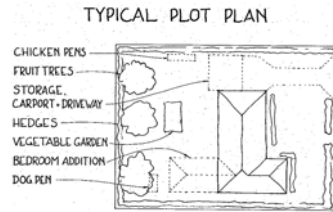


- Aloha 'aina/Community
- Tradition and Legacy*
- The Island of Kaua'i *
- Rural Character*
- Lihue City Center
- Workforce Housing*
Ordinance

Housing



Key Weaknesses



- The Garden Island
- Tradition and Legacy
- Rural Character of Housing
- Permitting and Regulation
- Workforce Housing Ordinance
- Hidden Homelessness

Housing



Key Opportunities

- Kaua'i's Desirability*
- Lihue Town Center
- Grove Farm Land*
- Sustainability
- New Models
- Reducing Housing Costs



Housing

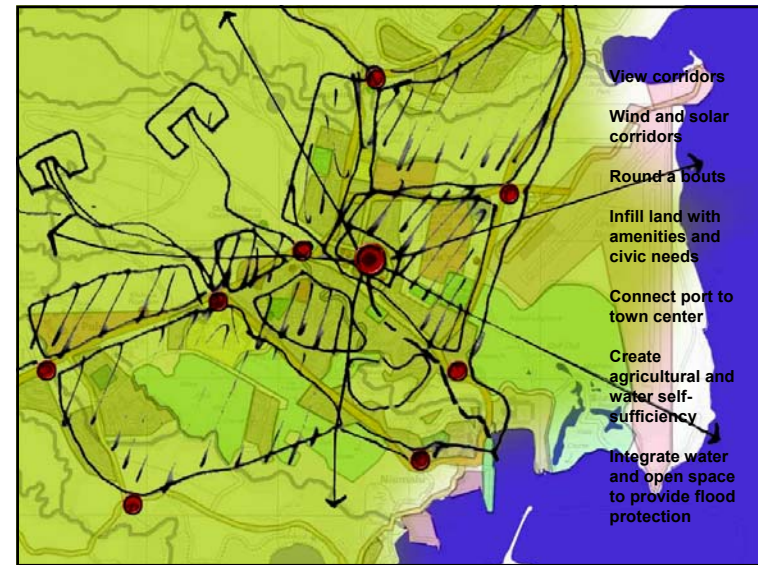


Key Threats

- Decrease in Income Levels
- Maintenance of status quo
- Ownership Concentrations and Uncertainty
- Cost of Construction
- Haves vs Have Nots



Housing



Recommendations

- Implement “Complete Streets”
 - Adopt design templates
 - Emphasize safety and pedestrians
 - Bypass routes for evacuation and emergencies
 - Roundabouts
 - “Main Street” initiatives



Transportation and Transit



Recommendations

- Increase transit usage strategies
 - Shelters
 - Marketing / Branding
 - More frequent service
 - Shuttle services
 - Bus lanes



Transportation and Transit



Recommendations

- Manage traffic congestion using technology
 - Rideshare
 - Signal
 - Lane redistribution

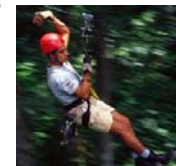


Transportation and Transit



Recommendations

- Green transportation
 - Manage storm water runoff
 - Alternatives to single occupant vehicles
 - Reduce vehicle emissions
 - Efficient street lighting and signals
 - Recycled asphalt



Transportation and Transit



Recommendations

- Maximize public safety
 - Reduce traffic fatalities
 - Safe Routes to School
 - Safe Roads for Seniors



Transportation and Transit



Recommendations

- Link transportation with land use
 - Walkable neighborhoods, town, district
 - Sidewalk / Pathway system
 - Access management
 - Develop neighborhood transportation plans



Transportation and Transit



Vision for Kaua`i Housing

- An expanded definition of affordable housing
- Efficient use of resources
- Broader range of housing models
- Capitalize on green technologies

Housing

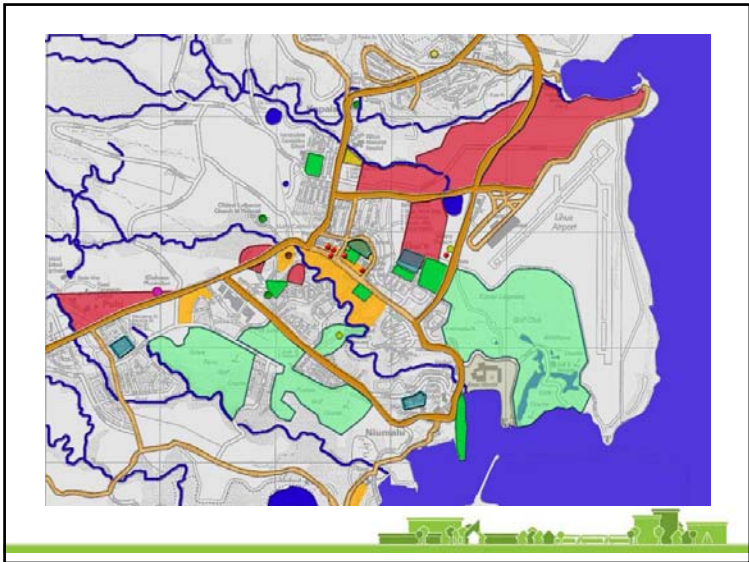


Key Recommendations

- Temporary, Focused ho`omaha on Development
- Streamlining of the Permitting Process
- Provide Different Resources or Incentives
- Inventory Existing Affordable Housing

Housing





Another model

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 IMAGINE. CREATE. SUSTAIN

Other models...

Economic Development

Jed Kolko
 Public Policy
 Institute of California
 San Francisco, CA

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Economic development: the long view

- What “economic development” means:
 - Jobs
 - Social prosperity
 - Food on everyone’s table
- The impending recession highlights but **does not change** the fundamental issues

Economic Development



Strengths

- Abundant natural gifts
- Strong, rich culture
- Collaborative, self-reliant spirit
- Land and irrigation system
- R&D facilities
- Telecom infrastructure plus midpoint location



Economic Development



Fragilities

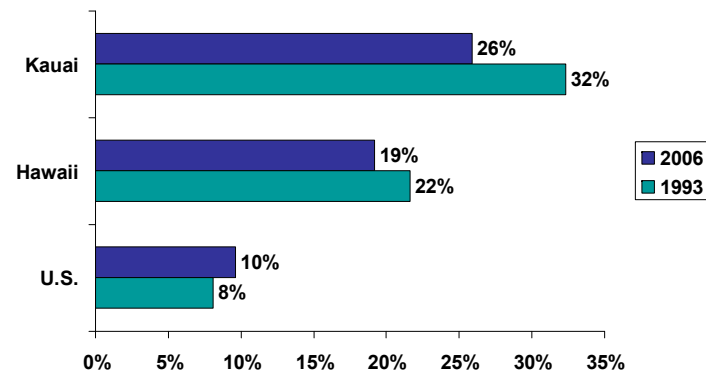


- Geographic isolation
- Small size
- Costly energy and housing
- Growing disparity between “haves and have-nots”
- Reliance on single industry

Economic Development



Tourism economy, but slowly diversifying



Share of employment in hospitality
Source: NETS



The sustainable vision

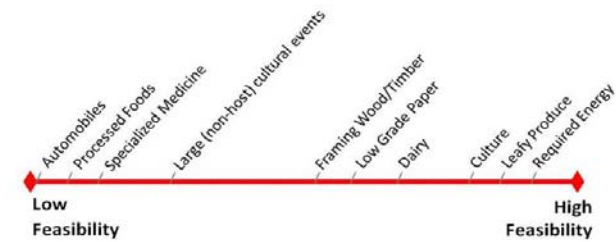
- **Leverage tourism**
 - "We should direct tourism, rather than let it direct us"
 - Tourism should bring short-term AND LONG-TERM benefit to locals
- **Diversify to increase self-reliance**
 - Improve survival in disasters
 - Improve long-term sustainability
 - What is feasible?
 - Don't forget services!



Economic Development

Realistic self-sufficiency

Feasibility of Self-Sufficiency



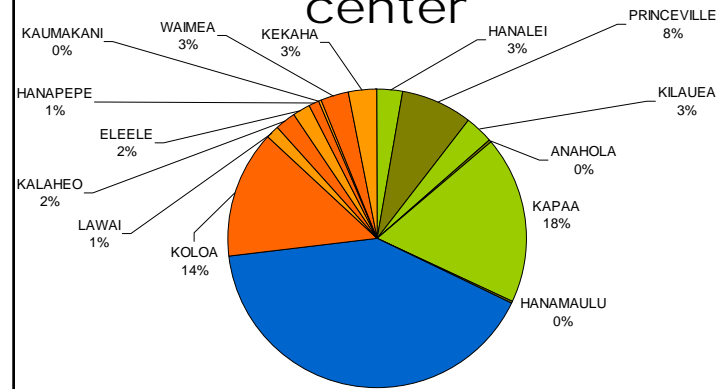
Economic Development

Four concrete recommendations

1. **A learn-and-teach model for visitors**
2. **The micro-business incubator**
3. **Diversify through production and distribution**
4. **Self-reliance through local consumption, not just local production**

Economic Development

Lihue is the economic center



Share of Kauai jobs by town, 2006
Source: U.S. Census

New gathering place for Lihu'e

- **The micro-business incubator**
- **Walkable to restaurants and stores**
- **Transit accessible**
- **Design matters**



Economic Development

Renewable Energy



Dennis A. Andrejko,
AIA, NCARB
University at Buffalo, NY

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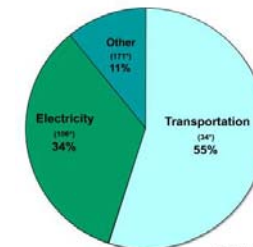
Renewable Energy



Renewable Energy

Renewable Energy Overview

- Growing old is inevitable, growing up is optional..... or so we think.



Hawaii Petroleum Use

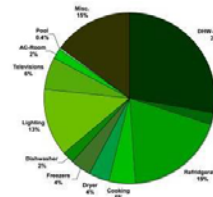
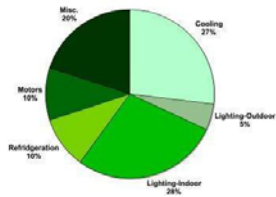
*Trillion Btu

Renewable Energy

Renewable Energy Overview



- Commercial Energy
- Residential Energy



Renewable Energy



Assessment



- **Transitioning from carbon based to green based**
- **Strengths**
 - A “garden” climate and setting
 - Abundant natural resources
 - Rich history and culture
 - Small scale advantage
 - The KIUC



Renewable Energy



Assessment



- **Weaknesses and Challenges**
 - Various policy and political encumbrances
 - No connection to state grid
 - Grid (in)frequency
 - Regulatory Structure
 - “Imported” design style
 - Limited staff in crucial support areas
 - No clear goal or vision
 - The KIUC



Renewable Energy



Vision



- **An energy/ecological footprint that is “invisible”**
 - Relies solely on Renewable Energy
 - Provides a stable, economical, energy price
 - Preserves local land and resources
 - Preserves global resources and climate
 - Enhances the well being of the island and its people
 -give back more than you take.....

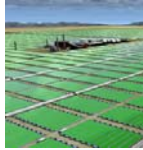


Renewable Energy



Recommendations

- Achieve conservation, efficiency, neutrality, and stability through locally produced, culturally connected, and indigenous sustainable sources
- Balance conservation/efficiency with locally generated supply
- Establish metrics and measure success
- Meet or exceed objectives by 2030
-taking the journey.....



Renewable Energy



Recommendations

- **Four Strategic Criteria**
 - **Conservation** – the most important energy strategy
 - **Education** – communicate, inform and deliver knowledge
 - **Demonstration** – celebrate “walking the walk”
 - **Transformation** – achieving success in exemplary fashion



Renewable Energy



Conservation

- Reduce transportation energy
- Optimize conservation and efficiency efforts
- Establish Building Design Criteria and Guidelines
 - Grounded in Ahupua'a principles
 - Holistic approaches
 - Passive and natural energies
 - Optimize climate, context, and microclimate



Renewable Energy



Education

- Develop school education programs
- Develop community workshops and training
- Celebrate by community events
- Educate, Educate, Educate
 - Begin young and extend to old



Renewable Energy



Demonstration

- Lihu'e becomes an information and technology clearinghouse
- Have the county "walk the walk"
- Create a model, sustainability demonstration center
- What about PIKO? (more later)
- Institute a Division of Sustainability with an Energy Officer



Renewable Energy



Transformation

- Universal Solar Water Heating (SDHW)
- Transportation completely alt fuel powered
- Zero waste energy
- Energy Security
- Reliability and Grid Stability
- On Island Rate Stability
- Electrical generation with 100 percent renewables – DREP
- Benchmarking and metrics to meet 2030
- COLLABORATION is key



Renewable Energy



What if.....

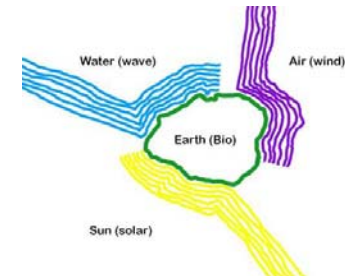
- What about **PIKO**?
- Generate the **Power**
- Provide the **Information**
- Deliver the **Knowledge**
- Create the **Opportunity**



Renewable Energy



Summary



Renewable Energy



Summary

- Active children = active adults
- Think about both carrying capacity and “caring” capacity
- Reach to the past to bridge to the future
- Onward and upward



Renewable Energy



PIKO (old mill)



Renewable Energy



PIKO



Renewable Energy



PIKO



Renewable Energy



PIKO



Renewable Energy

PIKO



Renewable Energy

What happens next with the SDAT?

- 2-3 Months: SDAT Report delivered to the community
- Post-Visit to One Year: Conference Calls
- One Year Assessment



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Update the plan, then act on the plan

- Let the updated planning process work
- Look at updating related regulations
- Stick to the plan
- Consider temporary, focused, no omaha on development until plan is in place



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Stay Involved

- Continue to seek all voices and update the processes of decision making



Focus on Sustainability

- Think beyond today to see the Kaua'i of future generations.
- Continue to love the land, the people, and the culture that are unique to here.



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AIA Center for Communities by Design: Contact Information

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