ALEX: I'm going to review the results of our first public workshop on July 22\textsuperscript{nd} in Keaau.
At that workshop, people were seated according to the sub-district of Puna in which they live. This map shows the four sub-districts by color code – green for Volcano, red for Puna Mauka, yellow for Puna Waena, and blue for Puna Makai. This map is displayed over there (point), so you can take a closer look during the break, if you haven’t already.

After the initial presentations at the workshop, people seated at each of the tables began a facilitated discussion of the things they valued about living in Puna, their reasons for living here, and what they saw as the principle issues facing the district. Then they expressed some of these issues and opportunities on a map of the district. The results of these mapping exercises are also displayed over there (point.)

One of the interesting results is that people did not confine themselves to issues and concerns related only to their subdistrict. While most of the comments tended to cluster in the areas that people knew best – that is the sub-district in which they lived – many of the comments extended beyond the sub-district into other areas. This shows the important connections, interrelatedness, and, to some extent, the interdependence between the communities of Puna.
WHY DO YOU LIVE IN PUNA?

- People, Culture & Community Character: 48%
- Nature & Climate: 36%
- Affordability & Economics: 16%

PUNA COMMUNITY DEVELOPMENT PLAN
WHAT'S UNIQUE ABOUT PUNA?

- Affordability & Economics
- People, Culture & Community Character
- Nature & Climate

Number of Comments

Volcano
Mauka
Waena
Makai

PUNA COMMUNITY DEVELOPMENT PLAN
CORE VALUES:
WHAT TO PRESERVE AND ENCOURAGE

- Malama I Ka `Āina, Lōkāhi - Living with Forest and Ocean
- Inclusiveness & Diversity - Aloha, Ohana, Kokua & Laulima
- Self Reliance - Farming, Off Grid & Local Businesses

PUNA COMMUNITY DEVELOPMENT PLAN
TOP ISSUES BY SUB-DISTRICT

- Transportation
- Public Facilities & Services
- Land Use, Planning & Development
- Recreation Facilities & Parks
- Social Issues
- Economic Prosperity
- Environmental & Natural Resources
- Public Utilities - Energy, Water, Waste
- Arts, Culture & Heritage in Puna
- Sustainable Island Development
Ethnicity of Participants

- Caucasian
- Japanese
- Chinese
- Korean
- Filipino
- Native Hawaiian
- Other

Census Year 2000
Small Group Participants
First Workshop Participants

Puna Community Development Plan
AGE PROFILE OF PARTICIPANTS

- Census Year 2000
- Small Group Participants
- First Workshop Participants

Age Profile of Participants:
- Under 20 years
- 21-24 years
- 25-44 years
- 45-54 years
- 55-59 years
- 60-64 years
- 65-74 years
- 75 or older

PUNA COMMUNITY DEVELOPMENT PLAN
EDUCATION OF PARTICIPANTS

Census Year 2000
Small Group Participants
First Workshop Participants

Less than high school
High school graduate
Some College
College Degree
Post Graduate

PUNA COMMUNITY DEVELOPMENT PLAN
How do we travel?

- Average number of trips outside your community per person per week
- Average number of hours per person spent in a car per week

Puna vs. U.S.
WHERE DO WE TRAVEL?

- Pahoa: 27%
- Kea‘au: 20%
- Hilo: 44%
- Mt. View: 4%
- Kurtistown: 4%
- Others: 1%
JOHN: When I showed this June 2006 aerial view of Hawaiian Paradise Park at the first workshop in July, there was an audible gasp from the audience. This photo shows pretty clearly how much Puna in general has grown, and how certain locations in particular – such as the area near the Highway 130 corridor – are filling out with new homes. But there is still much capacity for future growth because about 75% of the lots in Hawaiian Paradise Park, for example, are still vacant. Some subdivisions – especially those that are more distance from highways and water systems, have even higher percentages of vacant lots.
Today we’ll take a look at what the future may hold for Puna. I’ll show three potential alternatives or “scenarios”.

The “Current Trends” scenario shows what will happen if the present rate and pattern of growth continues into the future.

The “General Plan” scenario – that is, the policy plan that was adopted by the County in 2005 -- has a somewhat different view, because it designates areas surrounding Kea‘au and Pahoa and an area along the coast called “King’s Landing” for future urban development. I’ll show a map of these locations later.

Finally, there as a potential “Village Centers” scenario, which is based on the idea of having multiple centers for community services – both public and private – throughout Puna. This is not a new idea. In fact, it was frequently mentioned in the Small Group meetings and the July workshop. I’ll also show a map illustrating this concept a bit later.
To start with our scenarios, we first had to consider the amount and rate of housing development and population growth. Construction and related population growth is generally tied to economic cycles. Often, it does not occur in a straight line increase or decrease. But the pattern of past growth in population and building permits for new dwellings is usually a good indicator of what is likely to occur in the future if we average the rate of growth to account for the upturns and downturns in the cycles. These factors suggest this growth curve for the population (red line) and number of new dwellings (blue columns) to 2030.
No one has a crystal ball. Projections are only approximations, and are usually expressed as a range. Our projection of 62,776 residents by 2020 fits within the high side of the range that was projected for Puna by the General Plan.
Our figure is also very close to what the Puna Regional Circulation Study projected for Puna’s resident population in 2020, although we project a somewhat lower population figure in 2030 than that study does.
But projecting future conditions isn’t just about the numbers. It is also important to understand how that population will be distributed throughout the region. Where will people live? What will be the relative density and pattern of development across the land? This helps tell us where services are needed and where and how people will travel to get to services and employment.

We looked at several factors that influence where new development is likely to go – again, looking to the recent past pattern of development activity to give us clues to the future.

We found that lots that have proximity to potable water system, to a highway, to community services centers such as Pahoa, Kea‘au, and Volcano, to other developed lots, were more likely to develop. We also found that the presence of natural hazards, particularly flood conditions and volcanic/seismic risks tended to reduce the likelihood of development. We developed a rating system and gave each of Puna’s vacant lots a rating for “likelihood of future development.”

We’ll show you the results of this analysis in the following sequence of slides at intervals of five years – from 2000 to 2030. Smaller lots or lots with multiple dwellings will be shown in deep red, medium size lots in orange, larger lots in yellow and still larger lots in light green. Medium green represents Conservation and other undeveloped lands.
These were the developed lots as of 2000. Notice the different color codes showing the relative density of development.
This was the development pattern in 2005, based on actual building permits issued to that date.
This is the projection in 2010, based on a projection of current trends. Remember, we are not saying this is what **should** happen, only what is **likely** to happen if trends continue.
In 2015, notice how development is concentrating near the Highway 130 corridor and, to a lesser extent, near Highway 11.
CURRENT TRENDS 2020

...in 2020...
… in 2025…
…and in 2030.
OBSTACLES AND CHALLENGES

- The most significant growth potential is in “non-conforming subdivisions” (i.e., with sub-standard improvements) consisting of 50,000 legal, non-conforming lots.
- The “Current Trends” scenario is the “path of least resistance”.
- Lot sizes are generally characteristic of suburban rather than rural density.
- Difficult to imagine the ultimate conditions if full-build-out occurs because the impacts occur gradually.

What these maps show is that the most significant growth potential is in “non-conforming subdivisions” (i.e., with sub-standard improvements) consisting of 50,000 legal, non-conforming lots. Each of those lot owners has a legal right to build a dwelling on the lot.

For that reason, the “Current Trends” scenario is the “path of least resistance”. Changing this pattern would be a big challenge.

Most people who live in Puna think of it as a rural area because that is what they see. Only a smaller percentage of these lots are developed, and many houses have no close neighbors. But lot sizes are generally characteristic of suburban rather than rural density.

It’s difficult today to imagine the ultimate conditions if full-build-out occurs because the impacts occur gradually.
I mentioned earlier that the County General Plan designates urban expansion areas surrounding Pahoa and Keaau and in the King’s Landing area, which are shown here in dark blue against the 2005 lot development pattern.

The designations near Keaau and Pahoa could be viewed as opportunities to expand community services that are available to the region. Later on, after the break, we’ll show an opportunity to do this in Pahoa on County land. Services that could go in either Keaau or Pahoa could include a hospital which has been mentioned as a desired facility that is presently lacking in the region. Also, special needs housing – such as for the elderly – could be located in these “urban expansion” areas. The role of King's Landing development to the region is less clear, unless it is an employment center.
A significant issue to consider is whether the urban expansion areas would have any effect on the “current trends” development scenario in 2030, as shown here. Would development in the urban expansion areas discourage or slow down the pace of lot development in the non-conforming subdivisions or simply add to it? The latter is a more likely outcome because most owners of the tens of thousands of remaining vacant lots in Puna will probably want to make some economic use of their property. The General Plan designations on their own cannot be expected to reshape the future development pattern of the non-conforming subdivisions.
Are there any other possible growth patterns for Puna, starting with the 2005 slate?
A third alternative is the “Village Centers” model. The blue dots represent existing and planned “village centers”, with the two larger dots representing Keaau and Pahoa. The village center may at present be quite small and basic – perhaps only a community park, a school, or a small cluster of stores. It may exist primarily on paper at present. The idea, however, has been a recurring theme in previous planning efforts for this region, including some community-initiated plans, and in the small group meetings and previous public workshop for the current Community Development Plan effort.
One of the community-initiated plans in which this idea appears is the Hawaiian Paradise Park Master Plan, where half of a 40-acre area is designated for park and school and the balance for a “village center”. Presumably this envisions commercial services, since this portion of the site is privately owned, whereas the park/school site is held by the community association.

While Hawaiian Paradise Park has experienced a lot of growth, especially in recent years, there are still not enough houses in this area to support the development of the envisioned “village center.” Development remains too spread out, and will still be at low suburban density even when all of the lots are developed with a single dwelling each.
How does the current trends scenario correspond to the core values about living in Puna that people expressed at the last workshop?

It’s clear that people value both the social and physical benefits of living in a rural environment. But the current trends scenario threatens to erode those rural qualities that people value, primarily because the latent development potential of the non-conforming subdivisions implies that Puna will attract a lot more people, but arranged in a settlement pattern that consumes a lot of land, is vehicle-dependent, and inefficient for providing supporting services and infrastructure.
It can be shocking to see clear-cutting of a lot like this because when people see a stand of forest they often assume that it will remain that way, unless destroyed by fire or other natural process. Yet, the owner of this subdivision lot has the legal right to do this under present zoning and grading regulations to achieve the objective of building houses on this property. Mahalo to Bob Belcher for this photo.
Many people are also surprised to see new houses rise that do not fit their image of a modest rural dwelling. Yet, large houses like this are not prohibited by the zoning code, and the large, suburban-type lot sizes found in most of the non-conforming subdivisions actually encourages this form of housing development. Mahalo to Larry Brown for this photo.
Development has also occurring on lots within natural hazard areas. This is a recent aerial photo of the Kapoho area taken by Glen Shiroma that shows houses built very close to the shoreline subsidence zone. Many houses have been built in volcanic and seismic hazard risk zones. Over 2,500 of the lots originally created by the non-conforming subdivisions are now covered by lava flows.
When the settlement pattern is very spread out, it is less efficient to connect houses to infrastructure and people to services. As the vacant lots fill up with more houses, more vehicles will compete for space on narrow, unpaved roads; accidents and road repairs will be more frequent and costly.

Puna has a relatively young population, but most keiki and youth do not live within walking or even bicycling distance of schools and parks. More services will be needed, but few non-conforming subdivisions have space to accommodate this need.
The development pattern under the current trends scenario results in:

- Longer response times for emergency services: police, fire, ambulance, especially with more traffic on the streets
- Less efficient public transportation, solid waste management services
- Greater distance to schools
- Greater distance to shopping and other goods and services
- Limitations on special needs groups: elderly, disabled, children, low-income, because these are the folks who lack access to their own vehicles.
The non-conforming subdivisions were designed for vehicle dependency. Lots in Hawaiian Paradise Park are about one acre each, some a little smaller. Streets are laid out in a grid pattern, but the blocks are very long. They were not designed for walking or bicycling.
Generally, to encourage pedestrian travel, destinations should be within about one-quarter mile, which is shown here as the orange zone surrounding the designated “village center” in Hawaiian Paradise Park. Beyond that distance, most people are disinclined to walk and will drive instead. Of course, there are exceptions to that rule – I commute a mile to work on foot each day – but the “one-quarter mile” standard has been demonstrated in surveys.

Because of the street layout, the actual walk route from a house at the edge of this orange zone is actually longer because it is less direct.

At present, there are only 86 houses in this orange zone. Even if all remaining 151 vacant lots in this orange zone are developed, there would still be too few people living within walking distance to support a viable village center with a range of services.
Compare this to an actual village – the town of Kīlauea on the North Shore of Kauai. Kīlauea has a population of about 2,000 residents who live within walking distance of a small “village center” that includes a small food store, hardware store, sundries store and construction supply store; a café, self-storage facility, vehicle repair shop, elementary school, child care center, recreation center and park, medical clinic and farmer’s markets twice weekly.
These services work because the nearest other service centers in this rural area are about 10 miles away in one direction and 6 miles in the other, so Kīlauea is the “village center” for about 3,000 rural residents, not just those in Kīlauea town itself. Still, the customer base of those who live in town within convenient walking distance is an important part of the success of the village center.
IMPACTS ON MOBILITY

- High dependency on private vehicular mode of travel
- Greater congestion, not only on highways, but also on private streets
- Longer routes required for pedestrian and bicycle paths, making them harder to implement
- Little or no accommodation for walking and bicycle travel on private roads and streets

In summary, build-out of the subdivisions under the current trends scenario will make mobility more difficult because of the continued high dependence on vehicle travel and commuting to employment and services outside of the district.
This stretch of Highway 130 is already fours lanes, but the peak flow lanes are filled. Larry Brown is the brave soul who snapped this photo.
The Puna Regional Circulation Study projected traffic conditions in the peaks period for 2030, comparing the “current trends” growth scenario with the “village centers” growth pattern. In both cases, traffic volumes increased significantly along the route to Hilo. But the increase was greater under the “current trends” scenario, especially between Keaau and Hilo.
All of these “current trends” conditions affect quality of life:
There is the loss of open space, rural ambience and privacy.
Puna will become an area of suburban densities without suburban amenities.
As you saw in a previous slide, Puna participants in the July workshop reported spending more hours on average in a car compared to the state and national average.
With added car usage, there are more carbon monoxide emissions, which impacts air quality.
There is also the rising cost of owning an automobile, including gasoline, notwithstanding the recent temporary dip, and dependence on imported fuel.
Now that you are thoroughly depressed after the preceding slide presentation, let’s see what we might possibly do about Puna’s future. CLICK

We’ll look at four types of “tool-boxes”. It will be necessary to consider using tools from all of these boxes to have a significant effect on shaping the future.

Zoning and regulatory tools: restrictions on what can be built, and how and when it can be built

Development transfer tools: shifting the pattern of growth for desired results

Financing tools: how to get money to make improvements and shape development

Enabling tools: how to get the non-profit and private sectors involved
At the July workshop, I described Special Design Districts as a tool. I won’t repeat myself, but will cover some additional zoning and other regulatory tools to shape to form and rate of development, such as:

Minimum lot size, street or infrastructure standards for dwelling use
Restrictions on the size and/or number of dwellings
Restrictions on the amount of land clearance on a lot
Temporary restrictions on permit issuance

With this last one, is the CAUTION that zoning cannot preclude reasonable economic use of a property. It is possible to slow down the rate of development until the government has time to develop new development or infrastructure standards that limit development potential to a greater extent than it does at present, but eventually, if the government cannot show that the property owner has some economically viable use of the property, it may be forced to buy the property.
Mahalo to Bob Belcher, Jonathan Kawamura and Larry Brown for these examples of context-sensitive housing development in Puna.

Zoning codes can influence the shape of development in a number of ways to better fit the context of the area, as in the examples shown here:

They can limit the number of dwellings allowed on a lot
They can set a minimum size for a lot to qualify for dwelling use
They can set minimum infrastructure standards to qualify for dwelling use
They can limit the size of the dwelling itself
They can limit the amount of tree and other vegetative cover removal
Here is an example of how the City and County of Honolulu limits “farm dwellings” on lots that are zoned for agricultural use. The dwelling and its “accessories” cannot cover more than 5,000 square feet of the lot. Second dwellings are not allowed unless the property is at least twice the minimum required lot size for the zoning district.
The next toolbox is for moving around the location of future development. At the last workshop I described Transfer of Development Rights, or “TDR”. I’ll review TDR briefly, but will cover in a bit more depth another approach call “land pooling” or “land readjustment”.

Land pooling is similar to TDR, but all landowners share land rights rather than trade them; then they redistribute those rights. Land pooling has used widely overseas – such as Japan, England, Germany and Australia, but so far, not much in U.S. It’s a method that is well-suited to addressing problems associated with non-conforming subdivisions like those in Puna and Ka’u. These subdivisions are by no means unique to Hawai‘i. Florida has over 2 million such nonconforming lots, California over 400,000, and they’re found in many other states, as well.
First, let’s review TDR. Very simply, TDR is a system that gives landowners in places where development is discouraged an incentive to “sell” their land development rights landowners in places where you want new development to occur.

It makes sense, for example, to direct new development to areas where infrastructure and services are already available. Usually this is within or adjacent to existing community settlements. At the same time, there are areas where development should be discouraged because of physical hazards, lack of infrastructure, or because valuable natural resources are present, such as native habitats.

However, TDR works best in situations where you can exchange between relatively large land areas. It would be very hard to implement this type of program in Puna on a wide basis because there are so many small lots.
Here is an actual example of a land pooling project. The diagram on the left shows the condition of the subdivision prior to the project. There were 27 lots held by 11 different owners. While on paper the lot land area could support the development of 53 dwellings under the zoning, similar the density of the surrounding area, lot shape, street access, title issues and a bisecting open drainage channel constrained the development of this area. In addition, the neighborhood lacked certain desired amenities, such as a park, child care facility and a convenient grocery store.

The owners formed a land pool facilitated by the local government. Government’s use of eminent domain was necessary to resolve title issues in instances where the owners could not be found. Each owner was allocated a percentage share of the land pool based on appraised valuation.

The project area was then re-platted, meaning that new lot lines were created. Because new streets and other infrastructure improvements, such as the undergrounding of the drainage channel, were needed, the land pool association floated a government-backed revenue bond to pay for the improvements. All costs for the improvements were to be paid out of the proceeds from the land pooling.
The proceeds were allocated to the owners in the land pool association based on their percentage share of the pool, which in turn was based on the original land appraisals. Proceeds included the sale of residential lots, a commercial lot, and a lot for a child care center and park, which was bought by the municipality. In this case, the owners realized a gain of 14.7% in value from the land pool after infrastructure costs were paid.

I must caution that this approach would not necessarily work as well in every situation. It requires years to implement and the cooperation and patience of diverse owners and the municipality. In Hawai‘i, it also requires enabling legislation. Nevertheless, it would be worth looking at this approach to see whether it may be possible to apply it in areas of Puna.
Getting back to this section of Hawaiian Paradise Park, for example, it’s important to remember that “It takes a village..” to have a village center. Is there the will or the interest among owners in this area to possibly form a land pool to achieve the kind of village found in Kīlauea, for example?
Which means shifting more new houses to the “village” area, reserving the exterior for open space or very large lot residential use, say one dwelling per 20 acres. Within the village, road and other infrastructure improvements could be made, because the cost per owner would be lower.
Or will Hawaiian Paradise Park look like this in 2030, with more lots developed, but not in quite the right places to create a village or make cost-efficient infrastructure improvements?
BRAD: There is also an opportunity to enhance existing village centers. The County is expecting to play a direct role in this by acquiring land in the heart of Pahoa village.
This map shows the boundary of the County-owned parcel consisting of 50-acre portion purchased from the Catholic Church and consolidated with existing County land to create a 140-acre parcel (TMK 1-5-002:020). Also shown on this map is the proposed Fire/Police station and Gym site. Note the scale and texture of the various lots as we move to the next slide.
Here is a regional aerial view showing the Pahoa village in the bottom half of the photo. Note the land use pattern and differences in scale and density of Pahoa village and the adjacent Hawaiian Beaches & Hawaiian Shores in the upper left and Leilani Estates in the upper right. Nanawale Estates is in the middle. Try to envision what it feels like as you drive, walk or bike through these different parts of Puna. The questions we will be dealing with are what kind of land use patterns of development and/or preservation do we want for the future?
This slide shows a larger map of the County land located in the heart of Pahoa and some photos of Pahoa village. This project is an opportunity to apply village design concepts such as infill development respecting historic/cultural character, mixed use, creation of community gathering places, and pedestrian/bike friendly connections. Community facilities identified include but are not limited to a village park/town square, Farmer’s market, medical clinic, Social services facilities, youth center, campgrounds, Hawaiian cultural center. Besides these community facilities we might consider mixed use integrated with various housing types to build and enhance the already strong village identity of Pahoa. Rather than look at the various entities vying for their piece of County land, we should consider shared facilities/parking etc. to make more efficient use of the land and create a community gathering place. Also with the parcel containing agricultural lands in close proximity to the village center, there is opportunity to look at creative housing approaches that foster pedestrian/bike connection, conservation subdivision, agricultural land preservation, community food garden, etc. combined with social/community service programs. Natural systems “green” drainage approaches can be utilized to deal with stormwater while being an amenity.

We will be initiating a community based design process very shortly inviting residents to participate in the planning and design. We want to start implementing the concepts being discussed during the process of developing the community development plan.

The last couple of wrap slides will be shown by John Whalen before we break up.
Next, we have the financing toolbox, because making improvements will cost money, and public sources are limited.

- Community Facilities District, Improvement District -- but potential use is very limited in Puna
- Rural Community Assistance Corporation (federal) funds and loans available to non-profit organizations
- Legacy Lands funds for acquisition of natural areas, especially when leveraged with other funding sources
Finally, there are the enabling tools, which includes legislation, such as State legislation needed to use some of the other tools – e.g., land pooling, zoning regulations affecting areas in the State Agriculture District, and the financing of infrastructure improvements that are not to County standards. County ordinances and regulatory changes would also be necessary. CLICK

Land use changes and some of these methods can also be linked to real property tax policies, to create incentives and compensations.

It may also be useful to create a new entity to carry out changes proposed by the plan, such as a Community Development Corporation, which is a quasi-public non-profit organization that raises funds to carry out planned projects.
WORKING GROUPS

- Agriculture
- Alternative Energy
- Cultural/Historic Preservation
- Economic Opportunity
- Land Use
- Natural Resource Preservation
- Parks & Recreation
- Public Services & Infrastructure
- Social Services
- Transportation

What are Working Groups?: Working Groups are made up of community members who want to work on solutions to a particular concern that is directly relevant to the Community Development Plan. Ideally, the Working Group (WG) includes people who have expertise in the subject or are willing to research and share the information.

Why form Working Groups?: The Puna CDP will recommend "Courses of Action." Results will follow only if the CDP’s recommendations are translated into actions. It is hoped that WGs will develop into citizen action groups that work in partnership with the County to get things done.

How will Working Groups be formed?: The Puna CDP Steering Committee has identified ten (10) Working Group Topics. Each topic is broad and can be broken into sub-topics.

- Agricultural Lands
- Alternative Energy
- Cultural/Historic Preservation
- Economic Opportunity
- Land Use
- Natural Resource Preservation/Protection
- Parks and Recreation
- Public Services and Infrastructure
- Social Services
- Transportation

Each Working Group will have a designated liaison from the Steering Committee and need to keep the Steering Committee informed of their work at least once a month.

Will the Working Groups be assisted?: The Hawai‘i County Resource Center will help the Working Groups get started by assisting with facilitator training and coordination in the beginning. As much as possible Working Groups need to take over their own meeting logistics and facilitation.

All requests for information and assistance will be conveyed to the Steering Committee liaison who will work with the Planning Department staff to see to it that requests are met.
Here is some contact information to keep up to date with the progress of the plan.

- Hawaii Island Plan
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