Tiny Home Communities

A story about how to get future ready in eight parts.

Dr. Charlie Grantham

cegrantham@gmail.com | **928 533 9149** | awakeningtowholeness.net

Table of Contents

Are You Ready for Your Future?

Backstory

Eleven years ago, a feisty, snarky group of 55 like-minded souls assembled in San Luis Obispo, CA, to convene a World Cafe workshop about the "Future of Work." It was pretty successful, and many attendees are still collaborating. Most notably, the Strategic Foresight **consultancy**. The driver for our snarky group ten years ago… our family, friends, community, and readers are even more critical than ever as we face our collective future together.

The tribe even produced a self-published book, "**Foresight 2025**," and a series of **web radio broadcasts**. But that was then, and this is now. Things have changed in the last decade. The COVID-19 pandemic is the most impactful. Coincidently, a spin-off from this **group** spotted a global pandemic as a futuristic 'weak signal' in the Fall of 2019.

The time has come to update the work.

However, I will not list predictions and an array of possible scenarios. No, this effort is going to be about **strategic doing**.

- What needs to be done?
- What will it look like?
- What's the practical pathway to move from vision to action?

I laid this out as a blog series, and readers have requested I pull all this together in a more accessible format. Here is that compilation; please note that this is under the **Creative Commons license**. All I ask is for proper attribution.

Please pass along and share.

An underlying design paradigm threads through the various parts of the new communities we see emerging. We have branded this approach "Zen + Design: Applying Ancient Wisdom to be Future Ready." We would be happy to share details of this approach upon request.

Intent

Our intended outcome is to increase people's well-being and their community's support of life-affirming plans, policies, and programs.

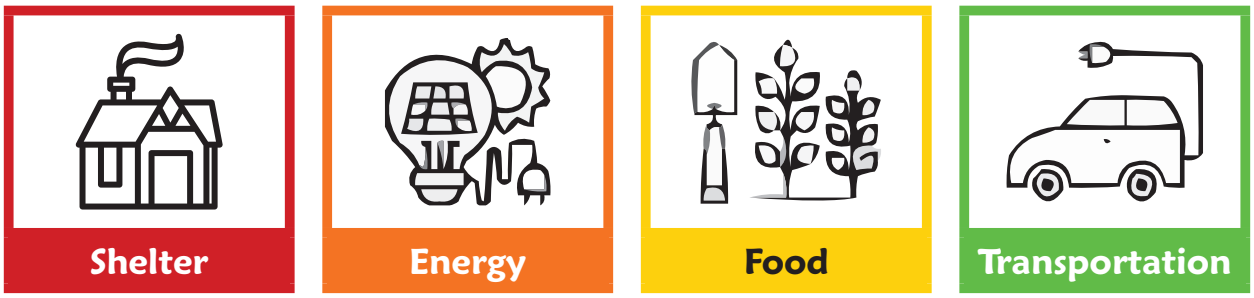
The challenge we will address is your/our everyday life in a highly volatile societal system in breakdown and transition to an unknown future. **Social inequality**, care for a longer-living and **growing elderly population**, and **energy consumption** impact on the planet. A tall order, we know – but we have not been sitting idle since the winter of 2012. Off we go.

Parts of the Story

A hat tip to George Ure of **Peoplenomics** for giving us an outline of topics to address. Again, these are all parts of a larger whole. It will not be enough to do one piece and neglect the rest. This re-design of communities needs to be an integrative effort.

I have written this content within the context of a public or municipal official who is seeking a way for their community to accomplish the following:

- Increased housing supply
- Increased revenue from permit fees
- Increased revenue from property taxes
- Increased jobs in construction and related services
- Increased housing options for low-income households



Technically, this is called the "**missing middle housing**" problem. But as I got into it, I quickly realized that it was more than just a 'housing affordability' problem. Energy, environment, transportation, communications, food and oh yes – financing all need to be considered together. It's about the DESIGN of the whole thing, not just a part.

Admittedly it will take significant housing and zoning code reform, dedicated leadership, and citizen education. No, the map is not the territory, but without a map, we will wander around lost without a North Star or purpose to guide us into the future. Ultimately, it will be about "we," not "me."

Imagine, just imagine ...

How Much Space do you REALLY Need to Live In?

Context

This blog series is about how you can get ready for the future. It's going to be very prescriptive and grounded in personal experience. I'm kicking it off with an explosion of 'tiny homes. Tiny homes (TH) is about the shelter you will need in the coming years. In the interest of transparency, you should know that Ellen and I are starting the process of designing and building 'his and her' tiny homes in the Tucson area.

So why downsize and decrease our shelter footprint by 50%? We moved out of a 4000-square-foot McMansion five years ago on the hill. Now we have 2500 square feet of living and creative space. Next, we go for 1560. Why? Because we believe that all of us need to work on:

- providing more housing equality,
- be ready for a larger aging population,
- and reduce our energy footprint to help save Planet A – there is no Planet B.

The advent and spreading availability of tiny homes are what we futurist types call a weak trend. It's just flying under the radar and hasn't blossomed into a full-blown trend. We're betting it will. Currently, the most common use in urban areas is for low-cost housing for homeless and addiction recovery shelters. But that is about ready to change.

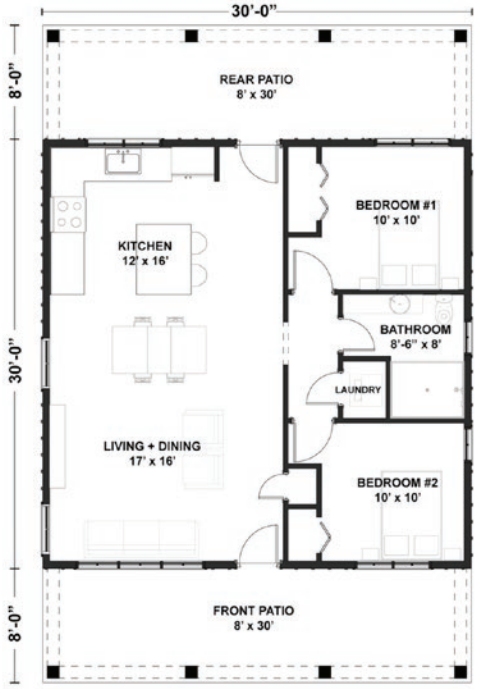
What's a 'tiny home?'

Think of Henry Thoreau living on Walden Pond. But it's actually older than that. In the United States, they can be traced back to the ancient Sioux tribes. You can see a **complete history here**. Casitas in the Southwest, Granny Flats in the Mid-West, or a Cottage up in Maine. All the same.

Now technically, they are being called "Auxiliary Dwelling Units (ADUs)" by the planning and zoning folks. Although there is no uniform definition, practically, an ADU is around 400 square feet or 20 feet by 20 feet. So, we are pushing that limit a bit because we are designing from the ground up, anticipating space needs into the future. For example, maybe a 90-year-old, mobility-impaired person needs slightly wider doorways and wheelchair accessibility.

Aside from size, they come in all shapes and layouts. Some are even mobile built on a wheeled chassis and ready for this? **In a box**.

We think they will be the next step in the evolution of this housing solution. These won't be stand-alone units – they will be intentionally designed communities. Say, 15-25 units neighborhoods.



See where this is going? Que the pictures. A couple of examples.

Impact

One way to look at this coming trend is to compare these 'tiny communities' to what we now have as **'co-housing' communities**. They are an "intentional community of private homes clustered around shared space such as laundry, common areas, and recreational spaces."

We believe the central shared spaces will morph into community service areas with on-site health care, learning spaces, and municipal social services.

Community-centered well-being is our design goal.

What about costs? Costs vary widely from area to area, availability of materials, and contractor fees. Industry averages now are about $160 per square foot. Compare that to $200 per square foot averages for single-lot suburban homes. This excludes land costs which are offset by the increased density of the development.

Roughly, **a tiny home's energy costs** (per square foot basis) are about 50% of a typical residence. Savings come from smaller appliances, heat pumps instead of ducted forced air, and increased insulation. Even more, savings can accrue with blended solar power with battery backups.

Transition

How do you get there from where you are? A space reduction of 50% doesn't happen magically. Estimate it will take a year to be ready to make a move in. There are two significant actions you need to take:

De-stuffication. Get rid of all that stuff you have accumulated over a lifetime. We suggest a three-step process:

Purge. A good rule of thumb is if you haven't used something in over a year, get rid of it. Garage sale, donation, or in extreme cases, an estate sale manager.

Prune. With what's left, think about what I really need in my new home? Do you really need three sets of services for eight? Four saucepans? Four sets of extra bed sheets?

Prioritize. The remainder goes into 'use it every week,' 'every month, or 'once a year' piles. One trick we've heard is to take everything and put it into a storage unit, except the day-to-day stuff. Then, as you need something over time, go to the storage area and retrieve things until you have maxed out storage in your 'tiny home'. You know what to do with the leftovers, right?

Design Help. We can't stress this enough. Unless you personally have a strong design background, reach out and find a pro you can work with. If you are building from the ground up, you will have to do this to obtain permitted construction plans. If you are doing a semi-custom pre-fab, there will be many detailed design tradeoffs. It will be a much better residence.

Issues

If this is such a great idea, how come it hasn't taken off yet? Great question and we've found three significant restraints to 'tiny home' development scalability.

The first is **zoning**. Many municipalities don't have zoning ordinances to accommodate 'tiny homes.' They don't know if they are 'mobile homes,' modular units, or 'auxiliary dwelling units (ADUs).' How do you get a permit if they don't have a category? This is beginning to change, but you first need to check with your local planning and zoning office BEFORE you commit dollars to this project.

Financing. 'Tiny Homes' are (in most cases) not eligible for traditional mortgage financing. There are two problems here. First, the loan amounts are minimal compared to a typical single-family home. Banks don't make as much money on these loans as larger ones. Secondly, most mortgage financing underwriting requires the structure to be on a permanent foundation.

NIMBY. "Not in my backyard, you don't." Unfortunately, this attitude is more common than you would think. Part of this is because 'tiny homes' are still seen as a living option for the homeless, recovering from substance abuse, and people on the lower rungs of the social ladder. This attitude gets fed back into the zoning process.

However, the good news is that this seems to be changing as 'tiny home' developments begin to aim at affluent remote workers and the elderly. My final advice is to stay with your vision and be patient.

This whole transition out of mass consumerism, disregard for the environment, and lack of genuine community will take time. But, it has **STARTED**.

Vision

Take us home, Phil.

Striving for Sustainability

Context

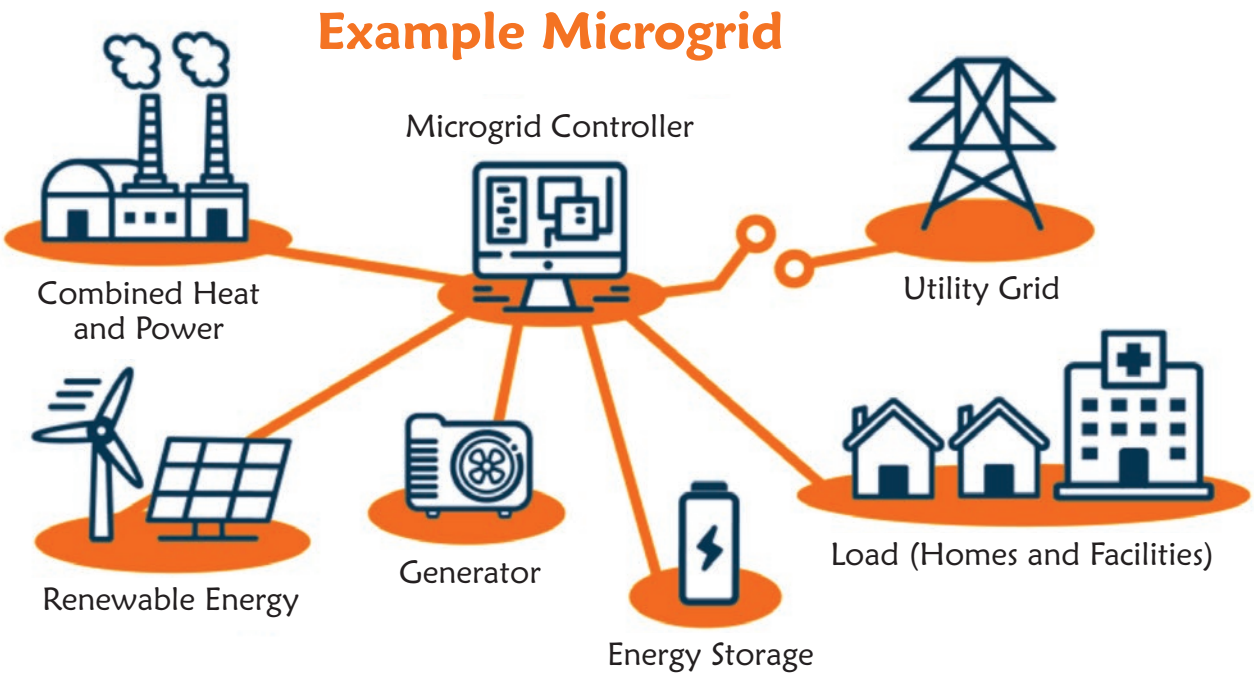
This is my third blog on how to use ancient wisdom to be future-ready. In my last blog, I explored the topic of 'tiny homes' as a way to minimize environmental impact while supporting distributed work and put this into the context of future communities. Or put another way, to say the future is about integrated ecosystems that bring together work, social life, learning, and health care which puts well-being ahead of wealth building.

Now I turn to the most basic of support systems: energy. How is it created, stored, distributed, and ultimately consumed in a minimalist fashion?

Microgrids

The central feature (or structure) I envision for future-ready communities is called a 'microgrid.' From the **horse's mouth**:

> "A microgrid is a self-sufficient energy system that serves a discrete geographic footprint, such as a college campus, hospital complex, business center, or neighborhood.
>
> One or more kinds of distributed energy (solar panels, wind turbines, combined heat and power, generators) produce its power within microgrids. In addition, many newer microgrids contain energy storage, typically from batteries. Some also now have electric vehicle charging stations."



It's important to highlight three central design features of the microgrid.

- First and foremost, it is local as it serves a defined locale. My example is probably a neighborhood of 150 residences, a central community center, and perhaps a **commercial 'maker facility.'** Incidentally, having it locally saves anywhere from 8 – 15% of the energy loss that comes with large, centralized power grids.
- Secondly, it is independent and can disconnect from larger metropolitan (and rural) power grids. As we have experienced with the increase of 'adverse weather events, ' large grids are highly susceptible to cascading outages because of their inherent rigidity. See, for example, the **Texas crash of 2021**, which left 4.5 million homes without power for several days.
- Lastly, microgrids are intelligent. By intelligent, I mean there is a central controller which monitors (and controls) the flow of energy between generation, storage, and usage patterns automatically and in real time. The community decides what balance it wants between pricing, cleanest energy, or reliability. Certain economies of scale are achieved whenever a home is not making suboptimal decisions. (I'll talk more later about the governance processes which facilitate these decisions.

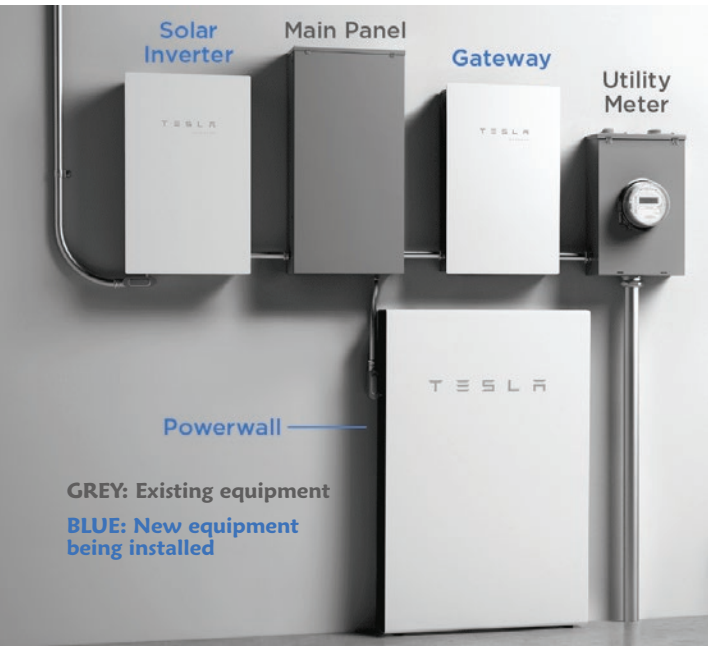
Futures Features

As microgrids begin to emerge, several new features accelerate future readiness. This is more than a 'weak signal.' I'd call it a bona fide **trend projected** to grow to almost USD 40B by 2028 and generate 20,000MW.

Of course, a significant component will be state-of-the-art solar power and ubiquitous Electric Vehicle charging at both the residential and community level. But even more exciting are developments in sustainable power generation and storage.

Energy generation solar vertical windmills

We usually think of a windmill as horizontally oriented multi-blade propellers harnessing moving air energy. But those are large structures not suited for dense urban areas. New **vertically designed windmills** based on airfoil designs are 50% more efficient than traditional windmills and spin on a vertical axis. These can supplement traditional photovoltaic panels and increase grid production capacity without requiring additional space.



Storage

Concurrent with this technology development is new energy storage systems that can supplement typical battery units such as **Tesla's Powerwall**.

The new technology is based on "green hydrogen," Basically, solar-generated electricity is used to power an electrolyzer that produces hydrogen and is stored in an on-site fuel cell. When required, the hydrogen is converted back to electricity, and the only by-product is water – which can be used or recycled.

Brevity prohibits an extended **technical discussion** here. But the recent Inflation Reduction Act of 2022 is providing USD 30B to support the development of this type of clean energy storage equipment. **Prototypes are in advanced testing now**.

Individual Homes

So now your tiny home is in a tiny community with 150 neighbors. Energy is locally created through solar and renewable wind power, stored in individual battery banks, and backed up with 'green hydrogen' electrolyzers. Theoretically, this system could generate 8KWH per home. That would be roughly (back of envelope calculation) double the community's needs and the excess stored for emergency use or re-sale to the larger grid.

A typical tiny home consumes about 4KWH/day. This assumes the home is electric, uses heat pumps for heating and cooling, and has maximum insulation. What's the return on investment? The average net cost for an 8KWH installation in Arizona would be approximately $12,000 USD. Given increased energy efficiencies and excess production, the payback period is six years. And this is without consideration of additional power from vertical windmills.

The bottom line is that this future-ready use of tiny homes and microgrids allows these communities to produce about three times the energy they use internally. The excess could be resold on the larger market to reduce further sunk costs or deployed to power a revenue-producing local 'maker center,' or the community could decide on other uses.

That brings us full circle to how this stand-alone, sustainable community will govern itself and manage these new resources? I believe the new governance model will look like a cooperative of the late 19th-century farmer's coops in the US.

Cooperative Ownership

Cooperatives are not a new idea of governance. They first appeared as a formal, recognized organization in the mid-19th century in England. There has been a recent revival in interest as large hierarchical organizations are reaching their limits to complexity to be functional. A communal purpose drives **modern cooperatives**.

> "We want to live in a society where enterprises and assets are owned and controlled by the communities that depend on them for livelihoods, sustenance, and ecological well-being."

I suggest that these revived forms of governance will have fertile ground in future human-scale communities. These are emerging and may represent a breakthrough in community development as **industrial capitalism and representative democracy** wanes.

Technically, they are known as a **'sociocracy.'** They are governed by three core principles—decision by consent, continuous feedback, and linkages across functions.

Again, the need for brevity prevents a more extended discussion. Suffice it to say this is quite similar to Stafford Beer's conception of viable systems models, which was pioneered in real-time in Chile in the 1960s. This is a proven dynamic model that can be the basis for creating self-governance in future-ready communities. I invite the interested reader to visit my **three blog series** on how to prevent large-scale systems collapse.

I've reached my reader time limit. I may expand on this last point at the end of this series, dependent upon reader interest. Now that I have laid the foundation with an explanation of the tiny home design and the necessary energy base, I will turn to agriculture and food production for local sustainability. Stay tuned.

Indeed, it is a wonderful life coming our way.

Grow Your Own

Context – The Why

This is the fourth blog in my series about becoming 'future ready.' The focus here is on how these communities can become sustainable regarding food supply. But first, let me anchor this in a larger future vision. Here are two predictions taken from **Stephan Schwartz** and his work with remote viewing. By 2060 (or much sooner, in my estimation), he will see:

> "Lifestyles seem much more minimalist, like the Nordic or Dutch aesthetic."

> "People have largely reorganized into small communities."

Accompanying these changes in food production, or agriculture, also shifts from large-scale agribusiness to smaller community cooperatives. Residents have become 'locavores.'

> "The definition of a locavore is someone who chooses to eat food grown locally. One who mainly eats locally produced food, especially within a specified radius of one's home. "

The What and How Much

Growing some of your food in a tiny home community can take on two different forms: a private residential plot and a community garden. Here are some details on both formats.

Small residential plots can provide a wide range of vegetables and herbs. It depends on **your plant's hardiness range**, exposure to sunlight, and pest control. I have three raised beds fabricated from horse watering tanks which measure 2 feet by 6 feet each. So, a total of 36 square feet produces about 50% of fresh veggies for a two-person household. I am prepared for dehydration and canning. That's enough to last from one growing season to the next.

We live in a temperature zone (Southern Arizona) and get two growings a year. Metered drip irrigation costs approximately $3/month. What would you do with 80 lbs of tomatoes? 20 lbs. of kale?

The next step up would be a community garden tended by several neighbors of the cooperative community space I alluded to in the last blog. Studies show a 6:1 return on investment and an increase in **property values averaging 9%**. You can get about two servings of veggies per square foot at this level.

How Can You Do This?

Not everyone is born with a 'green thumb.' There are some small, simple steps you can follow to get started.

First, start small and experiment.

This can be as easy as a few flower pots on a balcony or front porch. One plant per plot surrounded by wire mesh if you have a critter issue.

Have a plan

Make a sketch of what you want, allowing for plant spacing and walk-around access to tend the plants. Get your local nursery to review it and give hints for your locale.

Join a 'garden club'

If you are new to serious gardening, think about finding and joining a 'garden club' A quick local Google search and checking with the State Department of Agriculture should locate what you need.

Make friends with your local plant store.

If your tiny home community employs a landscaper or gardener for common areas, that's your best bet. These are invaluable sources of knowledge and help. It's their business to help you become successful.

Get smart about organics.

This may sound like a no-brainer, but it takes some work. Growing organic takes more effort than using commercial fertilizers and herbicides, but it's a healthy alternative.

Wrapping Up

You can feed yourself, and it's healthier. Whenever I discuss with folks, I get this quizzical look and then something like, "Oh, you mean like my grandparents did?" Another example of using ancient wisdom to be future-ready.

Practice on yourself and be patient. It took me a few growing cycles to determine the best mix, timing, watering regimens, and fertilizer mix (e.g., Starbucks coffee grounds ratio to horse manure) before I got to maximum production.

You might also find out that no one in your household really, really likes broccoli. That's OK; substitute kale and chard plants.

Then you can scale up to your community, should your neighbors be inclined. I guarantee a couple of bags of tomatoes and peppers given away will spur their interest.

Good luck, and may the green be with you.

John Denver's thoughts on gardens:

How to Get Around Town

Context

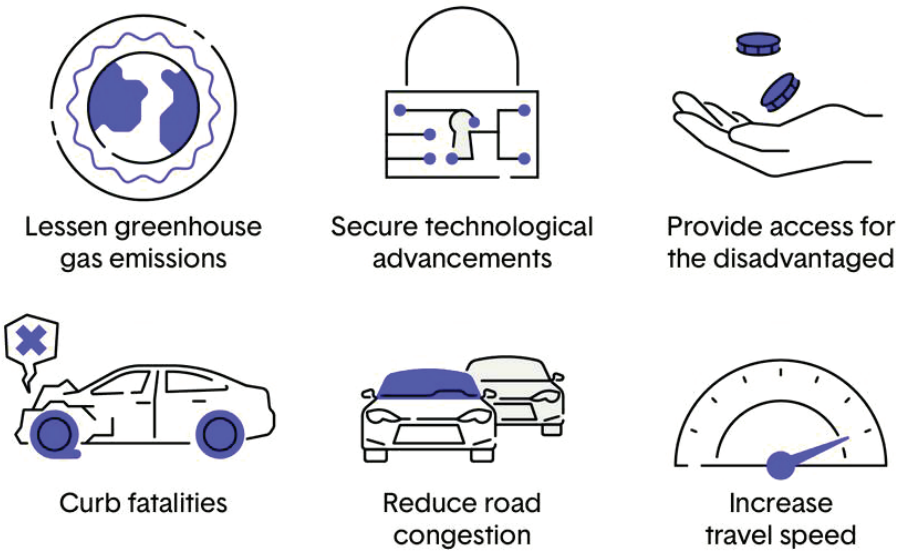
This is the fourth is blog series on the tiny home movement. What began as a exploration of tiny home residences has morphed into a exposition on 'tiny home communities'. As the investigation deepens it is clear that tiny residential units or "auxiliary dwelling units" (ADU's) can not become sustainable stand alone units, but will only thrive in the context of multi-unit communities.

So far, I've laid out plans and requirements for the ADU's themselves, their energy needs and self sufficient food supplies. Now I turn to transportation. My focus here is transportation (and movement) within and between these communities. I don't mean to neglect larger issue of inter-urban transportation but want to stay local community focused.

Why

And just why do we want (and need) to change our way of thinking about transportation This **infographic** neatly sums up the six major reasons. Notice how these factors overlap with our general goals for tiny communities.

The future of transportation hopes to:



General Framework

First consider these tiny communities as internodel hubs. That is they are the on and off ramps to larger transportation network. You could envision that in today's terms as bus or rial stations. Except the transportation technology will be vastly different than the legacy of the industrial era. Let's start with how you will get out of and into these communities.

But first, a caveat. This is not about a **jetsonian view of the future**. Not: self driving or flying cars. Remember that automobiles were first called 'horseless carriages' because we didn't even have the language to describe the new technology – we had to revert to modified descriptions of the old. So it will be here.

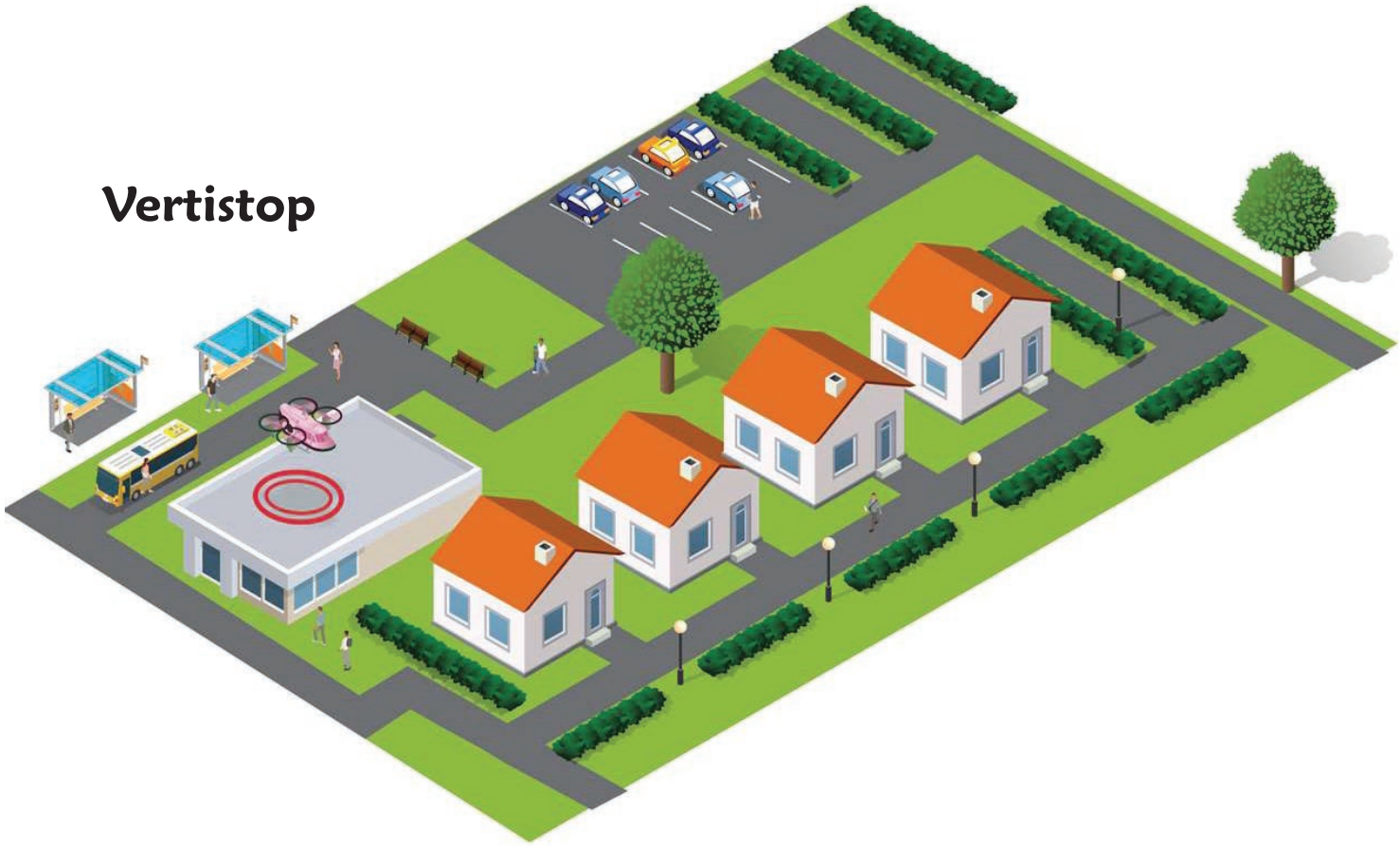
To and From: Vertiports

Vertiports are built environment locations and structures which are used by 'vertical take off and landing' (VTOL) aircraft. Think helicopters. But in the future these VTOL aircraft will be much smaller and will carry both passengers and cargo. According to **industry experts**:

> "The companies developing electric vertical takeoff-and-landing vehicles all promise that their aircraft will drastically slash travel times by flying above traffic. But to fulfill that promise, their take-off and landing sites – or vertiports – will have to be where passengers need them."

Tiny home communities will be those locations. These transportation hubs could become critical parts of urban or regional mobility ecosystems, linking fast and convenient air travel to other forms of transit, like airports, buses, trains and ride-hailing networks.

Vertistop



Inside: Microcars

How does one get around, move groceries and get deliveries within the community? Anyone who has lived in a 'retirement community' is aware of the ubiquitous golf cars (as they call them today – ah perhaps today's 'horseless carriage'). But these are normally restricted from public roadways because of safety and insurance issues.

Refer back to my opening header graphic. Can you spot the Trailways for the microcars? But we will need something different tomorrow because the tiny communities will be more like self-governing cooperatives. (More about this in the upcoming blog on finance).

Out and About

One of the design criteria for these tiny transportation systems is the encouragement of healthy life styles. And that mean walking, biking and self propelled movement. I call it 'micro-mobility'.

How do I get to the garden area? How do I go to the community center in the evening for the concert or performance? And yes, How do I go to the drone drop off point to get my last Amazon or Walmart delivery. Let's help everyone get those 10,000 steps per day. I think the answerer will be intentional designed **walking and bike paths**.

> "If I could wave a magic wand with the infrastructure bill, I would not be focusing on building new roads really much at all—certainly not new highways. I would be focusing on building sidewalks and bike lanes in our existing communities,"
>
> *– Ellen Dunham-Jones, Director of the urban design program at Georgia Tech*

The Driving Force

And what will be the driving force behind all of these new tiny community transportation changes? Energy use of course. Take a look back at **my previous blog** on energy generation in tiny communities. This is where all that surplus electricity can go.

Well I guess that's the end of the line for now.

Take us out Willbury's

Keep it Clean and Neat

As you can see, this blog series is growing from something about minimal environmental footprint residences into an extended discussion of the elements of the entire ecosystem to support this emerging lifestyle.

This blog focuses on the environment. But not the environment we typically think about. It's much more extensive. It's not just minimal carbon footprint, clean water, and clean air. Yes, those are important, but I'd like to extend your thinking into areas not often dealt with: solid waste and wastewater management and O_2 generation and biodiversity. A hat tip to mia amiga Sara Bixby who kindly pointed me in the direction for a lot of the background research here.

Context

I've talked about environmentally friendly energy production and use before. You also may want to review my discussion on localized food production or **agriculture** and context-setting pieces. Now, let's jump into the deep end of the thought pool.

Waste Management

Solid Waste

This refers to organic waste – Human, animal, and even some industrial waste products. This is beyond residential septic and composting. Technically it is 'anaerobic digestion.' Fancy word, but the technology is already here and in economic use in Asia and Africa.

My Gugs micro AD are made for individual households, restaurants, offices. © My Gug

> "Anaerobic digestion (AD) can convert animal manure, food waste, human waste, organic industrial wastes, and sewage sludge into usable resources. The biogas produced through anaerobic digestion can be used for heat and electrical generation. The digestate can be used as a fertilizer. AD diverts bio-waste to the production of renewable energy and so helps to reduce greenhouse gases. As research continues, the technology has the potential to play a pivotal role in the future of sustainable waste management."

And as an added note, these units fit well with a tiny community aesthetic.

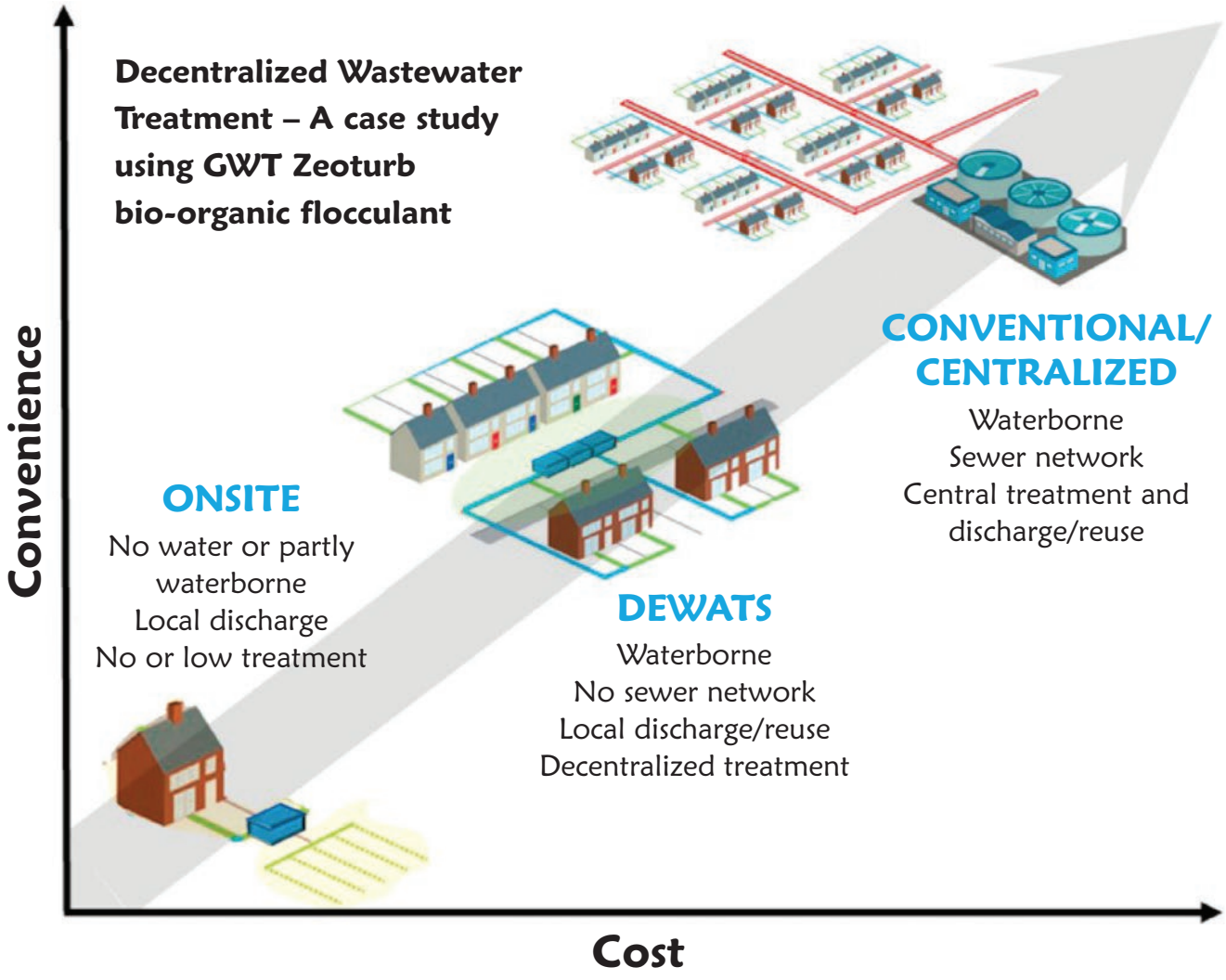
Recycling

Curbside residential recycling was quite an innovation. But what's next? I'm guessing it will be a neighborhood collection and a sorting point. We've become accustomed to trucks rumbling through our neighborhoods and picking up our bins every week like clockwork. What if there were a central collection point that enlisted your support to do pre-sorting? Sure now you have to walk a block with your recycled material. But if this was combined with the idea of 'microcars' we talked about in the last blog – problem solved. I have to drive 1.5 miles every other week to recycle glass and cardboard. A weekly trip down the street two or three blocks in my 'microcar'? Not a problem. Oh hey, a garden wagon and the dog gets a walk also.

Liquid

This is about **de-centralized wastewater treatment**. If individual housing units are plumbed to separate 'gray water' from the system, the wastewater load **becomes locally manageable**. The fundamental tradeoff is between cost and convenience. The tradeoff shifts downward if the residential cluster is designed with this infrastructure in mind.

The bonus is that the treated effluent can be used for food production.



O_2 Generation

Instead of looking at how we take excess CO_2 out of the air, **let's look at how to put more O_2 into the air**. You get a two-for-one here. CO_2 is absorbed and stored in trees while producing more life-giving oxygen, not to mention shade and homes for our wildlife. **Here are the top 10 reasons to plant trees around tiny communities**:

1. Trees
2. Trees clean the air
3. Tress provide oxygen
4. Trees cool the streets and the City
5. Trees Conserve energy
6. Trees save water
7. Trees Help Prevent Water Pollution
8. Trees Help Prevent Soil Erosion
9. Treess Shield Children from Ultra-Violet Rays
10. Trees Provide Foodombat the Greenhouse Effect

So, why would you not do this?

Tree Facts

oxygen

A single tree produces approximately 118 kilograms (260 pounds) of oxygen per year. That means two mature trees can supply enough oxygen, annually, to support a family of four.

Biodiversity

What does biodiversity have to do with intentionally designed communities? Good question. Let's look at what it means in action.

> "Biodiversity is essential for the processes that support all life on Earth, including humans. Without a wide range of animals, plants, and microorganisms, we cannot have the healthy ecosystems we rely on to provide us with the air we breathe and the food we eat. And people also value nature of itself."

This could be whole blog series in its own right. But in the interests of brevity, I'm going to focus on the role of **pollinators** which can amplify my discussion of local agriculture. Essentially, the design action here is to build an environment that attracts and provides stability for little creatures like butterflies and bees. Here are some sites where your master gardener can get marching orders.

Butterflies

NABA
North American Butterfly Association

Bees

the bee conservancy

Getting Future Ready

The main message here is that perhaps we should re-visit our thinking about environmental issues in terms of 'bigger is better' and industrial economies of scale. They have their place. But I'd like to suggest if we, in our 'tiny communities,' could reduce our solid and liquid waste production by 50%, naturally produce clean air and promote organic ecosystem maintenance, then perhaps the need for regional systems would not be as great.

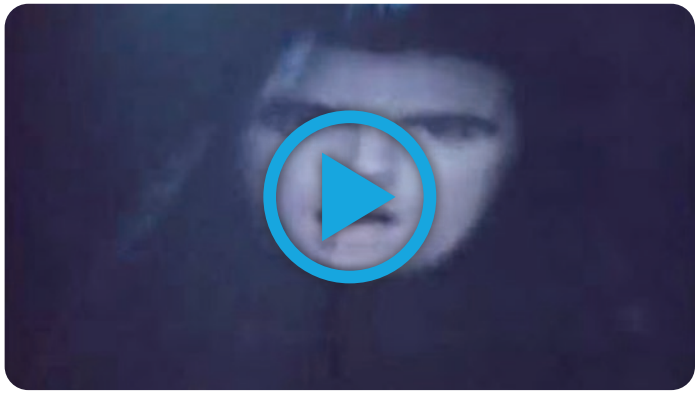
And people are living these ideas out right now. Unfortunately, not in the US, but (you guessed it) Northern Europe. I may be stretching the limits to fair use here, but sit back and let their statement of purpose sink in.

> "**ReGen Villages** is a new visionary model for the development of off-grid, integrated and resilient eco-villages that can power and feed self-reliant families around the world.
>
> ReGen stands for regenerative, where the outputs of one system are the inputs of another. The concept has a holistic approach and combines a variety of innovative technologies, such as energy positive homes, renewable energy, energy storage, door-step high-yield organic food production, vertical farming aquaponics/ aeroponics, water management and waste-to-resource systems".

One last thought. Perhaps you are starting to understand that this is a force towards 'de-urbanization.' You would be correct. E.F. Schumacher had it right back in the before times of 1973. The forces that have driven human evolution towards mass urbanization, like centralized industrial employment, electrification, and transportation, are now being supplanted by ubiquitous technology and household-level closed ecosystems.

Yes, radical and intentionally so.

The Talking Heads had the idea.



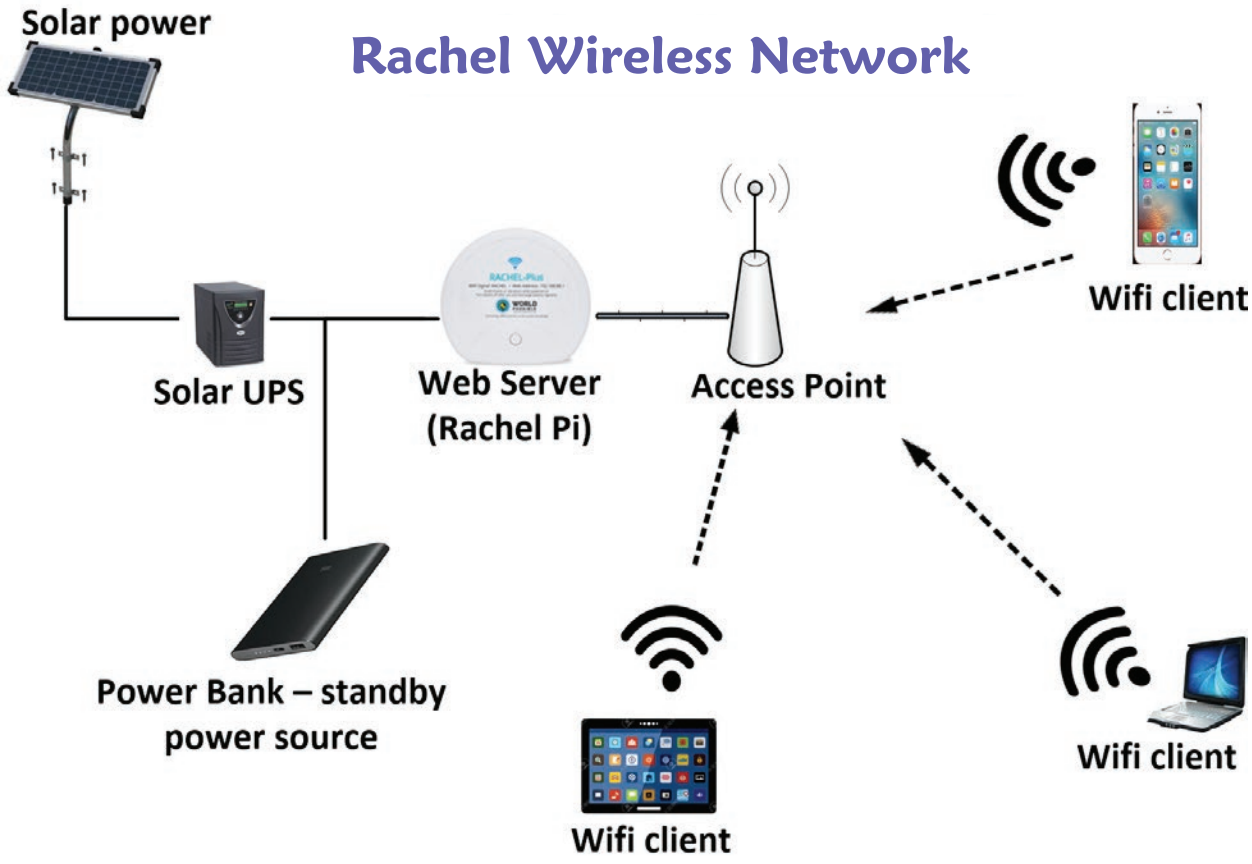
Staying Connected

Staying Connected

Access to and management of communications in 'tiny home' neighborhoods will be a community common good. This design parallels my earlier descriptions of future energy, agricultural, and transportation systems.

Scope

First up, what will be the component elements of such an integrated system? I see them including legacy land telephone landlines, cable television, fiber to the home (FTTH), and WiFi Mesh networks. Technically these are known as **wireless community networks** or WCNs. If coupled with the community energy network, it would look like this:



Note that this topology does not include satellite systems such as Dish, Direct TV, Hughes, or, recently, Starlink Low Earth Orbit (LEO) systems. These systems are point distribution from satellite to individual reception stations usually mounted on personal residences. Current contracts prohibit sharing streaming with this technology among multiple homes. However, this business model is evolving as more communities opt for networked services.

What Would be Different

From a business perspective, I am proposing a move from retail delivery of these various communications services to a wholesale model. Currently, residents individually have several service providers. For example, one vendor for cell phones, cable, satellite service, and possibly a landline backup. That's potentially four vendors to manage, pay and deal with customer service issues.

Bundling these services into one single point of access and THEN making distribution over a community-owned and operated network simplifies things greatly, thus reducing administration costs (and time) and offering lower individual expenses through economies of scale.

Residential Internet Service Provider (ISP)

"An **Internet service provider (ISP)** is an organization that provides services for accessing, using, managing, or participating in the **Internet**. ISPs can be organized in various forms, such as commercial, **community-owned**, **non-profit**, or **privately owned**.

Internet services typically provided by ISPs can include **Internet access**, **Internet transit**, **domain name** registration, **web hosting**, **Usenet** service, and **colocation**." Source: **Wikipedia**

I envision these community networks as also becoming community good ISP.

This will provide two significant advantages for residents. First, they can be engineered to provide redundant Internet access so if one route fails (i.e., cable fiber), another can automatically switch over access, such as hard-wired landlines.

Secondly, bundling again offers the community pricing power through economies of scale. 100 homes have more pricing power than any individual customer.

The potential downside is systems administration and maintenance. I would suggest outsourcing this to a third-party technical support company.

Or alternatively, this aggregated service could be a source of employment for more technically oriented residences. The ultimate 'work at home' arrangement.

Why it Matters

1. It's more cost-effective from the individual perspective. If you could receive these services at a 40% discount, would you be willing to pay a systems administrator $20 monthly?
2. Uniformity of hardware and software. 'Tiny homes' would come with all technology installed. Every home the identical modems, routers, and WiFi repeaters.
3. Equality and increased access and provisioning for all residents.

The bottom line is that communications would be less costly, simplified in design, and have equal access for all.

The Open Question

At this writing, the open question is where does cellular service fit in? Would residents agree to all use the same cellular provider? The various pricing plans and availability vary significantly across the cellular provider. And for a good reason. It sets up barriers to entry for competitors and increases the cost (i.e., time and money) of switching carriers.

Would, for example, a carrier agree to establish a 5G network node in the community in return for a guarantee of a service franchise? Why not? **Actually, this is common practice for other utilities**. Extending this market structure and contracting mechanism to communications will obviously upset current providers and destroy a monopolistic business practice.

Programming Note

This blog has been written slightly differently than those preceding it. It's called "Smart Brevity" and is structured to be easier to read and more to the point for busy readers with limited time. More links are provided for those who want to dig deeper. I'd appreciate any feedback on this style to guide me.

Let's let the Fab Four take us out.

All Together Now – The Fab Four

OK, But How Do You Pay for It?

What We Have Covered So Far

This is the last blog in my series on tiny homes and tiny communities. I started back in September last year. I was motivated to produce evidence-based and grounded plans for people to navigate an increasingly volatile, uncertain, complex, and ambiguous world. (**VUCA**).

My overall design goals were to offer a 'strategic doing' community-based policy solution which could reduce **Social inequality**, provide care for a longer-living and **growing elderly population**, and reduce **energy consumption** impact on the planet.

As with most of my projects, this one grew and grew. So far, I've covered my design suggestions for shelter (the tiny home where I started), energy, food, transportation, environment, and communications. So, what began as a look at tiny homes or, more correctly – Auxillary Dwelling Units (ADUs in urban planning speak) turned into a roadmap for small communities. I've tried to devise a clever name for this vision, but nothing has shown up. I've even managed to stump chatGPT3 on this one.

I'm going with human-scale villages of the Future for now.

This blog focused on how these villages could be commercially developed and financed outside the traditional residential mortgage market.

Back to the Future – 18th Century Swedish Village – before tiny home architecture

The Proposals

I have two primary, interconnected proposals for this financing issue. First and foremost, I believe it has to be motivated to foster well-being and the public good – not solely for profit. Second, I believe financing needs to combine public and private funding to balance short and long-term goals.

1. For the public good, not solely for profit (Can you say SillyCon Valley Bank?)

It is precedence for this type of investment financing. The CRA (Community Reinvestment Act), enacted in 1977, requires the Federal Reserve and other **federal banking regulators** to encourage financial institutions to help meet the credit needs of the communities where they do business, including low- and moderate-income (LMI) neighborhoods. I envision these new villages to be targeted for the LMI sector.

So, what exactly is community development finance? Financing community development investments in LMI communities often requires a creative mix of public, private, and philanthropic resources. The Federal Reserve helps community development organizations access the technical and financial resources needed to complete these often-complex deals. The Federal Reserve also uses its research and convening capabilities to explore new and emerging sources of capital to support community development finance.

2. Public – Private financing

Community-owned banks, also known as cooperative banks, are financial institutions owned and managed by members of the local community. These banks provide various services, including checking and savings accounts, loans, mortgages, and investments. The profits generated by these banks are reinvested in the community, providing economic benefits to local businesses, citizens, and the overall economy.

Community-owned banks are committed to helping the local economy and creating a strong financial foundation for their members. They offer competitive interest rates on savings accounts and loans and strive to offer their customers the best products and services. In addition, they provide financial education and assistance to their members, helping them to make sound financial decisions.

Unlike large national banks, community-owned banks are not driven by profits alone. They are more likely to invest in local businesses and lend money to local community members. This helps keep money circulating in the local economy, which benefits both the bank and the community.

Why?

OK, all that aside, what are the advantages of the approach I'm suggesting?

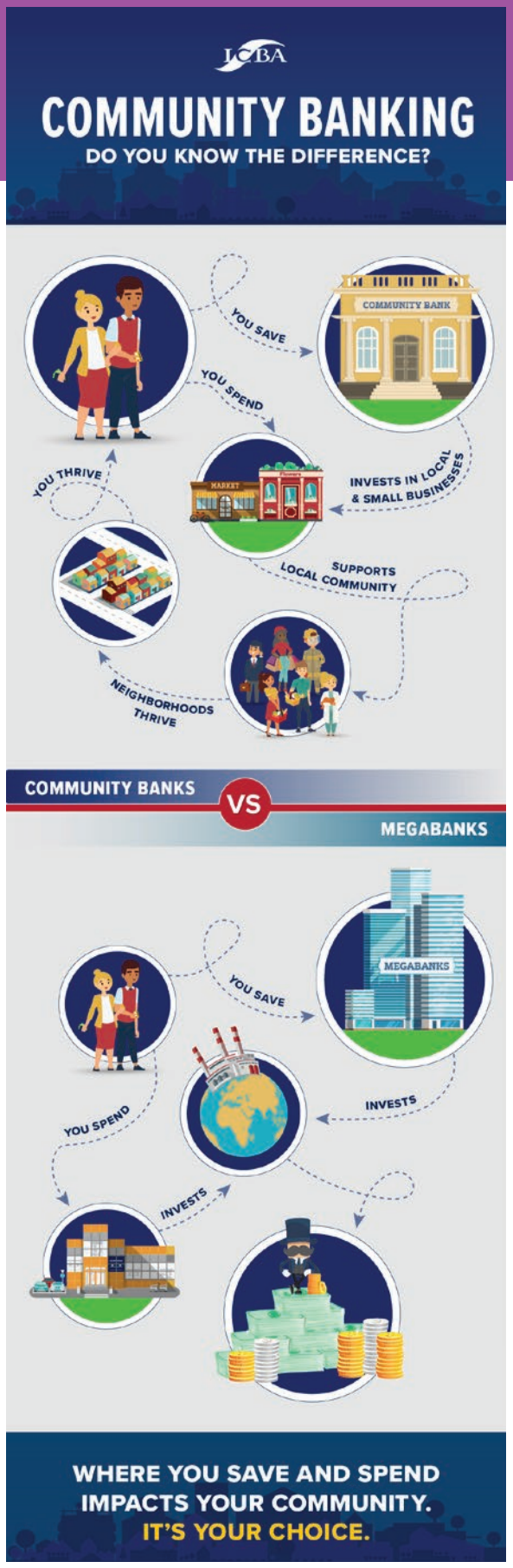
1. **Local Investment:** Community-owned banks are typically locally owned and operated, which means the profits they generate are reinvested in the local economy. This helps to promote economic development and job growth in the community.

2. **Personal Service:** Community-owned banks typically provide more personalized service than larger national banks, as their staff is more invested in the local community and has a better understanding of the needs of their customers.

3. **Responsible Lending:** Community-owned banks are more likely to take a responsible approach to lend and often provide more flexible terms to borrowers, which can help them build a strong credit history.

4. **Greater Access:** Community-owned banks often provide more access to banking services for people who may not have access to traditional banking services, such as those in rural or low-income areas.

5. **Higher Savings Rates:** Because they are locally owned and operated, community-owned banks can often offer higher savings rates than larger, national banks. This can help people save more money and reach their financial goals faster.



Over the Horizon

Phew! Well, there it is, a blueprint or roadmap for human sale communities of the Future. What now? My mission focus will now shift to education and evangelizing these design ideas. I'll be looking for audiences that resonate with this message, potential development partners, and local actors focused on developing well-being.

Originally I had planned to cap off this blog series with an exposition of what I see as a paradigm-shifting local governance model. However, I've learned that that topic is worthy of a more lengthy exploration than a 1000-word blog.

Whether or not I pursue that project will depend on the responses I get from this series so far.

The journey down this rabbit hole has led me to two ideas: cooperatives and 'sociocracies.' The responses have been very positive to date, and I'll let it sit into the Spring before I commit to moving that forward. As always, your input, thoughts, and critiques will be appreciated. But here is the teaser.

Buckle up, buttercup; it's going to be an exciting ride.

A new twist in financing

A Call to Action

Exploring ‘Tiny Communities’ for the Future: It’s Time to Take Action!

To summarize, my approach is based on:

- Minimizing social inequality
- Community based wellness care and
- Promoting a carbon neutral environment

I've reached back into the past to inform the design process

- Human Scale Life
- Indigenous informed knowledge and
- Cooperative Governance

My conclusion is that we need to strive towards:

- Simplicity
- Enclosure with recognizable boundaries and
- Completeness of all systems elements

There will be more to come. This paper should be seen as a first chapter to a larger body of work. Now, my task is to find more collaborators to bring the vision into reality. Here's a hint. It will be more about connected government and a priority on citizen engagement outside bureaucratic hierarchical structures.

My sincere thanks to all my friends out there who have coaxed me along, offered considered opinions and added much needed depth of thinking in many parts. You are all too numerous to mention individually, but you know who you are. Thank You.

If you are interested in engaging in this effort, reach out and let's start the conversation.

Namaste.

Take us out Annie

Zen + Design

Applying ancient wisdom to be future ready

https://media.awakeningtowholeness.net/
cegrantham@gmail.com