

Rail Villages

A new route to a sustainable Mendocino County

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Mendocino County has a state mandate to build 4,000 housing units in the next eight years. The biggest question is where are they going to be located? Do we continue on our present course? That is, developments that are almost completely dependant on cheap fossil fuel and automobiles. Or do we create a bold new vision that redefines our future by building sustainable communities. The biggest problems with growth are mostly car related.

We must resist creating more car dependant developments further and further out from our town centers. Instead, we must begin a transition in restructuring our communities into models of sustainability using rail lines.

Before the automobile, The railroad was the lifeblood of most communities. Cities and towns were almost totally dependant upon trains to carry passengers and freight. This proposal is a vision of how they can again become a vital link in our transportation system.

When moving people, Trains use energy about ten times more efficiently than a cars. For moving freight, rail is three times more efficient than trucks. (Today 42 % of the nations freight moves by rail.) Rail beds also never exceed a three percent grade, further reducing horsepower requirements. One commuter rail line is equal in careening capacity to a six lane freeway. (which are not free)

Today, most other industrialized countries have invested heavily in rail transit, revolutionizing and transforming them into more efficient societies. This was done by having the foresight to tax gasoline to finance these rail projects. This while the United States, including Mendocino County is engaged in a fossil fuel feeding frenzy, seemingly blind to our demise.

Rail Historically, trolleys were highly successful at moving people in and around our communities. A new generation of electric trolley is possible using solar, hybrid and other new technologies. This rail trolley system can easily run on locally made renewable energy creating a reliable source of transportation for everyone.

Mendocino County presently has about 100 miles of rail line, most of it unused. Fortunately these lines connect its three largest towns together and are still in working order. Historically these same rail lines had over 40 station stops in the towns and villages that they once served. (See map on page 4)

Perhaps some of these old stations could be resurrected, While adding some new ones. Some adjoining properties could be transformed into mostly self contained villages designed and built for people instead of cars. The rail corridor could become a new development corridor. A new safe and efficient modern trolley car transport system would service all the villages, rendering the personal automobile unnecessary.

This change of lifestyle would create a dramatic savings in construction and operating expenses for all of its residences as well as creating a more quiet and harmonious

environment. Transportation in and around the villages would be done on foot, bicycles or NEV's (neighborhood electric vehicles). Walking paths will be incorporated into all of the villages to promote exercise. No dodging cars or breathing toxic exhaust here. Since everything is now designed for people instead of cars, one can enjoy walking along beautiful landscaped paths and over beautiful bridges instead of participating in a traffic jam somewhere.

A practical vehicle for longer distances or foul weather would be small enclosed golf cart size vehicles called NEVS. (neighborhood electric vehicles) utilizing a miniature paved road system that connects village centers together. Electric bikes, scooters and Segways will also work here.

Each village has a small train station outfitted with rail mail. Solar powered trolleys would stop every half hour or so gliding quietly from station to station while picking up and dropping off passengers and parcels.

Indigenous Villages

A typical village might consist of as few as a dozen units to as many as several thousand which would be grouped together into high density clusters to save land and resources. Since car infrastructure is not included, the cost to construct these villages would be a dramatically reduced. Many of these villages would develop themes that reflects their location.

For instance, one village might be an equestrian village with a western flavor. A large ranch could be the centerpiece of this village which would raise cattle, sheep, goats and chickens for meat and also supply milk and eggs. Horses could be a primary method of transportation in this village with it's miles of trails.

Another village might specialize in arts and crafts. Mendocino County has a huge number of artists per capita. Imagine the synergy that could be created here. Visitors to the area could also visit artists in their village studios. It's important that every village create a source of income.

A rail village office complex could be the perfect location for information technology companies. They could operate here with much lower overhead than traditional models. A fiber optic line buried in the rail bed could deliver information to and from the villages at light speed.

At least one village should have some kind of nightlife. This could be built around an entertainment center. This could include a bowling alley, movie theater, arcade, nightclub, hotel and maybe even a casino. Neon lights add excitement here. This village would also have a compact shopping district with restaurants, pub and other services.

One village may also include a renewable energy powered water park with slides and pools integrated into a natural landscaped setting. It's employees would live at the onsite housing cluster,

Another type of village would be a manufacturing community where local raw materials are turned into products. One such product could be energy efficient modular housing systems which can be transported on rail to create new villages. Much taller and wider and heavier loads can be carried by rail than by highway. Since housing is really in demand, this could become a very important business We should work towards shipping finished products using our local workforce whenever possible. Renewable energy equipment was pioneered in Mendocino County and will be a growth industry.

A water powered redwood sawmill could be the centerpiece of a logging village set up near a stand of old growth redwoods. If this was built as an authentic period piece, it could also be rented out as a movie set.

Another period piece would be a Celtic village off in the woods built from all natural materials and really lived in. A Pomo village could be located along another pathway. This proto village is the ultimate model of sustainability and should honor those who came before us.

At the Noyo river rail crossing, passengers could transfer to boats to take them down stream to visit the Spring Center village as well as visit the harbor and restaurants.

Retirement villages would solve the transportation problem for seniors who can't drive cars. These may combine child care centers where the elderly pass on their wisdom to the young. These villages also contain vegetable gardens and edible landscapes to keep everyone busy. Restaurants, wineries and orchards would become rest stops along the way.

One village might specialize in brushwood (biomass) removal and transport using solar powered equipment . This creates employment while making healthy forests and reducing fire danger in all the villages and surrounding hills. Emergency vehicles such as ambulances and fire trucks vehicles that travel on rail and highway would be needed.

Another kind of village would be a living learning center. Perhaps Mendocino College could have a rail campus that focuses on the exciting new technologies required to build this brave new world. Solar powered trolleys, tractors, ATV's and other forms of transport will be needed. This could be a research and development center. Creating this new sustainable lifestyle is a huge design challenge and will require many skilled hands and minds. This school would create many spin off enterprises .

Car Share

Each large town, Willits, Fort Bragg and Ukiah would function as a transportation hub. This would include short and long term parking and includes bicycle and storage lockers. Also included is a car share agency stocking a wide variety of high mileage highway cars, trucks and NEV's. When people living in town or the villages need any kind of vehicle, it's available here. This service would be of great value to people who live and work in town who want to get rid of their cars. Thousands of families could save about \$7,000. of dollars every year by going car free and switching to an NEV.

Power

Mendocino County is blessed with abundant amounts of untapped renewable energy. We have loads of sunshine for solar power and adequate wind and huge amounts of biomass. Wave power is an emerging technology with huge potential. Winter rains and mountainous terrain combine to create hydroelectric potential as well as a kinetic energy storage device called pumped hydro. Many small ponds also hold winter runoff for us to use in our villages. Some villages will be entirely off the electric grid, others will be on it.

Some villages might utilize gasifier units which convert biomass into electricity. This power could be fed directly into the power grid anywhere there's power lines or used directly by the villages. Waste heat from these units could be used in industrial applications or for heating greenhouses soil for growing winter vegetables. It could also create space heating in high density residential areas for winter use.

The homes in these villages would be very energy efficient, utilizing passive solar

heating and natural earth cooling cycles. Every home would have at least a one kilowatt solar system for electricity. These homes would utilize the latest technology and equipment. They would utilize indigenous materials for much of their construction. These villages would be an ideal research and test facility.

Village size and shape would be determined by location, terrain, water availability, soil type, terrain and exposure of the land other infrastructure at that site. New types of building models such as co housing, shared kitchens and bathrooms and detached bedrooms could be incorporated into many of the clusters. Perhaps Habitat for Humanity would participate in creating homes in many of the villages. They have created thousands of quality low cost houses and would be ideal partners.

Local food production would be a high priority in all of the villages. Food stores and markets in these villages would use standardized recyclable glass containers of different sizes that are reused hundreds of times. People simply return the clean bottles for a refund. This could reduce landfill expenses.

What little wastewater the villages produce can be used to root feed redwood trees, even in the winter months using the Burton underground emitters, creating a zero discharge system while sequestering carbon.

By creating these villages, we can demonstrate a new ecological lifestyle that can be replicated on tens of thousands of miles of abandoned rail line throughout the country. Huge sums of money and time could be saved by our residents going car free. All of the technology to create this future is largely “off the shelf.”

The most expensive part of this dream is already in place. That is the railroad right of way and track. This asset is worth hundreds of million of dollars and now just needs modern equipment and stations and of course some track repair.

The long term benefits is that we create a safe and dependable way to transition into a post carbon future while demonstrating and testing old and new technologies. This system could generate tourist dollars now putting us ahead of the curve while making all of Mendocino County a destination spot if we wish.

A mere six million dollars would be sufficient to purchase and outfit eight rail trolleys while reviving and building thirty five or so old station stops. This infrastructure addition would allow thousands of residents to become car free, saving them millions of dollars every year while transforming the county into a more self sufficient and vibrant community.

This proposal is merely a vision of what could be created if we only begin to utilize the track and infrastructure that is already in place. This vision would also need local planning agencies cooperation in shifting development zones to trackside locations. The private sector would then invest in the villages. This proposal includes the best from our past and combines it with today’s technology to create a sustainable future. These idea can also be duplicated on the many miles of abandoned rail lines that presently exist all around the country.