

The Historical Moment

A recent book “The New Universe and the Human Future” describes late 20th Century’s science’s surprising discoveries in physics and astrobiology. It is astounding. Perhaps you remember Carl Sagan on Johnny Carson saying there are 1000s and 1000s of Earths, and for a long time there has been a commonly held notion that Earth is an average planet of an average star, but nothing could be further from the truth. Since the 1990s over 500 planets have been discovered in other solar systems and none are suitable for life. The unique properties that make the Earth habitable are very rare and are: our sun is stable and long lasting; Earth is in the perfect habitable zones for the solar system and which is very distant from the raging radioactive center of our galaxy. The biggest scientific surprise of the late 20th Century was that plate tectonics are responsible for our life giving greenhouse gas CO₂. We also have a sizeable moon that stabilizes the gravitational pull of the other planets, and permits a stable climate, and Jupiter takes the comet hits and is the guardian of the inner planets. It is so amazing and complex it sounds almost intentional.

Our planet is very special and possibly unique in all the cosmos. Hence the future of intelligence in the visible universe could depend on humanity.

But coming down to Earth, unfortunately with our madcap ways of consuming all the planet’s resources in a grand couple of party-on centuries, we appear to be blowing it. In 160 years, globally, we have poisoned our skies with massive and ever increasing amounts of carbon. Yet even though it is well known, we continue on a disastrous course with a business-as-usual polluting of our atmosphere and oceans, and as a result, destabilizing the climate with early storms such as Katrina and Sandy, extreme droughts that Columbia University reports promise to be worse than the 12th century, and dying corals and fisheries from an acidic ocean. These new extremes offer just a beginning taste of an out-of-control future. And our end as a civilization.

As the authors Abrams and Primack state: “Earth is negotiating with us right now and waiting, not so patiently for a good faith reply. If humans don’t make it, the universe can try and evolve intelligence again, but humanity will be sloughed off as if we had never been.”

Since the beginning of Industrialization, carbon, along with other industrial gases, have increased to levels not seen since the Cretaceous, millions of years ago. It was a different world. Locally, we see signs of this pending disaster in the dying of our premier oak trees, virulent red tides that destroy all shore life on the northern Sonoma coast, and invasives that threaten our waters and watersheds.

To reverse our headlong march to oblivion, and restore the natural systems that provide for life, we, as citizens and governments, need to act. It is imperative we reorganize our economy around the reduction of carbon in the atmosphere. Different regions are going to have different issues. Fortunately, we don’t have a coal plant that we need to shut down, however we have something that is almost as bad, hundreds of thousands of cars are running around Marin everyday, and sending millions of tons of carbon to the skies. Going to the gas station is the double insult: high prices and the gas you are buying is destroying the planet, with the tailpipe in Marin contributing 2/3rds of our greenhouse gases.

Marin is the 4th wealthiest county in the US, is progressive and knowledgeable. Its towns and villages were all based on an elaborate rail system of trains and trolleys that were taken out 70 years ago. Restoring this system is the perfect recipe for success. Gov. Jerry Brown once said, "So goes Marin, so goes California". We have the opportunity to lead the way in transportation and land use that many communities across the county can emulate.

With the new light rail system being built, we are beginning the first steps to provide a renewal of that old system, and for a real alternative to the car. The first phase of SMART is designed to bring commuters to Marin from Sonoma, so its use for Marin residents is limited; however the proposed Ross Valley Trolley demonstration line could be the first step in providing for a carbon neutral rail transit system for urban Marin. This streetcar is in the street with cars, and propelled by a fuel cell and long lived batteries. No overhead wires. It will run from Fairfax on Center to 4th Street in San Rafael, and the SMART station. And as SMART gets a lot of use in the future as gas prices rise to the stratosphere, a trolley can run on those tracks as well, and be a local connection tying our towns together with a trolley arriving at your station every 15 minutes throughout the day.

With the advent of a light rail and a trolley system in Marin, we have the opportunity to strengthen our community with infill housing, and economically revitalized downtowns. Currently many SMART station sites in Marin are being studied for the possibility of transit villages. Funding for the studies is coming from the feds, and typically is a \$500,000 grant for consultants to look at the possibilities of transit oriented development (TOD). Unfortunately most of the studies lack vision, or are exclusive of real transit opportunities, but there is some good planning going on, and that can lead to a wonderful mixed use village. In such a setting many people will have the opportunity to be free of the automobile, and using transit, will also frequent the many village shops they visit before boarding a train or trolley. Above the shops will be housing of all types, including all income and age ranges. This is what makes a healthy community socially and economically, and to make it environmentally so as well, new technologies are emerging that can power most of our needs by impregnating building surfaces that face the sun with photo voltaics, new nontoxic building materials and panels from waste products, and with factory built components that reduce waste and cost of conventional construction. Additionally we can reduce the need for centralized sewage treatment plants with their massive out-gassing, and seemly continuous accidental polluting of the bay. The new village would process waste into methane on site, and recycle water into hydroponic urban gardens.

And it would be a small, downtown urban oasis located at SMART stations, and which could serve northern Marin with the somewhat isolated and recent county and city developments. Such a place provides housing that doesn't threaten the integrity of the neighborhoods, provides new business opportunities for locals, reduces the carbon footprint for its users, and brings forth a rich social engagement. And do you think this kind of world is just a dream? Not so. I grew up in this sort of place. It was a mid-western town that had a train station at one end, a mixed-use downtown with all local businesses, and walkable elm lined neighborhoods. Today's Smart Growth and New Urbanism emulates this model.

This is the real estate development direction we need to move forward or, rather back to, if we care about future generations. It is the responsible thing to do.

The top 5 oil companies in the US had a trillion dollars in revenue last year, and we can't get Congress to stop the massive federal subsidies these companies receive. The Partnership for Sustainable Communities funding with its six livability principles, and with Public/Private Partnerships we can restore our communities to a more sustainable future. Residents will have the opportunity to invest in the trolleys, and restore the high use of transit 80 years ago. Along with the premise that cities and the county are not responsible. There will be oversight by our councils and supervisors, and as public entities they will have perhaps a moral obligation, but not a legal one.

We have to step back from that wonderful automobile womb, and reduce our use so the Earth may heal. We as citizens and local governments need to act, and now have a great opportunity to reduce the destructive way we get around, with a light rail system under construction, and the Ross Valley Trolley being considered.

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