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Restorative Development Regulations

By Kaizer Rangwala, AICP, CEcD, CNU-A

Restorative Development Regulations

Sustainability is a low standard. Storm Cunningham in his book *ReWealth* says we should restore. He explains this with an example: if you ask someone about their marriage and they tell you it is “sustainable” -- you are likely to feel sorry for the person. Instead, if the answer were the marriage is restoring and revitalizing daily -- that is a step in the right direction.ⁱ

Sustainability is a start, but we have a long way ahead if we are going to restore the human habitat. The good news is that restoring places will create meaningful jobs, revenues for public sector, healthy economy and sense of civilized purpose. Conscientious corporations and government at all levels are interested in incorporating the latest green and sustainable innovation. Cities and counties are looking to incorporate sustainability features in their development are leaning on technological innovation. Steve Mouzon calls this “gizmo green” which is an attempt to green at the edges where they are most visible, without making adjustments to the core structural inefficiencies.ⁱⁱ

The focus of this article is to discuss the seldom talked about but inherent restorative and conservation benefits of contextual urbanism and the regulatory framework needed to deliver urbanism.

Linear vs Looped

The Industrial revolution was a major turning point in our connection with nature. The efficient assembly line system flowed energy and resources through the urban system with less regard for their origin and even lesser regard for the destination of the wastes. Fossils and raw materials are extracted, processed into consumer products and the wastes and gases are discharged into landfill and the atmosphere, where it can no longer be reused. This linear system consumes more resources and produces waste and pollution at much higher rates. The linear machine aesthetic has also affected our buildings and cities.

We have overbuilt and strip mined the arable land with sprawling subdivisions, office parks, commercial strips, and shopping malls. In the wake of fiscal, climate, and energy crises, none of these development patterns are doing well. Much of what we have built cannot be sustained or recycled -- their future at best is suspect. The current development pattern is not viable because it has created misallocation of resources, inequities, and an uncaring populace that is destroying the very nature that makes our existence possible. The sprawling single use subdivisions, zoning separation, and professional specializations have fragmented the complex interrelated aspects of urbanism. The different parts of urbanism that worked together in harmony, when separated have begun to fail in dissonance. The Modernists stripped architectural details that were intended to provide human interest and scale to our buildings. The International Style freed the buildings from local design and building traditions. Our inability to design neighborhoods and buildings that can relate with humans and nature has resulted in a public mistrust towards any growth.

Nature operates in a circular closed-looped metabolism, where there is no waste. Every output is also an input which replenishes the whole system. The circular metabolism reduces consumption and pollution encourages recycling and maximizes renewables. To meet the growing needs of an increasingly urban and developed world, we will need to study the ecology of natural systems and evolve from the linear to a circular metabolic system in our planning, coding, and building efforts. Our economy, cities, and buildings will need to shift from consumption to conservation where we make fewer resources last longer.

Urbanism

At 49%, buildings consume a large percentage of energy and are responsible for 47% of carbon emissions. The transportation sector consumes 28% of energy and emits 33% of carbon emissions.ⁱⁱⁱ Efficient buildings within compact, diverse, and connected communities encourage walking, biking and transit use, reducing energy consumption, trips and air pollution.

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People who live in walkable communities are more physically active and healthy. They live in smaller spaces because the outdoor public realm is rich. They also consume less and produce less trash. Urbanism creates identity and preserves natural resources.

A UC Berkeley report by Joanna Malaczynski concludes that urbanism in Central Hercules over the next 30 year period will reduce daily VMT by 25 miles saving consumers nearly half a billion dollars in gasoline.^{IV} Peter Calthorpe in his book *Urbanism and Climate Change* compares a 30% energy savings from a green home in sprawl to a townhome in a village that will conserve 58% less energy and a condo in the city will save 73% energy savings. “Traditional urbanism, even without green technology, is better than green sprawl,” says Calthorpe.^V

Development regulations need to be reexamined for their contributions to VMT and greenhouse gases. Particularly, the old zoning and subdivision tools created in response to a linear, consumption driven industrialized society will need to be replaced with a comprehensive framework that will balance the time-tested principles of urbanism with the conservation technological innovations. Simply tagging on high performance buildings and infrastructure standards to a conventional zoning and subdivision platform misses out on the larger benefits of having a diverse population engaged in diverse activities within a walkable and human scaled public environment shaped by buildings, streets and open spaces.

Why Form-Based Codes (FBCs)?

FBCs offer a comprehensive and integrated framework that combines the individual elements of urbanism — the buildings, streets, and open space — into a cohesive and memorable place. The full spectrum of land-use standards such as planning, zoning, subdivision, public works, and safety standards operate in unison, rather than allowing these systems to clash with one another. FBCs operate at different locations, scales and intensities of urbanism, allowing a seamless framework to integrate transportation choices that will reduce trips and preserve the region’s environment.

The conventional zoning codes proscribe development standards. There is no lack of effort in calling out all the things that the codes should not allow. What conventional zoning codes fail to do is to prescribe what should be allowed. Because the standards are abstract and vague they fail to conceptualize and inspire the sum of individual projects to add up to a desirable place.

On the other hand, sustainability like form-based codes is based on a specific vision of the local place. FBCs begin by obsessively observing the place: what works and what feels right for the climate zone, regionally available materials, construction techniques, local culture, and traditions. Traditional building designs are durable and they age well -- usually conserve energy because they show respect to sun, wind, and local climate. Simple traditional building design features such as party wall separation, well-positioned and operable windows and high ceilings offer better solar, lighting and ventilation than solar cells, energy-efficient bulbs or air conditioning devices. The time tested preferences of traditional architecture combined with urbanism increase our chances of conserving energy, materials, and money and consistently delivers what Mouzon calls “lovable places.”

Flagstaff, AZ, the rural to urban transect provides a regional framework to contextually incorporate high performance building and infrastructure solutions within a range of settlement types. The solar access overlay on the regulating plan examines and adopts a palette of appropriate approaches to harness solar energy. Hydrology is calibrated to the different areas of the transect: surface infiltration with vegetative swales in T1-T3 and subsurface urban channels in T4-T6. Rainwater harvesting and wastewater is collected in rain barrels in T2, T3 and cisterns in T3 to T6.

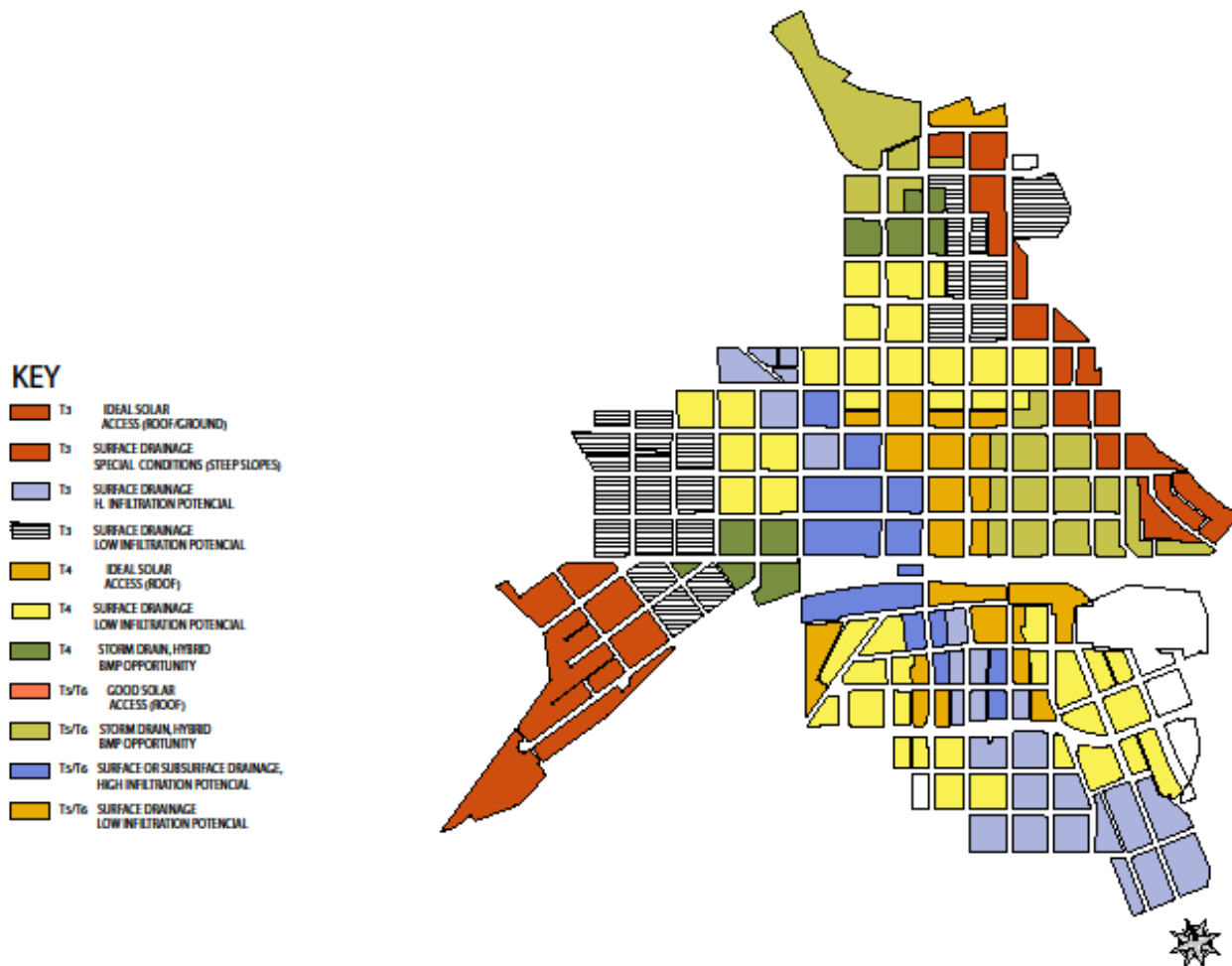
Restore with Nature

If a marriage is not sustainable, divorce is an option. Our fate cannot be separated from this planet. We have to make the difficult choices and repair our bond with nature. Our affair with the resource and pollu-

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Goals: Integrate Stormwater Management Strategies



Charrette Summary: Land Development Code Rewrite | Flagstaff, AZ
Opticos Design, Inc. & Lisa Wise Consulting

tion heavy linear based society must end. As stewards of the built and natural environments, planners must be the first to require resources to operate within a closed loop system.

Given good information and a choice, most communities embrace urbanism which is inherently sustainable. And such design will decrease VMT and CO2 emissions and increase individual physical activity and health. FBCs regulate high quality walkable urbanism but are also an inherently effective way to integrate sustainability features based on type and character of the community. Form-Based Codes (FBCs) produce high quality compact, mixed-use, and walkable urbanism that use less resources and generates fewer VMT and greenhouse gases.

ⁱCunningham Storm, ReWealth: Stake Your Claim in the \$2 Trillion Development Trend That's Renewing the World, McGraw-Hill, 2008.

ⁱⁱMouzon Stephen, The Original Green, UNlocking the Mystery of True Sustainability, The Guild Foundation Press, Miami, 2010.

ⁱⁱⁱArchitecture 2030, www.architecture2030.org.

^{iv}Parolek Dan, et al, FBCI Webinar on Integrating More Sustainable Design Into Form-Based Codes.

^vCalthorpe Peter, Urbanism in the Age of Climate, Island Press, 2010.