



AVOIDING THE LONG EMERGENCY

ENERGY, AUTOMOBILES, & HOW WE LIVE

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PEAK OIL AND THE LONG EMERGENCY



“AS THE AMERICAN PUBLIC CONTINUES SLEEPWALKING into a future of energy scarcity, climate change, and geopolitical turmoil, we have also continued dreaming. Our collective dream is one of those super-vivid ones people have just before awakening. It is a particularly American dream on a particularly American theme: how to keep all the cars running by some other means than gasoline.

We’ll run them on ethanol! We’ll run them on biodiesel, on synthesized coal liquids, on hydrogen, on methane gas, on electricity, on used French-fry oil . . . !

The dream goes around in fevered circles as each gasoline replacement is examined and found to be inadequate. But the wish to keep the cars going is so powerful that round and round the dream goes. Ethanol! Biodiesel! Coal liquids . . .

-- From “The Long Emergency” by James Howard Kunstler

THE AUTOMOBILE DICTATED URBAN PLANNING



The pattern on post WWII suburban development was fueled by cheap oil and the automobile. Public transit and communities designed for people were abandoned.

Uses were separated and the automobile became a necessity. Designing to the scale required to accommodate the automobile fractured communities. Rather than human interaction at a sidewalk level, everyone competes with their neighbor for asphalt.

ZONING & ENERGY CONSERVATION

... A KEY PART OF THE SOLUTION

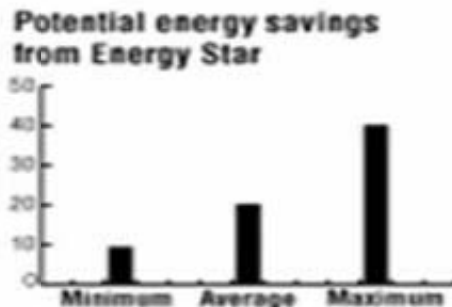
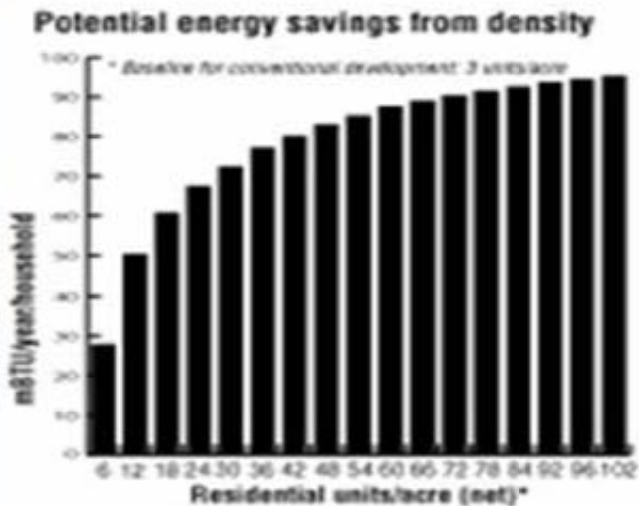
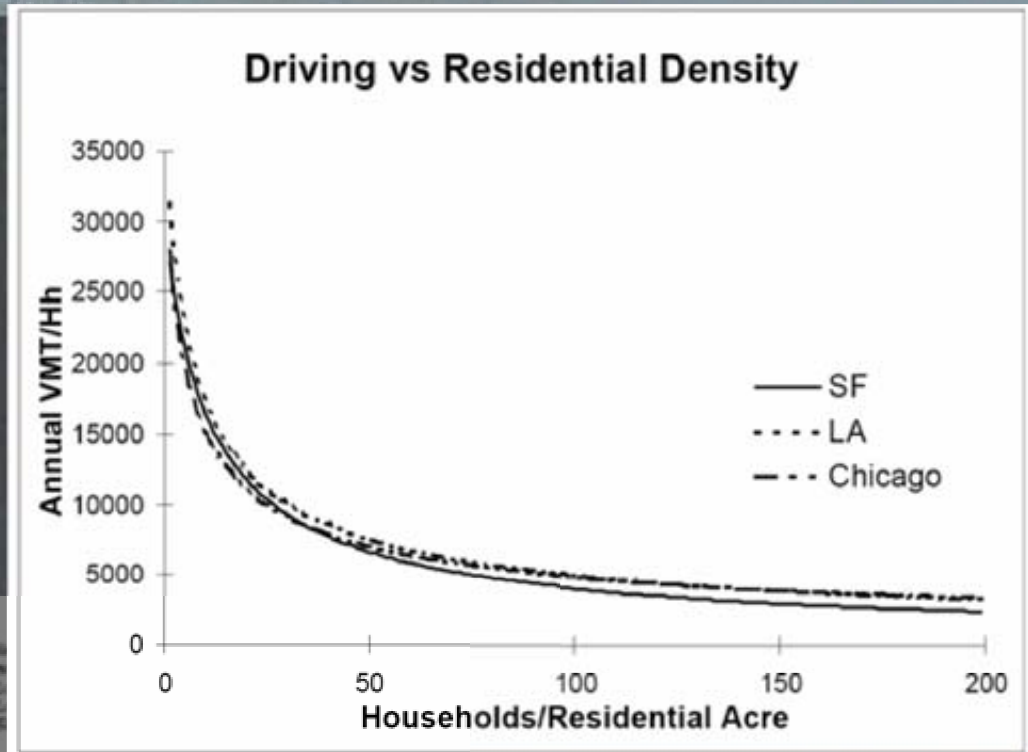
- **More than one-third of greenhouse gas emissions are produced by buildings (primarily in heating and cooling), but another third is spent transporting people and goods to and from those buildings -- and transportation emissions are growing much faster.**
- **Workplaces, shops and residences -- even energy-efficient ones -- in remote, auto-dependent locations generate vastly more transportation-related emissions than locations in urban places where transit-use, walking, and bicycling are viable options.**
- **Simply put, no building can be considered truly green unless it's in a green urban neighborhood -- and the principles of traditional city and town design as promoted by Smart Growth & New Urbanist Planning are essential guidelines for creating and supporting these neighborhoods.**
- **By focusing on traditional neighborhood design principles -- such as density, proximity to transit, mixed use, mixed housing types, and pedestrian friendly neighborhoods -- Zoning is recognizing the dramatic energy savings and environmental benefits inherent in sustainable urban planning**

THE ENERGY SAVED BY IMPLEMENTING NEW URBANIST PLANNING FAR OUTWEIGHS ENERGY STAR PERFORMANCE

- An average urban household uses 320 million British thermal units (mBTUs) annually, while an average suburban household uses 440 mBTUs (assuming 2.5 people/family). The difference is mostly in transportation and infrastructure.

- Access to transit yields significant energy savings, but not as large as increased density.

- The economic savings from enhanced location efficiency from 10 years of new construction based on New Urbanist principles is about \$2.3 trillion, mostly from reduced auto ownership, according to a study by Natural Resources Defense Council.



From research done by the Sierra Club and the U.S. Green Building Council

WHY NOT JUST INNOVATE OUR WAY OUT OF PEAK-OIL AND CLIMATE CHANGE PROBLEMS?

Technology has gotten us into the climate change mess, and we assume that technology will get us out of it . . .

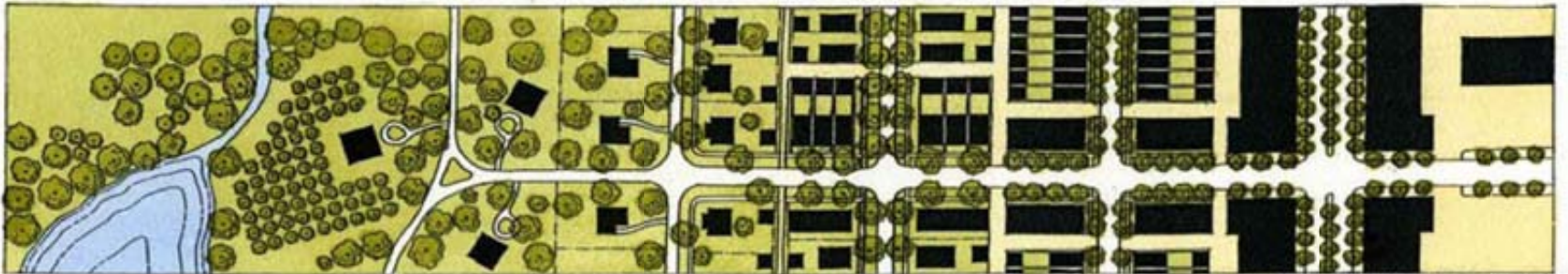
Time magazine on Dec. 19 published an essay arguing that “technological fixes” like hybrid cars, wind turbines, and algae biofuel will not be enough to get us out of “the peak-oil and climate change mess.” Writer Bryan Walsh said purported solutions “like rooftop solar panels or energy-efficient insulation” do not go to the heart of the difficulties facing the country and the world.

“The deeper problem may be how — and where — we live our lives,” Walsh asserted. “The adoption of cleaner technologies will take us part of the way, but what we really need to do is change our habitat, not just for the environmental benefits, but for our health, lifestyle, and happiness.” The best remedy, he suggested, is New Urbanism.

SPRAWING DEVELOPMENT IS NOT SUSTAINABLE

- **The Washington Post on Dec. 30 published an essay by Eduardo M. Peñalver of Cornell Law School arguing that “the inexorable spreading out that has characterized American life since World War II might finally be coming to an end.” Peñalver predicted that “persistently high gas prices may mean that the next building boom will take place not at the edges of metropolitan areas but far closer to their cores.” His view: “Accommodating a growing population in the era of high gas prices will mean increasing density and mixing land uses to enhance walkability and public transit” — solutions associated with New Urbanism.**

NEW URBANIST PLANNING AND ZONING



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... RESPECTING THE RURAL TO URBAN TRANSECT

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THE 2008 SAIPAN ZONING LAW

... SUPPORTING NEW URBANIST PLANNING

- **Mixed use including a full spectrum of employment, institutional & cultural activities**
- **Streetscapes that are friendly to pedestrians & bicyclists**
- **Interconnected street grids comprised of small blocks**
- **Public transit options that are convenient, reliable, comfortable & safe**
- **A variety of housing types available and affordable to a diverse population**
- **Parks, plazas and natural areas within walking distance of every resident**

PRIORITY HAS BEEN GIVEN TO THE AUTOMOBILE



**WE HAVE ABANDONED THE
PUBLIC REALM TO THE CAR . . .**



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THE PEDESTRIAN MUST RUN THE GAUNTLET . . .



A VISION FOR SUSTAINABLE DEVELOPMENT AND ENERGY SECURITY



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VILLAGE PLANNING

... QUALITY OF LIFE, CREATING A SENSE OF PLACE



Walkable Mixed-Use Neighborhoods that Preserve Open Space, Agricultural Land, and Cultural Heritage

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PLANNING DOWNTOWN FOR A PROSPEROUS FUTURE



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GIVING PRIORITY TO THE PEDESTRIAN



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GIVING PRIORITY TO THE PEDESTRIAN

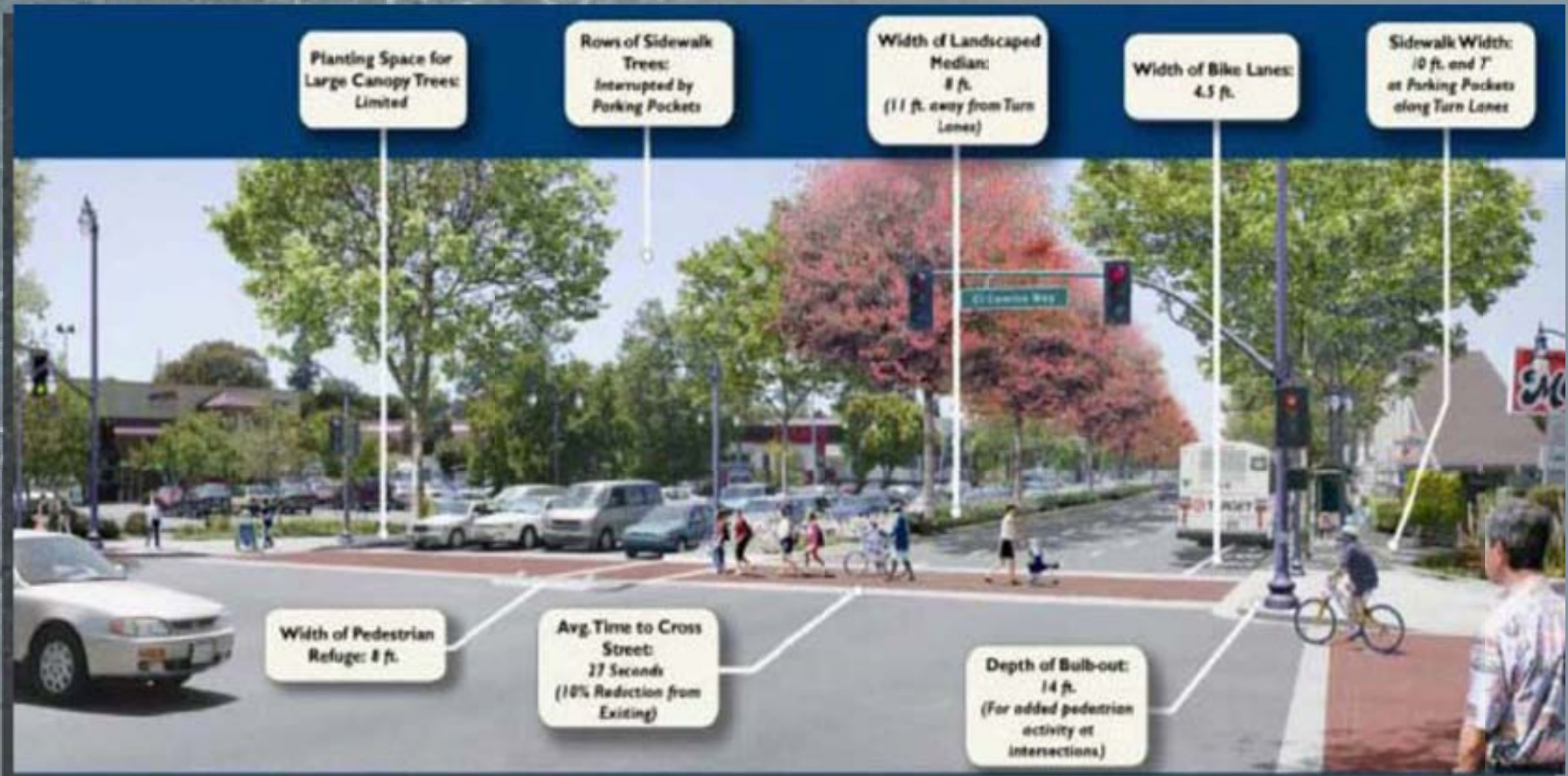


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GIVING PRIORITY TO THE PEDESTRIAN



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ENERGY SAVINGS . . .

**BRING THE ABUNDANCE OF NATURE
INTO OUR URBAN CENTERS TO
CREATE A USABLE PUBLIC REALM**



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WALKABLE DESTINATIONS



... COOLING PUBLIC SPACES

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WHERE AND HOW WE LIVE CAN REDUCE ENERGY CONSUMPTION BY 60%

Suburban
8 DU/acre
0.25 FAR



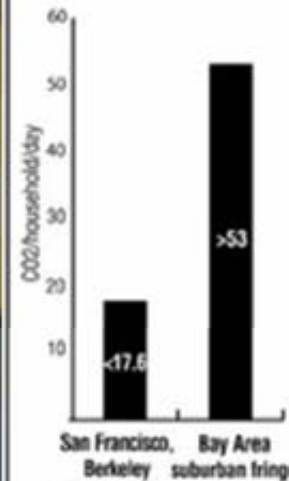
Urban
40 DU/acre
2.5 FAR



CO₂ Lbs/Yr/Household

Buildings	24,000
Transportation	<u>26,000</u>
Total	50,000

Figure 4: Bay Area greenhouse gas emissions in 2006



Source: Metropolitan Transportation Commission

11,000
<u>9,000</u>
20,000

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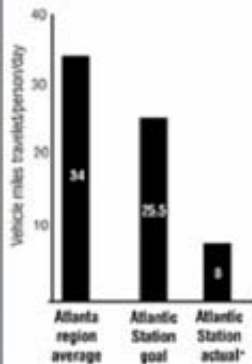
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REAL WORLD RESULTS

... ATLANTIC STATION, GEORGIA



Figure 2: reduction in VMT at Atlantic Station



Harriet Truguring presentation at the Green Architecture and Urbanism Council

* Residents of Atlantic Station, people who work there drive 10 miles/day



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REAL WORLD RESULTS

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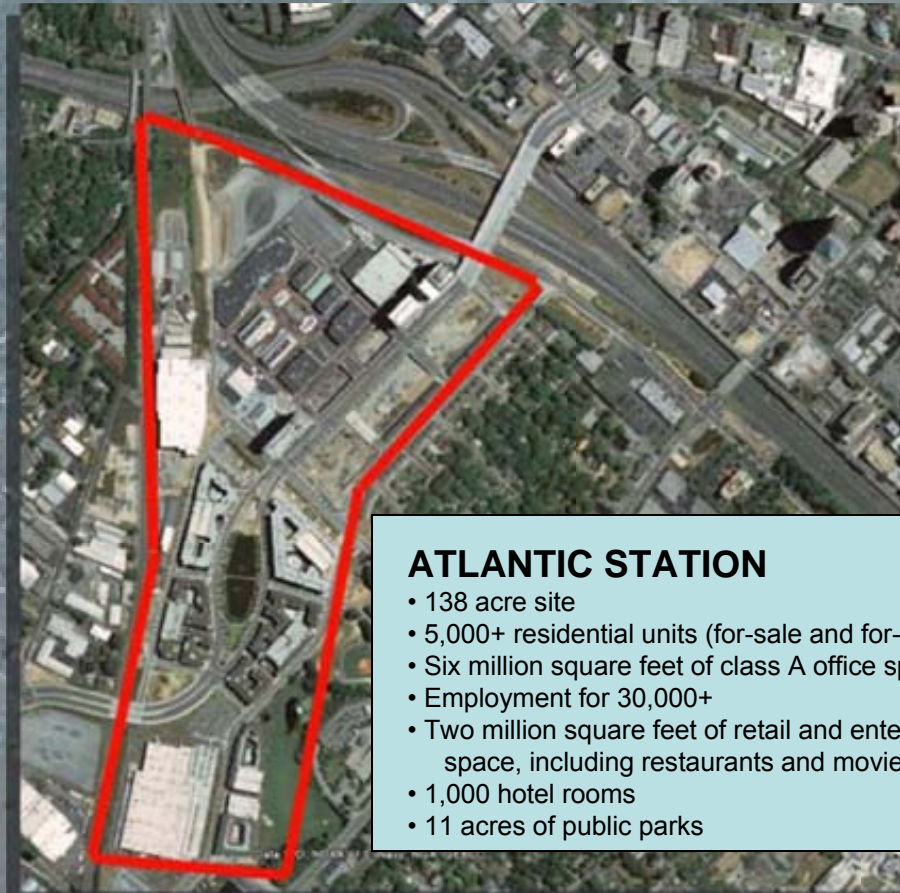
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REAL WORLD RESULTS

... ATLANTIC STATION, GEORGIA



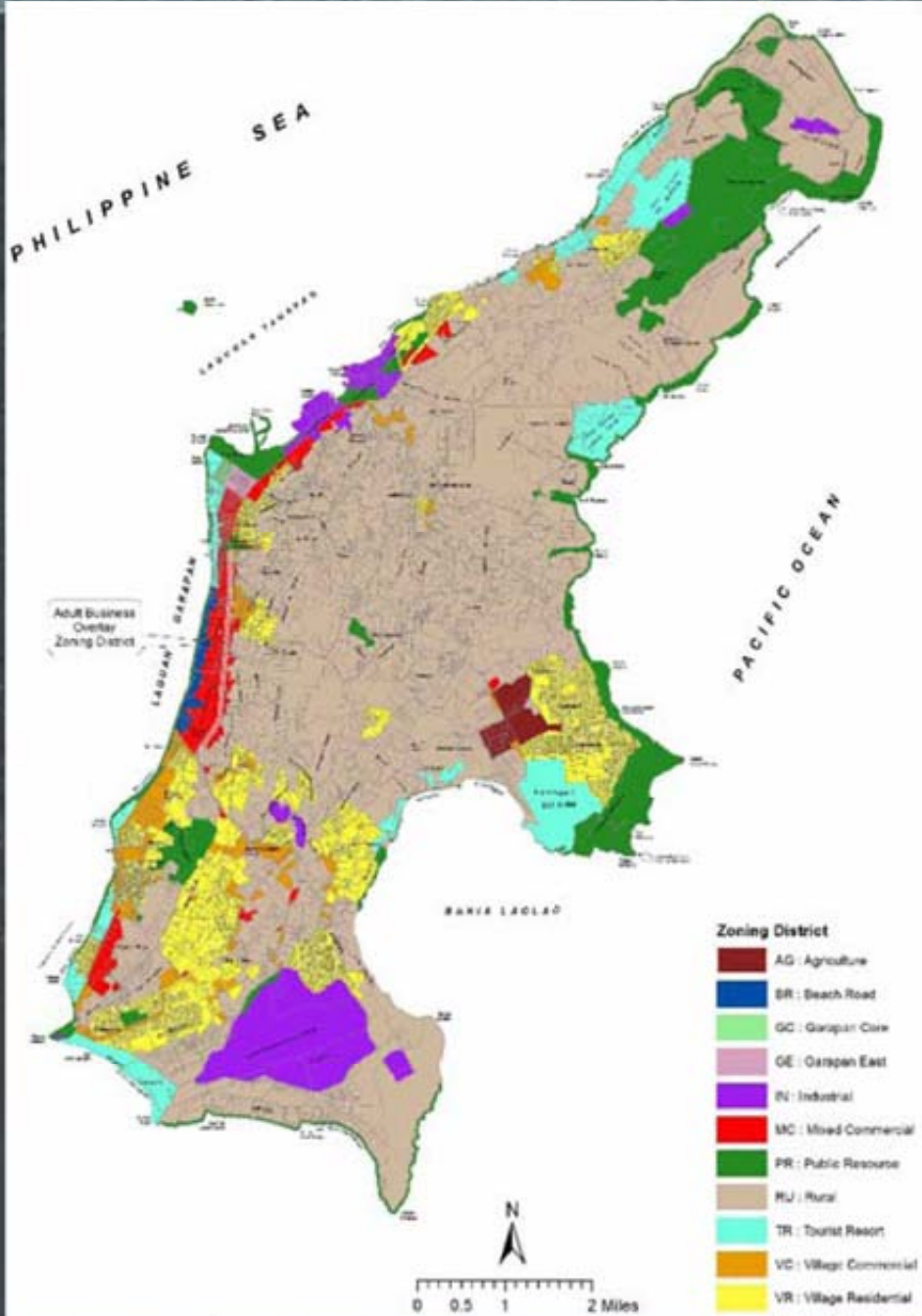
ATLANTIC STATION

- 138 acre site
- 5,000+ residential units (for-sale and for-rent)
- Six million square feet of class A office space
- Employment for 30,000+
- Two million square feet of retail and entertainment space, including restaurants and movie theatres
- 1,000 hotel rooms
- 11 acres of public parks



GARAPAN?

2008 SAIPAN ZONING LAW





WHERE AND HOW WE LIVE CAN REDUCE ENERGY CONSUMPTION BY 60%.



ZONING & URBAN PLANNING NOW GIVES US THE TOOLS WE NEED.