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*An enthusiastic examination of Gates’ proposed smart city Belmont*

In 1944, a small number of reindeer were introduced into St. Matthews island, situated off the coast of Alaska by the US Coast Guard to create an emergency food source. The island was subsequently abandoned, leaving the reindeer population to explode, as there were no suitable predators. By 1963, the reindeer population had risen to 6,000, yet in the following two years, there was a massive die-off (Klein). Ecologists have commonly harnessed this example as a case study to warn of the dangers associated with exceeding the carrying capacity. We, as humans like to believe that we are inherently superior to all other animal species, and therefore, this won’t or can’t happen to us.

Currently, the world population exceeds 7.7 billion people and is growing as we speak. This is truly astounding when one considers that it took over 200,000 years to reach 1 billion people, yet it only took 200 more years to reach 7 billion. The rate of urbanization has mirrored this population growth trend, as it has been predicted that another 2 .5 billion individuals will reside in urban areas by 2050 (World’s population increasingly urban). This has resulted in the recent phenomenon of ever-expanding urban sprawl, which in many cases is a poorly-planned artificial environment that not only reduces its residents quality of life and health, but also leads to water and air pollution, water scarcity, habitat fragmentation and destruction, and a number of other vital socio-ecological issues. According to John Wilmoth, Director of UN DESA’s Population Division, “managing urban areas has become one of the most important development challenges of the 21st century. Our success or failure in building sustainable cities will be a major factor in the success of the post-2015 UN development agenda.” (World’s population increasingly urban). I postulate that smart cities offer a solution to many of these urban issues by redesigning urban space and incorporating new technologies that will improve its resident’s quality of life, while lowering the burden on the environment.

In this article, I will be discussing my thoughts on Bill Gates’ recently announced new smart-city. It has been designated the placename, Belmont and will be situated a short 45 miles west of Phoenix, Arizona. I find it worth noting that the “smart-city” concept has evolved past simply referring to high-speed internet and efficient public transit systems, and now entails characteristics such as affordable high-density housing, access to effective green public transit, climate resilience, and prioritization of green space.

I believe that Gates has chosen an advantageous location for a number of reasons. Arizona offers a number of benefits for the shared vision of this smart-city development. Firstly, Arizona Governor, Doug Ducey has formally legalized autonomous vehicles being allowed to operate on public roads into the state’s vehicle policy (Hawkins). This facilitates Gates’ transportation vision for a Belmont completely based on autonomous vehicle technology. Secondly, Arizona has one of the cheapest pricing for land for acquisition in the United States, dramatically cutting costs for Gates. For instance, Gates’ investment firm, Case Investment LLC paid $7,500 per acre for Belmont (Garfield). This represents a very reasonable price for land so close to a major metropolitan area. Lastly, Arizona is one of the sunniest states in the United States and for that reason, represents a significant opportunity for the potential to invest in solar power.

My only notable concern has to do with Arizona’s worsening water scarcity situation. Many perceive the creation of Belmont and its estimated 182,000 residents to further exacerbate this water-crisis, which is a fair concern. Additionally, in order to legally build on the purchased property, the developers, Case Investment LLC must prove that the area “has a 100-year assured water supply.” (Garfield). However, I firmly believe that Gates will bring innovative solutions to address the water scarcity issue. In sum, the benefits definitely outweigh the limitations.

From an urban planning perspective, the potential of autonomous vehicle systems to effectively redistribute space is enormous. Consider, for instance, the positive impact of converting 90% of a city’s parking lots into public parks would have on its residents perceived livability of the area. According to Donald Shoup’s book, “The High Cost of Free Parking”, the average automobile is only utilized approximately 6 hours of every week, meaning that 96.5% of the time, the car is parked (Schmitt). Not only is this a gross misallocation of space, but in fact, the competition for parking spots in urban areas actually worsens traffic significantly by forcing people who’ve “already arrived at their destination” to continually search for parking spots. This is part of the appeal behind ride-sharing services like Uber and Lyft, that decrease the need for personal private vehicles.

I believe that Belmont’s proposed autonomous vehicle transportation system, in conjunction with effective and sustainable public transit options would eliminate this annoying phenomenon occurring in almost all metropolitan areas. In the past, cities were constructed with a pronounced car-centric vision, making many areas less accessible to pedestrians and people using alternative modes of transport. This effectively disrupted the social connectivity of public areas. Now, it is evident that we should move towards sustainable multi-modal forms of transport, in order to facilitate the movement and experienced livability by individuals. Belmont will allocate the majority of its land towards the creation of public recreation areas, as well as community buildings and services to improve the social connectivity and feeling of community experienced by its residents.

I am thoroughly excited about the potential for solar energy to power Belmont, as well as the partnership opportunities for relevant renewable energy companies. To set the context, Arizona represents an optimal environment for solar power generation, as it is sunny 92.2% of all daylight hours (Sunshine & Daylight). Obviously, the electricity necessary to supply 182,000 residents with electricity is estimated at approximately 498,088,500 kWh[[1]](#footnote-1) (How much electricity). Simply put, that creates a strong demand for an energy provider to step up and engage in a partnership with Belmont. As I briefly mentioned before, Belmont is featured to possess high tech manufacturing facilities, as stated by Case Investment LLC (Garfield). The tech-energy start-up, Heliogen of which Gates has been an early investor of recently released their patented carbon free and ultra-high temperature technology intended for use in historically ‘dirty’ industrial processes associated with cement production, mining and refining (Egan).  I am very excited to see if a Belmont-Heliogen partnership will take place, to lead this new smart city’s high-tech manufacturing sector. Finally, all of this investment and innovation in renewable energy will surely act as a signal to other organizations and municipalities to transition over.

In summary, population growth when paired with growing urbanization rates, represents one of the largest challenges facing our world to date. This is something that can only be ameliorated through effective and transparent public-private-civic partnerships, multi-sector innovation, investment, time and most importantly, each of us to becoming aware and contributing to the solution in any way we can. This is not a far-fetched dystopian fiction, it is our actual reality and will only continue to worsen, unless we collectively choose to create a better narrative.

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1. 182,000 residents/4 = 45,500 → 45,500 \* 10,972 kWh = 498,088,500 kWh [↑](#footnote-ref-1)