



Webinar 2 - Sustainability and the Environment: Green Spaces FAQ

1. Rather than develop a green field (new slate), why not develop an abandoned suburban space that already has infrastructure?

A new city built from scratch avoids the legacy issues of infrastructure and policies that constrain and restrict what can be developed. The clean slate allows the opportunity to redesign a city with the needs of people and the environment at the center. We benefit from the knowledge, innovation and expertise that has been learned from other cities and can apply the most advanced thinking and best practices. In this way, we can build the most sustainable and resilient city that will serve as a model while helping residents in existing cities along the way by sharing information.

Starting from scratch allows us to propose ambitious target goals for sustainability that would be difficult with outdated infrastructure. Instead of renovating and/or replacing outdated systems we are planning a city that implements smart and innovative systems for water capture and treatment, energy harvesting and storage, waste management, and other essential processes.

2. What is the carbon footprint in Telosa vs a typical city?

- Telosa will strive to minimize its ecological footprint through a number of modalities. With designing and constructing a "new " city, the choice of construction materials will be assessed based both on minimizing impacts to virgin resources and maximizing material & product use through a circular economy of recycled content and maximizing carbon sequestration and minimizing energy intensive materials.
- Telosa's co2 emissions will be less than a typical city because of sustainable building practices and smart building operations. The carbon emissions are offset by Telosa's green spine and wildlife corridors where trees sequester carbon and offset these emissions.
- Renewable energy generation is a priority, and a transportation network not dependent on fossil fuels. Associated with this, the city will be designed so that all basic support services and commodities are within a 15-minute walk from where anyone is living.
- The city will be built with a sense-of-place, so as to maximize maintaining swaths of natural assemblages and maintenance of migration corridors to and from the surrounding natural landscape.
- Both horizontal and vertical surfaces will be utilized to grow needed produce that will be consumed by the city and the waste-by-products will enter a circular system of composting and co-anaerobic digestion/composting systems the soil by-products will be



utilized in future crops; the energy output will be used for maximizing growing environments for such food.

- Minimization of external water demand will be through the cascade of circularity reuse of all water while maintaining A-1 supported water use monitoring, distribution logistics and leak detection to maximize water use efficiency.

3. Also, given increasing temperatures, how far north might Telosa be located?

While we are narrowing our search to such states as Arizona, Nevada and Utah, we recognize that climate is a critically important consideration and will place some real constraints on the design and operation of the city.

Telosa will be built and run as a resilient city. From conceptualization to planning, all services will be designed to continue to operate efficiently in the face of future impacts from a changing climate. Essential services such as water, food and energy supply will be designed with redundancy, where there will be multiple decentralized, interconnected nodes of service so that when one is impacted the others step in to ensure continuity. This is accomplished through smart technology that allows for a modular and decentralized, but linked, set of micro-grid service areas, coupled with real-time monitoring of both supply and use, supplemented with a precautionary buffer to allow for quick rebound from any disturbance.

4. How redundant will Telosa be with water supply so that Telosa never runs out of water? 40% use with 60% standby?

Telosa is currently being designed for several days of potable water storage to ensure that the city does not run out of water. There will also be non-potable water storage to preserve potable water where possible. In addition, the city will require fire water storage for fire suppression, which will be located in separate tanks.

5. Will vertical farms be built to save space and use less water? Also hydroponics uses 90% less water.

Yes, vertical farms will help Telosa be a water conscious city where innovative agriculture such as hydroponics (and aeroponics) will cut water use by -90%. In addition, xeri-scape landscaping and water conscious practices and fixture selection will minimize water use in the city to ensure Telosa reduces water consumption.

6. Has consideration been given to also modifying and improving sustainability and the environment? Couldn't this be a part of city design guidelines?



Telosa is guided by sustainable principles for water use reduction, renewable energy, food resiliency, zero-waste, sustainable construction, and active and electric autonomous mobility. These systems and their ambitious sustainability goals are pillars of this urban development.

7. How does sustainable architecture affect the overall mood in a city?

Hybrid buildings built from wood and steel with innovative and efficient construction practices will be inviting and natural.

8. Assuming a rapid ecological change occurs, how would Telosa theoretically be able to pivot; what are the fixed points that would have to be worked around?

Telosa is designed to be flexible and accommodate the changing needs of not only the people, but the environment. Since the city will be built in phases, each phase will learn from the last and evolve to accommodate any ecological or social needs that arise. Interweaving nature and buildings will be a cornerstone of any new development.

A general overarching paradigm in the City's design is to maximize the community's resilience combined with an adaptive management planning process that continues to monitor, adjust and implement and monitor again. The design tenets that support the resilience of Telosa are: decentralization of supporting functions, repetitiveness of function, modularity in development., maximization of communication and monitoring networks. To the latter point, change in socio-ecological systems associated with the city will occur at different spatial and temporal scales, so there will be a set of nested system assessment protocols and procedures implemented.

But the resilience of the Telosa is also manifested in developing a culture of adaptability in the citizenry, where networks are developed and facilitated, communication of decisions assures both transparency and timeliness of the information. This will be integrated with a participatory governance model that will encourage innovation and allow for integration across the cityscape.

9. What role does mass transit have? Will gas-powered cars & trucks be allowed? Will Telosa be car free? Private cars end up using a lot space in cities and a source of a lot negative externalities.

Telosa will be an active, electric and autonomous city.

- There will be no internal combustion engines at Telosa. While bikes and walking are encouraged, all modes of transportation will be electric and powered by the city's renewable energy sources.



- Mass transit will play a large role in Telosa to ensure that large amounts of residents and visitors can move during potential rush hour and events. This will be in addition to the on-demand, autonomous (land/air) electric vehicles being developed for Telosa.

10. Since the construction of a new city will displace wildlife, but the design of the city will incorporate wildlife, in what ways will safety (re: wildlife) be assured?

It is unavoidable that any development on the landscape will impact the natural communities and ecological services. But Telosa wants to demonstrate how to minimize that impact to these natural systems and related natural communities. Telosa wants to be the example for the city-development to follow with the United Nations now projecting 70% of the world's population will be living in cities by 2050.

Telosa will incorporate local and native plants and create habitat corridors that regenerate wildlife and increase biodiversity. Biodiversity is often low in hot desert ecosystems, by providing shade and lush vegetation we will support far more species than this biome typically supports.

There are two aspects of the Telosa's design that will try to build with a sense of the natural space in which the city will be embedded. The first is to ensure connectivity with internal city natural space with the larger landscape assemblages. This will require uninterrupted corridor flows of water-related assets and strategically placed steppingstones of terrestrial habitats so wildlife can move out of the surrounding habitat and continue through the urban landscape to continue their historic dispersion and migration patterns. Second, there are many species that require different habitats that serve different aspects of their life histories. For species that will be more permanent part of the city's natural landscapes, the placement and linkages of the diversity of habitats that would allow those urban endemic species to thrive and reproduce, will be a critical part in the open-space planning of the city.

11. Will Telosa try to attract any manufacturing, or will people be doing professional services only?

Our research indicates that the key to attracting residents to a new city is a function of three factors: employment, housing and quality of life (safety, education, livability). More specifically, we will have the leading corporations and institutions of higher learning as anchor tenants providing a strong employment draw.

Telosa will put a major emphasis on attracting, funding and developing manufacturing because it is a good source of well-paying jobs, it diversifies the local economy, and it is an important source of innovation. To develop local talent, we will offer manufacturing and industrial apprenticeships and vocational training that will continue into mid-career and beyond. To attract and develop manufacturing businesses, we will have innovation hubs and business incubators/accelerators in key sectors such as clean energy, electric vehicles, and other high-tech areas such as robotics, wearables, 3D printing, IoT devices.



Having a strong manufacturing and services base will contribute to greater economic opportunity and vibrancy.

12. Will Telosa be encumbered by existing Federal and State laws, regulations, politics, and corporate interests / influences or is this something that could be fully re-imagined? Are corporate sponsors expected to support the infrastructure or operation of the city?

While we desire a high level of autonomy, we will be located in a county, in a state, in the United States and will therefore have to adhere to laws and regulations. However, by partnering with local officials and building alliances with community members, we will work together to design and implement policies and programs that are consistent with our vision and needs of the various stakeholders.

13. How will green spaces accommodate the needs of handicapped people?

The paths throughout the park and the streets (designed without curbs for autonomous vehicles) will comply with ADA guidelines and will be thoughtfully designed to be accessible to all.

14. While you mentioned the city's overall population, are there plans to intentionally design areas of different population density? I imagine some people would love highly dense groupings while others would like less dense groupings.

The population density is an average across the city - but we are planning for zones with higher and lower densities to create a range of experiences throughout Telosa - from 25 people per acre to 125 people per acre. As you move from one neighborhood to another - you will experience different building heights and densities creating a varied experience that promotes movement, discovery, and exploration.

15. I am worried about the pursuit of technology for technology's sake. Things like self-driving cars, hyperloop and electric air taxis do not exist in any meaningful capacity today and may never come to fruition. I believe much of Telosa's goals can be achieved without any far-flung technology. Is there a plan to design Telosa with existing technology like Trams, Bikes, and walking?

Telosa will lead with people in all aspects of designing the city. Technology will play an important role to contribute to quality of life, but it will not be pursued solely for



technology's sake. The focus is on finding the best solution, not necessarily the most technologically advanced one. There will be the familiar as well as new and exciting innovations that serve the needs of the community.

16. No matter how hard you try, there will be externalities, such as sewage treatment plants, and garbage transfer stations how do you do environmental justice? Do you put these “bad” places where rich people live?

Yes there will be externalities, but they are created because the true cost of treatment is not incorporated in the design and operation. Telosa will require that such negative externalities are internalized. Many countries in Europe have demonstrated treatment facilities can be designed in decentralized manner with the technology to mitigate both pollution and nuisance conditions and site these on commercial/residential streets. Ultimately, final disposal will become obsolete as the City moves towards zero waste through the circular cascades of reuse, repair, refurbish, recycle and recovery and reuse of organics. Choosing materials and products that do not have planned obsolescence but are chosen for their durability and long life of usability. Also, think of Telosa as not only rising up into the air but also going down below ground, with products and materials moving in below-ground networks, and even treated in subterranean spaces.

Finally, to your point about environmental justice. The urban landscape will not be demarcated by class or wealth. All will share in the benefits of the city, as well as pay for the costs.

17. As an innovator, I have been investigating sustainability for a couple of decades, I have some ideas to share in that direction. Where is the best place to share these concepts? Mighty Networks?

We value the input, ideas and comments from our community. We encourage everyone to join our Telosa Community Network on the Mighty Networks platform - <https://city-of-telosa.mn.co/> . This is a great forum to exchange ideas, get updates and interact with other members of the community.