



Mesa del Sol

SMART • SUSTAINABLE • SAFE

Mesa del Sol Smart City: Some IoT Challenges

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Life Sustainable Infrastructures: Peter Calthorpe's New Urbanism

- Calthorpe's New Urbanism promotes walkable communities, with these principles:
- **Housing Diversity**: A variety of housing types for a range of income and age groups.
- **Human Scale**: Placemaking built around pedestrians, not automobiles. Public greenways create walkable, bikeable links radiating from town center.
- **Sustainability**: Infrastructure focus on climate and conservation
- **Mixed Use**: Live, Work, Play, Shop, Create, Recreate



Complex Systems Modeling: Smart City Attributes

- Microgrid electric systems: residential and commercial—how to measure the savings?
- Smart City with ubiquitous wi-fi and high-capacity fiber optics, high speed internet access: can we promote super fast internet?
- Computerized re-use water irrigation systems, including efficient farm boxes. We want farm to table restaurants to rely on fresh foods grown in containers.
- Intelligent transportation system, ready for autonomous transportation.



MESA DEL SOL DEVELOPMENT FRAMEWORK

EXISTING DEVELOPMENT

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- 1 Fidelity Investments
- 2 U.S. ICE
- 3 SC3 Data Center
- 4 UPS
- 5 Advent Solar
- 6 U.S. Drug Enforcement
- 7 Molina
- 8 Isleta Amphitheater
- 9 International School
- 10 Netflix Studios
- 11 Existing Residential
- 12 Aperture Center

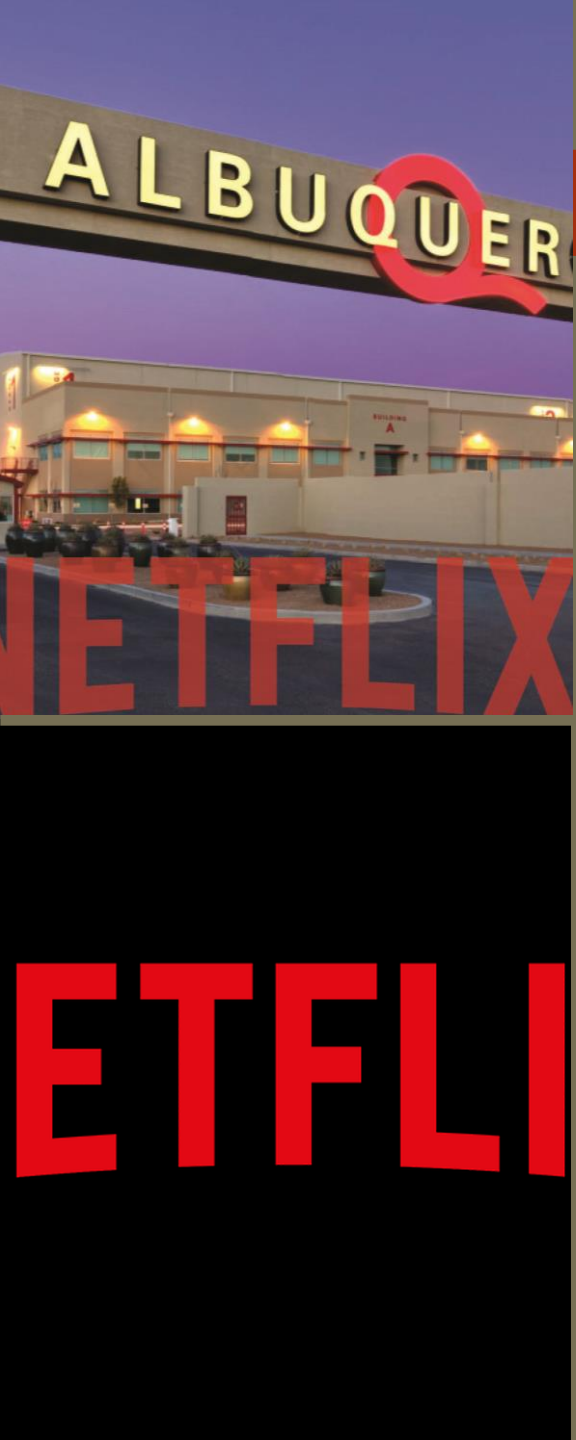


Climate Change: Sustainable City Initiatives



Source : Adobe Stock

- Sustainability is built into the Master Plan: walkable, bikeable landscape
- Solar power generation and distribution through micro-grid systems
- Electric Vehicle charging stations: how do I know where to put them? How many do I need?
- Work from Home is in the design of houses; walk to work available
- Landscaping using re-use water
- La Semilla with trails, open space, wildlife



Netflix Expands in Mesa del Sol

- Largest production hub in North America
- Additional \$1 Billion production spend
- Ten new stages, post-production services, offices, mills, backlots to be added with attention to green energy
- In addition to construction jobs, 1,000 production jobs over the next decade
- Netflix partnering with NM Film Office, local universities, labor and industry groups to offer training programs to increase the crew and talent pool in the state.
- Problem: When filming, how does production know if airplane will fly overhead at a bad time?

La Semilla Open Space Buffer Zone with DOE

- MdS Master Plan calls for La Semilla with missions in research, resource management, education, demonstration, and recreation, including:
 - Renewable Resource Research Park
 - Environmental Education Campus
 - McCormick Ranch



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Culture and Recreation Creates Traffic Nightmares

- 700 acre recreational complex, soccer and ball fields: hundreds of spectators and players
- 15,000 attendee outdoor amphitheater
- Traffic Management nightmare: everyone arrives and departs simultaneously: how can this be cured?



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Life Sustainable Infrastructures: Safe City Qualities

- ▶ How to do crowd-sourcing and information sharing to keep citizens safe and law enforcement involved at “real time crime” speed
- ▶ How to use technology, smart devices, and citizen reporting, a safe neighborhood networking allowing for a collective approach to public safety.
- ▶ Strong relationships with the Albuquerque Police Department and Bernalillo County Sheriff’s department to ensure patrols happen regularly in the area. Along with paid, private security patrol.
- ▶ Utilizing smart cameras, lighting, and traffic controls for added security.



Logistics & Location Attributes

- 5 minute drive to airport passenger terminal, air freight, and general aviation
- North-South Interstate 25 highway runs through the western edge of Mesa del Sol, East-West Interstate 40 is 6 minutes drive.
- North-South passenger and freight railway adjacent to Mesa del Sol
- Robust Broadband and Utility Infrastructure



Target Enterprises & Industries

Film & Digital
Media

Aerospace,
Aviation, Avionics,
Satellites, Drones

Renewable/Green
Energy

Outdoor
Recreation

Food Processing &
Distribution

Biomedical
Industries

Robotics and
Autonomous
Transportation

Optics and Laser
Technology

High Tech
Manufacturing



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