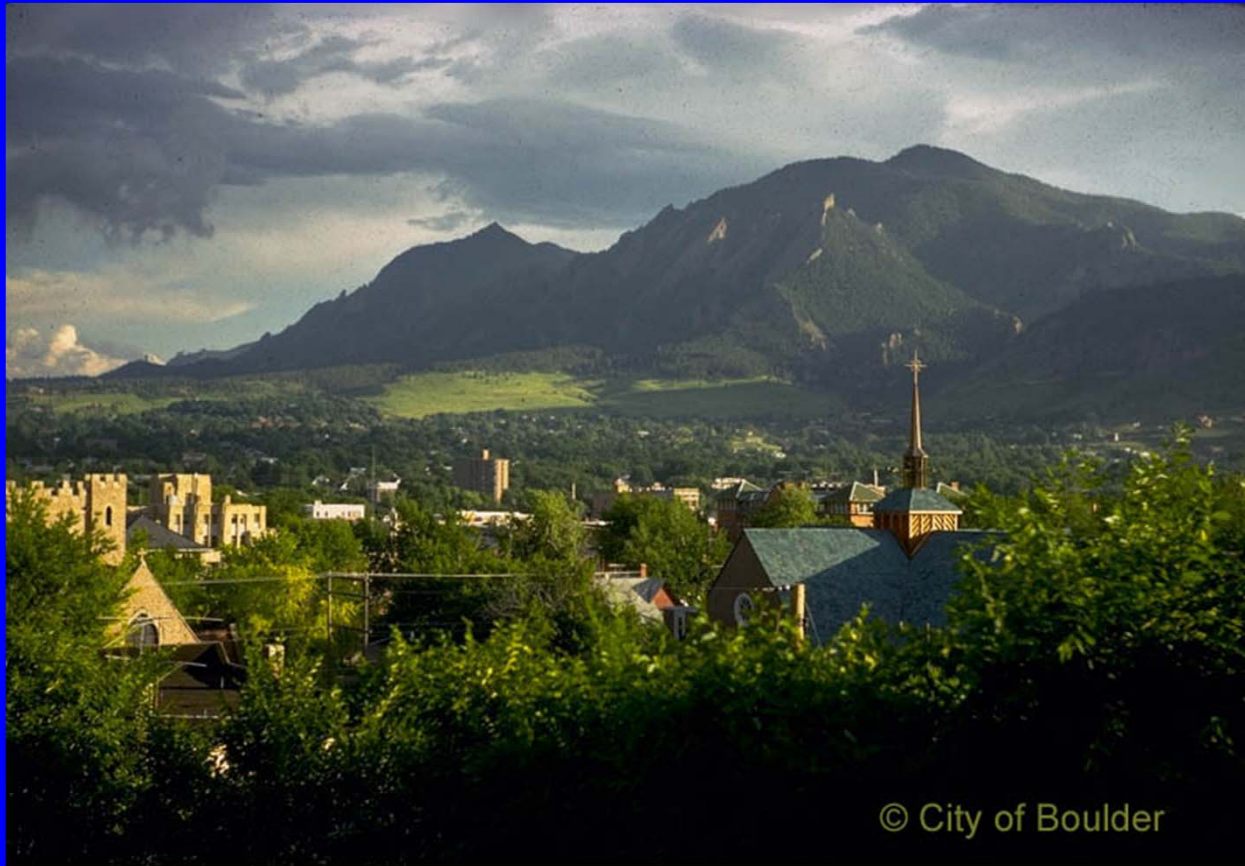


# 2010 Low Carbon Cities Conference

## Boulder, Colorado, USA



© City of Boulder









# National Center for Atmospheric Research





# Four Principles for Local Government Energy Planning

- Have a vision, and then be steadfast and patient.
- Consider local opportunities.
- Lead by example.
- Measure and celebrate progress.



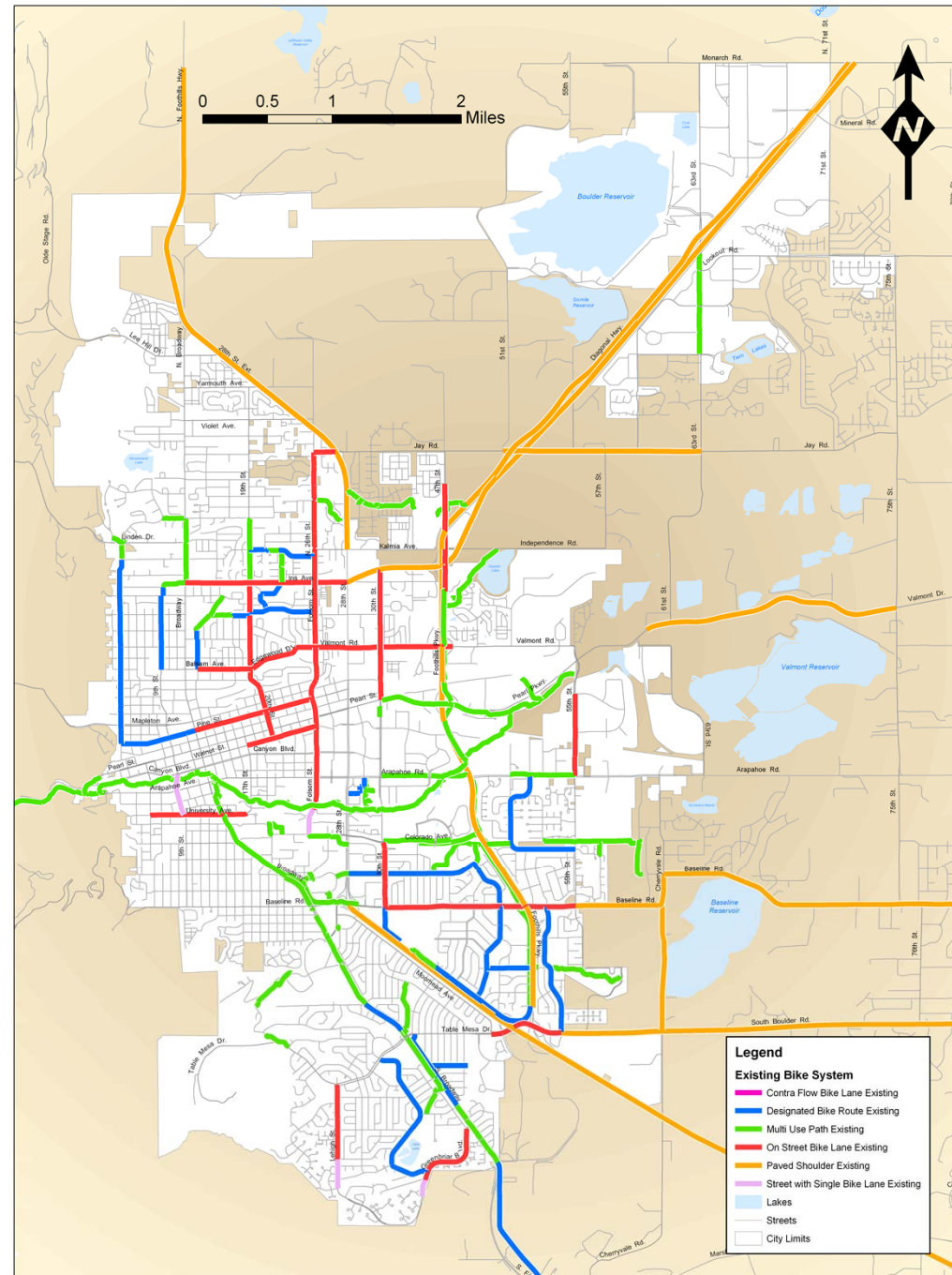
1. Have a vision, and then be steadfast and patient.





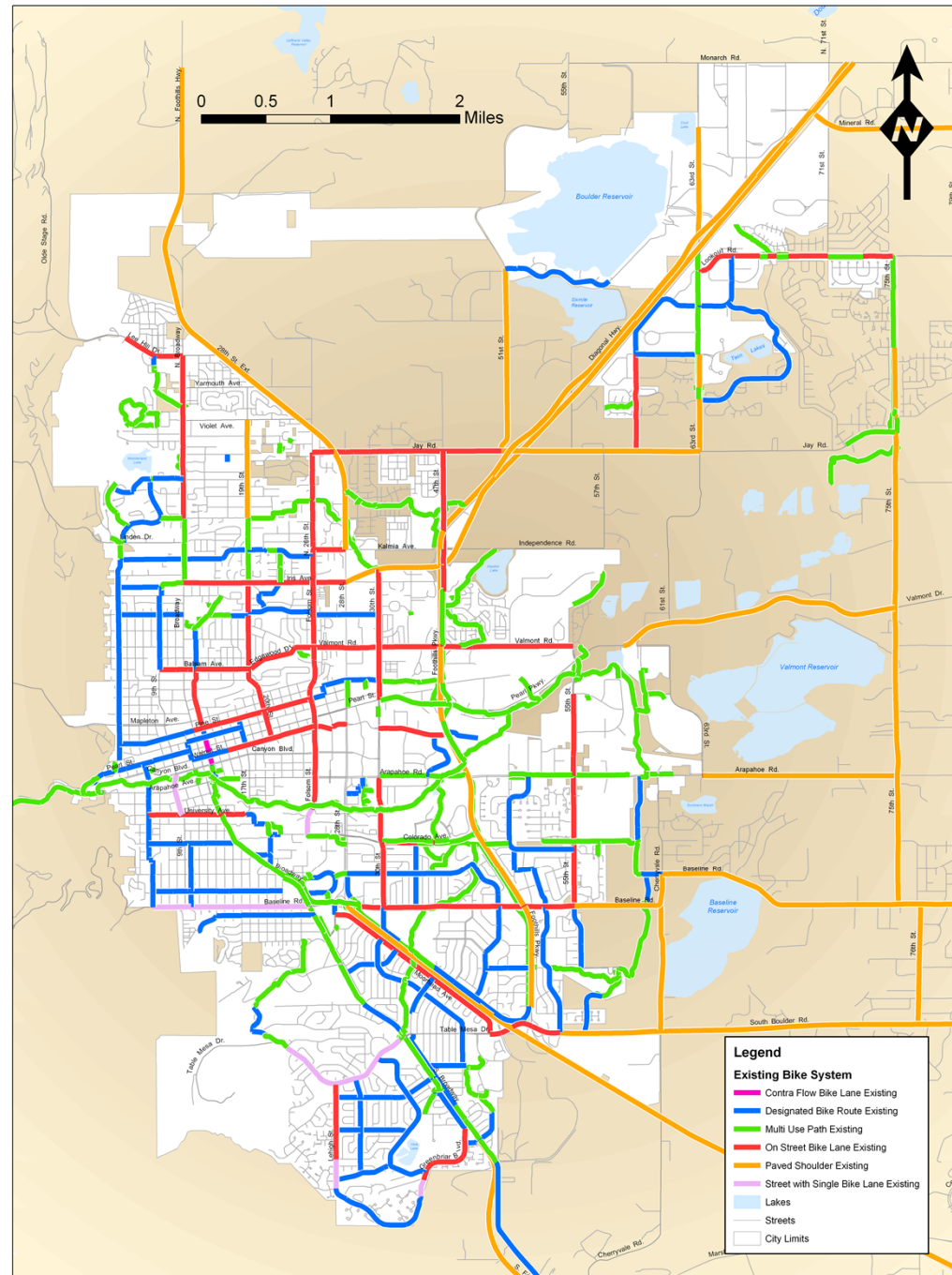
# City of Boulder Bike Trails System 1989

Since, 1989 the City has installed an average of one mile of off-street path and one-half mile of on-street bicycle lanes per year.

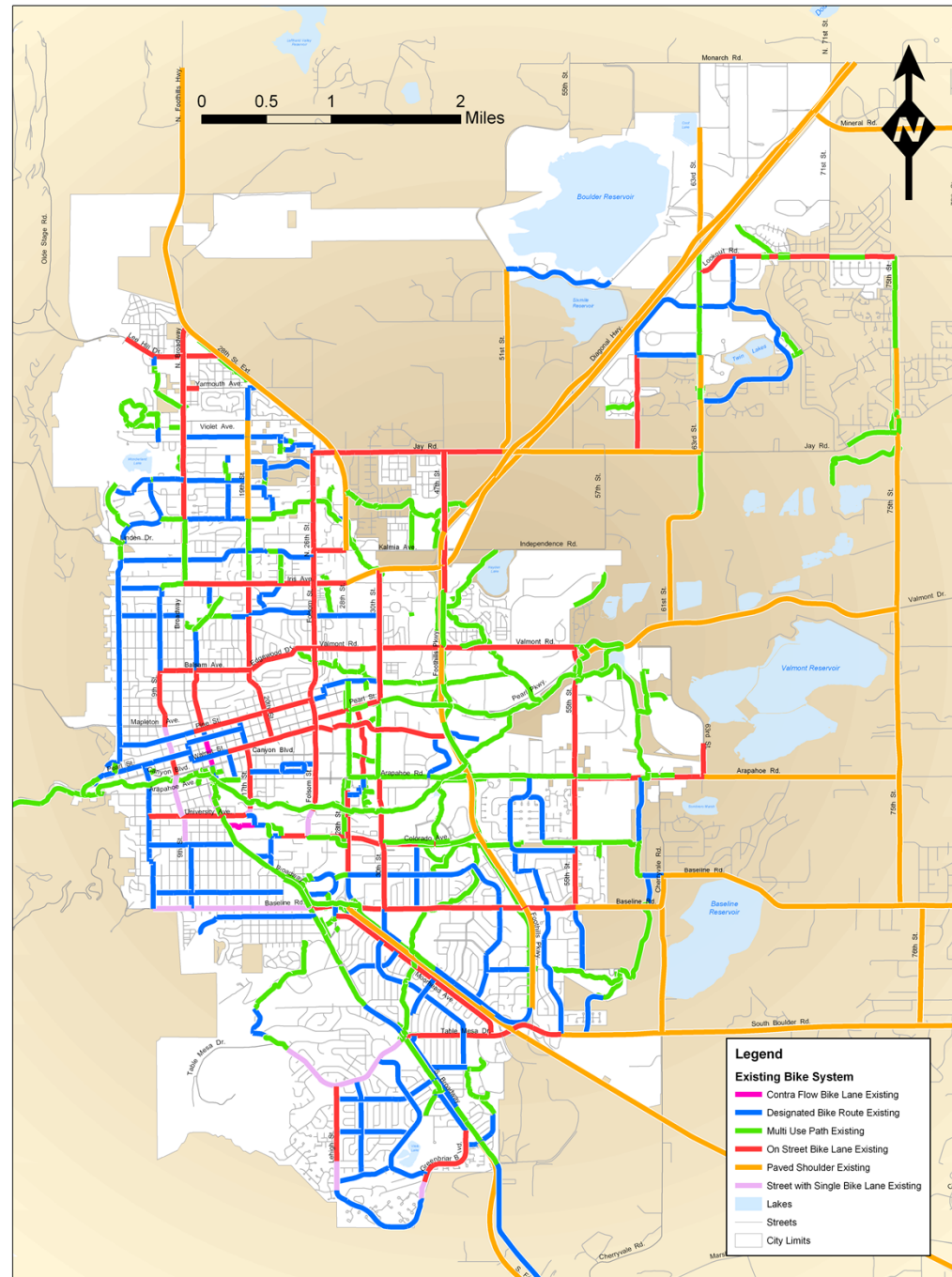




# City of Boulder Bike Trails System 1999



# City of Boulder Bike Trails System 2009





# *The Community Transit Network*

- HOP, JUMP, DASH, BOUND and BOLT
- 10 minute frequencies – No schedule required
- Colorful graphics



## 2. Consider local opportunities.





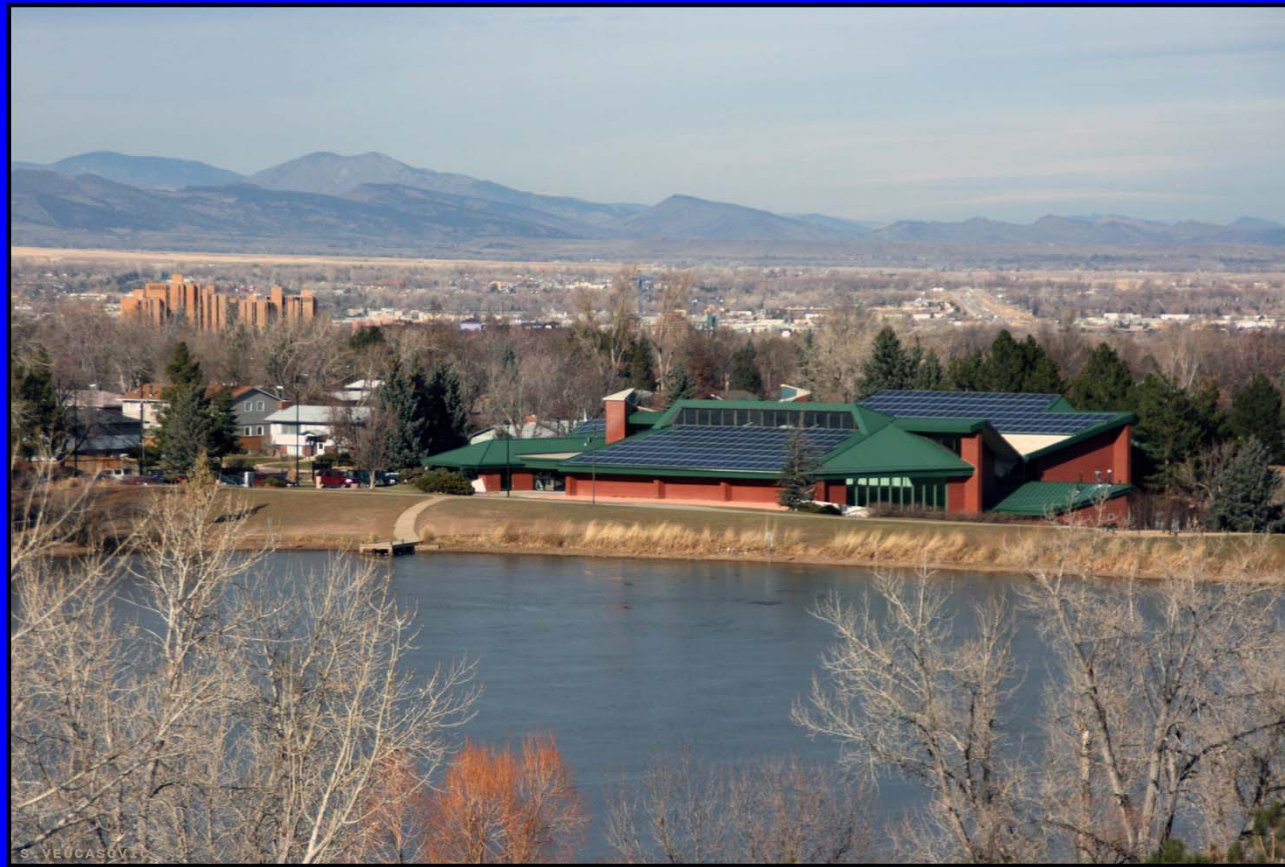


# Energy Smart Program For Smart Regs





### 3. Lead by example.

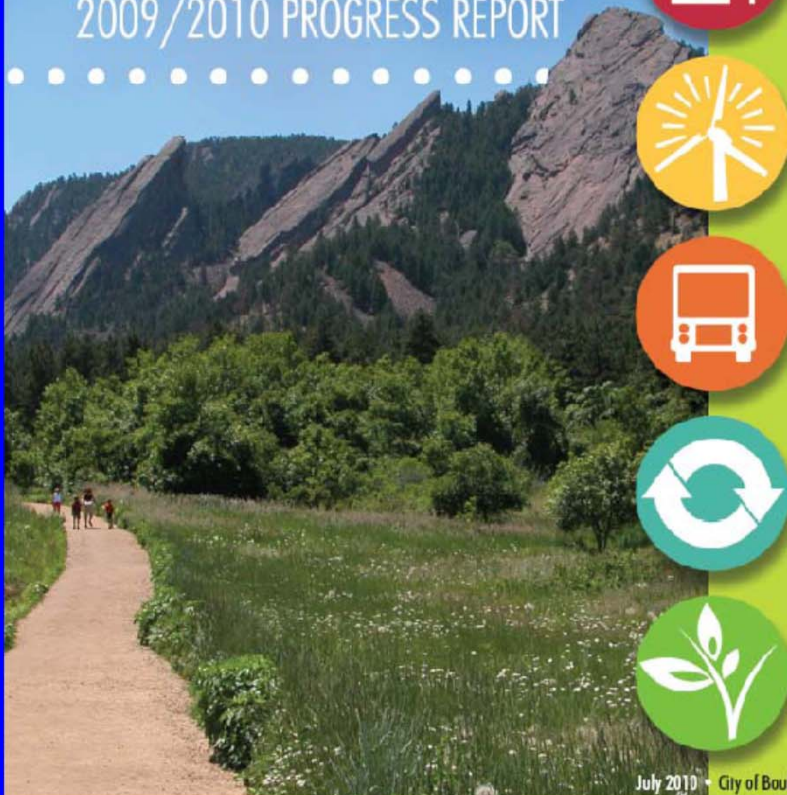


## 4. Measure and celebrate progress.





Community Guide to Boulder's  
**Climate**  
**ACTION PLAN**  
2009/2010 PROGRESS REPORT



2009 Greenhouse Gas Inventory • 2009 Program Results • 2010 Progress and Plans



# World's First *SmartGridCity*<sup>TM</sup>

- Uses communications to upgrade electric power grid
  - Efficiency
  - Reliability
  - Support additional services
- Potential to save consumers money
- Reduces CO<sub>2</sub> emissions
- Uses technology to empower the customer







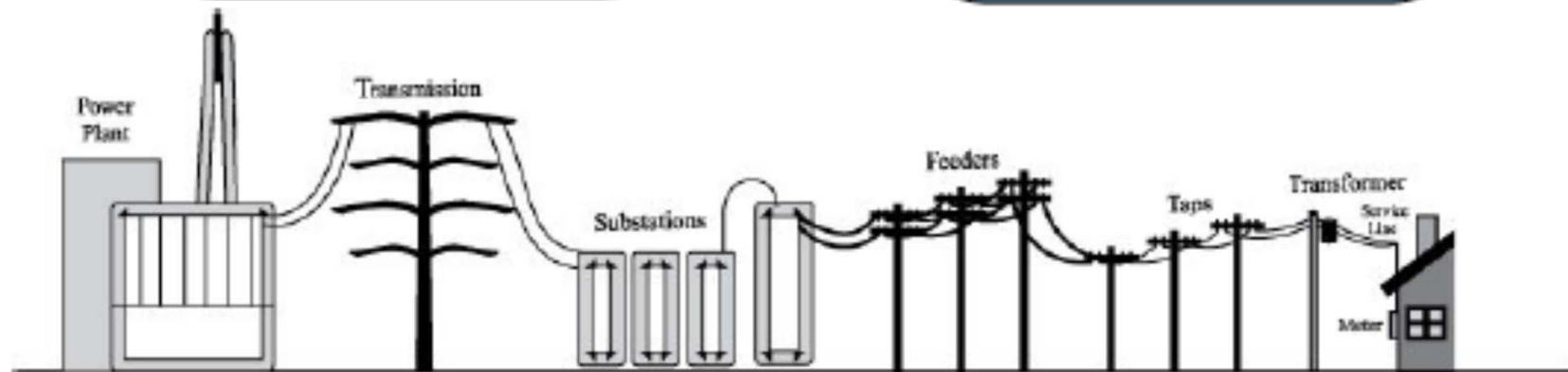
## Today's Utility

- ✓ Limited energy storage
- ✓ Central power generation
- ✓ One-way binary demand response
- ✓ Limited real-time data
- ✓ Reactive outage management system



## Tomorrow's Utility

- ✓ Energy storage devices
- ✓ More on-site power generation
- ✓ Flexible demand response
- ✓ Real-time distribution & customer data
- ✓ Real-time price signals
- ✓ Smart distribution system and processes
- ✓ Better customer information, choice & tools



# Clean Energy Plan

- Focus on supply side
- Analyze options for significant increase in renewable energy
- Engage community in evaluating options
- Draw on local and national expertise
- Establish aggressive but realistic, achievable targets (energy that is renewable, affordable and reliable)
- Be a laboratory for distributed generation, building on implementation of *SmartGridCity*





Thank you

Susan Osborne, Mayor  
Boulder, Colorado

