



## U.S. Department of Transportation Federal Transit Administration

# "Going Green" Public Transit and Sustainability

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# "Going Green" Public Transit and Sustainability

- Climate Change & Vehicle Emissions

*Alan Powell, Diesel and Mobile Source, US Environmental Protection Agency*

- Transit Supportive Land-Use

*Thomas E. Low, AIA CNU LEED, Director and Guy Pearlman, RLA CNU, Project Manager, Duany Plater-Zyberk & Company*

- U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) Green Building Rating System





# U.S. Green Building Council

- Member organization that includes corporations, governmental agencies, nonprofits and other organizations.
- Certifies sustainable facilities, homes, hospitals, schools, and neighborhoods.





# LEED

- LEED is the USGBC's Green Building Rating System for certifying green buildings
- Become the Industry standard for green building in the U.S.
- Method of scoring buildings to evaluate their level of "greenness"





# LEED

- LEED has been adopted by 9 Federal agencies, 20 states, and 49 U.S. city and County governments as the “green standard”
- Over 30,000 LEED Accredited Professionals trained in the rating system and nearly 3,000 buildings on their way to certification/represents 8-10% of U.S. new construction





## USGBC has 4 levels of the LEED Based Standard

- LEED Certified-lowest level of certification
- LEED Silver
- LEED Gold
- LEED Platinum-highest level of certification





# LEED Address the Complete Lifecycle of Buildings

- Existing Buildings- Operations and Maintenance
- New Construction
- Homes
- Commercial Interiors
- Core and Shell
- Schools, Healthcare, Retail
- Neighborhood Development (in pilot)





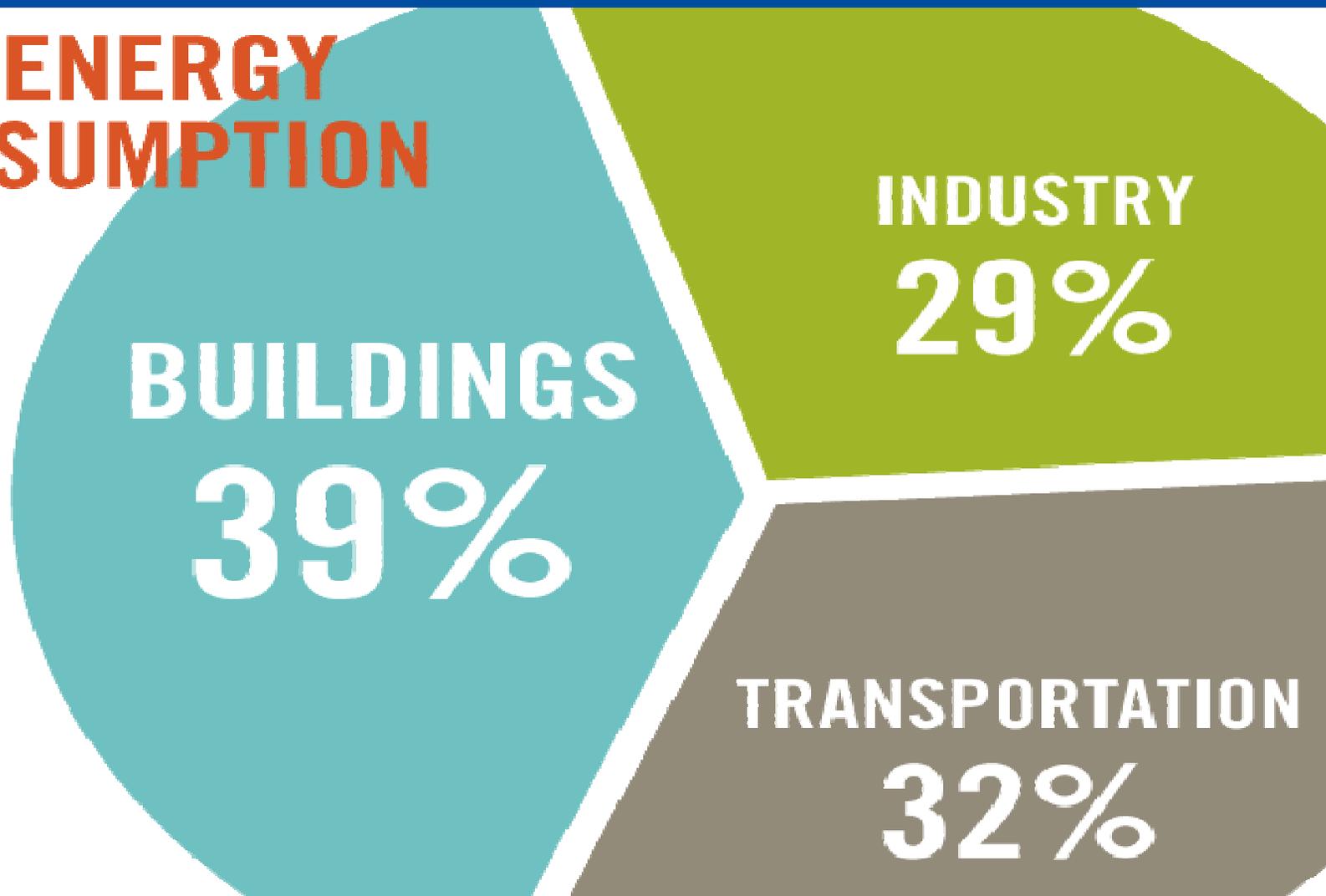
# Why Buildings?

- Buildings are one of the heaviest consumers of natural resources and account for a significant portion of the greenhouse gas emissions that affect climate change.



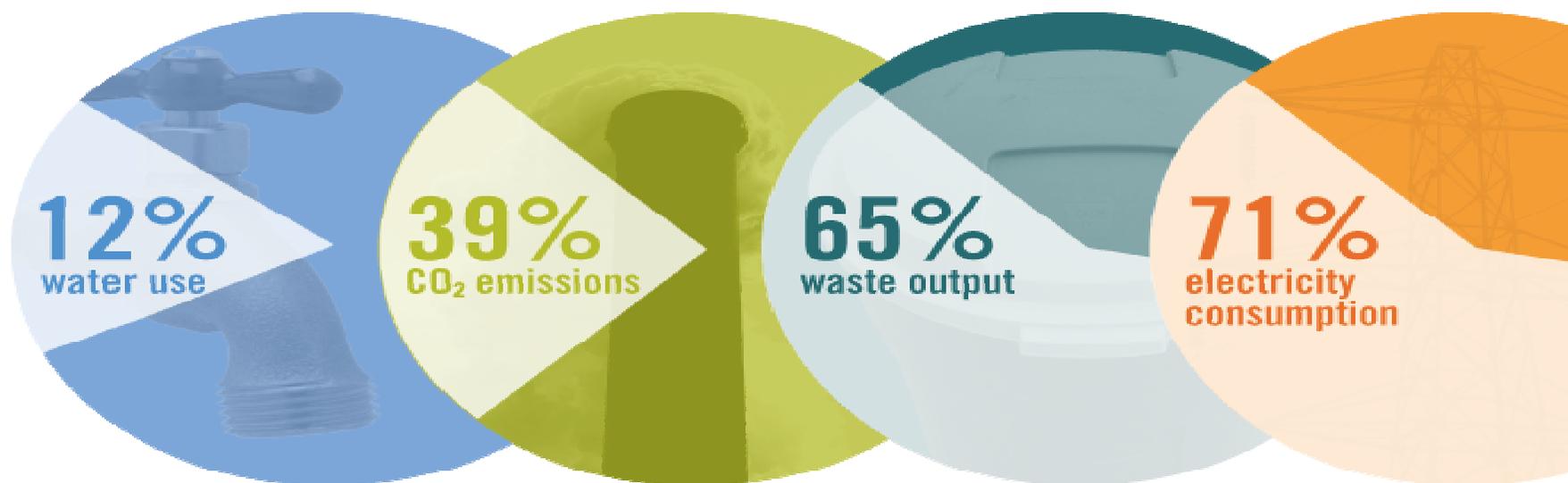


# U.S. ENERGY CONSUMPTION





# U.S. Building Impacts





## Environmental Benefits:

- Enhance and protect ecosystems and biodiversity
- Improve air and water quality
- Reduce solid waste
- Conserve natural resources





## Economic benefits:

- Reduce operating costs
- Enhance asset value and profits
- Improve employee productivity and satisfaction
- Optimize life-cycle economic performance





# Average Savings of Green Buildings

- Energy Use: 30-50%
- Carbon Emissions: 35%
- Water Use: 40%
- Solid Waste: 70%





# LEED-Neighborhood Development Pilot Projects -Transit

- Tucson Modern Streetcar
- McArthur BART Transit Village





# LEED CERTIFIED TRANSIT PROJECTS

- GOLD: Santa Clarita, CA Transit Maintenance Facility
- GOLD: Charlottesville, VA Transit Station
- CERTIFIED: Corona Maintenance Shop and Car Washer-New York City Transit
- GOLD: Chicago Transit Authority Headquarters
- CERTIFIED: Interurban Transit Partnership- Grand Rapids, MI
- GOLD: CSU Transit Center- Ft. Collins, CO





## GREEN FEATURES of 2 "GOLD" LEED CERTIFIED TRANSIT PROJECTS

- **Santa Clarita Transit Maintenance Facility-** use alternative fuels (CNG); straw bale exterior walls for the admin building; under-floor HVAC system; daylighting; recycled building materials
- **Charlottesville, VA Transit Facility**  
"cool roof"; using materials that have high reflectance, and emittance reducing the need for using "cooling energy"; reduced operating costs by using a geothermal heat pump system



# LEED CERTIFICATION STEPS

- Register Your Project
- Track Progress and Document Achievement
- Apply For Certification





# Resources

- Visit [www.usgbc.org](http://www.usgbc.org)

