

Sustainable Community Development Code

A Code for the 21st Century

Beta Version 1.0

RMLUI
Rocky Mountain Land Use Institute



Sustainable Community Development Code

Table of Contents

The sustainable community development code framework is sustainable at its core, multi-disciplinary in its approach, and contextually oriented. It fully encompasses environmental, economic, and social equity. It is innovative and distinctive by linking natural and man-made systems, incorporating useful features of other zoning systems (e.g.,,performance, form, hybrid), and responds to regional climate, ecology and culture.

Included in this first beta version are the following components:

- Renewable Energy (Solar and Wind)
- Food Production and Security
- Community Health and Safety
- Housing Affordability
- Housing Diversity
- Water Conservation

Framework

The proposed framework organized by major topic area is outlined below. Other topics are under consideration. Background research monologues have been prepared for many of these topics and are available online at www.law.du.edu/rmlui. Work is continuing to complete the framework.

Energy

- Renewable Energy: Wind (small- and large-scale)
- Renewable Energy: Solar (including solar access)
- Renewable Energy: Small-Scale Hydropower
- Energy Efficiency and Conservation

Healthy Neighborhoods, Housing, Food Systems

- Community Health (including Crime Prevention Through Environmental Design)
- Affordable Housing
- Housing Diversity and Accessibility
- Food Production and Security
- Noise

Environmental Health and Natural Resources

- Climate Change
- Green Infrastructure
- Natural Resource Conservation/Sensitive Lands Protection (e.g., wildlife habitat, riparian/wetland areas)

Mobility

- Transit Oriented Development
- Mobility Systems (Complete streets, pedestrian sytems,etc.)
- Parking

Natural Hazards

- Floodplain Management
- Wildland-Urban Interface/Wildfires
- Coastal Hazards
- Steep Slopes

Urban Form/Community Character

- Authentic Development Patterns
- Community Character and Aesthetics

Acknowledgements

A very special thank you to all of those individuals and organizations that have participated over the past year by freely giving their time and talent to this endeavor:

Primary Authors/Research Assistance (in alphabetical order)
Chris Duerksen, Erica Heller, James Van Hemert, Jeff Hirt, Joe Holmes, Amy Kacala, Leigh-Anne King, Darcie White

Other Contributors (in alphabetical order)

Eric Bergman, Tom Boone, Michael Buchenau, Lisa Buckley, Lisa Burke, Federico Cheever, Tom Clark, Jeffrey Conklin, Michelle DeLaria, Jeremy Klop, Robin, Kniech, Jim Lindberg, Jill Litt, Chuck Luna, David Mallory, Michael McCormick, Carol McLennan, Heather McLeod, Chris Nevitt, Doug Plasencia, Peter Pollock, John Powers, David Riddle, Randall Rutsch, Fahiyre Sancar, David Schaller, Elizabeth Tallent, Ed Thomas, Jaimie Thompson, Bud Watson, Darcie White, Morey Wolfson.

Organizations

Association of State Floodplain Managers, Colorado Office of Smart Growth, Denver Regional Council of Governments, Denver Urban Gardens, Clarion Associates, PMC (California), University of Denver Sturm College of Law, Colorado Center for Sustainable Urbanism (University of Colorado), Meza Construction, Civic Results, Douglas County, Fehr & Peers Transportation Consultants, Front Range Economic Strategy Center, National Trust for Historic Preservation, University of Colorado School of Medicine, EDAW, Urban Drainage & Flood Control District, Tri-County Health Department, Rocky Mountain Land Use Institute, Denver City Council, Michael Baker Jr.(Massachusetts and Arizona), Lincoln Institute of Land Policy, Alliance for a Sustainable Colorado, City of Boulder, US Environmental Protection Agency, Model Forest Policy Program (Maryland), Colorado Governor's Energy Office.

RMLUI
ROCKY MOUNTAIN
LAND USE INSTITUTE

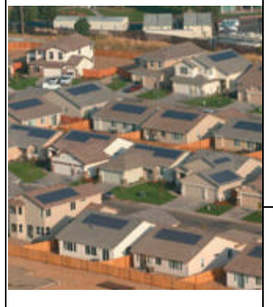
RENEWABLE ENERGY

KEY STATISTICS:

- About 9 percent of electricity in the U.S. is generated from renewable sources.
- Most electricity in the U.S. is generated by burning nonrenewable fossil fuels.
- Proper solar orientation of new homes built in the San Jose area produced total energy savings of 11 to 16.5 percent—with up to 40 percent savings from space cooling.
- Placing a building's long face on an east-west axis with a large percentage of windows on the south side can reduce fuel consumption by up to 25%.

RMLUI
Rocky Mountain Land Use Institute

SITE DESIGN STRATEGIES FOR SOLAR ACCESS

		ACHIEVEMENT LEVELS (NOTE: HIGHER LEVELS GENERALLY INCORPORATE ACTIONS OF LOWER LEVELS)				
		Bronze (Good)	**Silver (Better)**	**Gold (Best)**	**References/Commentary**	**Code Examples/Citations**
  	**Remove Obstacles**	▪ Identify limiting ordinances (e.g. historic district, CC & Rs) and craft exceptions to the limiting ordinance that includes solar energy devices. ▪ Allow solar panels as a by-right accessory use except in special districts (e.g., historic districts).	▪ Allow modest adjustments to side, front and/or rear yard setback requirements (or other conflicting regulations) that allow applicants to meet solar access requirements.	▪ Develop an alternative compliance provision that allows an alternative approach to be substituted in whole or in part for a plan that meets the regulation in question.	▪ In the last five years, advances in technology have resulted in photovoltaic systems that can be installed in some roofing systems to make them nearly invisible—providing an alternative to tradition panels in areas where aesthetics are of significant concern (e.g. historic districts). See US Department of Energy, Building America Best Practices for High-Performance Technologies: Solar Thermal & Photovoltaic Systems, available online at http://www.eere.energy.gov/buildings/building_america/pdfs/41085.pdf.	▪ Los Angeles, Historic Preservation Overlay, available online at http://www.dsireusa.org/documents/Incentives/CA04R.htm. ▪ Fort Collins, Colorado Land Use Code, Solar Access, Orientation, and Shading, available online at http://fcgov.com/cityclerk/codes.php. ▪ Gresham, Oregon Development Code, Solar Access Standards, available online at http://www.ci.gresham.or.us/departments/planningServices/dp/code.asp#code. ▪ Multnomah County, Oregon Solar Access Provisions for New Development, available online at http://www2.co.multnomah.or.us/Community_Services/LUT-Planning/urban/landdiv/ld_nav.html.
	Create Incentives	▪ Reduce/eliminate zoning permit fees for solar devices.	▪ Allow applicants to "earn" additional density or height by incorporating solar concepts into a project's overall design.	▪ Allow applicants to "earn" additional density or height by incorporating solar concepts into a project's overall design.	▪ Database of State Incentives for Efficiency and Renewables (DSIRE), available online at http://www.dsireusa.org/.	▪ Eagle County, Colorado Efficient Building Code, available online at http://www.eaglecounty.us/uploadedFiles/commDev/Building/ECOBuildweb(3).pdf. ▪ Austin, Texas, Development Code: Subchapter E: Design Standards and Mixed-Use, available online at http://www.ci.austin.tx.us/development/downloads/final.pdf.
	Enact Standards	▪ Require key features of a development plan to have access to sunshine. ▪ Enact regulations to preserve solar access.	▪ Require variation in width of lots to maximize solar access. ▪ Include solar access as optional/required standard in residential/commercial design	▪ Require minimum percentage of solar-oriented lots in new developments. ▪ Require minimum percentage of	▪ State of New Mexico Solar Collector Standards Act. ▪ US Department of Energy, Building America Best Practices for High-	▪ Fort Collins, Colorado Land Use Code, Solar Access, Orientation, and Shading. (See link above.) ▪ Portland, Oregon, Solar Access Regulations, available online at

RENEWABLE ENERGY

			guidelines. ▪ Establish a tree dispute resolution process and criteria by which property owners may resolve issues regarding the obstruction of solar access to a property by a tree or trees on a neighboring property. ▪ Require buildings to be solar ready. Key considerations for solar readiness include: orientation for solar exposure, wiring, plumbing, and roof structures pre-designed to handle solar collectors.	energy in new developments to come from solar.	Performance Technologies: Solar Thermal & Photovoltaic Systems (See link above.) ▪ Guide: Putting Renewable Energy to Work in Buildings, available online at http://www.ucsusa.org/clean_energy/energy_efficiency/putting-renewable-energy-to-work-in-buildings.html ▪ U.S. Green Building Council, LEED for Neighborhood Rating System (See Green Construction and Technology chapter.), available online at http://www.usgbc.org/DisplayPage.aspx?CMSPageID=222.	http://www.portlandonline.com/shared/cfm/image.cfm?id=72542. ▪ Teton County, Wyoming, Solar Access Regulations, available online at http://clerk1.state.wy.us/plan/docs/ComprehensivePlan/Resolutions/Solar.pdf. ▪ Ashland, Oregon, Municipal Code, available online at http://www.dsireusa.org/documents/Incentives/OR06R.htm. ▪ City of San Francisco, California, Tree Dispute Resolution Ordinance, available online at http://www.municode.com/content/4201/14142/HTML/ch016_1.html. ▪ Berkley, California, Energy Conservation Requirements, available online at http://www.ci.berkeley.ca.us/sustainable/buildings/RefGuide/2%20energy%20conservation/2.4SolarThermalandRenewableEnergySystems.html. ▪ Boulder, Colorado, Solar Access Regulations, available online at http://www.bouldercolorado.gov/files/PDS/codes/solrshad.pdf.

RENEWABLE ENERGY

KEY STATISTICS:

- The wind energy potential of North Dakota is equivalent to 25 percent of U.S. energy demand.
- Approximately one percent of U.S. energy was supplied by wind turbines as of 2007.
- Estimates vary, but many studies suggest that wind turbines could reliably provide 20 to 40 percent of nationwide energy needs.
- Small-scale wind is typically defined as turbines rated to produce 100 kWh or less per year.
- In moderate (class 3) winds, a wind turbine with 5-meter blades can power one average U.S. home; a turbine with 7-meter blades can power two average homes. A smaller turbine can power an energy-efficient home.
- More than half of the U.S. experiences winds of class 3 or better at an elevation of 50 meters.
- Every average U.S. home powered by 100 percent wind energy reduces carbon emissions equivalent to removing 1.4 average U.S. passenger cars from the road.

RMLUI
Rocky Mountain Land Use Institute

SMALL-SCALE WIND TURBINES

		ACHIEVEMENT LEVELS				
		Bronze (Good)	**Silver (Better)**	**Gold (Best)**	**References/Commentary**	**Code Examples/Citations**
  	**Remove Obstacles**	▪ Repeal any outright ban on wind turbines. Instead, regulate to manage impacts. ▪ List wind turbines as an exception to general height limits. ▪ List roof-mounted turbines as an exception to screening requirements for rooftop electrical and mechanical systems.	▪ List small-scale turbines as a conditional use in non-residential and large-lot residential districts ▪ Scale performance standards and permitting requirements to be appropriate for small turbines, do not treat as large-scale turbines ▪ Overrule home owner association covenants where they contain general prohibitions - such as on accessory structures - that inadvertently prohibit small turbines.	▪ Allow small-scale turbines as a by-right use subject to performance standards to speed and reduce costs of permitting. ▪ Allow small turbines in a wider range of zone districts including industrial, commercial, large-lot residential, and suburban zone districts.	▪ Wisconsin state law prohibits municipalities from placing restrictions on turbines except to protect or preserve public health or safety, and where cost does not significantly increase or efficiency decrease. A special exception is provided allowing turbines to be excluded from a scenic byway of state-wide importance. Available online at http://www.undeerc.org/wind/windregional/umbrella/legislation/WI_0304_legislation.asp	▪ The zoning regulations of the town of Nevada, Indiana, allow wind turbines by right in the industrial districts and by special use permit in all other districts, subject to performance standards. Turbines are exempt from the general height restricts of the zone districts, but height is limited through a use standard. Available online at http://www.ci.nevada.ia.us/links.html
	Create Incentives	▪ Include wind-energy generators in any green-building or performance-based design points system. ▪ Lower or eliminate zoning permitting fees for small-scale wind turbines.	▪ Offer informational resources to dispel myths and alleviate neighbors' concerns about the impacts of small wind turbines. ▪ Remove limits that restrict power generation to on-site use to allow sale of excess energy from wind.	▪ Increase rebates or incentives for wind turbines that produce energy in excess of the owner's use, to increase the community benefit provided by the turbine. ▪ Protect wind access for existing turbines to increase predictability for those who invest in turbine installation.	▪ Some communities restrict power generation to "on-site use," eliminating the potential for a community benefit of excess clean energy that helps balance community impacts (such as aesthetic impacts). A better approach is a limit on overall system size, such as to 100 kW. ▪ The LEED Neighborhood Certification includes credit for on-site energy generation. Available online at http://www.usgbc.org/ShowFile.aspx?DocumentID=2845	▪ Eagle County, Colorado and Marin County, California, are examples of communities with performance-based permitting systems that award points for producing wind energy. Available online at http://www.eaglecounty.us/uploadedFiles/commDev/Building/ecobuildregs.pdf http://www.co.marin.ca.us/depts/CD/Forms/Newconstruct-greenbuilding.pdf ▪ The New Hampshire Electric Co-op offers rebates of 25 percent or $3000 toward the installation cost of a small wind turbine. Available online at

DRAFT Sustainable Community Development Code Framework						
RENEWABLE ENERGY						
						http://www.nhec.com/
	**Enact Standards**	▪ Adopt standards for all zone districts to address common compatibility concerns, such as setback standards, noise standards, ground clearance, and undergrounding of transmission lines; ▪ Adopt standards that are scaled for small versus large wind turbines.	▪ Adopt standards that allow for alternative compliance, such as setback standards that may be decreased if an engineer certifies installation or if neighbors record waivers, and climb-ability standards that allow fencing or non-climbable features at ground level.	▪ Map areas with the best wind potential and restrict new uses to those that are locally acceptable in conjunction with small turbines. ▪ Require high energy consumers to generate on-site energy using renewable resources such as geothermal, solar, or wind.	Many states offer model wind turbine ordinances for municipalities to follow. The draft Wisconsin and Michigan models are examples of model ordinances that include standards specifically for small wind turbines. Available online at http://www.doa.state.wi.us/docs_view2.asp?docid=2869 http://www.michigan.gov/documents/Wind_and_Solar_Siting_Guidlines_Draft_5_96872_7.pdf	▪ Camden County, North Carolina, wind ordinance setbacks are based on the height of the turbine. Smaller setbacks are allowed with a wind easement from an adjacent property owner. Permits for large turbines require an acoustical study, but not for small turbines. Available online at http://www.dsireusa.org/documents/Incentives/Camden_wind_ordinance.pdf

FOOD PRODUCTION AND SECURITY

KEY STATISTICS:

- In 1999, 31 million Americans (including 12 million children) did not get enough food to eat on a daily basis.
- In 2006, the U.S. imported more food by value than it exported.
- Every minute of every day, the U.S. loses 2 acres of farmland. At the same time, the number of small farms in urban areas is increasing at an unprecedented rate.
- The average item of food in the U.S. travels 1,400 miles to the dinner table.
- Of more than 10 million vegetable producers in U.S., 60% are in urban census tracts.
- Commercial urban agriculture produces 40% of total U.S. farm product on 10% of agricultural land.
- 86% of U.S. fruits/vegetables, 63% of vegetables and 35% of grain are produced in urban-influenced areas.
- Chicago has 70,000 vacant lots, Detroit 45,000, Philadelphia 31,000.
- 14% of Londoners grow food and produce 18% of the city's daily nutritional needs

RMLUI
Rocky Mountain Land Use Institute

SUSTAINABLE COMMERCIAL AGRICULTURE—LARGE-SCALE AND SUBURBAN/URBAN

		ACHIEVEMENT LEVELS				
		Bronze (Good)	**Silver (Better)**	**Gold (Best)**	**References/Commentary**	**Code Examples/Citations**
	**Remove Obstacles**	▪ Permit broad range of agricultural uses by right in rural and semi-rural areas ▪ Permit farmers markets in commercial and mixed-use zone districts ▪ Require protection of irrigation ditches and maintenance access	▪ Tailor accessory and temporary use lists to support agriculture (e.g., allow farm stands, agricultural-related services such as welding shops, crop storage and processing) ▪ Adopt right-to-farm legislation to protect against nuisance complaints	▪ Allow small-scale farming uses/structures in suburban zone districts or create farming overlay zones with compatibility standards (e.g., limit certain herbicides and pesticides)	▪ Johnathan D. Lachance, "Supporting Urban Agriculture: A Proposed Supplement to the City of Detroit Master Plan of Policies" (April 2004). Available online at http://sitemaker.umich.edu/urpoutreachreports/environment___land_use__e_/da.data/88429/ReportFile/supportingurbanag.pdf (last visited 2/29/08)	▪ The Dallas City Code, Volume I, Sec. 29-1, et al. "Municipal Produce Market", available online at http://www.amlegal.com/nxt/gateway.dll/Texas/dallas/volumei/preface?f=templates$fn=default.htm$3.0$vid=amlegal:dallas_tx
	**Create Incentives**	▪ Permit/encourage conservation subdivisions in rural transition areas	▪ Provide density bonuses for cluster subdivisions that preserve high percentage of productive agricultural lands	▪ Adopt transferable development rights system to offset impact of development regulations	▪ Rick Pruetz, Beyond Takings and Givings, (Arje Press, 2003); Randall Arendt, Rural By Design: Maintaining Small Town Character (Planners Press, American Planning Association, 1994).	▪ See Pinelands Development Credit Program, State of New Jersey, Department of Banking & Insurance, available online at http://www.state.nj.us/dobi/pinelands/pinelandsabout.htm (last visited 2/28/08); ▪ See City of Aspen City Code, 26.535 et al. "Transferable Development Rights, " available online at http://www.aspenpitkin.com/pdfs/depts/38/coaspent26-500.pdf (last visited 2/29/08)
	Enact Standards	▪ Restrict incompatible uses in agricultural zone districts (e.g., prohibit non-agricultural commercial, low-density residential) ▪ Permit creation of voluntary	▪ Limit size of Planned Unit Developments in rural zone districts or prohibit ▪ Adopt true large-lot agricultural zoning (e.g., 1 unit/80 acres;	▪ Require new development to offset any agricultural land loss by purchasing and protecting agricultural land elsewhere in vicinity	▪ See American Farmland Trust, Cost of Community Services Studies (August 2006) , available at http://www.farmlandinfo.org/do	▪ The Dallas City Code, Volume I, Sec. 29-1, et al. "Municipal Produce Market", available at http://www.amlegal.com/nxt/gateway.dll/Texas/dallas/volumei/preface?f=templates$fn=

 		agricultural land protection districts ▪ Require riparian buffer strips to protect water quality ▪ Enact wildlife friendly fencing standards	▪ Exclusive agricultural districts) tailored to type of agriculture in area; ▪ Require cost of services studies for all developments in agricultural areas and fiscal mitigation; ▪ Adopt Concentrated Animal Feeding Operation (CAF0) regulations to address waste, odors, water quality, etc. 	▪ Create urban services boundary to restrict development outside of designated growth areas. ▪ Limit amount of prime/unique soils that can be present on a development site (e.g., 25% per LEED-ND).	cuments/27757/COCS_8-06.pdf ; American Farmland Trust, Farmland Protection Toolbox (October 2002) , available at http://www.farmlandinfo.org/documents/27761/FS_Toolbox_10-02.pdf (last viewed 2/29/08)	default.htm3.0vid=amlegal:dallas_tx (last visited 2/28/08); ▪ City of Davis, CA, 40A.0.0 et al. "Right to Farm and Farmland Preservation", available at http://www.city.davis.ca.us/cmo/citycode/chapter.cfm?chapter=40A , includes "Agricultural Land Mitigation Requirements" at 40A.03.025) (last visited 2/28/08); ▪ Blaine County, ID County Code, 9-3-13, "Planned Unit Developments (PUDs)" (addressing restrictions on PUDS/CDs in rural areas) http://66.113.195.234/ID/Blaine%20County/index.htm (last visited 2/29/08). ▪ See LEED-ND SLL #5 (Agricultural Land Conservation).

SUSTAINABLE SMALL-SCALE FOOD PRODUCTION AND URBAN AGRICULTURE

		ACHIEVEMENT LEVELS				
		Bronze (Good)	**Silver (Better)**	**Gold (Best)**	**References/Commentary**	**Code Examples/Citations**
 	**Remove Obstacles**	▪ Adopt resolution/zoning purpose statement supporting urban agriculture ▪ Allow front-yard vegetable gardens in residential districts ▪ Permit farmers markets in all commercial and mixed-use zone districts ▪ Allow urban gardens as a permitted use in public parks/open space	▪ Permit broad range of urban agricultural uses (e.g., fowl and animal raising) by right in suburban and urban areas with use conditions to ensure compatibility ▪ Allow urban agricultural accessory structures such as pens, coops, storage sheds, etc.	▪ Permit urban gardens/urban agricultural spaces to meet residential open space set aside requirements ▪ Identify urban agricultural contact in planning department ▪ Override private covenants that prohibit small-scale agricultural uses	▪ Johnathan D. Lachance, "Supporting Urban Agriculture: A Proposed Supplement to the City of Detroit Master Plan of Policies""(April 2004), available at http://sitemaker.umich.edu/urpoutreachreports/environment___land_use__e_/da.data/88429/ReportFile/supportingurbanag.pdf (last visited 2/29/08) ▪ Urban Agriculture Committee of the Community Food Security Coalition, "Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe" (February 2003), available at http://www.foodsecurity.org/PrimerCFSCUAC.pdf (last visited 2/29/08)	▪ City of Portland, OR Zoning Code, 33.100.110, "Open Space Zone," available at http://www.portlandonline.com/shared/cfm/image.cfm?id=53294 (last visited 2/29/08); ▪ Urban agricultural and chicken regulation --Madison, WI; and Chicago IL (links forthcoming).
	Incentives	▪ Offer density/intensity/ height	▪ Give open space and	▪ Give stormwater	▪	▪ Green roof density bonus code

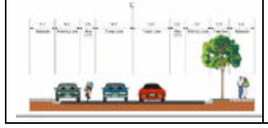
		bonuses for urban agricultural space/green roofs used for urban agriculture ▪ Offer extra credit for fruit trees as part of landscaping requirements	landscaping credit for preserving existing urban agricultural spaces or creating new ones ▪ Allow limited commercial/home sales of food produced on site	management credit for providing agricultural land open space on site.		example from Portland, OR forthcoming.
	**Standards**	▪ Require urban agricultural space as part of new residential developments;	▪ Adopt urban agricultural compatibility standards to address type of fowl/animals, number, prohibited toxic chemicals, etc.	▪ Require new residential development to mitigate loss of open space by replacing with urban agricultural land ▪ Require residential developments to purchase shares in a community supported agriculture program within region	▪	▪ See Detroit Model Ordinance—citation forthcoming ▪ See LEED-ND NPD #16: farm/garden land dedication and improvement requirement and community supported agriculture standard—citation and hyperlink forthcoming

COMMUNITY HEALTH

KEY STATISTICS:

- Adult obesity rates rose in 31 states in 2006, with no states having a rate decrease.
- As of 2004, 60 percent of adults and 15 percent of children in America were overweight or obese.
- In 1960 America spent 5.1 percent of our gross domestic product on health care.
- Research indicates that areas with sprawl-like characteristics equate to higher rates of obesity, body mass index (BMI), and higher blood pressure for those that live there.
- Cities that are more dense and walkable reliably have lower pedestrian fatality rates (e.g., Portland, OR, 1.89 pedestrian deaths per 100,000 population; Tampa, FL, 6.60/100,000).
- A recent study has shown that 46 percent of Americans would walk or bike to work or for errands if they had facilities that were "safe and convenient."

RMLUI
Rocky Mountain Land Use Institute

		ACHIEVEMENT LEVELS (NOTE: HIGHER LEVELS GENERALLY INCORPORATE ACTIONS OF LOWER LEVELS)				
		Bronze (Good)	**Silver (Better)**	**Gold (Best)**	**References/Commentary**	**Code Examples/Citations**
 	**Remove Obstacles**	▪ Provide more by-right mixed-use districts and districts that encourage active living (without a need for a PUD process). ▪ Reduce off-street parking requirements for TODs, mixed-use projects.	▪ Adopt standards for bicycle facilities (e.g., bike parking) and pedestrian amenities (e.g., connectivity) in commercial areas (offices, retail) to encourage alternative transportation that may currently be difficult and unsafe ▪ Provide alternative open space provisions for TODs, MU projects (e.g., indoor meeting space, rooftop gardens and plazas.	▪ Adopt local street specifications that incorporate "complete streets" principles.	▪ Federal Complete Street Guidelines: http://www.fhwa.dot.gov/environment/bikeped/design.htm#d4. ▪ National Complete Streets Coalition: http://www.completestreets.org/howtogetto.html. ▪ Florida Dept. of Transportation, Multimodal Transportation Districts and Area wide Quality of Service Handbook: http://www.dot.state.fl.us/Planning/systems/sm/los/default.htm.	▪ Colorado Springs Mixed-Use Development Manual, http://www.springsgov.com/units/planning/Currentproj/CompPlan/MixedUseDev/I.pdf ▪ Florida Dept. of Transportation, Model Regulations and Plan Amendments for Multimodal Transportation Districts, http://www.dot.state.fl.us/planning/systems/sm/los/pdfs/MMTDregs.pdf ▪ Frisco, CO, and Davidson, NC, bicycle parking standards.
 	**Create Incentives**	▪ Expedited review when community health objectives are met (e.g., pedestrian orientation and connectivity).	▪ Flexibility with development standards (parking, landscaping, etc.) when community health objectives are met (e.g., bicycle parking). ▪ Provide density bonuses and other incentives for mixed-use and TOD projects.	▪ Credit towards meeting commercial/residential design standards when community health objectives are met (e.g., shower facilities in office buildings).	▪ *Local and State Examples of Planning and Designing Active Communities*, American Planning Association Advisory Service Report Number 543/544.	▪ Austin, Texas, Development Code: Subchapter E: Design Standards and Mixed-Use, available online at http://www.ci.austin.tx.us/development/downloads/final.pdf.
	Enact Standards	▪ Require or encourage parks/open space dedication or set aside with clear definitions of what qualifies (e.g., a trail rather than a detention pond). ▪ Establish parkland dedication fees for city park fund. ▪ Require sidewalks through parking lots; ▪ Require sidewalks on both sides of streets in urban/suburban areas.	▪ Reduce parking requirements and specify maximum # of parking spaces allowed (e.g., 125%). ▪ Require or encourage non-residential building amenities such as bike parking, convenient and visible stairs, and lockers/showers for those biking/walking to work. ▪ Require connectivity measures in	▪ Require pedestrian and bicycle levels of service (LOS) with non-residential development (similar to that of the vehicle level of service currently used). ▪ Adopt Crime Prevention Through Environmental Design (CPTED) principles into development standards.	▪ *Local and State Examples of Planning and Designing Active Communities*, American Planning Association Advisory Service Report Number 543/544. Zelinka, Safescape: Creating Safer, More Livable Communities Through Planning Design (2001).	▪ San Diego Regional Planning Agency (SANDAG) - "Planning and Designing for Pedestrians, Model Guidelines for the San Diego Region." http://www.sandag.org/uploads/publicationid/publicationid_713_3269.pdf. ▪ Gainesville, FL - Pedestrian level of service.

COMMUNITY HEALTH

		▪ Limit waivers to sidewalk installation. ▪ Require pedestrian connections between adjacent developments and nearby public facilities such as schools. ▪ Enact standards to provide shade for pedestrians in hot climates; protect against ice/snow on sidewalks in northern climates. ▪ Limit parking in front of commercial buildings to enhance pedestrian experience. ▪ Require street trees between street and sidewalk.	subdivisions (restrict block lengths; prohibit cul-de-sacs unless pedestrian access provided through dead-end). ▪ Require health department review in referral process for larger developments. ▪ Establish safe school routes and require compliance in review process. ▪ Require maintenance of existing access to public lands	▪ Require health impact assessments with larger developments. ▪ Prohibit fast food restaurants, especially near schools. ▪ Require mandatory use mix in TOD, PUD, and MU projects.		▪ Buffalo, NY, Bicycle level of service. ▪ Franklin, TN, Parkland dedication requirements and connectivity index for subdivisions. ▪ Ingham County, MI, Health Impact Assessments, http://www.cacvoices.org/healthylifestyles/environmental/HIA ▪ Warner, NH, fast food restaurant restrictions, http://www.warner.nh.us/downloads/2007_zoning_ordinance_final.pdf ▪ Franklin, TN, Connectivity Index. ▪ Fort Collins, CO, Large Retail Establishment Design Standards (parking and pedestrian amenities). http://fcgov.com/cityclerk/codes.php. ▪ Smart Code Version 9.0 Mixed Use Zoning (Transect) Districts www.smartcodecentral.com.

POTENTIAL SUSTAINABILITY MEASURES:

- Commuting patterns - percent driving alone, walking, and bicycling for trips
- Community health indicators - obesity rates in adults and children, body mass index (BMI), and blood pressure
- Pedestrian and bicycle levels of service
- Pedestrian and bicycle accidents and fatalities
- Crime rates in public parks and recreation areas
- Healthy eating options (abundance of fast food restaurants vs. healthy eating restaurants)

HOUSING AFFORDABILITY

KEY STATISTICS:

- In 2003, some five million working families had critical housing needs.
- Between 2001 and 2005, housing prices in the U.S. overall increased by at least 6 percent annually, more than twice the rate of inflation for that same period.
- The increase in housing prices has exceeded the rate of wage growth; in 2005 the ratio of housing prices to national incomes was the highest in at least twenty years.
- The National Low Inc ome Housing Coalition estimates that the 2006 national "housing wage" needed to afford a two-bedroom rental unit was $16.31 per hour -- $3.00 more than the average renter earned per hour.
- In 2006, a household of three minimum wage earners that worked 40 hours a week for 52 weeks a year could not afford a two-bedroom unit at $848, the national average Fair Market Rent.
- Police officers typically earn less than is required to purchase a median-priced home in the majority of metropolitan areas.
- In 2005, one in every four renters age 50 and above paid 50 percent or more of their income on rent.

RMLUI
Rocky Mountain Land Use Institute

INCREASING AFFORDABLE HOUSING OPPORTUNITIES THROUGH LOCAL REGULATORY TOOLS

	ACHIEVEMENT LEVELS				
	Bronze (Good)	**Silver (Better)**	**Gold (Best)**	**References/Commentary**	**Code Examples/Citations**
Remove Obstacles	▪ Remove barriers for constructing accessory dwelling units and elderly cottage housing units in residential districts.	▪ Waive building permit caps for affordable housing projects. ▪ Waive or reduce residential impact fees for affordable housing projects.	▪ Remove large minimum lot size regulations to allow for small lot residential development. ▪ Permit duplex and multi-family housing in more districts, or as special/conditional uses in all districts. ▪ Allow mixed-use developments by right in appropriate locations near public transportation facilities.	▪ *Regional Approaches to Affordable Housing,* Meck, Retzlaff, Schwab (2003) ▪ *An Untapped Source for Affordable Housing,* van Hermert (2007) ▪ *Increasing the Availability of Affordable Homes,* Lubell, (2006)	▪ Santa Cruz, CA; Key West, FL; – accessory dwelling unit programs ▪ Alachua County, FL; Albuquerque, NM; Lincoln, NE; Rhodeville, RI – reduction or waiver of impact fees ▪ Austin, TX – Affordable, transit-oriented housing
Create Incentives	▪ Expedited permitting process for development review. ▪ Provide permit expeditor / ombudsman to assist with review of affordable housing projects.	▪ Reduction in mandatory development standards (landscaping, parking, setbacks).	▪ Density bonuses when incorporating affordable or workforce housing products in a development.	▪ Regulatory Barriers Clearinghouse, available online at http://www.huduser.org	▪ Tallahassee, FL; Austin, TX;; State of California – bonus density provisions ▪ Tuscon, AZ – streamline of development review ▪ Orlando, FL – affordable housing development expeditor ▪ Palm Beach County, FL – waiver of development standards
Enact Standards	▪ Inclusionary housing requirement placed on residential developm ent to construct or pay a fee-in-lieu for affordable units.	▪ Linkage fee requirement for non-residential development to construct or pay a fee-in-lieu for affordable units.	▪ Comprehensive Regulatory Program that requires both residential and non-residential development to construct or pay a fee-in-lieu for affordable units.	▪ *Solving America's Shortage of Homes Working Families Can Afford: Fifteen Success Stories,* ULI. (2005)	▪ Aspen/Pitkin County, CO; Islamorada, , FL – Comprehensive Regulatory Program ▪ Montgomery County, MD; Palm Beach County, FL – Inclusionary Housing

Potential Sustainability Measures:

- Measuring the supply of units, by affordability ranges, available to meet existing and future demand.
- Use of national indices, such as the National Association of Homebuilders/National Association of Realtors Index, National Low Income Housing Coalition Housing Wage Index, and Center for Housing Policy Paycheck to Paycheck Model to identify local housing needs and track success of local programs.
- In-depth housing needs analysis that evaluates demographics, regional housing tenure data, and economic parameters to identify where gaps in housing exist.

HOUSING DIVERSITY AND ACCESSIBILITY

KEY STATISTICS:

- America's population is growing older. In 2000, 12% of Americans were over 65. This age group is expected to rise as high as 20-25% of total population by 2030.
- The average household size is shrinking. There are now more households of married couples without children and single person households than any other types, including married couples with children.
- According to the 2005 American Community Survey, there are over 6 million children living in "grandfamily" or "kinship care" households in the U. S., half of which are cared for solely by their grandparents.
- In 2007, the nation's minority population reached 100 million – approximately one third of the total U.S. population.

RMLUI
Rocky Mountain Land Use Institute

INCREASING DIVERSITY AND ACCESSIBILITY OF HOUSING THROUGH LOCAL REGULATORY TOOLS

	ACHIEVEMENT LEVELS				
	Bronze (Good)	**Silver (Better)**	**Gold (Best)**	**References/Commentary**	**Code Examples/Citations**
Remove Obstacles	▪ Revise zoning definition of family if it is an obstacle to allowing non-traditional families (e.g., family is 4 or fewer unrelated individuals) ▪ Allow accessory dwelling units and elder cottages in residential districts by right or through conditional use permit. ▪ Reduce parking requirements for senior housing, TOD housing.	▪ Allow for development of group homes and co-housing by-right or with conditions. ▪ Remove large minimum lot size regulations to allow for small lot residential development. ▪ Create mixed-use zone districts that allow a variety of housing types (apartments, townhouses, duplexes, etc.)	▪ Permit duplex and multi-family development in more districts, or as a conditional/special use in all residential districts.	▪ *Smart Growth in Action: Accessory Dwelling Unit Development Program, Santa Cruz, California.* ▪ *Creating Senior-Healthy Communities: Removing Regulatory Barriers,* Denver Regional Council of Governments (2007) ▪ *Federal Fair Housing Act prohibits discrimination based on familial status.*	▪ Santa Cruz, CA; State of Vermont – Accessory Dwelling Unit Program ▪ Fort Kent, ME – Elder Cottage Housing Opportunities ▪ Downtown parking requirements reduced/eliminated in San Francisco, Fort Myers, and Spokane.
Create Incentives	▪ Expedited review and waiver of fees for development of a diversity of units, or units with visitability or universal design features.	▪ Reduction in selected development standards (parking, setbacks, etc.) when providing a diversity of units types or use of visitability[1] /universal design features.	▪ Provide density bonuses when incorporating a variety of housing products in a development.	▪ "Visitability: A New Direction for Changing Demographics," *Practicing Planner.* (2004)	▪ Fort Collins, CO – Incentive program for implementing Visitability Design Standards.
Enact Standards	▪ Require residential units in urban areas to include family-friendly amenities, such as parks and play grounds on site. ▪ Require variations in lot sizes and densities in larger developments. ▪ Require minimum densities in larger residential	▪ Require a percentage of units within urban developments to include 3+ bedroom units. ▪ As a PUD compensating community benefit, require mix of housing types. ▪ Require variation in multifamily building size/footprint to encourage different unit sizes and configurations.	▪ Implement a mandatory development points system for incorporating community objectives such as a range of housing types, development of affordable units, and using visitability design standards. ▪ Require certain number of units to be "adaptable" or include visitability or universal design standards. ▪ Require a mix of housing types	▪ "Living First in Downtown Vancouver", *Zoning News,* Beasly. (2000) ▪ *A Blueprint for Action: Developing a Livable Community for All Ages,* National Association of Area Agencies on Aging and Partners for Livable Communities.	▪ Parramatta, Australia – Mandatory mix of units by number of bedrooms and "adaptable" features (i.e., easy conversion of home design to meet elderly/disabled needs) ▪ Vancouver, British Columbia – design guidelines for high-density housing aimed at families and children. ▪ Fort Collins, CO, minimum residential density requirements.

[1] Visitability is a design approach driven by the principle that all new homes of all types should be designed and built with basic levels of access. The intent is for the disabled to be able to "visit" and access the homes of their non-disabled peers and for disabled persons to be given the capacity to continue residing in their own homes. Basic features of Visitability include one-level, no step entrances; accessible doorways; and a bathroom one the entry level floor. It does not entail comprehensive accessibility within the residence.

		developments.		within residential developments.		▪ Chapel Hill, NC – required mix of housing sizes in Planned Developments ▪ St. Lucie County, FL – Towns, Villages and Countryside Overlay - requires mix of units types

POTENTIAL SUSTAINABILITY MEASURES:

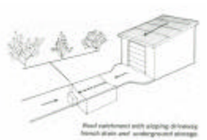
- Calculating the number of accessory dwelling units, elder cottages, and other senior housing units available and comparing with demand.
- Calculating the number of multi-family housing units and number of bedrooms per unit in urban areas.
- Calculating the number of new homes implementing visitability and universal design standards.
- Calculating the number of intergenerational housing development units available.
- Conducting a housing needs assessment.
- Calculating the housing diversity in a community using the LEED-ND Housing Diversity Measurement or similar index.

WATER CONSERVATION

KEY STATISTICS:

- The population of the US is anticipated to increase by 53 million people by 2020.
- Ninety percent of all drinking water in the US is pumped from groundwater supplies and most communities have witnesses a falling water table; use is exceeding the recharge.
- Global warming forecasts global temperature increasing, with more extreme storm events, increased drought in some locations and increased flooding in others.
- Landscape irrigation accounts for approximately 51 percent of all domestic water consumption in the U.S.
- There is a high level of variability in per capita water consumption between municipalities in comparable climatic zones (e.g., in 2005 the average single-family residential water consumption inn Tucson, AZ was 114 gpcd compared to 174 in Las Vegas, NV) indicating the potential for more efficient consumption patterns.

WATER CONSERVATION: REDUCE OUTDOOR WATER USE/WASTE

Landscaping Ordinance	ACHIEVEMENT LEVELS			References/Commentary	Code Examples/Citations
	Bronze (Good)	**Silver (Better)**	**Gold (Best)**		
 **Remove Obstacles**	▪ Identify limiting ordinances (e.g., CC & Rs) that require the use of turf in lawns and common areas and craft exceptions to the limiting ordinances. ▪ Permit rain gardens, drainage swales, and similar facilies by right	▪ Remove prohibitions on rain barrels, water cisterns, and other water harvesting devices		Tucson Water, Water Harvesting Guidance Manual	▪ Albuquerque, NM (landscaping ordinances) ▪ Las Vegas Valley communities served by Southern Nevada Water Authority including Boulder City, Henderson, North Las Vegas, Clark County, Las Vegas (multiple ordinances) ▪ Tucson, AZ (Xeriscape Landscaping and Screening Regulations – Ordinance 7255) ▪ See LEED-ND Water Use Standards. www.usgbc.org/leed/nd/ --Other hyperlinks forthcoming
 **Create Incentives**	▪ Offer rebates to residential property owners for turf removal up to some pre-defined square foot maximum. ▪ Grant extra landscaping credit for rain gardens and water harvesting devices	▪ Accelerate permitting for developments meeting LEED-ND water conservation standards ▪ Give extra landscaping credit for protection of native plants on site. ▪ Allow attractive hardscaping alternatives to landscaping requirements (e.g., ornamental gravel, mulch) ▪ Give bonus points in design review systems for water conservation/water harvesting.	▪ Provide free or reduced-cost rain sensors to existing irrigation systems with free installation.		
 **Enact Standards**	▪ Include optional low-water landscaping/plant list as part of landscaping code. ▪ Enact regulations to limit the percent of the total landscaped area of new development that can be planted with ornamental turf. Provisions vary by community and residential/non-residential use type, with non-residential uses having more stringent anti-turf regulations (0-30%	▪ Require all new commercial and multi-family development to use Xeriscape principles and low-water plants from established plant list in landscaping. ▪ Require all new single-family development to use low-water plants from established plant list in landscaping. ▪ Require drip irrigation systems to be installed in all new development.	▪ Require use of on-site or municipal recycled /harvested water for non-potable uses. ▪ Require subdivision design to include water harvesting for landscape irrigation.	▪ Albuquerque, NM enjoyed a 35% decrease in single-family residential daily per capita water consumption after adopting water-efficient landscaping provisions.	

		maximum turf coverage) than single-family residential uses (25-40% maximum turf coverage).	▪ Require installation of rain sensors on irrigation systems ▪ Restrict the use of water features in the landscape. Exceptions may be granted to golf courses (up to some maximum allowance after which overuse penalties apply) and certain pubic uses			
Water Use/Waste Ordinance		**ACHIEVEMENT LEVELS**				
		Bronze (Good)	**Silver (Better)**	**Gold (Best)**	**References/Commentary**	**Code Examples/Citations**
	Remove Obstacles	▪ Update building code to be in full compliance with the US Energy Policy Act of 1992 (EPAct).				▪ Albuquerque, NM (Residential Water Conservation Ordinance) ▪ Las Vegas Valley communities served by Southern Nevada Water Authority including Boulder City, Henderson, North Las Vegas, Clark County, Las Vegas (multiple ordinances) ▪ Tucson, AZ (Water Waste and Tampering Ordinance – Ordinance 6096, Plumbing Codes – Ordinance 7178, Emergency Water Conservation – Ordinance 8461) ▪ Woodbury, MN (Lawn Watering Regulation Policy) ▪ Santa Monica, CA (No Water Waste ordinance) ▪ San Francisco, CA (Residential Water Conservation Ordinance) --hyperlinks forthcoming
	Create Incentives	▪ Educate on indoor and outdoor water conservation practices and benefits.	▪ Distribute free faucet aerators and low-flow shower heads. ▪ Toilet Rebate Program ▪ Clothes Washer Rebate Program ▪ (Free) Irrigation Audit Program	▪ Large Customer Mandatory Water Conservation Plan – large water users (e.g., those consuming more than 50,000 gpd) are required to submit a long-range water conservation plan that addressed both indoor and outdoor water use. Enforcement methods and associated penalties should be clearly defined in the ordinance.	▪ *Water in the Urban Southwest*, Western resource Advocates, 2006	
	Enact Standards	▪ Prohibit landscape watering between 11 am and 7 pm during hot and dry months (as defined by local temperature and precipitation patterns).	▪ Regulate days of the week watering is allowed (e.g., alternate days by even v. odd street numbers). ▪ Restrict watering on steep slopes.	▪ Regulate water-wasting outdoor activities such as hosing down pavement, buildings, or equipment unless runoff is returned directly to a stormwater drain. ▪ Regulate wasteful residential irrigation practices such as misdirected spray heads, runoff into driveway or adjacent lots, and broken or leaking sprinklers.		
WATER CONSERVATION: REDUCE DEMAND ON WATER TREATMENT AND DELIVERY SYSTEMS*						
Rainwater Harvesting		**ACHIEVEMENT LEVELS**				
		Bronze (Good)	**Silver (Better)**	**Gold (Best)**	**References/Commentary**	**Code Examples/Citations**
	**Remove Obstacles**	▪ Identify limiting ordinances (e.g. CC & Rs) and craft exceptions to the limiting ordinance that includes rainwater harvesting tanks. ▪ Where water law allows, repeal any ban on the ability development to have on-site rainwater harvesting systems.	▪ Allow water storage tanks as a conditional use except in special districts (e.g., historic districts) or locations where water law prohibits on-site retention of rainwater.	▪ Allow water storage tanks as a by-right accessory use except in special districts (e.g., historic districts) or locations where water rights law prohibits on-site retention of rainwater.	▪ *The Texas Manual on Rainwater Harvesting*, Texas Water Development Board, Third Edition,2005	▪ Austin, TX ▪ Flagstaff, AZ --hyperlinks forthcoming
	Create Incentives	▪ Educate on the function and benefits (including reduced stormwater runoff, lower utility bills, of installing a rainwater	▪ Offer rebate on water bill to customers who install a water harvesting tank. ▪ Sell rainwater collection barrels at a	▪ Reduce/eliminate permit fees for installation of water storage tanks.		

		harvesting system	reduced price			
	Enact Standards	▪ Create specific screening requirements to apply to this use appropriate to the use context				

*Note: Section on grey water recycling forthcoming