Salt Lake City Corporation

Vision for a Green City

Salt Lake City's Sustainable City Code Initiative

Mayor
Ralph Becker

Introduction-Blueprint for a Green City

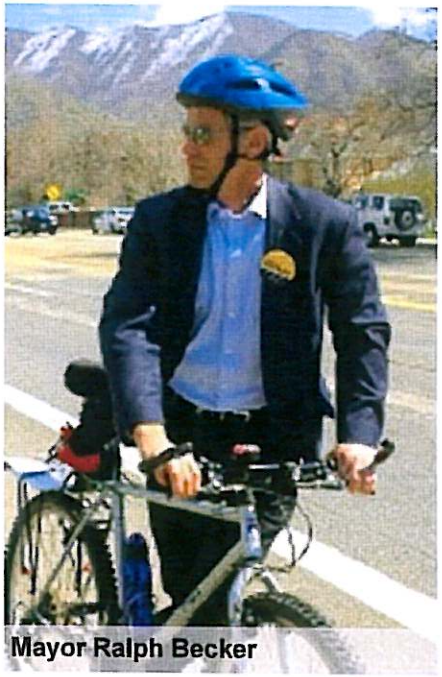
Salt Lake City residents deserve a city to match the spectacular scenery. A green city is a place that uses energy efficiently. It reduces, reuses and recycles its waste. It works to keep its air and water clean. A green city protects its open spaces as ecological and recreational treasures. It offers its residents healthy and efficient transportation and housing choices.

By doing these things, a city becomes green: it becomes a highly desirable place to live, work, play, raise a family and own a business. A green city is a place where people want to be because the quality of life is high. As a result, a green city is economically stable and less vulnerable to the ups and downs of national and global forces, such as the prices of imported fossil fuels, over which city residents have little control.

Salt Lake City can be one of America's leading green cities. In fact, Salt Lake City has the potential to be the greenest city in America.

To improve Salt Lake City's green credentials, we must:

- Reduce air pollution from sources both within the City and, with the cooperation of other cities; counties and the state, outside it.
- Use energy efficiently and from clean, renewable sources.
- Develop convenient public transit and non-motorized transportation choices for residents and visitors that link open spaces, residential neighborhoods, downtown and suburban cities.
- Preserve, improve and expand the network of open space and greenbelts throughout the City.
- Establish neighborhood centers for commercial and governmental services that foster walkable neighborhoods, reducing vehicular traffic and thus air pollution.


Mayor Ralph Becker

Salt Lake City's Sustainable City Code Initiative is one way to implement this vision. This project is a ground-breaking initiative to incorporate sustainability provisions into the City's development codes (Zoning, Subdivision and Site Development Ordinances). The revised codes will contribute to making Salt Lake City one of the most sustainable communities in the country.

The Sustainable City Code Initiative implements the Mayor's Blueprint for a Green City in many ways. This Vision document indicates how the project will help implement the vision for a green city.

1. Embrace public transit, cycling, walking and alternative energy vehicles

By giving people easy and efficient options for moving around the City, we can reduce the amount of emissions that are put into the air in the first place. Transportation choices affect our daily lives, from how quickly we get to work or back home again, to traffic congestion, to where there are convenient bus and light rail stops, to the safety of bike lanes, to how we get around town or from one town to the next, to how clean our air is. These choices also can directly affect business and commerce entities, and even the amount of exercise we get in a day.

The following points are things to consider:

- *We need to provide transportation choices for Salt Lake City residents (automobiles, light rail, buses, improved and safer bicycle lanes, enlarged and safer pedestrian-friendly zones) to promote livability and to reduce congestion, reduce air pollution, and reduce the use of fossil fuels.*
- *Salt Lake City should be enhanced as a regional and state hub by emphasizing mobility into and out of the City and accessibility to a variety of transportation choices within the City.*
- *The walking environment should be enhanced so that residents can leave cars behind as often as possible or park in one convenient place to access many destinations on foot.*

A. Connectivity

Connectivity is the connections within and between developments. The proposed connectivity regulations are geared to ensuring that there are ample options for pedestrians, bicycles, and vehicles to reach destinations within a development, around a development and between developments. Increased mobility options can reduce vehicle miles traveled (VMTs) and thus greenhouse gas emissions, and promote healthy lifestyles by encouraging walking and bicycling.

The proposed regulations require:

- Street and sidewalk connections between activity centers such as neighborhood commercial nodes, schools, and parks.
- Internal access between adjacent non-residential uses to avoid unnecessary driveways which disrupts pedestrian movement.
- Sidewalks on both sides of the streets.
- Access to entrances of non-residential uses to public sidewalks, to transit areas, to park and ride lots, to parks and trails, to schools, community centers, libraries, places of worship and other similar activity centers.
- Midblock walkways on large blocks
- Designation of pedestrian access through parking areas to building entrances
- Safe and convenient bike routes.

Crosswalk with pedestrian flags on South Temple

1. Embrace public transit, cycling, walking and alternative energy vehicles (continued)

B. Transit Oriented Development Regulations

Transit Oriented Development (TOD) integrates land use and transit to help create compact, walkable mixed-use communities close to transit stations. It brings people, jobs, and services together in such a way that makes it safe and convenient to travel by foot, bicycle, and transit as well as by car. In addition, Transit Oriented Development can create lively neighborhood activity centers.

Salt Lake City has a great opportunity to promote sustainable development in concert with its growing transit system. There is growing evidence that mixed-use, transit-oriented developments can significantly reduce the use of automobiles and associated greenhouse gases from burning of fossil fuels.

The specific regulations of the new Transit Station Area Zones adopted by the City Council in August 2010 include:

- Encouraging mixed-use moderate and high-density, economically viable developments within walking distance of transit stations to increase transit ridership and reduce use of automobiles and associated reduce greenhouse gas emissions.
- Promoting transit-supportive uses that are high pedestrian generators that directly promote greater transit ridership and opportunities for multi-purpose trips while discouraging auto-oriented uses.
- Creating a pedestrian-friendly environment to encourage walking, bicycling, and healthier lifestyles.
- Creating attractive, lively, and safe places for living, working, shopping, learning, and recreating.
- Providing a range of housing options for people of different income levels and at different stages of life.
- Encouraging developments that are connected with surrounding neighborhoods and compatible in terms of uses, scale, and other aspects.
- Incorporating engaging, high-quality public spaces such as small parks and plazas as organizing features and gathering places for residents and surrounding neighborhoods.

Mixed use development and transit stop on 2nd South

2. Plant a tree, save a life

Trees absorb carbon dioxide, the chief greenhouse gas, and produce oxygen. They also prevent erosion and water runoff, and they cool the air by producing moisture and providing shade. That keeps people and buildings naturally cool, reducing our need for energy-consuming air-conditioning. A continuous tree canopy helps reduce smog by reducing the amount of heat radiating off roads, parking lots and roofs. In the winter, trees lower our heating costs by blocking winter wind. Trees provide key environmental benefits that increase community sustainability such as:

- *Absorb greenhouse gases. The U.S. Department of Energy finds a 30-year old hardwood tree can sequester the equivalent of 136 pounds of carbon dioxide annually.*
- *Reduce the amount of energy used and costs associated with indoor cooling and heating by 30-40%,*
- *Reduce ground-level ozone concentrations by reducing air temperatures biologically,*
- *Provide buffers that can reduce highway noise by 50%,*
- *Reduce topsoil erosion, slow down water runoff, and act as pollution filters, and*
- *Shade lawns that can reduce the demand on irrigation water requirements by 20%*

Tree shaded sidewalk on South Temple

A. Tree Protection

While the City already has tree protection measures in place to protect trees in public places and on publicly-owned lands, Salt Lake City's regulations are not strong enough in protecting trees on private property.

The proposed regulations specifically address the protection of specimen trees on private property as new development occurs. Specimen trees are those trees that in general add to the quality of life of the Salt Lake City community and the environment by virtue of their size, quality, and species.

The proposed regulations:

- Protect specimen trees on private property when new development occurs.
- Include options for protection of specimen trees, such as modifications in zoning setbacks in order to build around the tree, or
- Require additional and larger trees to be planted beyond the minimum requirement if the specimen tree cannot be preserved.

3. Make our buildings more energy efficient and use renewable energy resources.

Most buildings in Salt Lake City consume energy inefficiently because they are older structures that do not have the most efficient mechanical systems, nor have they been retrofitted to minimize energy loss or to take advantage of passive solar design principles.

The increased use of renewable resources could help mitigate the negative effects of air pollution and the use of costly, imported fossil fuels that are ultimately a finite resource and that contribute to global warming.

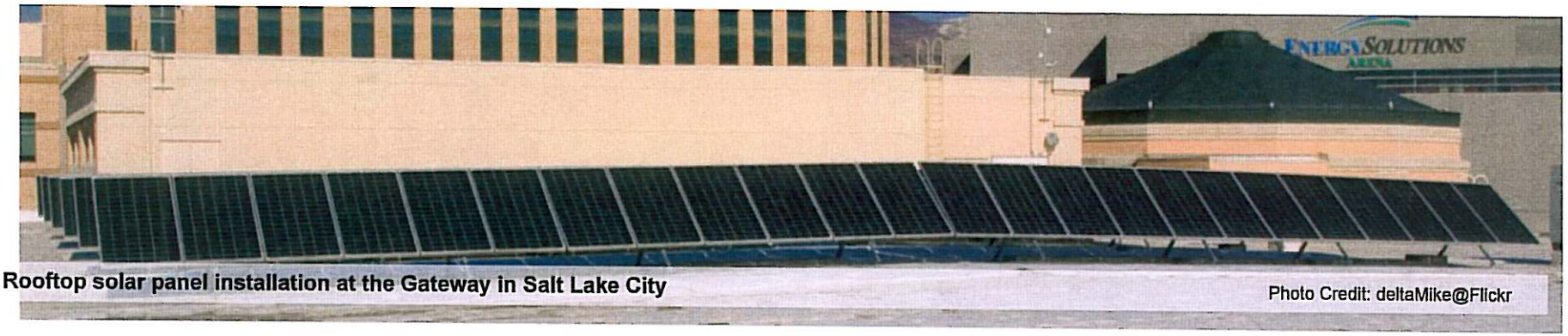
A. Renewable Energy

The proposed regulations address three distinct issues:

- Require all new single- and twin-family dwellings to be "solar-ready," that is, be equipped for the future use of solar power for electric power or hot water heating.
- Provide that all new major subdivisions be laid out to require a minimum percentage of the lots have optimal solar orientation for the installation of solar systems.
- Permit solar and small-scale wind energy systems as accessory structures in certain zone districts subject to compatibility and safety standards. Also, permit solar arrays and large wind generating systems as principal uses (e.g., a ground-mounted solar array and large wind generating systems in appropriate zoning districts.), again subject to standards.

The proposed regulations include:

- Providing a priority hierarchy for location of solar collectors in historic districts. The installation of the panels would be more flexible where the panels are least visible from the street and the placement does the least damage to the historic structure.
- Allow for small wind energy facilities where height is based on the size of the lot.
- Allow Large Wind Generating Systems in appropriate zoning districts with criteria to address impacts.
- Allow Solar Arrays as a principal use in appropriate zoning districts.
- Require a percentage of Solar Oriented buildings in new large subdivisions.
- Require solar ready buildings in new residential development.



Rooftop solar panel installation at the Gateway in Salt Lake City

Photo Credit: deltaMike@Flickr

4. Promote Recycling and Minimize Construction Waste

Recycling and waste reduction means fewer materials enter the landfill, thereby extending its life and also reducing emissions of methane, a landfill and greenhouse gas. For Salt Lake City, reducing waste will result in more efficient trash collection services, long term cost savings, and extended landfill life.

In a sustainable community, waste is considered as a resource to be used and reused, not a problem to be disposed of. Communities, not just buildings or the operations of homes and businesses, should be designed to minimize and manage solid waste. A comprehensive solid waste management program should incorporate:

- *Reduction of the amount of waste produced,*
- *Reuse of waste materials where possible, and*
- *Recycling of wastes.*

Preventing waste at the source, through strategic purchasing by businesses and citizens, can decrease the consumption of raw materials and energy during manufacturing, transportation, and disposal. Public awareness to this basic tenet of recycling, along with the basic platform within the City to allow for more recycling, reuse, and waste reduction will be key in moving Salt Lake City forward on this front.

Salt Lake City yard waste bins Credit: Salt Lake Tribune

A. Recycling and Waste Reduction

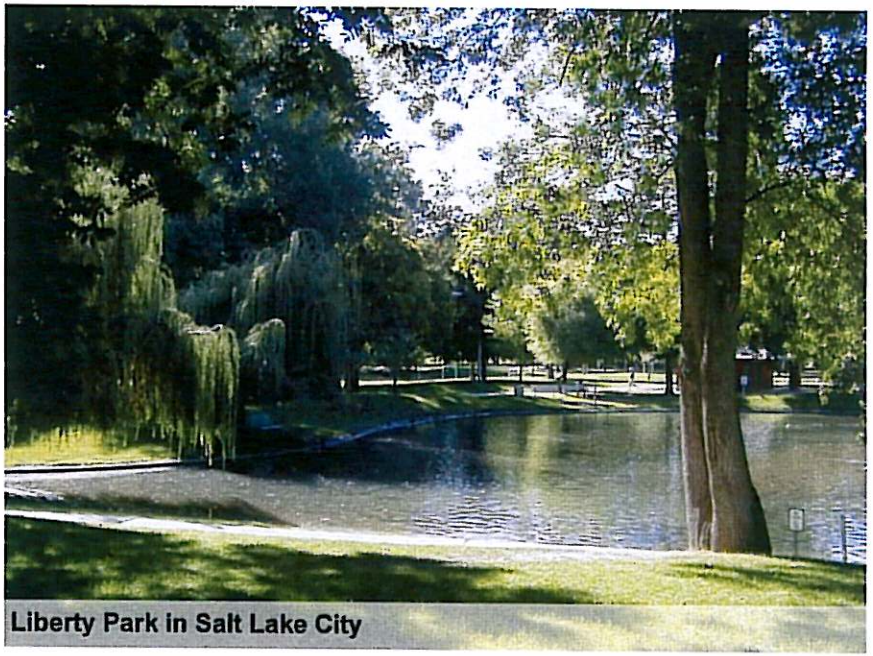
Salt Lake City has made great strides with its recycling programs by implementing private contractor service for approximately 7,300 residential homes per day/5 days a week, variable refuse rates based on container size, and municipally funded composting and waste operations.

The proposed regulations include:

- Requiring recycling station areas in non-residential and mixed use buildings (the size of the facility is based on the size of the building) and in multi-family developments (the size of the area is based on the number of units.)
- Requiring centralized neighborhood recycling and composting stations in new residential developments including built in kitchen recycling centers.
- Requiring existing development to meet the new standards as upgrades of a certain percentage are made.
- Allowing the conversion of parking or common space in existing developments in order to retrofit for recycling areas (convert up to 3-6 stalls based on specific criteria.)
- Requiring construction waste management plans and encouraging deconstruction plans and recycling / reuse staging areas as part of the issuance of a demolition permit.
- Requiring that for all demolition applications for multifamily, low density residential with 20+ units and non-residential development to include a plan to separate waste types.

5. Preserve and acquire open space

Without a Big Picture plan for preserving and acquiring our precious open spaces, our green spaces will "suffer death by a thousand cuts" as they are slowly nibbled away. A long-range plan for both retaining our current open spaces and for acquiring additional ones is critical to our health and quality of life from both a recreational and an ecological standpoint.


Liberty Park in Salt Lake City

A. Open Space Dedication Requirements

Salt Lake City has a history of public parks dating back to the dedication of the first major public park in the City: Liberty Park in 1882. Well-located near the City's business core close to workers and residents alike, Liberty Park stands as a shining example of public open space that serves a multitude of uses – passive, active, and urban green space. Today, the City's park system includes 71 parks of a variety of sizes and uses, totaling 172 acres. According to the Salt Lake City Parks and Recreation Recovery Plan, these parks provide a ratio of 1.24 acres to every 1000 residents.

In addition, Salt Lake City is blessed with access to the multiple-use public lands of the U.S. Forest Service and Bureau of Land Management that provide numerous recreational options within close proximity to the City. These are coveted lands and continued access to them is important not only to Salt Lake City citizens and the thousands of recreationalists that visit the Wasatch Front every year, but to the economy of the City as well. But access to public lands and trails can be challenged by new developments, cutting off historic public access - an issue Salt Lake City understands.

Future growth in the City's west/northwest region and in the foothills will place more pressure on existing open space and increase demand for more parks, open space, and potentially cut access to public lands. Moreover, desired redevelopment of higher density and mixed use complexes in established parts of the City will create demand and the need for a variety of new open space and recreational opportunities.

To address community sustainability related to the provision of parks, open space, and access, the proposed regulations would require major new residential developments to provide open space and parks as a condition of approval. This will help position the City so that if new development is addressing the demands of growth, the City will not see increased pressure on its existing open space and park resources, taxpayer money will not be spent on new growth but rather on other desirable lands to add to its system, and developments will have parks and open space in close proximity to serve its residents.

Proposed Regulations include:

- Requiring new residential developments to dedicate land for parks and open space in proportion to the demand generated by the residents of the project
- Allowing up to 25% of the public land dedication requirement to be provided as private open space set aside for exclusive use of residents of the development;
- Tailoring open space dedication standards for infill development by allowing alternatives to traditional parks and open space such as courtyards, plazas, green roofs, and community garden space, and
- Preserving access to public lands through the use of incentives.

6. Use Water Wisely

Water supplies will be stretched even further in the region over the next several decades. We have tremendous untapped opportunities for wastewater recycling and reuse (to irrigate parks, golf courses, etc.) and for the channeling and reuse of storm water runoff. In addition, innovative urban water conservation strategies must be developed that will sharply reduce our household water use. This ordinance will build on the City's past efforts to decrease water use and attain the ambitious water-consumption reduction goals in the water master plan thereby reducing impacts on aquifers and riparian habitat while at the same time greatly reducing energy consumption.

Water efficient landscaped yard in Salt Lake City

A. Water Efficient Landscaping

Because landscape irrigation is one of the biggest water users, many communities have adopted landscaping standards in their zoning regulations to address water conservation. The proposed regulations would replace and expand on the City's existing water conserving regulations relating to landscaping and water conservation. The proposed regulations take a three-pronged approach to water conservation by:

1. Requiring plants to be installed according to watering needs (hydrazones) so that plants that have similar water needs are located together.
2. Establishing overall landscaping water budgets for non-residential and multi-family developments that penalize users that exceed the water budget by requiring irrigation audits and increased water rates under the City's current water rate structure.
3. Adding more specific standards regarding irrigation system design and efficiency.

Importantly, the new regulations would apply primarily to new commercial, industrial, institutional, multi-family, and common areas of large single-family subdivisions (10+ lots). They would not apply to landscaping in existing developments or to most low-density residential developments.

7. Improve Air Quality

Air quality is an overriding concern. To improve our air quality, we need to work within the context of federal and state law. There is no single solution to this difficult problem. It will take a concerted effort from all of the municipalities in the valley and region to bring about positive changes. Our continued economic prosperity is dependent upon having a city and region with clean and healthy air.

Salt Lake City must take the lead and serve as a model in comprehensively reducing the amount of pollutants that are put into the air. Among other things, this means:

- *Making it easy and convenient for residents to walk, bike or take transit throughout the City.*
- *Finding ways to ensure that housing in the City (near where most people work) is affordable so that driving is less necessary*
- *Having zoning laws that carefully permit commercial and public centers in neighborhoods that complement residential areas*
- *Providing incentives to builders, homeowners, and business owners to retrofit their structures so that they use fuels efficiently and/or use renewable and clean-*

A. Urban Agriculture

Local food production can save energy through diminished transport needs and reduced reliance on mechanical equipment associated with large scale agriculture. Urban farms, community gardens and farm stands located near where people live and work allows people to access locally grown produce without relying on private automobiles, which in turn decrease green house gas. Additionally, urban farmers and residents benefit as the local economy is enhanced and social impacts strengthen neighborhoods. Studies have shown that community gardening increases community pride, property values, and personal physical health, while reducing crime and blighted lands.

The proposed regulations

- Allow accessory structures relating to urban agriculture with dimensional and locational requirements in appropriate zoning districts including residential
- Allow urban farm uses for food cultivation allowed in more zoning districts including residential and commercial.
- Allow residents to grow, distribute and sell produce from residential zoning districts with qualifying provisions to mitigate impacts.
- Allow community gardens in more zoning districts and allow the sale of food grown on site.
- Allow Seasonal Farm stands in more zoning districts but limit the sale to locally grown produce.

A community garden in Salt Lake City Credit: WFRC

7. Improve Air Quality (continued)

B. Transportation Demand Management

Transportation Demand Management (TDM) refers to a variety of strategies that can be used by a city to influence travel decisions by residents and employees and thereby reduce vehicle miles traveled (VMT), alter driving from peak to off-peak periods, and shift use of automobiles to alternative modes. Reducing the use of automobiles is a key to reducing greenhouse gas emissions that contribute to climate change and also to control air pollution that affects public health. In the United States transportation accounts for fully 33% of CO2 emissions (the primary greenhouse gas), and that percent is growing according to recent studies. Moreover, despite technological advances, VMT are expected to increase nationwide and in Utah. Throughout the Intermountain West, sprawling growth patterns has lead to poor integration between land use and transportation. Between 1990 and 2007, the state of Utah experienced a 47% increase in population, but at the same time VMT increased 71%.

Bike parking at the Salt Lake City Main Library Credit: davidsilver@Flickr

Proposed Regulations include:

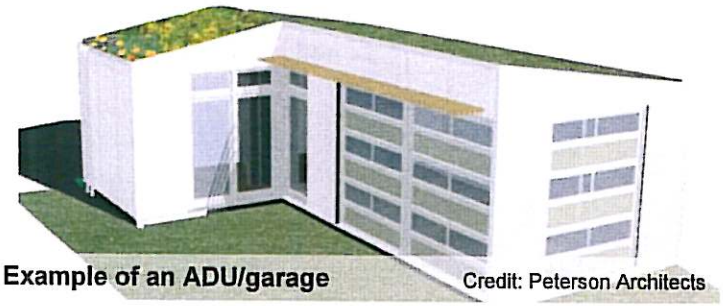
- Requiring bike parking with at least 50% of outdoor bike parking to be covered and to be located close to the main entrance.
- Requiring bike lockers and showers on site for companies with 100 or more employees.
- Ensuring car pool parking gets a preferential location.
- Requiring minimum and maximum parking requirements for high density residential, in the Downtown area and in Transit Oriented Development projects.
- Decreasing the parking requirement for development which includes more than 10 units, and where at least 20% of the units are affordable, senior or assisted living.
- A maximum parking requirement with a conditional use out for certain types of land uses.
- Allowing credit for on-street parking in all zones with criteria to mitigate impacts and where the on-street parking is located along the frontage adjacent to the use.
- Requiring lease and sale prices of commercial and residential space to be listed separate from lease sale space of associate parking for the use.
- Continuing to allow shared parking.
- Requiring TDM measures for uses that are proposed to have more than 2500 Vehicle Miles Traveled per day, have 500 employees or students or have 100 units or more. Examples of the measures include
    - Facilities and Improvements (such as bike facilities, transit stops, onsite business centers, etc.) Parking Management (such as reserved parking for alternative fuel vehicles, electric charge stations, etc.) and Alternative Modes of Circulation (such as transit passes, shared bike fleet, shared car fleet, flex work strategies, etc.)

8. Housing Diversity

A key aspect of a sustainable community is that people have the opportunity to live in housing that is located in close proximity to work, schools, services, and community activity centers , that is affordable, and that provides a range of choices in terms of types (single family, multi-family, etc.). As Salt Lake City continues to grow and demographics change, the demand for a sustainable housing stock will also continue to grow. Land prices are rising in the Wasatch Region and land availability is decreasing so the challenge to develop work force housing will heighten. While the city is well positioned with numerous programs, the land use regulatory strategies available to the city can make important contributions to building a sustainable housing stock.

Some of the land use regulatory approaches that may support Salt Lake City's goals include:

- Removing barriers for constructing accessory dwelling units and "granny flats,"
- Allowing more flexibility for various building types (town homes, duplexes, studios)
- Reducing large minimum lot size requirements in some residential zone districts. Allow smaller (<5,000) square foot lots and smaller lot splits for affordable housing.
- Offering expedited review/permitting processes for affordable housing development.
- Allowing mixed use developments by-right in appropriate locations near public transportation facilities.
- Providing density bonuses for developments including all or part affordable housing.



Example of an ADU/garage Credit: Peterson Architects

A. Accessory Dwelling Units

Accessory dwelling units (ADUs) have become an important component of the housing stock in many communities - both large and small – in the United States. By providing housing on existing lots in developed neighborhoods, ADUs are a form of land use that makes good use of land and existing public infrastructure investment. ADUs, when located near employment and retail centers, help increase use of mobility alternatives leading to a reduction in greenhouse gas emissions and energy (fuel) use. Additionally, the changing face of the American public and its housing needs supports the inclusion of ADUs as a housing alternative. More people are aging, are "empty nesters", and desire to down-size. In addition, the work force continues to be challenged to find affordable housing and ADUs can help address that demand.

The proposed regulations include:

- Allowing where single-family dwellings are allowed or where single-family dwellings exist.
- Limiting the size of ADU: The proposal is to limit the size of an Accessory Dwelling Unit to ensure it is subordinate to the principal structure. The regulation would limit the size to 50% of the square footage of the principal structure or 650 square feet; whichever is greater.
- Requiring Owner Occupancy: Require either the principal unit or the ADU to be occupied by the owner of the lot. The idea is that if an owner is on site, they are more likely to ensure tenants are not causing problems (such as noise, etc.) and will ensure the property is maintained.
- Limiting ADUs to one ADU per lot.
- Requiring ADUs to be registered / licensed with City.
- Requiring one parking stall per ADU. As written, parking would be required but the Transportation Division could modify the requirement (such as allow Tandem Parking or no Parking) where certain factors are evident (such as where there is available on-street parking, it is within ¼ mile of a Trax Station, it is within walking distance to a Business District area, etc.)
- Allowing home occupations (such as an office) in an ADU, but not conditional home occupations (such as music lessons or hair styling) where person would come to house.
- Requiring the ADU to meet height, setback and building coverage for the principal structure regulations of the zoning district.
- Requiring the entrances for an ADUs to the back or side of the property. This is to enforce the subordinate nature of the unit.

9. Lighting

To set forth lighting standards for outdoor uses that serve to create a safe and comfortable nighttime environment, while protecting the public's ability to view the night sky. These lighting standards are designed to ensure personal safety and prevent motor vehicle and pedestrian conflicts by reducing the negative effects of glare, light pollution and light trespass.

Fossil fuels—coal, oil, and natural gas—currently provide more than 85% of all the energy consumed in the United States. Nearly two-thirds of this is used to produce electricity. Energy generation from these fossil fuels is the single largest contributor to greenhouse gas emissions. The vast majority of Salt Lake City's energy comes from Rocky Mountain Power (PacifiCorp) which generates 93% of its electricity from coal-powered plants. Salt Lake City's consumption of electricity has grown steadily over the past 40 years due to the city's growth and development. Nationally, U.S. residential per household energy consumption has increased 39% since 1970 reflecting the trend toward larger homes and a greater variety of lighting, electronics, and appliances. Recently, home energy use has been trending downwards, an encouraging sign.

One of the major sources of consumption of electricity is outdoor lighting. Lighting was estimated to consume about 11% of the total electrical demand in the residential sector in 2007. Large commercial establishments like shopping centers use huge amounts of electricity to light parking lots and other outdoor areas.

Full cutoff fixtures, which direct light downward, can reduce light pollution Credit: Holophane

Many communities throughout the West have adopted very strong controls on outdoor lighting in their development codes to reduce potential adverse impacts on surrounding properties, to preserve the dark western sky, and to reduce energy consumption. The proposed regulations include modern comprehensive lighting regulations that reduce over-lighting of sites, address hours of lighting, and other energy and dark-sky saving provisions..

The purposes of the proposed lighting regulations include:

- Ensuring outdoor lighting that is adequate for safety and convenience; in scale with the activity to be illuminated and its surroundings; directed to the surface or activity to be illuminated; and designed to clearly render people and objects visible and contribute to a pleasant nighttime environment.
- Providing safety and personal security as well as convenience and utility in areas of public use or traverse, for uses where there is outdoor public activity during hours of darkness;
- Controlling glare and excessive brightness to improve visual performance, allow better visibility with relatively less light, and protect residents from nuisance and discomfort;
- Controlling trespass light onto neighboring properties to protect inhabitants from the consequences of stray light shining in inhabitants' eyes or onto neighboring properties;
- Resulting in cost and energy savings to establishments by carefully directing light at the surface area or activity to be illuminated, using only the amount of light necessary; and
- Controlling light pollution to minimize the negative effects of misdirected light and recapture views to the night sky.