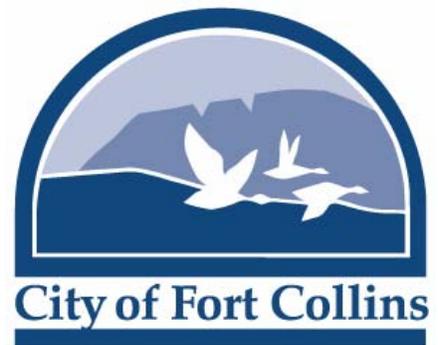


**City of Fort Collins'
Roadmap for Coordinated and Enhanced
Green Building Services**

August 28, 2007



Acknowledgements

This plan is the result of considerable time and effort expended by a variety of people who are committed to the community and the future of coordinated green building in Fort Collins. The project team worked diligently to gather and analyze the information presented in this document, and to establish an assertive yet realistic roadmap for the future. The members of the project team that guided and developed this plan included key City staff members with support from The Brendle Group, Inc.

Project Team

- Patty Bigner, City of Fort Collins Utilities
- Dana Leavitt, City of Fort Collins Community Planning
- John Phelan, City of Fort Collins Utilities
- Brian Woodward, City of Fort Collins Natural Resources Department



Consultant Team

- Judy Dorsey, The Brendle Group, Inc.
- Julie Sieving, The Brendle Group, Inc.

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Community Participants

- Lee Barker, LR Barker Builders
- Robert W. Beccard, Aqua Engineering
- George Breilig, RB+B
- Steve Byers, Energy Logic
- Carol Dollard, Colorado State University
- Arnold Drennan, Drennan Custom Contracting
- Brad Duckham, Merten Homes
- Brian Dunbar, Institute for the Built Environment
- Emily Elmore, Keller Williams Realty
- Grant Everitt, Jamestown Builders
- Sarah Fox, High Plains Environmental Center
- Bill Franzen, Poudre School District
- Dan Fuhrman, Fuhrman Landscaping
- Charlotte Harms, Component Systems
- Jason Hawk, Waste Not
- Bruce Hendee, BHA Design
- Linda Hoffmann, Nolte: Beyond Engineering
- Greg Hurst, EDAW

- Greg Jones, Porter Industries
- Russel Lee, VF Ripley Associates, Inc.
- David Lingle, City of Fort Collins Planning and Zoning Board
- Sue McFaddin, Sustainable Strategies
- Michael Oberlander, Interwest Consulting Group
- Dean Parson, Terracon
- Aaron Pitt, Dohn Construction, Inc.
- Matthew Poncelow, Vaught Frye Architects
- Stu Reeve, Poudre School District
- Corey Rhodes, Beaudin Ganze
- Doug Ryan, Larimer County Environment and Health
- Jammie Sabin, Aspen Homes of Colorado
- Mark Shadowan, Comfort by Design
- Stephen Steinbicker, Architecture West
- Joel Tribelhorn, Stewart Title
- Jim Volpa, Sun Electric
- Mark Wanger, MW Consulting
- Jim Welch, Sun Electric
- Lara Williams, The Green Team

City Participants

- John Armstrong, Natural Resources
- Kathy Collier, Natural Resources
- Susie Gordon, Natural Resources
- Lucinda Smith, Natural Resources
- Anne Aspen, Current Planning
- David Averill, Transportation Planning
- Peter Barnes, Zoning
- Cameron Gloss, Current Planning
- Sheri Langenberger, Engineering
- Felix Lee, Neighborhood and Building Services
- Susan Lehman, Advanced Planning
- Randy Maizland, Development Review
- Clark Mapes, Advanced Planning
- Karen McWilliams, Advanced Planning
- Ted Shepard, Current Planning
- Shelby Sommer, Current Planning
- Laurie D' Audney, Utilities
- Brian Janonis, Utilities
- Bob Micek, Utilities
- Glen Schlueter, Utilities/Stormwater Development
- Gary Schroeder, Utilities Energy Services
- Doug Swartz, Utilities Energy Services
- Norm Weaver, Utilities Energy Services
- Carol Webb, Utilities

Executive Summary

All indications are positive: community stakeholders, City of Fort Collins staff, and survey results gathered from select cities around the United States suggest that Fort Collins has strong green building programs, even exceptional in some cases. This existing green building foundation is the basis for enhancements and improvements to make green building a cornerstone of construction and renovation in the community.

The City is striving to become a coordinated center for advancing green building in the Fort Collins community by increasing general awareness, raising the bar for what is required, helping engaged stakeholders deliver high performance green buildings, and rewarding high performers. The City also understands the importance of integrating green building programs with what is happening in neighboring communities for a seamless green built environment in northern Colorado.

This *Roadmap for Coordinated and Enhanced Green Building Services* will direct the City's existing successful green building programs from a collection of independent services supported by various City departments to a coordinated program. The roadmap is the result of City guidance, community stakeholder input and research into peer cities green building efforts. The roadmap defines a green building vision for the City and provides specific recommendations for improvements, resulting in a path towards a dynamic and coordinated green building plan.

The recommendations are specific actions that can be undertaken now and in the future to sustain green building in Fort Collins. These specific actions are categorized according to the following four general actions:

1. Mandate minimum performance and remove barriers
2. Encourage green building innovation
3. Reward green building success
4. Build internal City capacity to support green building

Table ES-1 summarizes the recommendations in these categories according to timeframe (short-term, mid-term, or ongoing). Table ES-2 presents ways the City can build internal capacity to support green building.

The roadmap also proposes creating a Green Building Team to implement the short- and medium-term recommendations. In addition to coordinating existing programs and services, the team's responsibilities will include building awareness and support for green building, both internally and externally.

Table ES-1. Recommendations for Reaching Green Building Vision

Action	Short-term (within 1 year)	Mid-term (within 3 years)	Ongoing
Mandate Minimum Performance and Remove Barriers	<ul style="list-style-type: none"> Update commercial energy code requirements. 	<ul style="list-style-type: none"> Research <u>all</u> City codes/standards to identify barriers and opportunities. Create green building code compliance application tools. Require green building as prerequisite for public financing. 	<ul style="list-style-type: none"> Review and update residential and commercial energy code requirements on a regular basis.
Encourage Innovation	<ul style="list-style-type: none"> Create web-based coordinated access to City green building resources. Promote Integrated Design Assistance Program. Create targeted green building information for typical citizens. Sponsor external green building events. 	<ul style="list-style-type: none"> Research potential incentives for green building related to development review, permitting, and inspection. Provide benchmarking tools for existing buildings. Provide design target tools for new buildings. Identify needs and provide external training/education opportunities. 	<ul style="list-style-type: none"> Establish a green building track for new projects.
Reward Success	<ul style="list-style-type: none"> Continue existing financial rebate programs. Evaluate prescriptive and/or performance building rebates for residential customers. 	<ul style="list-style-type: none"> Develop water efficiency/conservation value structure. 	<ul style="list-style-type: none"> Evaluate/implement technology-specific rebates for energy and water conservation. Provide public recognition for green building leaders/success stories.
Build Internal City Capacity	<ul style="list-style-type: none"> Create a Green Building Team to implement the roadmap. Build consensus among City leaders and management for a green building vision for Fort Collins. Raise awareness of LEED requirements for new City buildings. 	<ul style="list-style-type: none"> Benchmark City buildings and improve existing building performance. Convert this project's matrix of green building programs and services to a useful tool for green building professionals. 	<ul style="list-style-type: none"> Develop a process for continuous improvement of City green building services. Develop internal City education program related to green building. Promote/coordinate State and regional partnerships/efforts. Research and document the local economic benefits of green building.

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1.0 Background

The City of Fort Collins offers green building programs and services through several departments depending on the nature of the service. While the City has a number of good and successful service offerings, the City recognizes that in order to achieve greater success, a coordinated approach is necessary. To answer this need, the City of Fort Collins prepared this plan to coordinate and advance green building programs, services, and resources. The aim is a cohesive program that will streamline the City's green building efforts and make them seamless to community users.

Figure 1 illustrates how the City's green building services are related to a wide range of sectors, building types, topic areas, services and policy approaches that influence the built environment of Fort Collins.

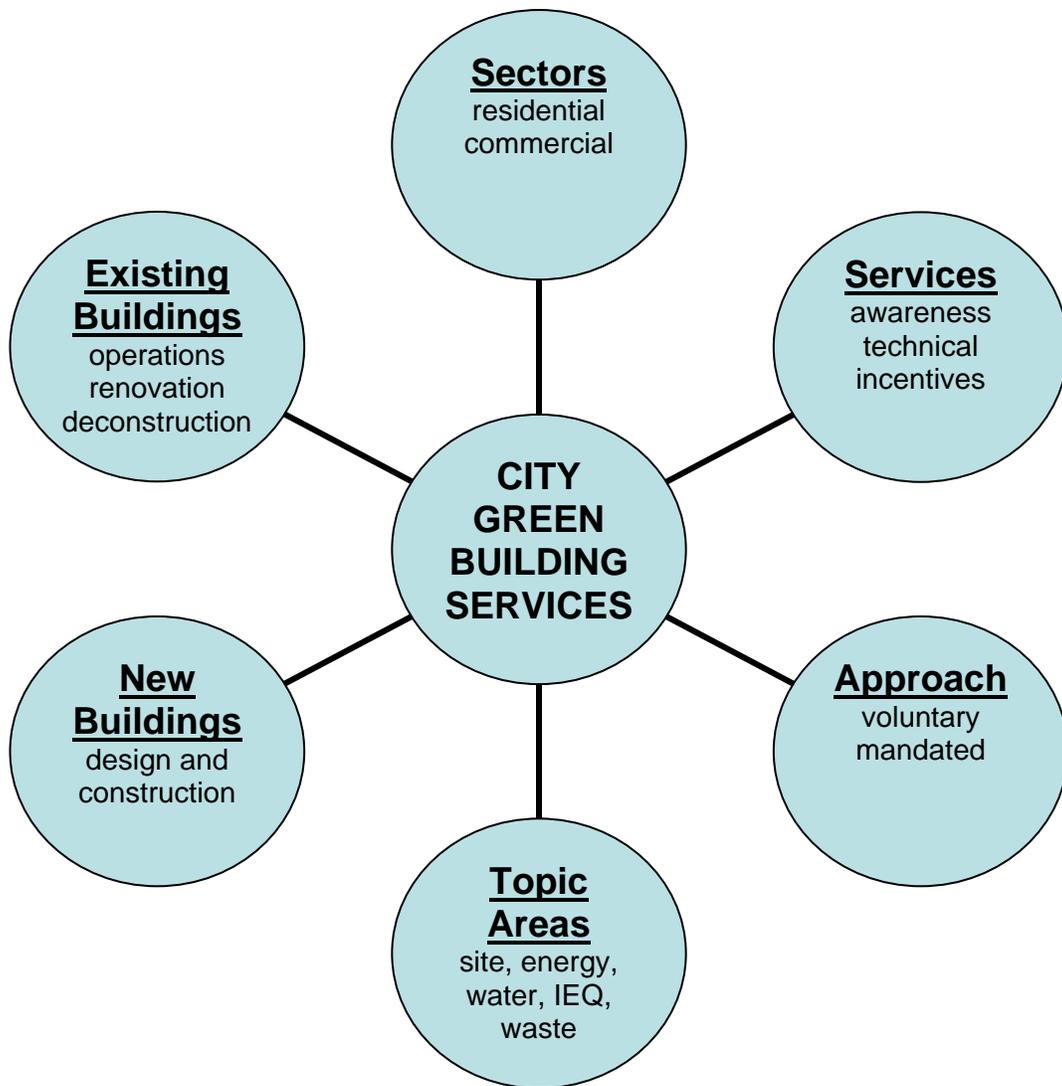


Figure 1: Green Building and the Built Environment

This plan is a roadmap for the future of the City’s green building programs and services. The roadmap is the result of City guidance, community stakeholder input, and research into peer cities green building efforts (Figure 2). The City project team was comprised of representatives from the Utilities, Community Planning and Natural Resources Departments. The objectives of the Green Building Roadmap project were to:

- Optimize the effectiveness of existing programs and services;
- Provide a common City vision and definition related to green building;
- Explore new programs and services;
- Address both real and perceived barriers, and
- Actively promote participation in green building programs.

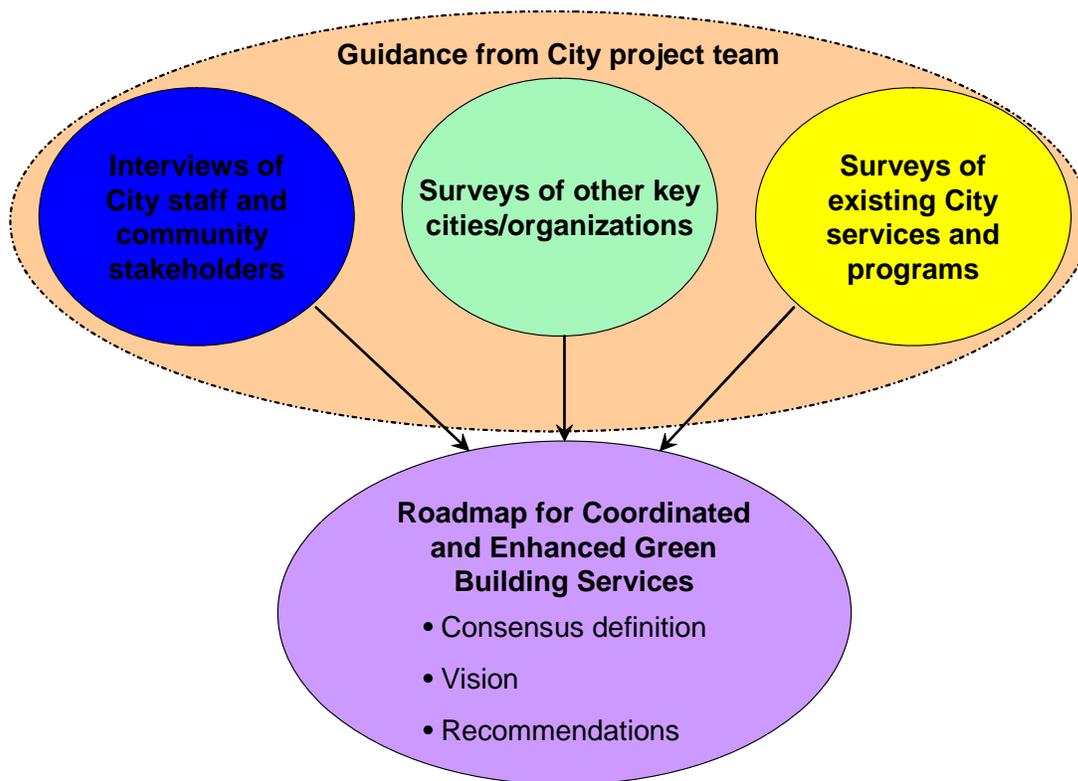


Figure 2: Green Building Roadmap Project Process

A simple analogy for the desired cohesive program is a structure with a foundation, bricks, and mortar. The foundation of the green building program is made up of the existing programs and services, existing strengths (both within the City and the community at large), and a consensus green building definition. The bricks are enhancements to the City’s existing programs as well as the proposed new program recommendations presented in this plan. Finally, the mortar is made up of enhanced City capacity to provide the services required to support successful and green building in this community.

The remaining sections of this report offer more detail regarding the definitions of green building for the public at large and for the City and green building professionals in particular, the City's vision for its Green Building Roadmap, recommendations for achieving the vision, and the program coordination necessary to be successful.

In addition, supplementary information is included as appendices to (A) further detail the project scope and process, (B) describe existing City green building programs and services, (C) describe the interview process and the results thereof, (D) present interview notes, and (E) document the peer city survey results.

Finally, three key terms are often used throughout this document - *matrix*, *recommendations* and *roadmap*. Please note each term's respective description in the context of this report:

- *Matrix*: this term refers to the tool created for this project to document the City's existing green building programs and services (Appendix B), as well as the programs and services surveyed from other cities (Appendix E).
- *Recommendations*: this term refers specifically to the recommendations described in Sections 4 and 5.
- *Roadmap*: the roadmap is the overall intent described in this document and includes the definition of green building, the vision for the green building program and the recommendations for reaching the vision.

2.0 Definition of Green Building

A consensus definition of green building was one of the objectives of this project. A consensus definition serves as a platform for interdepartmental planning and coordination, as well as clear and consistent communication with the public.

On the basis of stakeholder input received during project interviews combined with direction from City staff, two distinct definitions of green building emerged. The first definition applies as a brief and simple definition for public outreach, while the second provides a detailed working definition useful to City staff and green building professionals:

Outreach: Green building: better buildings for people, prosperity, and the planet.

Detailed: Green buildings are designed, constructed, and operated to provide maximum benefit to people, prosperity and our planet. Green buildings demonstrate a reduced carbon footprint, energy efficiency, water conservation, waste minimization, resource-efficient materials, pollution prevention, and improved indoor air quality to conserve natural resources and improve environmental quality – both indoors and out. Green building practices extend these concepts to the entire built environment for the life cycle of new and existing buildings, their surrounding sites, and transit interconnections.

These two definitions serve to reach out to the community while offering more substance to those involved on a daily basis in green building in Fort Collins.

3.0 Vision for Green Building in Fort Collins

A vision for the future of green building in Fort Collins is a direct result of evaluating feedback from all of the interview participants. The feedback was used to develop an overall vision for the community as well as a vision for the City's role in supporting and enabling progress and success.

3.1 Community Vision for Green Building

The community vision for green building in Fort Collins is a dynamic and coordinated green building environment that builds upon existing programs and services. Looking ahead three years, the community vision for green building in Fort Collins may appear like this:

- Specific neighborhoods stand out as shining examples of urban renewal– green from the ground up– while others show how to redevelop existing buildings around green principles.
- The built environment experiences a dramatic reduction in greenhouse gas emissions, building owners enjoy lower utility bills, and occupants have improved health.
- The community is investing locally in distributed renewable energy installed on green buildings.
- The majority of building permit applicants are voluntarily adopting principles of green building.
- There are visibly more solar-powered homes and businesses, including low-income housing and a mix of leading edge, zero-energy homes and buildings.
- There is an increased awareness and action around higher density land-use patterns and smaller square footage for occupancy – quality over quantity.
- Consumers have a better understanding of the ecological impacts of their building choices.
- From K-12 through higher education, there is a system for teaching the principles of green building and there are career paths for professionals to work in this field.
- The community attracts and retains jobs in green building. Fort Collins is seen as a model city for green building attracting businesses and tourists.

3.2 City's Role in Supporting the Vision

The City aspires to become a coordinated center for advancing green building in the Fort Collins community by increasing general awareness, raising the bar for what is required, helping engaged stakeholders achieve better and greener buildings, and rewarding high performers.

As part of walking the talk, the City also seeks to have all of its buildings green, both new and existing. In addition, the City hopes to integrate its green building programs with

what is happening in neighboring communities for a seamless green built environment in northern Colorado.

4.0 Green Building Roadmap Recommendations

This section presents the recommendations of the roadmap to achieve the vision set out in Section 3. These recommendations were developed on the basis of the following:

- Feedback received during the interview process;
- Survey information gathered from other cities around the United States with similar green building goals and/or regional characteristics, and
- Guidance from the interdepartmental City project team.

For a comprehensive approach to address all City of Fort Collins citizens – regardless of their experience and knowledge related to green building – recommendations are organized according to the following categories that indicate level of performance relating to green building:

- Mandate minimum performance and remove barriers;
- Encourage innovation, and
- Reward success.

A fourth category of recommendations was identified and developed as part of this roadmap. This category addresses the internal capacities at the City needed to execute this roadmap. This internally-focused category, along with other internal considerations, is addressed in Section 5.

The roadmap recommendations are further organized by anticipated timeframes generally defined as follows:

- Short-term: recommendation achievable in less than 1 year;
- Mid-term: recommendation achievable within 3 years, and
- Ongoing: any recommendation that is anticipated to have a continuous timeline in order to ensure success.

It is important to note that all City green building programs and services need to accommodate a wide range of audiences. The audience for green building programs and services ranges from public citizens to professional service providers - any of which may fall into categories of those who are completely unaware of green building, those who are aware and interested in green building, and those who are already fully committed and practicing green building.

The Green Building Roadmap recommendations are summarized in Table 1, and described in more detail in Sections 4.1 through 4.3.

Table 1. Recommendations for Reaching Green Building Vision

Action	Short-term (within 1 year)	Mid-term (within 3 years)	Ongoing
Mandate Minimum Performance and Remove Barriers	<ul style="list-style-type: none"> • Update commercial energy code requirements. 	<ul style="list-style-type: none"> • Research <u>all</u> City codes/standards to identify barriers and opportunities. • Create green building code compliance application tools. • Require green building as prerequisite for public financing. 	<ul style="list-style-type: none"> • Review and update residential and commercial energy code requirements on a regular basis.
Encourage Innovation	<ul style="list-style-type: none"> • Create web-based coordinated access to City green building resources. • Promote Integrated Design Assistance Program. • Create targeted green building information for typical citizens. • Sponsor external green building events. 	<ul style="list-style-type: none"> • Research potential incentives for green building related to development review, permitting, and inspection. • Provide benchmarking tools for existing buildings. • Provide design target tools for new buildings. • Identify needs and provide external training/education opportunities. 	<ul style="list-style-type: none"> • Establish a green building track for new projects.
Reward Success	<ul style="list-style-type: none"> • Continue existing financial rebate programs. • Evaluate prescriptive and/or performance building rebates for residential customers. 	<ul style="list-style-type: none"> • Develop water efficiency/conservation value structure. 	<ul style="list-style-type: none"> • Evaluate/implement technology-specific rebates for energy and water conservation. • Provide public recognition for green building leaders/success stories.

4.1 Recommendations to Mandate Minimum Performance and Remove Barriers

Short-term

Update commercial energy code requirements. The commercial energy code references an antiquated version of ASHRAE Standard 90.1. The Neighborhood and Building Services Department is reviewing updated code requirements with a target of presenting plans to Council by the end of 2007. The most recent version of ASHRAE Standard 90.1 is 2004.

Mid-term

- Research all City codes and standards through the lens of green building – including energy codes, building codes, land codes, etc. – to identify barriers and determine opportunities. Appendix B lists twenty City programs that are regulatory in nature. This project identified the sections of the various codes and standards that influence some related aspect of green building. However, each section of code needs to be reviewed in detail to identify specific opportunities or barriers to the promotion of green building.
- Create code compliance application tools related to green building for external customer use. Many green building practices are variations on activities that happen in all development and construction projects. Specific green building compliance tools will support a smooth regulatory process for green projects.
- Require green building as a prerequisite for any projects that offer public financing. The City already has Leadership in Energy and Environmental Design (LEED) goals for new City buildings. This recommendation suggests new policies requiring green building targets for projects that receive direct or indirect public financing from the City.

Ongoing

- Review and update all residential and commercial energy codes on a regular basis, with an instituted commitment to aggressive review. City energy codes could be tied to the “latest version” of standards that are regularly updated by the sponsoring organizations (IRC, ASHRAE, etc.).

4.2 Recommendations to Encourage Innovation

Short-term

- Create web-based coordinate access to City green building resources through a web-based portal. The City offers over 30 programs and services related to green building (Appendix B). However, there is no coordinated access and navigation for citizens or green building professionals to identify, understand and participate in these services. This recommendation is the highest priority and first task for the Green Building Roadmap.
- Increase promotion of Fort Collins Utilities’ Integrated Design Assistance Program (IDAP). The IDAP offers technical and financial assistance to

commercial projects that set high performance energy goals. The program has a whole building integrated design track and a prescriptive component based option. For the whole building track, there is funding for both design incentives and performance incentives. However, the program has supported a small fraction of the overall development that occurs in Fort Collins.

- Create targeted green building information for typical citizens. Awareness of the practices and benefits of green building is low amongst most Fort Collins citizens. The City can play an effective role in providing clear and informative green building outreach to citizens.
- Sponsor external events with a green building focus. The City can also provide leadership to build momentum in the community for green building with a coordinated plan for sponsorship of events such as the Sustainable Living Fair, Poudre School District Sustainable Schools Conference and the Environmental Program Series and support for organizations such as the Institute for the Built Environment and the Northern Colorado Branch of the US Green Building Council.

Mid-term

- Review potential green building incentives identified during the survey, both non-monetary and monetary, related to development review, permitting, and inspection. Incentives for green building related to the City's regulatory process need research and evaluation, followed by high level management discussions.
- Provide benchmarking tools (energy and water) for existing buildings. Benchmarking is a powerful tool directing and motivating building owners or tenants to improve the efficiency of their operations. However, simple and easy to use tools are needed to simplify the process.
- Provide design target tools (energy and water) for new buildings. For new buildings, energy and water design targets provide clear direction to design teams seeking to create high performance green buildings.
- Identify training/education needs and provide external training/education opportunities. Advancing green building will require skilled practitioners at both the professional and trade levels. The City has a history of providing training and education opportunities which can be expanded to recognize the ties to green building.

Ongoing

- Establish a green building track for new projects. Ultimately, the City should strive to have a green building track through the regulatory process for new projects that incorporates all of these recommendations.

4.3 Recommendations to Reward Success

Short-term

- Continue existing financial rebate programs (e.g., rebates available through Electric Efficiency Program, LightenUP, IDAP, etc.). Financial incentives both

encourage innovation and reward success. The Utility programs funded by Platte River Power Authority and Fort Collins Utilities should continue to reward leading edge energy efficiency solutions.

- Evaluate prescriptive and/or performance rebates for residential buildings. Utility incentive programs for residential customers have been focused primarily on end-use technologies. This recommendation targets potential incentives for residential buildings, in a similar fashion to how the IDAP and EEP function for commercial facilities.

Mid-term

- Develop a value structure for water efficiency and conservation. Water conservation does not yet have an agreed upon financial benefit. Development of a consensus value structure for water will the potential of incentives for water efficiency and conservation.

Ongoing

- Continue to evaluate and implement technology-specific rebates for energy and water conservation (e.g., rebates for ENERGY STAR equipment). Energy efficiency programs need to be evaluated on an on-going basis in relation to updates and changes to federal, state and local standards.
- Provide public recognition for green building leaders/success stories. The City is in a unique position to provide recognition to the wide range of participants in green building. Owners and developers, architectural and engineering designers, contractors, trades men and women, equipment suppliers and building tenants all play important roles in successful green building. The Green Building Team should consider existing avenues for recognition (case studies, Urban Design Awards, Climate Wise, etc.) as well as new models.

5.0 Green Building Roadmap Coordination

5.1 Building Internal Capacity

These internally-focused recommendations are intended to address the City's capacity needs to execute the roadmap, as well as coordination and advancement of the City's own green building performance. Employing the same timeline definitions as Section 4, Table 2 presents recommendations targeted at the City's internal capacity to provide green building services. As with the Section 4 recommendations, all of the following recommendations should take into account a wide range of staff knowledge and experience with green building.

Table 2. Actions for Building City Green Building Capacity

Short-term (within 1 year)	Mid-term (within 3 years)	Ongoing
<ul style="list-style-type: none"> • Create a Green Building Team to implement the roadmap • Build consensus among City leaders and management for a green building vision for Fort Collins. • Raise awareness of LEED requirements for new City buildings. 	<ul style="list-style-type: none"> • Benchmark City buildings and improve existing building performance. • Convert this project’s matrix of green building programs and services to a useful tool for green building professionals. 	<ul style="list-style-type: none"> • Develop a process for continuous improvement of City green building services. • Develop internal City education program related to green building. • Promote/coordinate State and regional partnerships/efforts. • Research and document the local economic benefits of green building.

Short-term

- Create an interdepartmental Green Building Team to implement the short and mid-term roadmap recommendations.
- Build consensus among City leaders and management for a green building vision for Fort Collins. The vision in Section 3 is suggested as a starting point for City leaders to create a high level consensus green building vision for the community.
- Raise awareness of Leadership in Environmental and Energy Design (LEED) requirements for new City buildings. The City has adopted LEED Gold as a target for new City buildings.

Mid-term

- Benchmark City buildings (energy and water) and improve existing building performance. Efforts are underway to improve the efficiency of existing buildings with technology and equipment upgrades, and to track the utility use and cost of City buildings.
- Convert this project’s matrix of City green building programs and services to a useful tool for green building professionals. The green building matrix in Appendix B is a valuable map of available programs and services. The matrix could become part of the coordinated access and navigational tools developed under the encourage innovation recommendations.

Ongoing

- Develop a process for continuous improvement of City green building services.
- Develop internal City education program related to green building. As occupants in City buildings which will become more efficient and green, all City employees have a role to play in implementing and maintaining green practices.
- Promote/coordinate State and regional partnerships/efforts. There are many stakeholder organizations with a role to play for successful regional green building. The City needs to be an active and effective advocate for green building in Northern Colorado.

- Research and document the local economic benefits of green building. Green building has the potential to provide a range of local economic benefits, from job creation to reduced utility costs.

5.2 Internal Coordination and Organizational Structure

Creating and maintaining a leading green building program will require leadership from various City departments as well as grassroots adoption of new ideas by City staff.

The internal City organization related to green building will reflect the wide range of activities shown in the roadmap. Green building services will continue to be provided to citizens through a number of departments that affect the range of green building aspects and processes (such as Community Planning, Neighborhood and Building Services, Natural Resources and Utilities).

The dual objectives of the proposed organizational plan are:

- Expand and develop departmental offerings related to green building, and
- Make the information, programs, and services as seamless as possible from a citizen's perspective.

The roadmap recommends creating a Green Building Team to implement the short- and medium-term recommendations.. The team will ideally be comprised of a maximum of six persons from Community Planning, Neighborhood and Building Services, Natural Resources, Utilities, and the City Manager's Office. The team will likely meet on a monthly basis for 6 months to 1 year, after which meetings may be shifted to a quarterly basis. In addition to coordinating existing programs and services, the team's responsibilities will include building awareness and support for green building, both internally and externally.

5.3 External Coordination

External coordination is an important element to this roadmap's success. Optimizing relationships and coordination with regional jurisdictions and organizations was identified as a key recommendation. Possible jurisdictions include Larimer County and surrounding communities. Potential partner organizations include Colorado State's Institute for the Built Environment, the U.S. Green Building Colorado Chapter, Platte River Power Authority, the Northern Colorado Clean Energy Cluster and the Colorado Governor's Energy Office. The participants in the Green Building Team, in conjunction with their respective departments, would be responsible for the green building related coordination with these external or regional organizations.

5.4 Periodic Program Review

Two important aspects of any structure for continuous improvement are periodic reviews and accountability. A number of program review elements that inherently are periodic in nature are already in this roadmap of recommendations:

- Review and update all energy codes on a recurring basis, with an instituted commitment to aggressive review;

- Continue to evaluate and implement technology-specific rebates for energy and water conservation, and
- Convene a proposed Green Building Team to meet on a quarterly basis, at minimum.

Accountability and metrics are important to ensure the effectiveness of programs and services and to track overall progress. Metrics can be both qualitative and quantitative in nature. Potential metrics collected from interviews and surveys include the following:

- Number of LEED-registered buildings
- Community carbon footprint (tracked by the Energy Management Team as part of the Climate Task Force recommendations)
- Per capita energy use (tracked by Utilities Energy Services as part of the Electric Energy Supply Policy reporting)
- Number of net-zero buildings
- Number of green building permits (when available)
- Number of solar-powered homes and businesses
- Affordable housing green building projects
- Number of green building related jobs

6.0 Next Steps

The Green Building Roadmap project demonstrated the considerable enthusiasm, both from City staff and engaged community members, to move ahead toward integrated and high-performance green building goals. There is a documented interest in green building and sustainability, creating a tremendous opportunity to grow green building in Fort Collins.

The project team recognizes that it will be important not to lose momentum in the face of many issues facing City leadership and staff on a daily basis. The responsibilities of the project staff team in the months following the completion of this project include:

- Distribute the Green Building Roadmap report to those who participated in the interview process.
- Make the Green Building Roadmap available on the City's website.
- Present the Green Building Roadmap to attendees of the U.S. Green Building Council, Colorado Chapter annual conference in September.
- Present the Green Building Roadmap results and recommendations to City management and leaders to generate understanding and commitment regarding the roles and points of interface for working cohesively.
- Obtain feedback on recommendations and implement short-term recommendations in the coming year.

Appendix A- Project Scope and Process

Scope of Project

From the start, the project scope was purposefully open-ended and wide-ranging to allow for broad consideration. Project topics and sectors were as encompassing as possible to include all aspects where City programs and services to the external community are applicable. Green building topics included issues of site, energy, water, waste, indoor environmental quality, and building materials. Applicable sectors included all sectors served by the City: residential, commercial, industrial, institutional, non-profit, multi-family, etc.

The project considered over-arching program elements of:

- Policies
- Standards and regulations
- Outreach/education (new and existing buildings)
- Recognition (new and existing buildings)

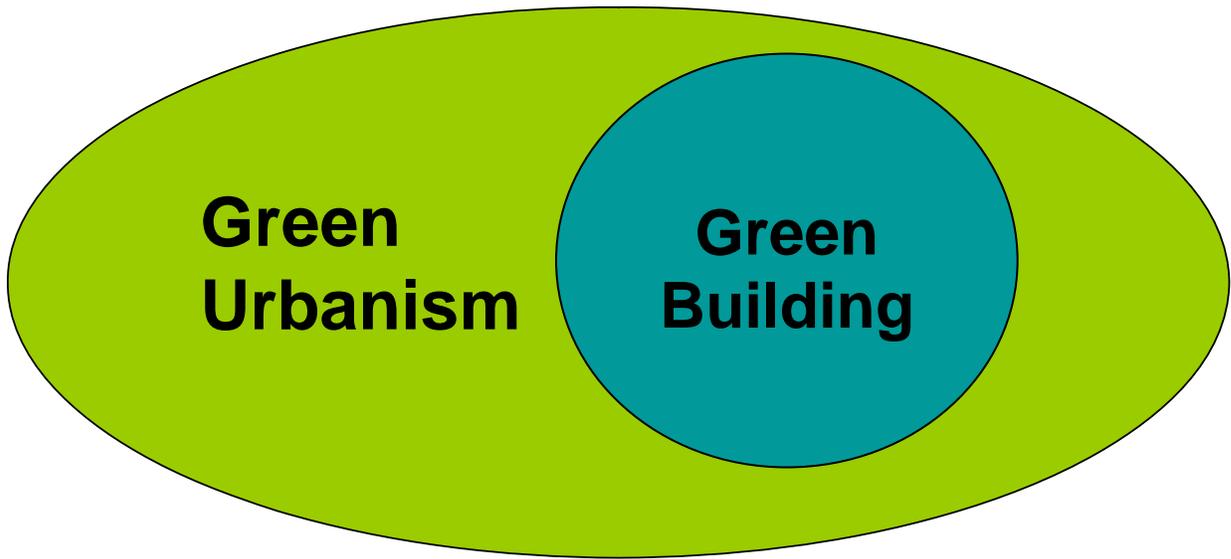
The project also considered program phases specific to typical new construction and existing building projects of:

- Pre-design
- Design
- Permitting
- Construction
- Inspection
- Commissioning, measurement, and evaluation
- Post-occupancy of new construction
- Major renovation/remodel
- Deconstruction

Related to project topics, one point of clarification for the project scope and the resulting plan should be noted. The project topic of *site* includes issues related to the landscape, location, orientation, and access to transportation of a green building. When considering issues of transportation in particular, the scope of this project and plan includes, for example, the bike racks of buildings (not the bikes), the bus stops (not the buses), etc.

Furthermore, many project participants expressed interest in larger issues of sustainability – issues that go well beyond the scope of green building programs and services. These issues are part of a larger movement toward the concept of green urbanism. Green building can be thought of as a component of this larger movement. The following diagram demonstrates this relationship between green urbanism and green building.

Figure A-1: Green Urbanism and Green Building

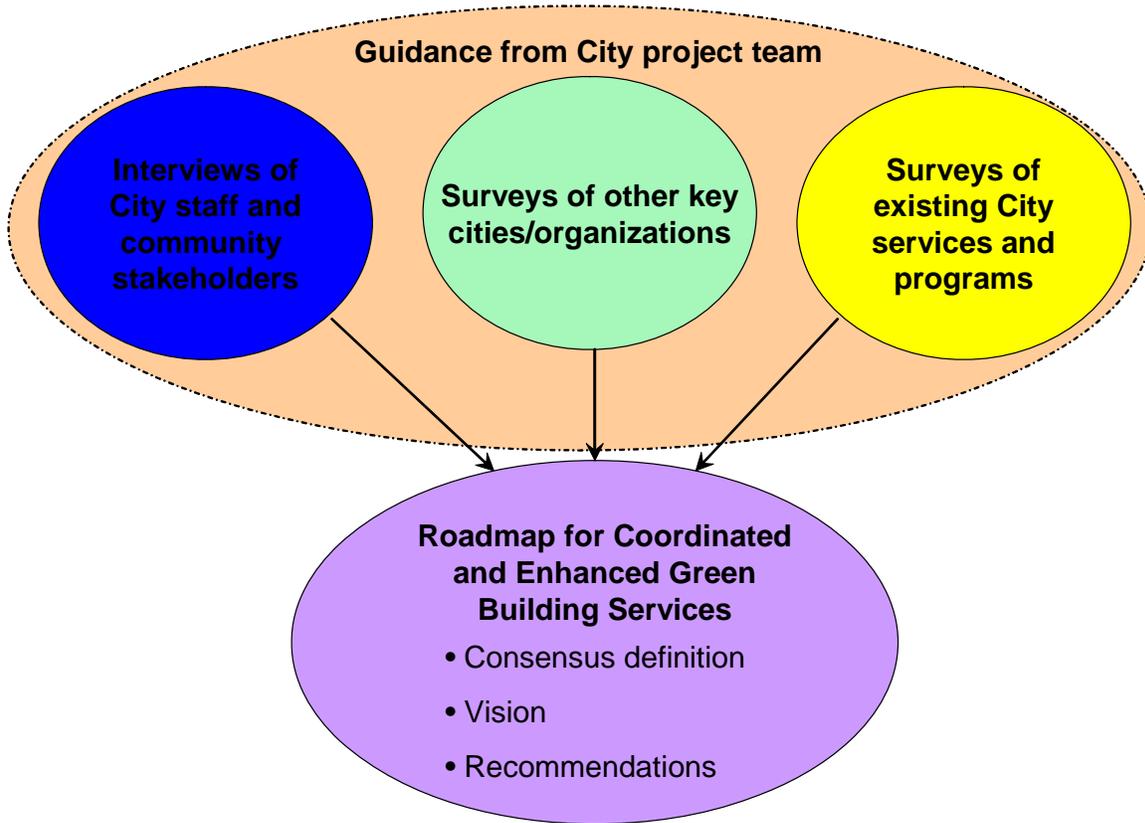


The scope of this particular project is focused on green building, while at the same time recognizing that green building is only one component of a larger movement toward a sustainable city.

Project Process

Figure A-2 summarizes the key process components that resulted in the *Roadmap for Coordinated and Enhanced Green Building Services*. In tandem with the project interviews (detailed in Appendices C and D), the project team surveyed both programs and services already existing in the City (detailed in Appendix B) as well as best practices from other strategic cities and organizations throughout the United States (detailed in Appendix E). The City’s internal project team provided guidance to the project approach and roadmap development throughout the effort.

Figure A-2: Project Process Summary



Appendix B- Fort Collins Existing Green Building Programs and Services

As part of the survey efforts of this project, information was collected and organized on the City of Fort Collins' existing green building programs. This appendix first presents a summary of the over 30 existing City programs and services. Table B-1 then presents more details on the existing City programs and services.

Following Table B-1, each program or service is "mapped" to a matrix of green building topic areas (site, energy, water, indoor environmental quality, waste and building materials) and program elements or project phases (City policies, standards and regulations, recognition, pre-design, design, permitting, construction, inspection, commissioning, post-occupancy, major renovation and deconstruction). The matrix can therefore be used to quickly identify the applicability of a specific program to both topic area and project phase.

Existing Programs and Services Summary

The following summary list of existing programs and services is organized according to those that are voluntary (education/awareness, technical/financial assistance, etc.) and those that are regulatory (policies, ordinances, codes, standards).

Voluntary

- Builder's Guide to Energy Efficient Home Construction
- Climate Wise
- Clothes Washer Rebate Program
- Colorado New Home Choices
- Commercial technical assistance
- Cooling Rebate Program
- Deconstruction/construction debris (both voluntary and regulatory aspects)
- Education, training, workshops (Environmental Program Series, Business Environmental Program Series, etc.)
- Electric Efficiency Program
- Fort Collins Urban Design Awards
- Home energy ratings
- Home Performance with ENERGY STAR®
- Integrated Design Assistance Program
- Land use code – use of solar energy, downtown districts transit stops, preliminary review and engineering test cases
- LIGHTENUP
- Ozone reduction
- Photovoltaic net metering pilot
- Radon (both voluntary and regulatory aspects)
- REACH (Residential Energy Assistance through Community Help)
- Recycling (both voluntary and regulatory aspects)
- Sprinkler System Audit Program
- Transportation Overlay District (both voluntary and regulatory aspects)

- Urban Design Awards
- Water conservation programs
- ZILCH (Zero Interest Loans for Conservation Help)

Regulatory

- Building code
- City Plan
- Deconstruction/construction debris (both voluntary and regulatory aspects)
- Land use code – standards on solar access, landscape, irrigation standards, parking, lighting, buffers, pedestrian connectivity, proximity to neighborhood center, level of service (transportation)
- Municipal Code - water rates and water wasting codes
- Mason Transportation Corridor
- Radon (both voluntary and regulatory aspects)
- Recycling (both voluntary and regulatory aspects)
- Sediment and Erosion Control Inspections for Construction
- Storm Drainage Design Criteria and Construction Standards
- Structure Plan
- Transportation Overlay District (both voluntary and regulatory aspects)
- Zoning Plan

Detailed Programs and Services Descriptions

Pages B-3 to B-8 of Table B-1 below detail the descriptions of existing City of Fort Collins' programs and services. Page B-9 uses a matrix to match the existing programs (with numbers identified in B-3 to B-8) to the program elements, program phases, and green building topics described in Appendix A. To interpret the information of Table B-1, note the following abbreviations and their corresponding definitions:

Sector

- R = Residential: homes
- C = Commercial: all non-industrial private businesses
- Ind = Industrial: manufacturing private businesses
- Inst = Institutional: governments, K-12 schools, universities
- MF = Multifamily housing

Service

- SB = Skill building
- \$= Incentives: direct monetary (rebates, funding, grants) or other incentives
- T = Technical: assessments, on-site observations/assistance, design assistance, permitting assistance, implementation support, inspection-related assistance
- A = Awareness
- Dev = Market/economic development: market development/evolution, jobs, infrastructure development

Regulatory code

- LV = Local voluntary program
- LR = Local requirement: required compliance; city and/or county
- EV = External voluntary program
- ER = External requirement: required compliance; regional, statewide, national (e.g., Chicago Climate Exchange)

Table B-1. Existing City Green Building Programs and Services

	Program Name and Contact Info	Description	Sector	Service	Reg. Code
1	Climate Wise <i>Kathy Collier</i> Natural Resources 970-221-6312 kcollier@fcgov.com	Business outreach program to reduce their greenhouse gases through waste reduction, energy efficiency, water conservation and transportation reduction.	C, I, Ins	SB, T, A, Dev, \$	LV
2	Radon <i>Brian Woodruff</i> Natural Resources 970-221-6604 bwoodruff@fcgov.com	Promotes testing, system installation, regulatory, passive systems	R	A, \$	LV, LR
3	Ozone Reduction <i>Lucinda Smith</i> Natural Resources 224-6085 lsmith@fcgov.com	Summertime Program for community member ozone reduction	R	A, \$	LV
4	Regulatory Oversight Program <i>Susie Gordon</i> Natural Resources 970-221-6265 sgordon@fcgov.com	Ensure solid waste regulation compliance	R, MF, C	A, T, Dev	LV, LR
5	Solid Waste Reduction Support <i>Susie Gordon</i> Natural Resources 970-221-6265 sgordon@fcgov.com	General guidance, support regarding solid waste reduction	ALL	A, T	LV
6	Rivendell Recycling Drop Off <i>John Armstrong</i> Natural Resources 970-416-2230 jarmstrong@fcgov.com	Community recyclables drop off site	ALL	A, \$	LV
7	ZILCH <i>Rene Evenson</i> Utilities 970-221-6394 revenson@fcgov.com <i>Lucinda Smith (air quality)</i> Natural Resources 970-224-6085 lsmith@fcgov.com	Zero interest loans to finance home-improvement projects that save energy, reduce water use or improve air quality With regards to air quality, low interest wood stove/fireplace replacement program	R	\$	LV

	Program Name and Contact Info	Description	Sector	Service	Reg. Code
8	Deconstruction/ Construction Debris <i>John Armstrong</i> <i>Natural Resources</i> 970-416-2230 jarmstrong@fcgov.com	Targeted related program	ALL	SB,T, \$, A, Dev	LV, LR
9	Integrated Design Assistance Program <i>Gary Schroeder</i> <i>Utilities</i> 970-221-6395 gschroeder@fcgov.com	Financial incentives and free technical assistance for buildings that perform higher than energy code. Options for whole building and prescriptive incentives.	C, Ind, Ins, MF	\$, Dev, T	LV
10	LIGHTENUP Program <i>John Phelan</i> <i>Utilities</i> 970-416-2539 jphelan@fcgov.com	Rebates for replacing inefficient lighting with high efficiency technology	C, Ind, Ins, MF	\$, T	LV
11	Electric Efficiency Program <i>John Phelan</i> <i>Utilities</i> 970-416-2539 jphelan@fcgov.com	Incentives for projects which save electric energy and/or peak demand through equipment upgrades	C, Ind, Ins, MF	\$, T	LV
12	Cooling Rebate Program <i>John Phelan</i> <i>Utilities</i> 970-416-2539 jphelan@fcgov.com	Rebates for high efficiency packaged air conditioning equipment	C, Ind, Ins, MF	\$	LV
13	Commercial Technical Assistance <i>John Phelan</i> <i>Utilities</i> 970-416-2539 jphelan@fcgov.com	Free energy assessments and technical assistance for commercial and industrial electric customers	C, Ind, Ins, MF	T	LV
14	Colorado New Home Choices <i>Doug Swartz</i> <i>Utilities</i> 970-221-6719 dswartz@fcgov.com	Print and web format introduction to "high-performing homes," including information about new home choices related to energy efficiency, comfort, healthy indoor air and durability.	R	Dev, T, A	LV
15	Home Performance with ENERGY STAR® <i>Doug Swartz</i> <i>Utilities</i> 970-221-6719 dswartz@fcgov.com	One-stop diagnosis and repairs for comprehensive home improvements related to comfort, energy, healthy indoor air and moisture.	R	SB, Dev, T, A	LV

	Program Name and Contact Info	Description	Sector	Service	Reg. Code
16	Builder's Guide to Energy Efficient Home Construction <i>Doug Swartz</i> <i>Utilities</i> 970-221-6719 dswartz@fcgov.com	Print and web resource useful for those building a new home or adding to an existing home. It is filled with architectural details that help avoid common problems.	R	SB, Dev, T, A	LV
17	Home Energy Ratings <i>Doug Swartz</i> <i>Utilities</i> 970-221-6719 dswartz@fcgov.com	Subsidized home energy ratings, providing information about how a home uses energy and the best places to look for energy upgrades.	R	SB, Dev, T, A	LV
18	REACH <i>Rene Evenson</i> <i>Utilities</i> 970-221-6394 revenson@fcgov.com	Income based weatherization program based on whole-house approach	R	\$	LV
19	Education, training, workshops <i>John Phelan</i> <i>Utilities</i> 970-416-2539 jphelan@fcgov.com	Environmental Program Series, Business Environmental Program Series, contractor training, green building workshops, xeriscape garden tours, composting, irrigation, landscaping, etc.	R, C, Ind, Ins, MF	SB, Dev, A	LV
20	PV Net Metering Pilot <i>Norm Weaver</i> <i>Utilities</i> 970-416-2312 nweaver@fcgov.com	Applications, interconnection, data acquisition for solar PV net metering pilot	R, C, Ind, Ins, MF	T	LV
21	Water conservation programs <i>Laurie D'Audney</i> <i>Utilities</i> 970-221-6877 ldaudney@fcgov.com	Programs, incentives and tips for using less water—indoors and outdoors	R, C, Ins, MF	T, A, \$	LV
22	Land Use Code - Solar Orientation Standards <i>Shelby Sommer</i> <i>Development Review Center</i> 970-416-2138 ssommer@fcgov.com	To encourage the use of both active and passive solar energy systems for heating air and water in homes and businesses	R,C,Ind,Ins,MF	Dev, \$, T	LV, LR
23	Land Use Code - Landscape Standards <i>Shelby Sommer</i> <i>Development Review Center</i> 970-416-2138 ssommer@fcgov.com	Require preparation of landscape plan and tree protection plans that ensure significant canopy shading to reduce glare and heat build-up, reduce erosion and stormwater runoff, and mitigate air pollution.	C,Ind,Ins,MF	Dev, \$, T	LR

	Program Name and Contact Info	Description	Sector	Service	Reg. Code
24	Land Use Code - Parking Standards <i>Shelby Sommer Development Review Center</i> 970-416-2138 ssommer@fcgov.com	To ensure that the parking and circulation aspects of all developments are well designed with regard to safety, efficiency and convenience of vehicles, bicycles, pedestrian and transit, both within the development and to and from surrounding areas.	C,Ind,Ins,MF	Dev, \$, T	LR
25	Land Use Code - Lighting <i>Shelby Sommer Development Review Center</i> 970-416-2138 ssommer@fcgov.com	To focus on the actual physical effects of lighting, as well as the effect that lighting may have on the surrounding neighborhood.	C,Ind,Ins,MF	Dev, \$, T	LR
26	Land Use Code - Buffers <i>Shelby Sommer Development Review Center</i> 970-416-2138 ssommer@fcgov.com	To ensure that when the property is developed consistent with its zoning designation, the way in which the proposed physical elements of the development plan are designed and arranged on the site will protect the natural habitats and features both on the site and in the vicinity of the site.	R,C,Ind,Ins,MF	Dev, \$, T	LR
27	Land Use Code - Pedestrian Connectivity <i>Shelby Sommer Development Review Center</i> 970-416-2138 ssommer@fcgov.com	To ensure that all development plans shall adequately provide vehicular, pedestrian and bicycle facilities. Both the residential and commercial buildings should be designed to promote an urban environment that is built to human scale in order to accommodate pedestrians as the first priority while also accommodating automobiles.	R,C,Ind,Ins,MF	Dev, \$, T	LR
28	Land Use Code - Proximity to Neighborhood Center <i>Shelby Sommer Development Review Center</i> 970-416-2138 ssommer@fcgov.com	Neighborhood centers shall be in close proximity to residential developments in order to meet the needs of everyday living in neighborhoods. Close proximity to such centers provides the opportunity for walking to services and conveniences.	R,C,Ind,Ins,MF	Dev, \$, T	LR
29	Land Use Code - Preliminary Design Review <i>Shelby Sommer Development Review Center</i> 970-416-2138 ssommer@fcgov.com	Preliminary Design Review is an in-depth opportunity for developers to work collaboratively with City departments to solve problems relating to complex developments.	R,C,Ind,Ins,MF	Dev, \$, T	LV

	Program Name and Contact Info	Description	Sector	Service	Reg. Code
30	Land Use Code - Engineering Test Cases <i>Shelby Sommer</i> <i>Development Review Center</i> 970-416-2138 ssommer@fcgov.com	Provides a system to evaluate green building technologies such as porous pavement	R,C,Ind,Ins,MF	Dev, \$, T	LV
31	City Plan <i>Clark Mapes</i> <i>Advance Planning</i> 970-221-6225 cmapes@fcgov.com	Encourages sustainable practices with mixed use activity centers, higher density closer to downtown, lower density further out, reduces car trips	R,C,Ind,Ins,MF	Dev, \$, T	LR
32	Structure Plan <i>Clark Mapes</i> <i>Advance Planning</i> 970-221-6225 cmapes@fcgov.com	Follows direction from City Plan, acts as bridge between City Plan and Zoning; regulation of the Growth Management Area - areas outside of city boundary with potential to become part of city	R,C,Ind,Ins,MF	Dev, \$, T	LR
33	Zoning Plan <i>Clark Mapes</i> <i>Advance Planning</i> 970-221-6225 cmapes@fcgov.com	Regulates uses within City following direction from City Plan and Structure Plan, forms basis for Land Use Code	R,C,Ind,Ins,MF	Dev, \$, T	LR
34	Land Use Code - Transit Stops in Downtown Districts <i>David Averill</i> <i>Transportation Planning</i> 970-416-2643 daverill@fcgov.com	To encourage multi-modal transportation within the downtown area, reducing congestion, air pollution, etc.	R,C,Ind,Ins,MF	Dev, A	LV
35	LUCASS - Level of Service Standards <i>David Averill</i> <i>Transportation Planning</i> 970-416-2643 daverill@fcgov.com	Standards for transportation - streets, bicycles, pedestrians	R,C,Ind,Ins,MF	Dev, T	LR
36	Mason Transportation Corridor <i>Kathleen Bracke</i> <i>Transportation Planning</i> 970-224-6140 kbracke@fcgov.com	Use of Bus Rapid Transit to reduce number of vehicle trips within the City, reduce congestion in the downtown area, reduces air pollution	R,C,Ind,Ins,MF	Dev,\$,A	LR
37	Transportation Overlay District <i>Anne Aspen</i> <i>Current Planning</i> 970-221-6206 aaspen@fcgov.com	Use of overlay district to encourage infill development, reduce vehicular trips, reduce development footprint for vehicles, increased density, use of brownfield sites, reduce air pollution	R,C,Ind,Ins,MF	Dev,\$,T ,A	LV, LR

	Program Name and Contact Info	Description	Sector	Service	Reg. Code
38	Fort Collins Urban Design Award <i>Becca Henry</i> <i>Urban Designer</i> 970-221-6226 bhenry@fcgov.com	The City hosts an annual design program in which one category is "Green Design".	C, Ind, Inst, MF	A	LV
39	Storm Drainage Design Criteria and Construction Standards <i>Glen Schlueter</i> <i>Utilities-Stormwater</i> 970-224-6065 gschlueter@fcgov.com	Thirteen Master drainage basin master plans. Standards for design and construction of storm water facilities, construction erosion control, permanent erosion control, erosion buffer limits, and water quality treatment of storm runoff.	R,C,IND,INST, MF	A,DEV	LR
40	Sediment and Erosion Control Inspections for Construction <i>D.A. Black</i> <i>Utilities</i> 970-218-3011 dblack@fcgov.com	Construction site sediment and erosion control minimum measure of compliance with the City's CDPS Stormwater permit (compliance). Provides input on compliance with the site's State Stormwater Construction General permit (education)	All	T	LV, EV
41	Municipal Code - Water Rates <i>Bill Switzer</i> <i>Utilities</i> 970-221-6713 bswitzer@fcgov.com	Tiered residential water rates & seasonal commercial rates to encourage water conservation.	R,C, Ind,Inst,MF	\$	LR
42	Sprinkler System Audit Program <i>Laurie D'Audney</i> <i>Utilities</i> 970-221-6877 ldaudney@fcgov.com	Assessment of sprinkler systems to identify problems, recommend appropriate watering schedule and educate users.	R,MF	T,A	LV
43	Municipal Code - Wasting Water code <i>Laurie D'Audney</i> <i>Utilities</i> 970-221-6877 ldaudney@fcgov.com	Wasting water is prohibited; complaints are investigated and ticketing is possible.	R,C,IND,INS,M F	\$,T	LR
44	Land Use Code - Landscape & Irrigation Standards <i>Laurie D'Audney</i> <i>Utilities</i> 970-221-6877 ldaudney@fcgov.com	New development landscape and irrigation plans are reviewed for compliance with the Land Use Code's water conservation standards.	C,Ind,Inst,MF	Dev,T,\$	LR
45	Clothes Washer Rebate Program <i>Tiana Jennings</i> <i>Utilities</i> 970-221-6253 tjennings@fcgov.com	Rebates for the purchase of high efficiency clothes washers. Includes residential & light commercial washers, not industrial models.	R,C,MF	\$	LV

	GREEN BUILDING TOPIC AREAS					
GREEN BUILDING PROGRAM ELEMENTS	Site	Energy	Water	Indoor Env. Quality	Waste	Building Materials
City Policies	31,32,33,37	31,32,33,37	31,32,33,37	31,32,33,37		
City Standards and Regulations	4,8,22,23,24,25,26 27,28,29,35,39,40	22,23,24,25,22 27,28,29,35	22,23,24,25,26 27,28,29,35,39	2,22,23,24,25 26,27,28,29,35	4,8	8
Outreach/Education (new and existing buildings)	1,4,5,8,19, 36,37,39	1,14,19, 20,36,37	1,19,21, 36,37,39	1,2,14, 19,36,37	1,4,5, 6,8,19	1,3,5, 8,14,19
Recognition (new and existing buildings)	1,5,8,38	1,9	1	1	1,5,8	1,5,8
GREEN BUILDING PROJECT PHASE	Site	Energy	Water	Indoor Env. Quality	Waste	Building Materials
<i>New Construction</i>						
Pre-Design	1,4,5,8,9,22,23,24 25,26,27,28,29,30 31,32,33,34,35,36 37,39	1,9,14,16,22 24,25,27,28	1,23	1,14	1,4,5,6,8	1,5,8,14
Design	22,23,24,25,26,27 28,29,30,35,39	9,16,22 24,25,26,28	23,39	14, 16		14, 16
Permitting	4,22,23,24 25,26,35,39	22,24,25 27,28	23,39		4	
Construction	8,22,23,24,25,26 27,28,29,35,39,40	22,24,25 27,28	23,39	14,16	6,8	8
Inspection	4,22,23,24,25,26 27,28,29,35,39	22,23,24,25,26	23,39	14,16	4	
Commissioning, Measurement and Evaluation		9	23	14,16		
<i>Existing Buildings</i>						
Post-Occupancy of New Construction	1,4,5,15	1,7,10,11,12 13,15,17,18,20	1,18,21	1,2,7,15,17,18	1,4,5,6	1,3,5,15
Major Renovation/Remodel	15	10,11,12,13, 15,16,17		15,16		15,16
Deconstruction	5,8				5,8	5,8

Appendix C- Project Interview Process and Outcome

Facilitated interviews of both internal City staff and external community stakeholders were a key component of the overall project approach. The goals of these interviews were to collect information and perspectives (including observations of real and perceived barriers), to assist the development/coordination of future green building efforts and to gain buy-in for the City's roadmap.

Two rounds of interviews were completed. The first round purposefully used a small group format (typically less than 12 participants) for the initial exploration of interview topics, while the second round reconvened all participants in one large group to update on project progress and present the initial roadmap outcomes for feedback. The small groups consisted of six internal City staff groups and four community groups. The internal City interviews included staff members from Advance Planning, Development Review, Neighborhood/Building Services, Natural Resources, and Utilities. Invitations for the community groups were determined based on input from the interviewed City staff, internal project team input and direct requests for participation in the interviews. Overall, the response to these community invitations was very strong (additional interviews had to be added to accommodate the number of responses) and resulted in a very diverse mix of stakeholders involved in green building. In the end, the community groups included building professionals (architects and various engineering disciplines), builders and building trades, real estate and development industry representatives, and other important community stakeholders involved in green building (non-profits, Poudre School District, Colorado State University, and Larimer County).

Each of the small group interviews explored questions and feedback regarding the definition of green building, the existing strengths in both the City of Fort Collins as an organization and a community from which to advance future efforts, the participants' vision for the community and the municipal government's role in that vision and recommendations for achieving the vision (in short, medium and long term time frames). The large group format summarized the input from all small groups, presented the initial roadmap outcomes, and finally, solicited feedback on the presented information. This information is summarized as follows.

Green Building Definition

Participants suggested that the City's green building definition:

- **Use a two-tiered definition.** Make the first tier of the definition brief for use with the public, including the non-choir. Expand on defining green building in the second tier for use with internal City staff and green building professionals.
- **Emphasize the positive.** Recognizing that minimizing a negative does not eliminate the negative, define green building in a positive and restorative manner.
- **Explain why.** Address the motivations and benefits of green building.
- **Include existing buildings and infrastructure/transportation.** Clearly include existing buildings (not just new construction) and the infrastructure required to support green buildings, including transportation. (Note that this input related to infrastructure should again be considered according the scope defined

earlier for this project and as the fundamental facilities and systems serving Fort Collins – rather than the organizational infrastructure of the City government).

Existing Strengths

Common strengths of the City of Fort Collins both as a community and a municipal government serve as an important foundation for the future and are helpful in understanding the current situation in order to better inform future direction. In general, interviews indicated that good awareness and support for green building topics are in place both in the community (including a favorable media) and with City staff. Many green building champions on all levels exist, including local-level champions (City Council, City Mayor, City Manager, etc.), regional-level champions (Clean Energy Cluster, Denver Mayor, etc.), and state-level champions (State Governor, etc.).

In terms of particular community strengths, a general respect was noted for what the green building market and private sector has already achieved without the City having a specific green building plan in place. Additionally, many organizations in Fort Collins provide world-class leadership and demonstrations in green building, including Poudre School District, New Belgium Brewing, and Colorado State University. Furthermore, the Fort Collins community offers significant green building resources and expertise, including the Colorado State University's Institute for the Built Environment, the Rocky Mountain Sustainable Living Fair (event and organization), and a depth of green building professionals.

Many aspects of the City as a municipal organization were highlighted as existing strengths. The City Plan itself and its elements that promote green building were often referenced as an existing strength. The City, like the community, has significant resources and expertise in place. Frequently highlighted programs and services included the City's (residential and business) Environmental Series, Utilities energy services (including the Integrated Design Assistance Program), and Utilities wind program. Characteristics of City programs and services also were often referenced as strengths. In particular, the approach of City programs and services were noted as being built on a good working relationship with the private sector. City staff was found to be generally open, committed, and accessible. Finally, a common highlighted strength was the existing municipal electric and water utility infrastructure that allows the City direct involvement in policy (e.g., Electric Energy Supply Policy) and approach (e.g., stormwater treatment watershed approach).

Vision

Common themes used to describe the vision of future success, both for the City organization and the community, were as follows:

Community/Market

- Growth in green building jobs
- Regional leadership and influence
- Mainstream community support and involvement
- Market infrastructure in private sector
- National recognition

Internal City Capabilities

- Well-established pipeline of services for citizens
- Programs that are helpful to end users
- Green building as second nature to highly skilled operational staff
- Coordinated effort among departments

Recommendations

Interview recommendations for successfully achieving the community and City vision were critical in determining the recommendations presented in Section 4 of this roadmap document. All recommendations received during the interview process are documented in Appendix D.

Appendix D- Summary of External Stakeholder Interviews

Appendix D summarizes comments made by participants in the external community stakeholder interviews. There were four community interviews held with 37 people participating. The external stakeholder group interviews were seen as an essential element of the project process in order to be inclusive and to ensure that the final roadmap fits the community's expectations.

Interview Questions and Feedback:

Regarding Current Programs and Services:

- **What does “green building” mean to you?** (roundtable response)
 - Liked the “strawman”
 - A better building, from materials to environmental impacts to energy efficiency to water management, all the components – trying to build a better building
 - Realization that there's a bottom line cost factor – a balance of what the owner can afford and not scare them away from that process because we make it too restrictive
 - Focus on the benefits for people living there: greater durability, improved IAQ, comfort, and energy efficiency and resource conservation
 - High performance buildings, education is critical part – kids growing up in great schools will come to expect that kind of thing. Interested developers, clean energy cluster, nationally leading school district, building Fort Collins as the go-to place like Portland or Austin should be a goal. Must also be malleable because constantly changing. What is today will be beyond tomorrow. Kinard is beyond Bacon...the more we can spread the good word, the more likely they'll understand. Existing buildings should be included too, not just new construction.
 - All our kids go to Zach, Kinard, FRHS – so thank you PSD
 - Productivity of the workers and with the right design team green buildings don't have to cost more. Integrated design is key/important. People, Planet, Profit is a key paradigm – that's what Seven Generations is about. Need to look at all 3 of those. Working on first LEED-EB in Fort Collins, to be certified in next 3 months (on a 2-year old building). CSU so lucky to have them as a resource – IBE are great leaders.
 - a) health of building and health of getting to the buildings – healthier community; b) greening of AIA HQ and meeting 2030 challenge of zero carbon – early systems integration and coordination; c) rehab of existing buildings
 - responsible stewards of our individual role in the building, everyone taking their working through the process and think about what you do now and how it affects the future.
 - progressive construction – defined as basically meeting our needs without sacrificing nature or the future. We've conquered the need for shelter, the

desire for comfort, so now need to conquer what's next – what's best for nature and the future

- designing and constructing in an integrated and environmentally sensitive fashion
 - inside, outside, everything
 - construction buildings that last, are energy efficient, and comfortable
 - irrigation systems that conserve water but are still aesthetically pleasing and use alternative water sources (non-potable)
 - conserving resources (water, energy, etc.)
 - projects that are sustainable for the environment and people
 - creativity and resourcefulness
 - designing and installing landscapes that last, conserve water, use less fertilizer and pesticides
 - building constructed from sustainable material, healthy, energy efficient and durable
 - technique and practice combined with materials to end up at that place
 - sustainable, healthy, energy efficient, plus locally sourced projects
 - verification, documentation, auditing, or assessment, actual performs as designed
 - zero energy as a goal
 - civil infrastructure, water quality, broader issue of site development
 - building that gives back more than it takes
 - measurement or variable to account for waste- use less resources to build
 - take an existing and do what you can with price factored in to make green
 - 3 characteristics- energy efficiency, resource conservation, and indoor quality
 - Affordable to the consumer
 - Net energy producer building, meets certain standards that are easy to talk about, consistent with city goals
 - Universal, building where people live and work in an environment where people can continue to live for future generations
 - Teaching young people green building and respect for environment so they understand the lifestyle to be lived from here on out
 - Minimizing waste in green building, healthy local materials, education about
 - Building in an environmentally sensitive and sustainable manner
 - Irrigation/water use- building needs to work with elements in the landscape to enhance green-ness of building
 - Quality of life- cleaner, healthier environment, in economics, and in renewable energies that enhance our national defense/security
 - Greener materials, less waste
 - Sustainable approach- more energy efficient, less waste, continual process
 - Not building a building
- **Review “strawman” green building definition** (save word-smithing offline, consensus definition will result from final city plan)
 - Q: is green building only or a subset of more general sustainability?

- Julie's explanation about noun versus verb and bike rack vs. bike, etc. but welcome feedback/comments
- Different labels get confusing – define and separate what it includes and how fits into broader sustainability – where does high performance fit in? Which is a subset of which?
- Jammie Sabin – his focus is on energy efficiency, but general public term is Energy Star, high performing homes, LEED, but think “Green” is the comprehensive all-inclusive idea, all else is a subset.
- Lifecycle
- Where is sustainability in all of this? Carbon footprint?
- Who is this title being presented to? If general public, keep it simple. If for people working in this, can have more detailed title.
- Two-tiered definition: quick, more extended
- Sustainability is the broader umbrella. Green building is a program within that.
- On green building, ‘building’ can be confusing because people think of structure versus construction – again noun vs. verb
- Something that's beyond our current capabilities but not our vision is deconstruct-ability, cradle to cradle concept, set our eyes towards it. Replace demolition with deconstruction.
- Change green building to green communities (green urbanism)
- Address buying local
- Energy efficiency and conservation
- Occupants
- Length- too long, make into 2 paragraphs
- Social equity
- Comfort (ex: Fossil Ridge HS is a better learning environment)
- From a home selling perspective: affordable- not just for the elite
- Economic standpoint, many eco-friendly building materials are becoming economically viable in the market (concrete siding, energy efficient furnaces, etc.)
- Codes are getting better- less than 10% leakage in furnaces
- Energy star- 1/2 of heat lost is through cracks, not insulation
- Initial, up-front cost that intimidates people but long term is going way down and in some cases there is a payback in a few years
- Interest specific- not detailed, adequate
- GB is designing, constructing, and dismantling human formed environments
- Get away from minimizing damage to more positive language about benefits
- Missing the “why”- choir here so needs to be in definition to justify to other
- Notion of precautionary principle- act on problems before all the data is in
- Wake up people- be more severe
- Why seems to be changing since the election and in the press
- Timing is right
- Energy cluster- being leaders, pride in community, one justification that makes sense. Opportunity to lead, fulfill CEC vision as a national player

- Narrowness of surrounding landscape- more infrastructure side, transportation (for example, porous pavement, natural system storm drainage) needed in definition
 - Definition strives to be complete, but implies that everything must be done to be green- allow for participation in stages or do at least parts of
 - Both new and existing and how to apply
 - Process way of thinking will promote it to those who see it as an event
 - Seems focused on new construction rather than the built environment
 - Bring existing stuff into the definition
 - Existing landscape and water usage
 - Every building is an existing building- including the ones to be built
 - Retrofitted and renovated should be added
- **Feedback about existing city green building programs summary list**
(handed out and explained) How does it hit you? Longer than expected? Shorter?
 - Longer than realized, recognized only 1/2 of what's on here and I thought I was pretty savvy.
 - How many are redundant? How many clash? How effective are they?
 - No redundancies, but yes need to look at how they interact?
 - Effectiveness, some is measured...on utilities side
 - What is LIGHTENUP? Re-branding of lighting part of EEP.
 - Dark Sky (like Tucson, Albuquerque)
 - Wind Power isn't on here, why?
 - Feel that voluntary programs are more effective than regulatory
 - Would like to see City step up on energy code side (will be 2004 by end of year. Commercial is now catching up to residential) Already adopted as baseline in design assistance program
 - Natural resource programs?? Where are they on this list? We get a lot of PR in FC on open space and natural areas
 - Same comment re: long range planning – if they don't set a policy now, in 20 years will be too late
 - Other towns give incentives on densities
 - City's own policy on City buildings being LEED certified should be highlighted
 - How do I find out about these programs? One idea is a collective web-site for external folks.
 - Radon for example- information and education made it known about
 - REACH- income based weatherization services
 - Longer than known about
 - Departments involved- 3 but also planning
 - Structure plan- relationship of things to each other in city
 - Land use plan voluntary- just stuff listed
 - List but no idea of impact, the metrics, the cost and results
 - Had to search for this info- how can we get this info out to people easier?
 - Residential only right now, not much for commercial right now
 - Auditing of sprinkler systems done in Loveland
 - Carrots on the electric side but not the water side

- **Review of Current Green Building Topic Areas Matrix** (handout of grid drafted for internal, existing City programs- about 40, to be used to see gaps, get arms around the information, evaluate/benchmarking, inform the plan and communicate to the public):
 - Structure is a good idea. Will help with informing people in a uniform approach.
 - Imagine as a clickable web thing.
 - Who is the public- who does each program target
 - Public will look at personally so need to be able to tell what they can qualify for, etc.
 - Bring together in a comprehensive vision or policy?
 - Important to have a policy in place (example- wind)
 - Over-riding city goal is important

- **What are the existing green building strengths to build on?** (current city and other areas of strength in the region, very respectful of what market has already done, and can serve as a foundation for the plan):
 - Poudre school district
 - CSU, IBE
 - Expertise in the community, design professionals
 - Clean Energy Cluster
 - Interesting that Vestas is coming to Windsor – awareness that businesses want to relocate here, big deal entertaining those types of employers; but they’re not in Fort Collins
 - The City’s design assistance program is a very big strength – a free resource to stir up the conversation for the owner/design team to hear
 - Champions at certain times. We have an aware and politically astute mayor and city manager who are behind these concepts and are willing to put actions behind words, which is huge.
 - Success of PSD is linked to FCU and PRPA even WAPA. They’ve been behind success of PSD for many years.
 - Personnel within FCU will answer any and all questions (even stupid ones) to projects
 - Blending with area communities in the region – that’s healthy sustainability
 - A sympathetic media – will publish green things in a heart beat.
 - Governor Ritter was just here – we have an advocate at the Governor’s office, as well Mayor Hickenlooper
 - Judy Dorsey – taught us all a lot ...
 - Environmental Series is a great outreach program that the City has
 - Like the fact that City staff come to “Green Drinks” and mingle with the lowly peasants – staff is accessible.
 - City adopts green on departmental level, but there’s no department. A strength that all the departments are doing this on their own – hope that’s continued and encouraged.
 - FC is fairly progressive with GB
 - A lot of LEED companies in area

- Potential, lot of like-minded people, big opportunity
- Many people quite open to GB
- Enjoyment for visitors- new developments, looks nice because things have to
- Land use code and city plan- density requirements
- Gary Schraeder- integrated design plan program
- Communication- open houses, demonstrations, advertising, good ways to communicate already there
- City is a leader- most advanced in radon, recognized, city and council involved
- Environment/scenery is so nice you can see the result of what GB is trying to achieve
- Low utilities, so adding a tax would be affordable
- Utilities- education programs are impressive, integrated design program
- Chamber of Commerce is promoting, awards, etc.
- Expertise in Northern Colorado is great
- Community awareness
- CSU is a resource
- Rare relationship between public and private- city is open to working with private, sharing ideas
- PSD
- City as a leader, inspiring, helping others
- Voluntary, grassroots versus dictated
- New Belgium Brewery
- Expertise on city staff
- Wind program, renewable energy program
- Stakeholder resource
- Looking outside and learning from others- not reinventing the wheel
- Very interested and active people who want to participate
- City has been helpful to Green Builders
- City ownership of utility, which funds stuff
- Buy-in by utilities who see advantage and help fund- no choice due to costs as power plants are expensive
- Building department is fairly progressive and willing to listen
- Environmental community- paid for first wind stuff
- PSD
- Neenan Co- very proactive- recycling
- New Belgium Brewery
- CSU
- City Environmental series is a great educational tool
- Utilities- wind program
- Community awareness
- Sustainable living fairs
- Weather patterns are ideal for solar
- Private waste haulers- many compete and advance technology
- Private groups taking the lead compared to city
- City and PRPA light and power incentive programs
- Publishers on board and providers of information

Vision:

- **What is your vision for the City's coordinated green building programs in 3 years?** (take a nap, you wake up in 3 years, what do you see, think big, you define what success is).
 - Embracing a SMS at the City-external level
 - Redevelopment of North Side be an example of how to do urban renewal green from the ground up
 - City acts as a coordinated center for education and learning; push champions in each area to a more sustainable approach using incentives; mandates to cover the minimum bar;
 - What does success look like on the EB side? Education on how to understand systems approach; follow-up on energy management – working knowledge, steps, also winners, recognition, honoring that in a community sense and showing that any building out there is capable
 - Way to get to a better life is through competition – easy to accept change when you see someone doing well and want to emulate that
 - Vision that the City moves away from the City's vision and start to incorporate what's going on in this community – Wellington, Timnath, Larimer County – so we don't have hodgepodge approach where good thinking goes into this but will others feel left out of the process? Need strong liaison – currently resistance to cross border dialogue.
 - Reduce carbon footprint; reduce per capita energy; increase physical health of community – the free market is doing that most effectively right now – so echo put out incentives and let market figure out how to get it done.
 - Larimer County link through natural resources, long range planning, connecting region so not separate enclaves
 - Education in PSD continue to be leader for fostering the ethic through students
 - Why doesn't CSU-IBE start their own department to develop strategies for degrees and better incorporating community professionals
 - An asset with downtown, urban fabric, river, Penny Flats – stretch vision of lofts, density, urbanization downtown – a mini-community multi-story building?
 - A) Net suppliers of RECs credits, invest in our own economy; B) economic development buy it locally here; C) greywater use will be allowed; D) transportation services improve for more LEED credits; e) solar tax rebates equivalent to Xcel here in Fort Collins; f) rethink the 5' setbacks for more options on proper siting; g) electric car dealership; h) coal plant is either natural gas powered or not operating
 - RTA between counties -- lots of driving with no choices right now;
 - Vote for Sue for Mayor; 1/2 of building permits are green; City has adopted standard across the board for their own buildings; preferential treatment for buildings pursuing green
 - Outcomes are the focus, the community, not the program
 - Seen as a model city- role model, tourism, businesses come here

- A low level of Green Building mandated, a high level is encourage and rewarded
- FC is still a vibrant city (tax base, economically viable, and everyone has not moved to Centerra)
- City employees- raises, keeping healthy, good staff, not demoralized
- Community has grown, thrived, attracted new business, but resources used is the same- growth is paid for by conservation
- Publics transportation to Denver, in general
- Wind and solar
- Everyone cares and involves and makes the most of what you have, sense of community,
- open space, gardens
- decreased consumption of resources
- understanding by community with an impetus to change
- remove the barriers to enable us to save more resources
- end users are taken into consideration (if their costs are increased too much they won't do)
- engineers design green stuff that is the same quality as non-green and FC uses
- sustainable and self-sufficient
- broad level of involvement- from caulking to cutting edge technology involving many
- FC is the easiest place in America to pursue GB, also a place where it is validated
- 250 solar powered homes and 50 business due to city rebates for solar
- Opportunities for infill utilized and using core of the city
- Measured reduction in energy use and carbon footprint
- City leading by example
- Healthier citizens who are proud of the GB program
- Is a place to come to school and learn GB, we provide the leaders in the industry
- Is affordable to live here
- City has finished its 3rd affordable housing solar powered HUD building, LEED certified, ZEH
- Magnet community for GB
- State just recognized grassroots effort that challenges state water laws that restrict re-use of water, recycling, etc.
- Business environment conducive to electronic business being conducted
- FC influences other local towns to go GB
- Attracted 1000 high quality GB industry jobs
- New city program will pay for itself in 2 years and show a net gain after that
- Tie in the agricultural base to the vision/success
- Increased urban density
- Reasonable square footage for occupancy
- Standard of what a green building is
- More and better mass transit
- Community understanding of the ecological footprint of their building choices

- City recognized as a leader in GB technology
 - Recycling plan within the for builders
 - Less goes to landfill using economic drivers
 - City serious about recycling and accountability
 - City leads by examples
 - Encouraged by incentives, not mandates
 - Progress is reported based on GB standards
 - Green community connected to natural landscape, such as a river
 - Alternative energy is really working
 - LEED gold standard in city, including existing buildings
 - Fully funded
- **What is the city's role in this vision?**
 - codifying and not making it more expensive to, for everything that costs more thrown in something that reduces costs
 - standards that conflict with planning- planning and engineering departments must connect
 - Don't forget PFA's- need to involve
 - Raising the minimum floor (big box builders building the same way as 50 years ago)
 - Enforce the codes
 - Role of city is guidelines, incentives and really looking at community and who the community is and what they will go for
 - What should the city be doing with private sector, not the city doing things that the private sector can be doing
 - Innovation comes from the private sector, which raise all boats
 - City should be exemplary (example irrigation)
 - Strong central leadership
 - Making GB a choice because it is in the interest of budget (ex.: PSD)
 - City fast-track GB projects
 - City embedded in many from previous questions
 - City driving in same direction and possibly state
 - City taking down advice- walking the walk
 - Entire community knows and understand and wants to take part
 - City has an incentive program for renewable energy in both residential and community
 - Incentive but also 3rd party financing, removing of regulatory obstacles

Enhancements/Opportunities:

- **What are the enhancements/opportunities to create coordinated green building programs and organizational structure? Also any specific new program ideas?**
 - Need an individual whose job is to critique the effectiveness of every City program in the overall view. For example, residential energy rating program is cheaper than prescriptive view.

- City to help provide benchmarks for energy use on different building types so we have bars to shoot for/above.
- Energy is one thing – how set benchmarks for other aspects of ‘green’. Ideas – how much is local;
- Bring national tools (like LEED) to regional/local levels
- Keep the benchmarks simple (Carbon, energy, water, etc.)
- Secondary uses of water and conducive rate structures (e.g., Portland)
- Water incentives – FCU is proactive on energy side, but not water (e.g., tap fee rebates would bring quicker adoption...)
- Landscaping water should be a priority to target
- City pass law that all new buildings (not just their own) have to be LEED certified
- City should lead and incentive-ize – push innovation and competition
- Profitability is higher in Loveland than FC on like subdivisions because more regulations and rules here; an additional cost to everything here; e.g., approved framing lists here vendors cost more \$0.75/ft more; some local builders copy what Aspen does because of success and want to compete – so again, competition and incentives is the best approach
- What is our community doing compared to other communities? That comparison should include – so does it look better?
- LEED whetted appetite of consumer demand; got a huge ball rolling; always been voluntary; keep it that way.
- Can't make a profit in your own backyard – can City be an advocate for local successful builders that meet measurable outcomes – like a chamber of commerce type of statement. Help people define the shades of green and who can help deliver that.
- Expedited process for GB
- Define GB
- Avoid retribution
- Get a break for GB on certain rights, uses, etc.
- Incentives- rebates for smart controllers, sprinklers, design review, improve the web showing this
- Educate to create compelling want (interest) and then break down barriers/availability to people actually doing or using (example: light bulb program)
- Discount on wastewater bill for creating less waste
- On-site renewable energy for residences- break for having
- Education- Discovery Science Center as an outreach for that
- Gravel pave (like allies, etc)
- Cul de sacs- big environments using a lot of resources
- Encourage regional natural building materials
- Continue to encourage alternative transportation
- Increase land use requirements as well, not just building codes (HOA's requiring grass, wide roads, fire and engineering codes, amount of resources, density and pavement)
- Require licensing for landscape contractors

- Using more secondary water supply (effluent water, relaxing city stance of having a private utility in a public right of way)
- Broad city goal with a council behind
- Change disparate structure of bureaucracy to make it work to get the information out there and actually implement the policies and programs
- Coordinate the expertise on the city staff
- City reaches out to other entities
- Make Mason Street Corridor a showcase for green
- Fort Collins supports Salazar in his efforts to make the state green
- Separate or sub-department for green services to bring together the programs in once place
- One stop shop for services
- Coherent program that knits together and drives Green Building
- Make solar a part of it, use federal tax incentives, make solar feasible
- Certain % from utilities mandated renewable
- Pilot program by city to invest into unproven GB technology
- Across the board use of new technologies
- Reach the masses in efficiency
- Centralized, coordinated department that is upper level and pays for itself, has strong support
- Funnel state money into FC
- Incentives to landlords to implement energy efficiency in rentals, and in commercial
- Overwhelmed with info- start small with easily digestible information
- Education is key, bring it to practical level in community so people can do it and apply themselves
- Operating as a clearinghouse for info- accurate and up-to date source
- City support of non-profits to work across the board to see if the issue can be advanced in the region (ex: Portland)
- GB homes tour
- Need to pay for it to get to the next level- see the vision, sell the vision, which is not voluntary or cheap
- CSU building innovations and FC needs to work with them
- Things have been easy so far, have to do the hard parts
- Pay for it out of the utility budget
- City "seed" money with a plan to attract more jobs is marketable, make it a business deal because it needs the business community
- Not mandated onto people, not regulated as it hurts affordability
- Confusion in building community- adding another layer is not helpful, find ways to utilize them better, not mandated, qualifying
- Programs out there to look at for tax funding- REIT
- Tax on luxury homes
- Green points program or other funding programs out there- look at them (carbon tax for example)
- Avoid another label
- All landscape designers have to be certified or licensed

- All sprinkler systems operating at correct capacity
- Biofuels for city vehicles
- City shares its lesson learned (successes and challenged)
- Benchmark/scorecard for buildings to give consumer information with which to make choices (a number associated with how “green” a building is)
- Commercial water conservation incentives
- Move goal posts after success
- Recalibrate and renew water conservation goals
- Incentives in land use code- bonuses for public space, green building, etc.
- Figure out how to make people not haul yard waste to the landfill (Hageman is useful, make drop off sites available)
- Educational piece so people know not to take stuff to landfill (sign there)
- Make it so waste haulers do not want large quantities of stuff to haul as currently
- No buildings with windows that don’t open
- Plumbing code- have it address sprinkler heads
- Embrace new technologies like waterless urinals
- Indoor environmental quality should addressed- retrofitted or new construction and incentives to encourage
- CFC’s
- Cleaning products- educate public and code writers
- Residential orientation of houses- change to take advantage of sun
- Land use codes to encourage GB, renewable, etc.
- Simplify city codes- make easier to do GB
- City culture should be GB
- Education in schools on environment
- Communication between city departments
- Outreach to student, Hispanic, and other detached communities (either not interested or aware, on the front lines, market to students who could be interested)
- Benchmarking/scoring

Steps to Achieve the Vision:

- **What immediate steps can be taken to achieve vision?** (immediate/realistic steps or advice/tips for plan development between now and end of year).
 - Bring collaborative resources together and share immediately
 - Use advocates to make a proclamation that gets signed and goes to City to raise the bar; becomes a good talking point, leverage point.
 - Green ombudsmen to help vet issues that people are having with the actual benefits of some programs. Meet the spirit rather than the letter of the rules
 - Education: events – 2-3 day program like FRHS last year, expound on that again; maybe a LEED track or conference.
 - USGBC Colorado Chapter fall event will be here in FC with 250 attendees. Trying to team with the Sustainable Living Fair.
 - PRPA and fixing 80/20 – City Council needs to address this with PRPA

- Get solar tax credit in place
- Ability to have a clearinghouse of City programs: what they are; benefits; contact info; etc; quick click and find
- Strategies of incentives for people at urban renewal authority are working on with College corridor to build green
- A web-site as a green touchstone and link to City programs, same web address of all programs as touchstone.
- Label this thing – very easy 1-2-3
- Coordination at the City too
- Make a plan
- 1 thing in each category to recommend for code change (drop a barrier or raise a standard)
- Adjusting utility fees- reduce wastewater charge for savings
- Credits for conservation
- Investigating the expedite process
- Get their video out more
- City apply for reward and recognition programs
- LEED
- Establish an office for GB
- Advertise stuff (such as design assistance program)
- Fast-tracking GB (commercial or residential)
- Form new department
- Don't recreate the wheel with this plan
- Do what you can now even if it is not perfect
- Work with what you have, not another new program
- Grassroots
- Baseline, measurable, move off of that
- Look at where budgets are, where to get the money, how to fund
- City assistance to other community organizations that are already involved in this
- Provide meetings space
- Educate the city council
- Term GB is not that great- limited. Should be “The Greening of Fort Collins” or something
- Need the soldiers- make sure the city staff has bought into it
- Bring various departments together
- Market existing stuff to 90% that don't do this stuff already (in utilities flyer for example)
- Learn to reach out to the non-choir who are interested but not educated enough to do it
- Coordinate but don't centralize. Some people are motivated by being green, others by economic. Allow for broader opportunities to buy in.
- Carbon neutral events- such as July 4th
- The audiences- determine what they are and how to reach them
- Bold vision statement, high and ambitious goals
- Uniform message, then get it out of there

- Branding, new city logo
- Public relations, good facts, what is in it for me
- Commercial water conservation incentives
- Educational campaign to help public understand what is out there and their ecological footprint
- Environmental series on landscape water conservation- good but get out to the “non-choir”, the churches, rotaries, other clubs, etc.
- Flyer write-up on water pressure issue
- Recognition of those doing good
- Zero waste and climate neutral events promoted
- 200 bicycle bike library
- Benchmarking/scoring
- Lay ground rules for performance glazing on commercial buildings

Appendix E- Survey of Peer City's Green Building Programs

In order to determine where Fort Collins stands in terms of green building programs and services, this project surveyed the City's existing green building programs and services (Appendix B).

In addition, it was important to look outside this community to learn what other peer cities with similar goals and regional characteristics are doing in comparison to Fort Collins. Not only did the survey of other cities show, in a relative sense, how Fort Collins compares in terms of green building programs, it provided ideas for enhancements to City efforts that aligned well with feedback received in the interviews.

Section 1 of this appendix summarizes the results of the peer city survey and presents some specific ideas gathered from the survey of other cities.

Section 2 details the information gathered for each of the eight cities surveyed for this effort, including program descriptions. Each individual table in Section 2 presents an extended listing of other cities existing programs and services.

1.0 Peer City Survey Summary

1.1 Results

The results of the survey demonstrates that Fort Collins has a wide range of green building programs and services that are comparable to those of the peer cities.:

- The City of Fort Collins has 39 existing green building programs or services with strong breadth of coverage relative to the other surveyed cities.
- Of the few gaps identified, the City was already investigating and/or implementing new services in the gap areas.
- Surveys provided good ideas for enhancements to existing services.
- Possible enhancements align well with interview recommendations.

1.2 Specific Green Building Ideas from Peer Cities

Specific example programs and activities from the surveyed cities that align with the four categories (mandating minimum performance and removing barriers, encouraging innovation, rewarding success and building internal capacity) are illustrated below:

Green Building Mandates

- Require green building where public financial incentives are involved.
- Require green building techniques for certain size homes/retrofits.
- Enact ordinance on construction waste recycling.
- Set required landscaping targets.
- Require Zero energy capable homes. by 2015

Encouraging Green Building

- Provide on-site assessments (residential and natural gas)
- Provide online tools
- Offer detailed guides
- Offer workbooks
- Support a permit services web-site

Rewarding Success

- Support demonstration projects
- Offer reduced fees and fast tracking
- Support energy efficient mortgages
- Offer competitive grants
- Implement zoning changes for LEED buildings
- Offer grey water conservation tax credit
- Offer rebates – solar electric

Coordination

- Develop a green building program web-site
- Serve as information gateway
- Serve as green building clearinghouse
- Develop non-profit resource center

2.0 External Survey

The objective in conducting a survey of green building programs and progress in other cities was to offer perspective on how Fort Collins is doing with its existing efforts and to mine for enhancement ideas that could strengthen overall green building practices and coordination in this community. Each individual table in Sections 2.1 – 2.8 presents an extended listing of other cities existing programs and services.

Comparison cities were selected on the basis of industry recognition as high performers in green building, regional similarities, or similarities in relative population. Table E-1 below lists the cities considered in the survey. The number of LEED registered buildings and LEED buildings per 100,000 people were included as a qualitative measure of the level of green building activity in a community. Table E-1 also highlights those cities (green) that have their own municipal electric utility.

Table E-1: Comparison Cities

Municipality	Population	LEED Registered Buildings	LEED Registered Buildings per 100,000 people
Austin, TX	656,562	32	4.9
Eugene, OR	137,893	8	5.8
Sacramento, CA	407,018	21	5.2
Seattle, WA	563,374	77	13.7
Boulder, CO	94,673	20	21.1
Santa Monica, CA	84,084	16	19.0
Scottsdale, AZ	202,705	9	4.4
Portland, OR	529,121	67	12.7
Fort Collins, CO	118,652	12	10.1

The following sections offer selected details about the cities chosen for comparison and summarize existing green building programs and strengths. In addition, tables are provided for each city that give an overview of the research conducted. To interpret these tables, please refer to the following terms:

Sector

- R = Residential: homes
- C = Commercial: all non-industrial private businesses
- Ind = Industrial: manufacturing private businesses
- Inst = Institutional: governments, K-12 schools, universities
- MF = Multifamily housing

Service

- SB = Skill building
- \$= Incentives: direct monetary (rebates, funding, grants) or other incentives
- T = Technical – assessments, on-site observations/assistance, design assistance, permitting assistance, implementation support, inspection-related assistance
- A = Awareness
- Dev = Market/economic development: market development/evolution, jobs, infrastructure development

Regulatory code

- LV = Local voluntary program
- LR = Local requirement – required compliance; city and/or county
- EV = External voluntary program
- ER = External requirement – required compliance; regional, statewide, national (e.g., Chicago Climate Exchange)

2.1 Austin, Texas

Basic statistical information about Austin is provided in the list below. More specific program information is summarized in the table following the list.

- Population: 656,562
- College town: University of Texas at Austin
- Utility structure: Municipal
- Number of municipal customers: 360,000
- Load served: 2600 megaWatts (MW)
- Interesting green building programs: Zero energy capable homes by 2015, on-site assessments, on-line tools, workbooks, solar-electric rebates

Program Name and Contact Info	Description	Sector	Service	Regulatory code
Home and Business Energy Analysis, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Tools%20and%20Tips/Residential/Online%20Energy%20Audit/index.htm	Online tool for home energy analysis, helps residential users identify energy use and compare to other homes	R, C	A	LV
Load Profiler, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Tools%20and%20Tips/Commercial/loadProfiler.htm , Murray Jones, (512) 505-3640.	Web-based energy management tool that allows awareness of load on various time scales. Available for key accounts.	C, Ins, Ind	A	LV
On-site Commercial Energy Audit, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Tools%20and%20Tips/Commercial/onsiteEnergyAudit.htm , (512)482-5346	Free, on-site, walk-through energy audit, includes identification of rebate opportunities and written report	C, Ins, Ind	T, A	LV
Green by Design Workshop, Green Building Program, http://www.austinenergy.com/Energy%20Efficiency/Programs/Green%20Building/Resources/GreenByDesign/index.htm ,	Austinites preparing to build, buy or remodel a home can learn how to improve energy and water efficiency, increase comfort and reduce maintenance. The Green Building Program's 1-day Green by Design Workshop is held four times per year.	R	A	LV
Commercial Purchasing Advisor, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Tools%20and%20Tips/Commercial/Energy%20Advisor/CEA_home_frame.html	A detailed guide on quick fixes and long term energy saving opportunities for various commercial and institutional sectors	C, Ins	A	LV

Program Name and Contact Info	Description	Sector	Service	Regulatory code
CFL and ENERGY STAR Light Fixture Coupons, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Tools%20and%20Tips/Residential/Energy%20Efficiency%20Appliances/products.htm	\$2 off CFL or \$10 off light fixture (> \$20) discount coupons offered to Austin Energy residential customers at partnering stores. Limit 2.	R	\$	LV
Search tool for energy efficient multi-family complexes in Austin, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Tools%20and%20Tips/Residential/Energy%20Efficiency%20Apartments/multi_family.cfm	An online search tool for locating energy efficient multifamily complexes in the Austin Energy service area.	MF	A,Dev	LV
Participating Companies for Rebates & Incentives: residential, commercial, solar installers, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Tools%20and%20Tips/index.htm	To qualify for rebates or incentives, work must be carried out by participating company listed here.	All	Dev, A	LR
Solar Water Heater Program, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Rebates/Solar%20Rebates/Solar%20Water%20Heater/index.htm	Rebates of \$450-\$650, 30% tax credit of \$750-\$1,000 for all-electric customers switching to solar hot water	R,C,Ind,Ins	\$	LV
Energy Star Loan Program, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Loans/Residential/Home%20Performance%20with%20Energy%20Star/index.htm	ENERGY STAR partner in providing low-interest loans for retrofits involving certain ENERGY STAR products	R,MF	\$	LV,EV
Duct sealing, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Duct%20Diagnostic%20and%20Sealing/index.htm , (512) 974-7827	\$50 per air conditioner, blower diagnostic of home system	R,MF	\$,T	LV
Solar Loan Program, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Loans/Residential/Solar/index.htm , (512)-482-5390	Low-cost loans to purchase and install solar electric power systems, up to \$20,000, up to ten year term at market rates	R	\$	LV
Commercial Energy Management Services Rebates and Incentives, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Rebates/Commercial/Commercial%20Energy/index.htm , conservation@austinenergy.com	Rebates and incentives covering a variety of equipment including AC, chillers, custom, ERV, lighting, motors, PV, solar thermal, VFD, windows. Rebates and incentives offered by a number of	C,Ind	\$	LV

Program Name and Contact Info	Description	Sector	Service	Regulatory code
	programs, to be covered later.			
Home Performance with ENERGY STAR Rebate Program, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Rebates/Residential/Home%20Performance%20with%20Energy%20Star/index.htm	For homes 10 years and older, and with an on-site professional energy analysis. Program will rebate up to 20% or \$1,400 for certain air conditioners, duct repair, additional attic insulation, solar screens, caulking and weather stripping, attic radiant barriers	R	\$	LV
Air Conditioner Rebates, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Rebates/Residential/Air%20Conditioner/index.htm	For homes older than 10 years, rebates available for HVAC equipment. Includes central systems, packaged, window, solar water heaters, heat pump water heaters (all-electric homes), heat recovery water heaters (all-electric homes)	R	\$	LV
Solar Rebate Program, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Rebates/Solar%20Rebates/index.htm	\$4.50 per watt for home and business customers	R,C	\$	LV
Small Business Rebates & Incentives, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Rebates/Commercial/Commercial%20Energy/smallBusiness.htm	Rebates for a variety of measures for small businesses and non-profits (lighting, free thermostats, free energy misers)	C	\$	LV
Energy Miser Products Mean Savings, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Energy%20Miser/index.htm , (512) 482-5455	Free equipment and installation of VendingMiser, CoolerMiser, and SnackMiser	C	\$	LV
Power Partner - Free Thermostat Program, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Power%20Partner/index.htm , (877) 549-2774	Free programmable thermostat with installation, equipment and warranty in return for permission to cycle AC during peak periods	C	\$	LV

Program Name and Contact Info	Description	Sector	Service	Regulatory code
Thermal Energy Storage Program, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Rebates/Commercial/Commercial%20Energy/thermalEnergyStorage.htm	TES rebates at \$300/kW up to 100kW, \$150/kW for 100-500kW, \$50/kW for 501kW and higher	C	\$	LV
Load Cooperative Program, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Rebates/Commercial/Commercial%20Energy/loadCooperative.htm	Cash incentive for curtailing unnecessary load during certain peak demand periods. \$5/kW paid monthly at \$1.25/kW plus \$0.15/kWh for energy reduced	C, Ind, Ins	\$	LV
Building Tune-up Program, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Rebates/Commercial/Commercial%20Energy/buildingTuneup.htm	Implementation of the Continuous Commissioning program through Texas A&M	C, Ind	\$,T	LV
Multi-Family Energy Efficiency Program	Four or more residential units with AC qualify for rebates on a variety of energy efficiency measures	MF	\$	LV
Green Choice Green Power Program, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Green%20Choice/index.htm	#1 Green power purchasing program in the US, fully-subscribed at present	All	Dev	LV
Sustainable Building Sourcebook, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Green%20Building/Sourcebook/index.htm	Information provided on 50+ green building topics via the web.	All	A,SB	LV
Green Building Case Studies, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Green%20Building/Resources/Case%20Studies/index.htm	Case studies provided for green building in R, MF, C, and Ins.	All	A,SB	LV
Manage It Green Consulting Services, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Green%20Building/Programs/mig.htm	Consulting services for other utilities and gov. agencies around Austin's experience with resource management programs.			
Residential Green Building Program, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Green%20Building/Programs/residential.htm , (512) 482-5300	Rates new or remodeled homes using guidelines on a scale of 1 to 5 stars, includes EE, testing, water efficiency, materials efficiency, health and safety, and community.	R	A,T,Dev	LV

Program Name and Contact Info	Description	Sector	Service	Regulatory code
Commercial Green Building Program, Austin Energy, http://www.austinenergy.com/Energy%20Efficiency/Programs/Green%20Building/Programs/commercial.htm , Maureen Scanlon, Commercial Program Coordinator (512) 482-5300	Assists owners and designers with green building and operational practices	C	A,T,Dev, SB	LV
Multi-Family Green Building Program, Austin Energy, , Katie Jensen, Multi-Family Program Coordinator (512) 482-5300	The Multi-Family Green Building Program helps building professionals design and build comfortable condominium and apartment homes that are energy, water, and resource efficient.	MF	A,T,Dev, SB	LV
Rainbarrel Rebate Program, Water Conservation, http://www.ci.austin.tx.us/watercon/rbsales.htm	Discounted purchase of rainbarrels for use in capturing rain water for irrigation	R	\$	LV
Free toilet program, Water Conservation, http://www.ci.austin.tx.us/watercon/freetoilet-suspend.htm	Currently unavailable due to supplier problem.			
Water IQ, Water Conservation, http://www.wateriq.org/	Awareness program provided by regional water providers	All	A	LV
Toilet rebate program, water conservation, http://www.ci.austin.tx.us/watercon/sftoilet.htm	Toilet rebates	R,C,M F	\$	LV
Clothes washer rebate program, water conservation, http://www.ci.austin.tx.us/watercon/sfwasher.htm	Clothes washer rebates	R,C,M F	\$	LV
Rainwater Harvesting Rebates, Water Conservation, http://www.ci.austin.tx.us/watercon/rwrebates.htm ,	For rainwater harvesting systems larger than 300 gallons	R,C,M F	\$	LV
Irrigation System Evaluations and Rebates, Water Conservation, http://www.ci.austin.tx.us/watercon/irrigation.htm	If you are a City of Austin water customer (or a customer of an eligible MUD), have an underground sprinkler system and use more than 25,000 gallons per month in the summer, then you qualify for an irrigation audit. A City water auditor will check your system and determine an efficient watering schedule.	R	T	LV
WaterWise Landscape Rebates, Water Conservation, http://www.ci.austin.tx.us/watercon/landscape.htm	Qualifying customers can receive rebates for landscape plans that have no more than 50% turf.	R	,\$,T	LV

Program Name and Contact Info	Description	Sector	Service	Regulatory code
Commercial Process Evaluations, Water Conservation, http://www.ci.austin.tx.us/watercon/systemaudits.htm	As a free service to Austin Water Utility commercial customers, Water Conservation auditors are available to evaluate all aspects of your water consumption to determine how your company uses water. Auditors will suggest opportunities for reducing water consumption and discuss your eligibility for special commercial rebates. Up to \$40k in rebates available	C,Ind,Ins	T,\$	LV
WaterWise Restaurant Program, Water Conservation, http://www.ci.austin.tx.us/watercon/restaurants.htm	About 60 restaurants participated in water conservation reviews and implemented measures. Now listed on website.	C	T,Dev	LV
S.M.A.R.T. Housing, http://www.ci.austin.tx.us/ahfc/smart.htm	Stimulates reasonably priced housing and encourages it to be transit oriented.	R	Dev	LV
SMART Growth Initiative, http://www.ci.austin.tx.us/smartgrowth/	Promotes development in Desired Development Zone through development fee reductions and utility reimbursements. Zone is based on desirable siting relative to watersheds, topography, transit options, etc.	All	Dev,\$	LR
Commercial Design Standards, http://www.ci.austin.tx.us/vision/community.htm	Standards under development as of 2004 to compliment Austin Code with a document that is easier to use and understand.	C	A	LR
Free Waste Assessment, http://www.ci.austin.tx.us/sws/wrap_assessment.htm	Free waste assessments	C	T	LV
Green Builder Standards, http://www.ci.austin.tx.us/tnd/	Standards required for building professionals to meet in residential construction	R	SB,Dev	LR
Zero Energy Home Task Force, http://www.ci.austin.tx.us/news/2006/ae_zero_energy_homes.htm	Austin studying requirement for all homes to be zero-energy capable by 2015	R	Dev	

2.2 Eugene, Oregon

Basic statistical information about Eugene is provided in the list below. More specific program information is summarized in the table following the list.

- Population: 137,893
- College town: University of Oregon
- Utility structure: Municipal
- Number of municipal customers: 84,137
- Load served: 627 MW
- Interesting green building programs: Permit services website, demonstration projects

Program Name and Contact Info	Description	Sector	Service	Regulatory code
Building Permit Services Keli Osborn, Permit Review Manager, Building and Permit Services Division keli.m.osborn@ci.eugene.or.us (541) 682-5288	Provides website with green building information, including appropriate technology, green building design, site inventory & assessment, energy efficiency, multiplicity of function, reduce/reuse/recycle, al methods and materials, adjustment review, variance			
Growth Management Study, February 1998; regional transportation master plan (TransPlan), December 2001 Planning Division Allen Lowe Senior Planner 99 W. 10th Avenue Eugene, Oregon 97401 (541) 682-5113	With adoption, TransPlan identifies dozens of potential "centers" in Eugene and Springfield. If properly planned and developed, these centers will mature into quality neighborhoods that enjoy higher densities, mixed uses, more transportation options, convenient shopping and services, and amenities. When combined with improved transit, centers will reduce reliance on automobile travel, need for costly street improvements, slow sprawl onto nearby agricultural and forest lands, and provide a greater variety of housing types inside the Urban Growth Boundary.			
BROWN PAGES	A handy reference for information about garbage and recycling can be found in the new BROWN PAGES in the front of your <i>Qwest Dex White & Yellow Pages Directory</i> . The BROWN PAGES Recycling and Garbage Guide provides information on how to prepare your recycled materials, curbside yard debris collection, composting, and so much more.			
Anne Donahue Green Schools Coordinator (541)682-5542	The City has designated an Oregon Green School Coordinator to work directly with public and private schools in Eugene.			
Green Building Demonstration Projects Keli Osborn Permit Review Manager (541) 682-5288	2005 issued a request for proposals for a green building demonstration project. The objective was to find a partner who would design, develop and construct a project to showcase opportunities for green building methods and materials. Among the benefits the City would offer were low- and no-cost consultation on processes, procedures and requirements; expedited building permit review; and promotion and public education.			

Program Name and Contact Info	Description	Sector	Service	Regulatory code
<i>Revisit details under Planning department</i>				
<i>Revisit details under PW Engineering</i>				
<i>Search Eugene Water & Electric Board web-link</i>	<i>http://www.eweb.org/</i>			

2.3 Sacramento, California

Basic statistical information about Sacramento is provided in the list below. More specific program information is summarized in the table following the list.

- Population: 407,018
- Utility Structure: Municipal
- Number of municipal customers: 578,041
- Load served: 3,299 MW
- Interesting green building programs: Residential and small business on-line energy audits

Program Name and Contact Info	Description	Sector	Service	Regulatory Code
Home energy analysis, http://www.smud.org/energy_smart/online.html	Web-based tool for home energy analysis, externally developed (same as Austin's)	R	A	LV
Online bill analysis, http://www.smud.org/energy_smart/bill.html	Login to personalized account to compare bill to past bills, determine influences such as weather or a new appliance that may affect your bill, compare to similar homes	R	A	LV
Online energy audit for small businesses	Login to use tool to compare to other businesses, determine where energy is used and identify potential measures and savings (probably based on same external tool as above)	C	A	LV
Aeroseal duct sealing rebate, http://www.smud.org/residential/saving/rebate.html	\$300 rebate for Aeroseal duct sealing on existing HVAC systems	R	\$	LV
CFL discounts at local retailers, http://www.smud.org/residential/saving/rebate.html	R	\$	LV	
Ceiling fan with CFL lights rebate, http://www.smud.org/residential/saving/rebate.html	\$20 rebate for ceiling fans with CFL	R	\$	LV
Central Air Conditioning rebate, http://www.smud.org/residential/saving/rebate.html	Financing or cash rebate for qualifying central air conditioning units	R	\$	LV
Clothes washer rebate, http://www.smud.org/residential/saving/rebate.html	Qualifying units eligible for \$100/\$175 rebates	R	\$	LV

Program Name and Contact Info	Description	Sector	Service	Regulatory Code
Cool roof rebate, http://www.smud.org/residential/saving/rebate.html	\$0.20/sqft for qualifying areas	R	\$	LV
Dishwasher rebate, http://www.smud.org/residential/saving/rebate.html	\$30/\$50 on qualifying units	R	\$	LV
Heat pump rebate, http://www.smud.org/residential/saving/rebate.html	\$400/\$500 on qualifying heat pumps	R	\$	LV
Pools and spas rebate, http://www.smud.org/residential/saving/rebate.html	\$175 rebate on qualifying pumps and controllers	R	\$	LV
Refrigerator rebate, http://www.smud.org/residential/saving/rebate.html	\$50 on qualifying units	R	\$	LV
Room air conditioner rebate, http://www.smud.org/residential/saving/rebate.html	\$50 on qualifying units	R	\$	LV
Solar hot water heater rebate, http://www.smud.org/residential/saving/rebate.html	\$1500 with participating contractors	R	\$	LV
Whole house fan rebate, http://www.smud.org/residential/saving/rebate.html	\$100	R	\$	LV
Financing program for energy efficiency measures, http://www.smud.org/residential/saving/faqs_pdfs/finance_factsheet.pdf	financing offered for qualifying central AC, windows, attic/wall insulation, heat pumps, solar hot water heating, and insulated siding	R	\$	LV
Peak Corps, http://www.smud.org/residential/saving/peak.html	Voluntary program for demand management by cycling central air conditioners, participants receive a monthly discount as well as 3 levels of additional incentive based on the amount of cycling they agree to	R	\$	LV
Free shade trees, http://www.smud.org/residential/saving/trees/index.html	For E,W,S aspects that heat up, customers may be eligible to receive free shade trees	R	\$	LV
SMUD Advantage Homes, http://www.smud.org/residential/saving/advantage/index.html	A labeling program for new homes with energy advantages of standard construction	R	Dev	LV
Zero Energy Homes, http://www.smud.org/residential/saving/zeroenergyhomes.html	Partnership of SMUD and local homebuilders to offer highly progressive homes	R	Dev	LV

Program Name and Contact Info	Description	Sector	Service	Regulatory Code
Customer Advanced Technologies, http://www.smud.org/education/cat/index.html	Provides funding for customers to use leading edge technologies in return for a two-year monitoring agreement. Example technologies include LEDs, Coolerado, Ice Bear, ICF, SIP, etc.	R,C,Ind	Dev,\$,T	LV
Lighting Incentives, http://www.smud.org/commercial/saving/service/lightincent.html	\$0.05/kWh for 10% better than Title 24 State Energy Code or existing baseline if already better than Title 24. \$0.05/kWh for controls.	C	\$	LV
HVAC incentives, http://www.smud.org/commercial/saving/service/hvacincent.html	Equipment >20tons that exceeds Title 24 at \$0.14/kWh, VFD or energy management \$0.14/kWh.	C	\$	LV
Process, control systems, and refrigeration systems	\$0.08-\$0.14/kWh up to the lesser of 30% of project cost or \$35,000/account	C,Ind,Ins	\$	LV
Motor incentives, http://www.smud.org/commercial/saving/service/motorsincent.html	\$0.08/kWh above 200HP, Distributor rebate program for motors below 200HP	C,Ind,Ins	\$	LV
Financing program for energy efficiency measures, http://www.smud.org/commercial/saving/loans.html	Currently, eligible equipment includes: lighting, heating and air-conditioning systems (provided they meet SMUD's minimum efficiency standards), refrigeration systems, and process equipment.	C,Ind,Ins,MF	\$	LV
Energy Services: Contractors, http://www.smud.org/commercial/saving/service/contractors.html	SMUD provides a list of contractors that have participated in their programs in the previous 12 months	All	Dev,A	LV
Savings by Design, http://www.smud.org/commercial/saving/bydesign.html	Design assistance, resources, owner incentives, design team incentives, by whole building or systems approach. Up to \$150k in incentives available.	C,Ind,Ins	Dev,\$,T	LV
Onsite energy audit, http://www.smud.org/commercial/saving/onsite_audit.html	SMUD will do an onsite study and provide a written report with recommendations.	C,Ind,Ins	Dev,T	LV
Greenenergy, http://www.smud.org/green/index.html	Green power program offering, SMUD owns 39MW wind farm	All	Dev	LV
Solar power for your home, http://www.smud.org/green/solar/index.html	\$2.50/watt incentive for PV	R	\$	LV
SMUD Community Solar, http://www.smud.org/green/solar/community.html	\$0.01/kWh premium supports PV arrays for non-profits in the SMUD service area	All	Dev	LV

Program Name and Contact Info	Description	Sector	Service	Regulatory Code
Energy Education Seminars, https://usage.smud.org/yourAccount/ETCstudent/classlist.asp	1-2 seminars weekly on topics from carbon and corporate responsibility to Manual J Load calcs, advanced lighting	All	SB,A	LV
Exhibits available on self-guided tours on weekdays, http://www.smud.org/education/exhibits.html	Exhibits on light technologies, energy efficient house, power sources, new technologies	All	A	LV

2.4 Seattle, Washington

Basic statistical information about Seattle is provided in the list below. More specific program information is summarized in the table following the list.

- Population: 563,374
- Utility Structure: Municipal
- Number of municipal customers: 375,869
- Generation capacity: 1,920 MW
- Interesting green building programs: Green building required where public financial incentives are involved; landscape targets required; detailed guides for green building

Program Name And Contact Info	Description	Sector	Service	Regulatory Code
CITY Green Building Program (206) 615-1171	The cities consolidated green building program and information clearinghouse which provides education, assistance, and incentives. On Call experts devoted to each bldg sector.	ALL	ALL	LV
Urban Green Phone: (206) 356-7977 terra@urbangreenresource.org	a public/private non profit partnership as a one stop shop for information on all green building issues and project types. Information, Education, Demonstration Center, and Project Support	ALL	ALL	LV
Density Bonus Initiative	Changes in the new regulations were made to provide greater heights and/or greater floor area for commercial and residential buildings. To gain greater height or density, projects must achieve a LEED Silver rating or higher, as well as contribute to affordable housing and other public amenities. The zoning changes also offer greater transferable development rights for historic structures.	R,C,M F		LR
Smart Businesses Program Contact Seattle City Light at 206.684.3800	The Smart Business Program is designed to provide financial incentives to your small business for replacing existing inefficient lighting with approved energy efficient lighting equipment. Rebates range from \$25 to \$65 per fixture for replacement of existing lamps or fixtures with new efficient ones.	C	\$	LV

Program Name And Contact Info	Description	Sector	Service	Regulatory Code
Multi-Family Common Area Lighting Leo Castillo at 206.684.4281 or leo.castillo@seattle.gov	The Multifamily Common Area Lighting (MFCAL) Rebate Program now provides simple rebates for replacing inefficient lighting in common areas with energy-efficient models. Building owners may choose to use their own licensed installer or Seattle City Light's participating contractors.	MF	\$	LV
Multi-Family Weatherization 206.684.3800	offers the same great financial incentives for upgraded windows, lighting and insulation	MF	\$	LV
Lighting Design Lab 206.325.9711	The Lab provides technical assistance, training and education to commercial customers and lighting designers seeking information on high quality, energy efficient lighting technologies.	ALL	T,SB	LV
Built Smart http://www.seattle.gov/light/conserves/resident/cv5_bs.htm	provides multifamily architects, builders and owners all the technical specifications and information they need to qualify for BUILT SMART incentives.	ALL	T,SB,\$	LV
Home Resource Profile http://www.seattle.gov/conserves/homeprofile/	The Home Resource Profile is a detailed, customized report that shows you how your household uses energy, water and solid waste. It is available to any Seattle City Light or Seattle Public Utilities residential customer. Whether you live in a house, condominium or apartment, this free service will give you useful information about your utility bills and how to save money. homeowners take online survey.	R	T,A,SB	LV
Neighborhood Power Project http://www.seattle.gov/light/conserves/neighborhood/power/	a strategy to effectively deliver multi-agency conservation and resource management services to targeted neighborhoods in the City of Seattle.	C	ALL	LV,LR
Energy Smart Services through Seattle City Light(public electric utility) 206.684.3254 http://www.seattle.gov/light/Conserve/Business/cv4_ess.asp	A clearing house of information, contacts, conservation services, rebates, incentives, etc for medium to large businesses offers financial incentives and technical assistance for both existing facilities and new construction projects	C,Ind	T,\$	LV

Program Name And Contact Info	Description	Sector	Service	Regulatory Code
SeaGreen Affordable Housing Guide http://www.seattle.gov/housing/SeaGreen/default.htm	SeaGreen Affordable Housing Guide was developed to promote energy conservation, operational savings and sustainable building practices in affordable multifamily housing projects. The strategies included in SeaGreen work to reduce operating costs, promote healthy environments and protect and conserve resources in City funded affordable housing projects. Venturing beyond current practice, these strategies protect and enhance Seattle's affordable housing stock and the community as a whole.	MF	T,A,SB	LV
Green Factor Steve Moddemeyer (206) 386-1981	developers must meet a new landscaping requirement for Seattle's commercial areas. Known as the Seattle Green Factor, the program requires new development in neighborhood business districts to meet a landscaping target through use of a menu of landscaping strategies. It is designed to improve the extent and quality of landscapes, while allowing flexibility for developers and designers to meet the requirement. Workshops.	ALL		LR
Green Roofs Plan http://www.seattle.gov/dpd/GreenBuilding/OurProgram/Resources/TechnicalBriefs/DPDS_009485.asp	Seattle currently has an impervious surface reduction credit that lists green roofs and roof gardens as acceptable strategies	ALL	\$,T	LV
Green Home Remodel Guides http://www.seattle.gov/dpd/GreenBuilding/SingleFamilyResidential/Resources/RemodelingGuides/default.asp	City Publications on remodeling: general overview, bath and laundry, painting, landscape, roofing, hiring professionals, salvage & reuse	ALL	SB,T,A	LV
Irrigation System Upgrade Rebates Jenna Smith at jenna.smith@seattle.gov or (206) 684-5955.	rebates for water saving upgrades/installations of irrigation systems	ALL	\$	LV
Low Cost Rain Barrels	purchase discounted rain barrels for rain water harvestings	ALL	\$	LV
Way To Go! http://www.cityofseattle.net/waytogo/	Program that encourages alternative transportation	ALL	\$,A,SB	LV

Program Name And Contact Info	Description	Sector	Service	Regulatory Code
Resource Venture-non profit partnership, publicly funded by utilities and city. http://www.resourceventure.org/rv/index.php	entity for Seattle businesses that provides technical expertise, financial assistance, and education/awareness regarding all environmental issues	C,Ind	ALL	LV
King County Green Bldg Grants http://www.seattle.gov/dpd/stellent/groups/pan/@pan/@sustainablebuilding/documents/web_informational/dpdp_018427.pdf	All Bldg Projects in County: LEED Silver or above, 75% recycling/reuse rate for construction waste and demolition, reduction in bldg and landscape water use, comply with various stormwater and soil conservation ordinances.	ALL	\$	EV
Overall City of Seattle Green Bldg Website http://www.seattle.gov/dpd/GreenBuilding/	A web site for all green building issues and resources for the Seattle resident all sectors and all services with links to external utility rebates, internal publications and websites, outside non profits, etc.	ALL	ALL	

2.5 Boulder, Colorado

Basic statistical information about Boulder is provided in the list below. More specific program information is summarized in the table following the list.

- Population: 94,673
- College town: University of Colorado
- Utility structure: Non-municipal (Xcel gas and electric)
- Interesting green building programs: On-site energy assessments

Program Name and Contact Info	Description	Sector	Service	Regulatory Code
Residential Energy Audit Program REAP Center for ReSource Conservation CRC @ 303-441-3278 ext. 24	Low Cost Energy Audits to City Residents	R	T	LV
Green Points Building Program 303-441-1880	Help homeowners find green building products, encourage green building and remodeling, promote recycling of construction waste and reduce solid waste, promote better indoor air quality, occasional work shops,	R		LR
Energy Codes 303.441.1800	Adopted the 2000 IECC standards for residential and commercial building efficiency	R, C		LR

2.6 Santa Monica, California

Basic statistical information about Santa Monica is provided in the list below. More specific program information is summarized in the table following the list.

- Population: 84,084
- Utility structure: Non-municipal
- Interesting green building programs: On-line tools; detailed guides

Program Name and Contact Info	Description	Sector	Service	Regulatory Code
Expedited Permitting & Plan Checks	Provides Priority to buildings registering for LEED certification, shaving weeks off of approval process	ALL	\$	LV
The Design Advisor	An online tool that allows those involved with the built environment on all phases(new construction, renovation, etc.) to find out suggested, recommended, and required measures/programs	C,Ind,Ins	A,I,T	LV,LR
Residential Green Building Guide	A publication designed to assist new construction or remodeling for residential dwellings. http://smgreen.org/mainpages/green-building-guide-web.pdf	R	A	LV
AltCar Expo	An expo on Alternative Cars and Transportation http://www.altcarexpo.com/	ALL	A	LV
Green Building Grants	Grants for LEED™ (LEED-NC™) certified buildings will range from \$20,000 to \$35,000 depending on the level of certification. Innovative Technology Grants will cover 50% of project costs up to \$5000 for new construction or renovation projects that involve cutting edge energy efficiency or urban runoff mitigation technologies. http://smgreen.org/mainpages/Details%20-%20LEED%20Grants.pdf http://smgreen.org/mainpages/Details%20-%20Innovative%20Grants.pdf	ALL	\$	LV

Program Name and Contact Info	Description	Sector	Service	Regulatory Code
Green Building Resource Center	The Green Building Resource Center is operated by Global Green, USA with the support of the City of Santa Monica. The Center is open to the public Wednesday, Friday, and Sunday from 10 AM - 3 PM and Thursday evenings from 3 PM - 8 PM. The Center has numerous samples of environmentally preferable building materials, informational resources such as books and magazines, referral lists of green architects and consultants, and knowledgeable staff to answer visitors' questions. Regular monthly seminars will also be hosted at the Center. (310) 452-7677	ALL	SB,T,A	LV
Energy Code	One major component of the compliance process is the Santa Monica Energy Code Compliance Application (SMECCA). This application enables builders to document compliance with the Santa Monica energy ordinances, and to identify the required practices and documentation for the Santa Monica Green Building Program Requirements. SMECCA can be downloaded free of charge from this web site. http://smgreen.org/mainpages/compliancereport.htm	ALL		LR
Santa Monica Green Building Codes & Requirements	A website detailing all city guidelines for building that are green practices http://smgreen.org/requirements/projectrequirements.html	ALL		LR
Construction & Material Waste Recycling Ordinance	This Ordinance established requirements for reducing solid waste from construction related activities http://smgreen.org/whatsnew/waste.ordinance.html	ALL		LR

Program Name and Contact Info	Description	Sector	Service	Regulatory Code
City Green Building Ordinance	This City Ordinance establishes prescriptive energy-saving measures for small residential projects, and energy performance targets beyond Title 24 for all commercial and larger residential projects. http://smgreen.org/whatsnew/green-building-ordinance/green-building-Ord-1-5-2002.pdf	C,MF,R		LR
Green Building Design & Construction Guidelines	The Guidelines were developed for, and specifically apply to, the following building types: Institutional and Commercial Offices, Light Industrial, Commercial Retail, Multi-Family, Hotels/Motels http://smgreen.org/introduction/introduction.html	C, Ind, Ins, MF		LV,LR
Green Building Program Website	A website detailing green building info both with regards to the city and general info. http://smgreen.org	ALL	A	LV

2.7 Scottsdale, Arizona

Basic statistical information about Scottsdale is provided in the list below. More specific program information is summarized in the table following the list.

- Population: 202,705
- Utility structure: Non-municipal

Interesting green building programs: Green building program website; grey water conservation tax credit

Program Name and Contact Info	Description	Sector	Service	Regulatory Code
Green Bldg Program & Website, 480.312.4202 http://www.ci.scottsdale.az.us/greenbuilding/	rates projects in following impact areas-site use, energy, IAQ, Materials, SW, Water. A point system is used to qualify projects into the program. Once project is accepted builder/customer receives priority plan review, job site signs, directory of participating designers/builders, Green Bldg certifications through inspections, homeowner's manual, etc. The Green Building Program encourages a whole-systems approach through design and building techniques to minimize environmental impact and reduce the energy consumption of buildings while contributing to the health of its occupants. Links to external utility incentives and conservation programs as well as external non profit programs, case studies, projects in the city	R,C,MF	\$,T,A,M,SB	LV
Grey Water Conservation Tax Credit through the state	tax credit for residences which install Grey Water system	R	\$	EV
Green Home Buyer's Guide http://www.ci.scottsdale.az.us/greenbuilding/Manuals/GreenHomeBuyersGuide.pdf	guide for buying a green home	R	A	LV

<p>Green Building Remodeling Workbook http://www.ci.scottsdale.az.us/greenbuilding/Manuals/GBRemodelingWorkbook.pdf</p>	<p>guide for green remodeling/renovations</p>	<p>R,C</p>	<p>A</p>	<p>LV</p>
<p>Landscape revitalization workbook http://www.ci.scottsdale.az.us/greenbuilding/Manuals/LandscapeWkbk.pdf</p>	<p>guide for xeriscaping</p>	<p>ALL</p>	<p>A</p>	<p>LV</p>
<p>Green Bldg Lecture Series http://www.ci.scottsdale.az.us/greenbuilding/Lectures/default.asp</p>	<p>series of free open to the public lectures on various green building topics</p>	<p>ALL</p>	<p>A,SB</p>	<p>LV</p>

2.8 Portland, Oregon

Basic statistical information about Portland is provided in the list below. More specific program information is summarized in the table following the list.

- Population: 529,121
- Utility structure: Non-municipal
- Interesting green building programs: Green building required where public financial incentives are involved; on-site assessments; solar electric incentives

Program Name And Contact Info	Description	Sector	Service	Regulatory Code
G/Rated Mike O' Brien 503.823.5494. Alisa Kane 503.823.7082	G/Rated is Portland's gateway to green building innovation, offering initial consultation and resources specific to YOUR green building project. Under the direction of Commissioner-in-charge Dan Saltzman, G/Rated is accelerating the adoption of cost effective green building practices as the standard of development in Portland.	R,C	T,A,SB	LV
Portland Development Commission: Green Building Policy	The PDC Green Building Program requires developers receiving financial assistance from the commission -and direct commission funded projects to integrate green building practices into construction projects and meet established LEED standards.	ALL	\$	LR
City of Portland:Green Building Policy Update	A commitment to city owned LEED certified facilities, facilitated permitting and technical assistance to qualified public and private projects, the construction and maintenance of public facilities will incorporate green best practices.	ALL	T,\$	LV,LR
Living Smart Homes	The Living Smart house plan program is a pilot program intended to be an incentive to easily build well designed houses on narrow lots in the City of Portland. Living Smart House Plans have been reviewed for building code compliance. The Living Smart house plans will be issued along with the residential building permit once all fees and charges are paid. All BDS-related fees comprising the review and inspection of these houses will be reduced by 50%. Living Smart house plans will be submitted through the fast track process regardless of whether the buyer is a resident or a build	R	T,\$	LV

Program Name And Contact Info	Description	Sector	Service	Regulatory Code
Integrated Design	The first step in an Integrated Design process is for a developer or owner to commit to high performance and energy efficiency and to ensure that these commitments are recognized by each team member, beginning with the earliest stages of the design process. Early definition of building performance objectives, perhaps in a project vision statement, should be followed with these objectives incorporated into programming efforts, integrated into all project narrative documents, and into performance requirements for particular systems and components.	R,C	T,A	LV
Residential Rainwater Harvesting Code Guide	Guide on the process and approach by which Portland residents can design and install a code-compliant rainwater harvesting system	R	T	LV
Facility Permit Program 503-823-0652	The Facility Permit Program (FPP) is designed to serve customers with 'on-going' Interior Tenant Improvements where facility maintenance, upgrade and renovations are frequent. FPP is available to owners of buildings, building management companies, and their tenants for work within the facility.	R,C	\$,A	LV
Energy Efficient Mortgages	Energy Efficient Mortgages (EEM) provide the borrower with increased buying power when purchasing a home that is energy efficient, or that can be made efficient through the installation of energy-saving improvements.	R	\$	EV
Multi Family Weatherization Program 503-823-0530	The City of Portland provides personal assistance to rental property owners in obtaining energy evaluations and taking advantage of cash incentives and tax credits available for making energy-efficient improvements	R	T,\$,A	LV
Earth Advantage: Home Performance Power Program 888-327-8433	Participating lenders offer the "Home Performance Power" mortgages for homes built under the Earth Advantage program, which promotes the construction of resource-efficient housing. Home Performance Power mortgages have low or no down payment requirements and require borrowers to contribute only 3% for closing costs, which may come from a	R	\$	EV

Program Name And Contact Info	Description	Sector	Service	Regulatory Code
	variety of sources. Eligible borrowers can also add the dollar value of projected energy savings to their income, thus qualifying for a larger mortgage.			
home energy audit Natural Gas – NW Natural 503-220-2361	Your home must be heated by natural gas. Call to schedule a free home energy audit to receive a customized report that lists weatherization options. Incentives available include cash rebates of up to 25% of the job cost (up to \$350) and/or loans as low as 6.5% APR and \$200 cash payment toward the purchase of a 90%-plus energy-efficient gas furnace. The cash rebate and loan are available on the cost-effective portions of the weatherization measures installed.	R	\$,T	EV
Energy Audit -Oil, Kerosene, Propane, or Wood – State Home Oil Weatherization Program (SHOW) 800-452-8660	Your home must be heated by oil, kerosene, propane, or wood. Call to schedule a free home energy audit to receive a customized report that lists weatherization options. Incentives available include cash rebate of up to 25% of the job cost (up to \$400) and/or loans as low as 6.5% APR. The cash rebate and loan are available on the energy-efficiency measures recommended in the audit. SHOW is offering cash incentives on replacement windows, replacement oil furnaces, and above-ground oil tanks when installed with a new furnace.	R	\$,T	EV
Energy Trust Of Oregon: Home Energy Savings Program 1-866- ENTRUST (368-7878) various programs listed below and not numbered	The Home Energy Savings program serves people who live in single-family homes, apartment complexes and manufactured homes. The program offers financial incentives for energy-saving home improvements for residential customers of Portland General Electric, Pacific Power and NW Natural. Also available are referrals to contractors who can offer special financing, and assistance with Oregon state tax credit applications. Programs appear below.	R,C	\$,T	EV

Program Name And Contact Info	Description	Sector	Service	Regulatory Code
Efficient New Homes program	The Efficient New Homes program works with new homebuilders, contractors, product manufacturers and retailers to promote energy-efficient building practices and products, and to educate consumers about the advantages of an ENERGY STAR qualified new home. The program offers financial incentives to builders and performance testing contractors of energy-efficient new homes. Consumers who buy a home built through the Energy Trust of Oregon's Efficient New Homes program may be eligible for Residential Tax Credits from the Oregon Department of Energy for the appliances, heating and cooling equipment and other items in their new home.	R,C	\$,T	EV
Efficient Home Products program	The Efficient Home Products program promotes energy-efficient home products and offers financial incentives for ENERGY STAR qualified dishwashers, clothes washers and compact fluorescent light bulbs (CFLs). Financial incentives are offered on a seasonal basis for each product. The program works with product manufacturers and national, regional and local retailers of qualified products to promote consumer awareness, and adoption of, energy-efficient products.	R,C	\$,T	EV
Solar Electric program	The Solar Electric program offers financial incentives, service and support for homeowners installing solar electric (photovoltaic) systems, and when combined with federal and state tax credits, can lower the total cost of a system by about 50%. Once installed, a typical photovoltaic (PV) system can save 10% to 15% on your electric bill. Homeowners may also be eligible for a Residential Energy Tax Credit of \$3.00/Watt (up to \$1,500 maximum) through the Oregon Department of Energy.	R,C	\$,T	EV

Program Name And Contact Info	Description	Sector	Service	Regulatory Code
Solar Water Heating program	The Solar Water Heating program offers incentives for solar water heating installations, which, when combined with state tax credits, can lower the cost of a solar water heating system by up to 50%. Typically, a homeowner relying on electricity to heat water could save up to \$150 in the first year of operation by installing a solar water heating system. Savings are higher for larger families and will increase over time. Customers of Pacific Power, Portland General Electric, and NW Natural are eligible for this program – including new and existing construction.	R,C	\$,T	EV
Green Investment Fund	The Green Investment Fund (GIF) is a competitive grant program that supports innovative green building projects in Portland. In the current round of funding, a total of \$425,000 is available and the maximum grant amount for any project is \$225,000. Industrial, residential, commercial, and mixed-use public and private organizations may apply.	ALL	\$	LV
Oregon DOE: Sustainable Building Tax Credit 1-800-221-8035	LEED-certified Silver, Gold and Platinum buildings are eligible for a Sustainable Building Tax Credit. A pre-certification application is required and will be reviewed by staff and approved with a specific tax amount, based on the LEED rating sought. Eligibility is determined after the LEED Certification (at Silver or higher) is received. Credit will be calculated on the gross square footage (gsf) of all conditioned spaces.	C	\$	EV
Oregon DOE: Business Energy Tax Credit (BETC) 1-800-221-8035	The Business Energy Tax Credit Program offers projects that incorporate energy conservation, efficient equipment and renewable energy systems a 35% five-year tax credit. Projects \$20,000 and less may be taken in one year. Office buildings, stores, apartment buildings and other businesses may be eligible. A Pass-through Option is also available for project owners who choose to transfer their tax credit eligibility to a business partner with a tax liability in exchange	C	\$	EV

Program Name And Contact Info	Description	Sector	Service	Regulatory Code
	for a cash payment. The Department of Energy sets the pass-through rate annually. The Department of Energy can help project owners find pass-through partners, although no guarantees are made that a partner will be provided.			
Oregon DOE: Small Scale Energy Loan Program (SELP) 1-800-221-8035	Low-interest, fixed-rate, long-term loans for any qualified project owner who invests in energy conservation, renewable energy and alternative fuels. Individuals, businesses, schools, special districts, tribes and local, state or federal government agencies are eligible.	ALL	\$	EV